IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

KEYLESS LICENSING LLC, Plaintiff, v. **SAMSUNG ELECTRONICS AMERICA, INC. AND SAMSUNG ELECTRONICS CO., LTD.** Defendants.	**Case No. 2:24-CV-00464-JRG** **Jury Trial Demanded**

DEFENDANTS' INVALIDITY CONTENTIONS

Pursuant to Local Patent Rules 3-3 and 3-4 and the Court's Docket Control Order (Dkt. 43), Defendants Samsung Electronics Co., Ltd. ("SEC") and Samsung Electronics America, Inc. ("SEA") (collectively, "Defendants") provide these Preliminary Invalidity Contentions and accompanying document production to Plaintiff Keyless Licensing LLC ("Plaintiff").

I. Overview

In this action, Plaintiff asserted in its P.R. 3-1 and 3-2 Disclosures of October 9, 2024 ("Infringement Contentions") that Defendants infringe claims 1-13, 15-19, and 21-36 of U.S. Patent No. 9,304,602 (the "'602 Patent"), claims 1-21 of U.S. Patent No. 10,976,922 (the "'922 Patent"), and claims 1-5 and 7-20 of U.S. Patent No. 11,503,144 (the "'144 Patent") (collectively, the "Patents-in-Suit" and the "Asserted Claims").

This Court has not yet construed any of the terms in the Patents-in-Suit. Defendants' Invalidity Contentions are based on Defendants' present understanding of Plaintiff's apparent interpretation of the Asserted Claims, as advanced by Plaintiff in its Complaint and Infringement Contentions, and Defendants' own understanding of the scope of the Asserted Claims. Defendants

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take no position on any matter of claim construction or interpretation in these contentions. Defendants' contentions herein are not, and should in no way be seen as, admissions about or adoptions of any particular claim scope or construction, or as any admission that any particular element is met in any particular way. Defendants object to any attempt to imply claim constructions from any identification or application of potential prior art. Any statement herein describing or tending to describe any claim element is provided solely for the purpose of understanding the relevant prior art. By including prior art that anticipates or renders obvious claims based on Plaintiff's apparent claim construction, Defendants do not thereby adopt Plaintiff's apparent claim construction.

Moreover, nothing herein should be construed as an admission that Defendants agree with Plaintiff's claim interpretations or that Plaintiff has a plausible basis to allege infringement. Similarly, nothing herein shall be construed as an admission regarding the application of the Asserted Claims to any of Defendants' accused products. Defendants do not agree with Plaintiff's application of the claims to the accused products, and Defendants deny infringement. Furthermore, these contentions do not represent an agreement with Plaintiff's views as to the meaning, definiteness, written description support for, or enablement of any of the Asserted Claims. In fact, Defendants provide grounds for invalidity under § 112 below. Pursuant to the Court's Docket Control Order (Dkt. 43), Defendants reserve the right to include arguments directed to indefiniteness in their *Markman* briefing. Nothing stated herein shall be construed as a waiver of any argument available under 35 U.S.C. §§ 101, 102, 103, and/or 112. Defendants expressly reserve the right to propose alternative interpretations to those advocated by Plaintiff and to rebut Plaintiff's actual claim interpretation and infringement positions. Defendants reserve the right to modify or supplement these contentions in response to the Court's construction of the claim terms at issue.

Prior art not included in this disclosure may also become relevant. Defendants are currently unaware of the extent, if any, to which Plaintiff may contend that certain limitations of the Asserted

Claims are not disclosed in the prior art identified by Defendants. Defendants reserve the right to identify other relevant prior art with respect to such allegedly missing limitation(s).

Defendants' invalidity claim charts attached hereto cite to exemplary portions, teachings, and disclosures of the prior art as applied to limitations of the Asserted Claims. Persons skilled in the art, however, would recognize these as exemplary and may view an item of prior art in the context of other publications, literature, products, and understanding. Again, this is because the cited portions of prior art identified herein are exemplary only. The citations and discussion in the charts are organized by claim (and claim limitation) for convenience, but each limitation or claim section applies to the larger context of each claim, to any related dependent or independent claims, as well as all claims containing similar limitations or elements in the particular Patent-in-Suit or other related patents also being asserted by Plaintiff. For example, citations as to any recited limitation, step, or component in the claims apply wherever each such limitation, step, or component is repeated elsewhere in the claim of that patent or other related patent also being asserted by Plaintiff. Any and all citations to particular figures in the attached charts or elsewhere in these contentions shall be deemed to wholly incorporate the figure by reference, and include the figure as if it had been inserted into the chart itself, as well as any text discussing the figure. Similarly, where Defendants cite to particular text in a prior art reference concerning a drawing or figure, the citation encompasses that drawing or figure as well as any other associated information in the prior art reference. Defendants may therefore rely on the entirety of the prior art references listed herein, including uncited portions of those prior art references, as well as additional information including products, documents, materials, and expert testimony.

The references cited herein disclose the limitations of the Asserted Claims explicitly or inherently, and/or they may be relied upon to demonstrate how the state of the art in the relevant time frame invalidates each Asserted Claim. In the context of the knowledge of a person of ordinary skill

in the art, each reference's disclosure applies in the context of both anticipation and obviousness. Therefore, any suggested single reference obviousness positions and obviousness combinations are provided in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference included in the combinations is somehow deficient or is not by itself anticipatory. Further, the combinations listed herein are exemplary and not exhaustive. There are many possible invalidating combinations of the references listed herein, and it is not practical, at this early stage, to identify and list all potentially relevant combinations without the benefit of further factual investigation and the Court's claim construction.

In addition to the positions and prior art identified below, and the accompanying invalidity claim charts, Defendants also incorporate by reference all invalidity contentions, prior art, and invalidity claim charts (including, without limitation, all anticipation positions, obviousness positions (including all prior art combinations and motivations to combine), indefiniteness positions, written description positions, and enablement positions) that have been or will be disclosed in any other action involving the Patents-in-Suit, including but not limited to any U.S. Patent and Trademark Office (USPTO) proceeding involving the Patents-in-Suit and that have or will be disclosed in any pending USPTO proceeding involving related patents. Such art and positions would have been obvious to combine with the prior art and combinations identified in these Invalidity Contentions. To the extent Plaintiff or the Board puts forth an argument in any USPTO proceedings contrary to the positions in the litigation, Defendants reserve the right to raise and/or address such argument or position in this litigation.

Defendants expect to rely on testimony of one or more expert witnesses and materials referenced by those expert witnesses in support of these contentions and incorporate those forthcoming expert reports as if fully set forth herein. Subsequent expert statements—including deposition and trial testimony, declarations, and reports—related to invalidity, interrogatory

responses, and other discovery or pleadings may expand and elaborate upon the positions contained in these Invalidity Contentions as originally prepared or subsequently amended, and Defendants reserve the right to incorporate such by reference. Defendants may further rely on any inventor admissions concerning the scope of the prior art relevant to the Patents-in-Suit found in, *inter alia*: the patent prosecution histories for the Patents-in-Suit and related patents, patent applications, and/or re-examinations; deposition testimony of the named inventor on the Patents-in-Suit; and the papers and any evidence submitted by Plaintiff in these actions.

Discovery has only just begun, and Defendants' investigation into prior art—including third-party prior art, and related evidence, documents, and knowledgeable witnesses—remains ongoing. Moreover, prior art may become relevant depending on the claim interpretations and/or validity positions Plaintiff or its expert witness(es) may assert, Defendants' further understanding of Plaintiff's Infringement Contentions, and any findings as to the priority date of the Asserted Claims. Accordingly, Defendants reserve the right to supplement or modify these Invalidity Contentions based on further discovery and in a manner consistent with the Federal Rules of Civil Procedure and the Court's rules and schedule. To the extent Plaintiff contends that any prior art presented in these contentions does not qualify as prior art to one or more Patents-in-Suit, the prior art remains relevant as evidence of simultaneous development as a secondary consideration of obviousness. *See George M. Martin Co. v. Alliance Mach. Sys. Int'l LLC,* 618 F.3d 1294, 1305 (Fed. Cir. 2010) ("Independently made, simultaneous inventions, made within a comparatively short space of time, are persuasive evidence that the claimed apparatus was the product only of ordinary mechanical or engineering skill.").

As set forth in detail below, and in the claim charts which accompany these Invalidity Contentions as exhibits A1-A8, B1-B7, and C1-C12, the Asserted Claims of the Patents-in-Suit are invalid over the cited prior art listed below under either pre-AIA 35 U.S.C. §§ 102 and/or 103 and/or

their post-AIA counterparts depending on the Patent-in-Suit. Regarding the obviousness of certain claims under 35 U.S.C. § 103, one or more of the principles enumerated by the United States Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) apply to the Asserted Claims of the Patents-in-Suit, including, for example:

(a) combining various claimed elements known in the prior art according to known methods to yield a predictable result;

(b) making a simple substitution of one or more known elements for another to obtain a predictable result;

(c) using a known technique to improve a similar device or method in the same way;

(d) applying a known technique, known device or method ready for improvement to yield a predictable result;

(e) choosing from a finite number of identified, predictable solutions with a reasonable expectation of success or, in other words, the solution was one which was "obvious to try;

(f) a known work in one field of endeavor prompting variations of it for use either in the same field or a different based on given design incentives or other market forces in which the variations were predictable to one of ordinary skill in the art; and/or

(g) a teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill in the art to modify the prior art reference or to combine the teachings of various prior art references to arrive at the claimed invention.

The above criteria may be collectively referred to herein as the "*KSR* Criteria."

Based on these considerations, as further detailed below and/or in the attached exhibits, one of ordinary skill in the art would have combined the teachings of the prior art references discussed and charted in those exhibits. The combinations of these references would have rendered obvious to

one of ordinary skill in the art the subject matter of the Asserted Claims. The references identified in the attached exhibits for the respective Asserted Claims are analogous prior art to the subject matter of the Asserted Claims and, for at least the reasons set forth below and/or in the claim chart exhibits, are properly combinable. Because these prior art references exist within a single field of art, particularly one in which individuals in the field often shared and/or collaborated on their work, it would have been obvious for one of ordinary skill in the art to look from one piece of prior art to another in order to find any missing functionality they desired to implement. Therefore, these references provide interrelated teachings and one of ordinary skill would have looked to the concepts in any of these references when seeking to solve the problems purportedly addressed by the Patents-in-Suit.

Numerous prior art references, including in the attached exhibits, reflect common knowledge and the state of the prior art before the earliest effective priority date of the Patents-in-Suit. As it would be unduly burdensome to create detailed claim charts for all of the invalidating combinations, for at least the reasons described in these Invalidity Contentions, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those identified in the attached exhibits, to meet the limitations of the Asserted Claims. Defendants' inclusion of exemplary combinations, in view of the factors and motivations identified here, does not preclude Defendants from identifying other invalidating combinations and/or motivations as appropriate.

No showing of a specific motivation to combine prior art is required to combine the references disclosed above and in the attached charts, because each combination of art would have no unexpected results, and at most would simply represent a known alternative to one of ordinary skill in the art. *See KSR*, 500 U.S. at 415-17 (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible"

approach). That said, the Supreme Court's rationale, that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle," applies equally here. *Id.* at 420-21.

Additional evidence that there would have been a motivation or reason to combine the prior art references identified herein includes but is not limited to the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution; the existence of a known need or problem in the field of endeavor at the time of the alleged inventions; and the background knowledge that would have been possessed by one of ordinary skill in the art. For example, the prior art references are generally directed to the same problems. Thus, a skilled artisan seeking to solve these problems would look to these cited references in combination.

Defendants contend there are no secondary considerations of non-obviousness evidencing the validity of any of the Asserted Claims. If Plaintiff presents any alleged evidence of secondary considerations of non-obviousness, Defendants reserve their right to respond to any such alleged evidence. Further, to the extent Plaintiff identifies any product as allegedly practicing the claims and having been successful, there is no nexus between the claimed invention and the products' success and Defendants reserve their right to respond to any such alleged evidence.

II. P.R. 3-3(a): Identification of Prior Art

Pursuant to Patent Rule 3-3 and subject to Defendants' reservations of rights in these Invalidity Contentions, Defendants identify the following prior art that anticipates and/or renders obvious one or more Asserted Claims of the Patents-in-Suit as detailed in the claim chart exhibits and elsewhere in these Invalidity Contentions. Below are tables identifying individual items of prior art. The prior art references, systems, and products listed below and in the accompanying claim chart

exhibits may be relied upon for certain limitations, state of the art, and background of the art; as evidence of the level of skill in the art at the time of the filing of the Patents-in-Suit; or in support of assertions that it is proper to combine certain prior art references in certain ways.

Defendants also incorporate by reference each and every prior art reference of record in the prosecution of the Patents-in-Suit and patents or patent applications related to the Patents-in-Suit, as well as the prior art referred to in the specifications of the Patents-in-Suit. In these Invalidity Contentions, Defendants have identified each item of prior art, based on currently available information, including:

(1) each patent, constituting prior art under pre-AIA 35 U.S.C. §§ 102(a), (b), and/or (e) or under AIA 35 U.S.C. §§ 102(a)(1) and/or (a)(2), by its patent number, country of origin, and date of issue;

(2) each non-patent publication, constituting prior art under pre-AIA 35 U.S.C. §§ 102(a) and/or (b) or under AIA 35 U.S.C. §§ 102(a)(1) and/or (a)(2), by its title, date of publication, and, where feasible, author and publisher;

(3) sales or public disclosures, constituting prior art under pre-AIA 35 U.S.C. § 102(a) and/or (b) or under AIA 35 U.S.C. § 102(a)(1), by the item offered for sale or publicly used or known, the date the offer or use took place or the information became known, and the identity of the person or entity which made the use or which made and received the offer, or the person or entity which made the information known or to whom it was made known;

(4) prior art under pre-AIA 35 U.S.C. § 102(f), by the name of the person(s) from whom and the circumstances under which the invention or any part of it was derived; and

(5) prior art under pre-AIA 35 U.S.C. § 102(g), by the identities of the person(s) or entities involved in and the circumstances surrounding the making of the invention before the patent applicant(s).

Defendants' identification of patents and publications as prior art herein and in the attached invalidity claim charts includes the publications themselves as well as the use of the products and systems described therein. Defendants' investigation continues, but information available to date indicates that such products and systems were (1) known or used in the country before the alleged invention(s) of the claimed subject matter of the Asserted Claims, (2) were in public use and/or on sale in this country more than one year before the filing date of the Patents-in-Suit, and/or (3) were invented by another who did not abandon, suppress, or conceal, before the alleged invention(s) of the claimed subject matter of the Asserted Claims. Upon information and belief, these prior art products and systems and their associated references anticipate and/or render obvious one or more of the Asserted Claims of the Patents-in-Suit.

A. Prior Art Patents, Patent Applications, and Publications

Table 1: Prior Art Patents and Patent Applications

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	2008/0207188 A1	Feb. 14, 2008	Aug. 28, 2008	H.S. Ahn et al.	SAM-KEY_00979955	SAM-KEY_00979994
US	2012/0215533 A1	Jan. 25, 2012	Aug. 23, 2012	M. Aravamudan et al.	SAM-KEY_00982179	SAM-KEY_00982191
US	2011/0202836 A1	May 20, 2010	Aug.18, 2011	E. Badger et al.	SAM-KEY_00982192	SAM-KEY_00982224

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	9,165,257 B2	May 20, 2010	Oct. 20, 2015	E. Badger et al.	SAM-KEY_00982225	SAM-KEY_00982260
US	2011/0187674 A1	Feb. 3, 2011	Aug. 4, 2011	J. Baker et al.	SAM-KEY_00982261	SAM-KEY_00982268
EP	0425291 A1	Oct. 25, 1990	May 2, 1991	J. T. Beran	SAM-KEY_00982298	SAM-KEY_00982329
EP	0425291 A2	Oct. 25, 1990	May 2, 1991	J, Beran et al.	SAM-KEY_00982298	SAM-KEY_00982329
US	2010/0164959 A1	Dec. 26, 2008	July 1, 2010	C. T. Brown et al.	SAM-KEY_00982330	SAM-KEY_00982339
US	2010/0164959 A1	Dec. 26, 2008	July 1. 2010	C. Brown et al.	SAM-KEY_00982330	SAM-KEY_00982339
US	7,657,849 B2	Dec. 23, 2005	Feb. 2, 2010	I. Chaudhri et al.	SAM-KEY_00982342	SAM-KEY_00982372
US	2010/0060585 A1	Aug. 18, 2009	Mar. 11, 2010	H.C. Chiu	SAM-KEY_00982373	SAM-KEY_00982402
US	2010/0192102 A1	Jan. 29, 2009	Jan. 29, 2010	P. Chmielewski et al.	SAM-KEY_00982403	SAM-KEY_00982434
US	2009/0322695 A1	June 16, 2009	Dec. 31, 2009	S. Cho et al.	SAM-KEY_00982435	SAM-KEY_00982467
US	2011/0191717 A1	Sept. 3, 2010	Aug. 4, 2011	F. Cort et al.	SAM-KEY_00982468	SAM-KEY_00982498
DE	10122229 A1	May 8, 2001	Dec. 13, 2001	R. Dutta	SAM-KEY_00982515 SAM-	SAM-KEY_00982520 SAM-

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
					KEY_00989 594 SAM-KEY_00982 509	KEY_00 989594 SAM-KEY_00 982514
EP	1229428 A1	Feb. 2, 2001	Aug. 7, 2002	T. Pensjo	SAM-KEY_00982 531	SAM-KEY_00 982538
EP	1336949 A1	Feb. 18, 2003	Aug. 20, 2003	C. De Bast	SAM-KEY_00982 539 SAM-KEY_00982 340 SAM-KEY_00982 550	SAM-KEY_00 982549 SAM-KEY_00 982340 SAM-KEY_00 982550
FR	2830093	Sept. 25, 2001	Mar. 28, 2003	C. Benoit et al.	SAM-KEY_00982 563 SAM-KEY_00982 341 SAM-KEY_00982 574	SAM-KEY_00 982573 SAM-KEY_00 982341 SAM-KEY_00 982584
US	2004/0212617 A1	Dec. 31, 2003	Oct. 28, 2004	G. Fitzmaurice et al.	SAM-KEY_00982 585	SAM-KEY_00 982612
GB	2331204	Nov. 5, 1998	May 12, 1999	F. Kobayashi	SAM-KEY_00982 626	SAM-KEY_00 982677
US	2011/0169749 A1	Jan. 13, 2010	July 14, 2011	H. Ganey et al.	SAM-KEY_00982 765	SAM-KEY_00 982779

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	2006/0209040	Mar. 18, 2005	Sept. 21, 2006	A.J. Garside et al.	SAM-KEY_00982780	SAM-KEY_00982808
US	2004/0109013 A1	Dec. 10, 2002	June 10, 2004	M. Goertz	SAM-KEY_00982809	SAM-KEY_00982818
US	8,095,879 B2	Dec. 10, 2002	Jan. 10, 2012	M. Goertz	SAM-KEY_00982819	SAM-KEY_00982828
US	2013/0234945 A1	Mar. 5, 2013	Sept. 12, 2013	C. Goktekin	SAM-KEY_00982829	SAM-KEY_00982840
US	2011/0209093 A1	Feb. 19, 2010	Aug. 25, 2011	K. P. Hinckley et al.	SAM-KEY_00983067	SAM-KEY_00983112
US	2011/0209099 A1	Feb. 19, 2010	Aug. 25, 2011	K. Hinckley et al.	SAM-KEY_00983113	SAM-KEY_00983158
JP	2003-195998	Dec. 26, 2001	July 11, 2003	T. Hisatomi	SAM-KEY_00983159 SAM-KEY_00983221	SAM-KEY_00983220 SAM-KEY_00983259
US	2006/0278714 A1	June 13, 2006	Dec. 14, 2006	D. Ho et al.	SAM-KEY_00983260	SAM-KEY_00983270
US	2007/0089069 A1	Aug. 3, 2006	April 19, 2007	K. Hsieh et al.	SAM-KEY_00983271	SAM-KEY_00983286
US	8,806,364 B2	April 7, 2009	Aug. 12, 2014	H. Hwang	SAM-KEY_00983287	SAM-KEY_00983326
US	2010/0013780 A1	June 19, 2009	Jan. 21, 2010	T. Ikeda et al.	SAM-KEY_00983327	SAM-KEY_00983401

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
JP	JP2000-151774A	Nov. 9, 1998	May 30, 2000	T. Yamaguchi	SAM-KEY_00983402 SAM-KEY_00989595 SAM-KEY_00983408	SAM-KEY_00983407 SAM-KEY_00989595 SAM-KEY_00983413
KR	2009-0002545	July 2, 2007	Jan. 9, 2009	G. Jeon et al.	SAM-KEY_00983414 SAM-KEY_00991870	SAM-KEY_00983429 SAM-KEY_00991902
US	2009/0094562 A1	Oct. 3, 2008	April 9, 2009	K. Jeong et al.	SAM-KEY_00983431	SAM-KEY_00983453
US	8,564,544 B2	Sept. 5, 2007	Oct. 22, 2013	S. Jobs et al.	SAM-KEY_00983454	SAM-KEY_00983822
KR	2010-0029026	Aug. 17, 2009	Mar. 15, 2010	C. Chiu	SAM-KEY_00983823	SAM-KEY_00983845
KR	2012-0062971	Dec. 7, 2010	June 15, 2012	H. Kim et al.	SAM-KEY_00983848 SAM-KEY_00993380	SAM-KEY_00983891 SAM-KEY_00993423
US	2008/0158189 A1	Nov. 8, 2007	July 3, 2008	S. Kim	SAM-KEY_00983894	SAM-KEY_00983907
US	2008/0163119 A1	Aug. 28, 2007	July 3, 2008	H, Kim et al.	SAM-KEY_00983908	SAM-KEY_00983930

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	2009/0228820 A1	Dec. 30, 2008	Sept. 10, 2009	S. Hwa et al.	SAM-KEY_00983931	SAM-KEY_00983971
US	2006/0045374 A1	Aug. 30, 2005	Mar. 2, 2006	Y. Kim et al.	SAM-KEY_00983972	SAM-KEY_00983992
US	2010/0008582 A1	July 9. 2009	Jan. 14, 2010	S. Kim et al.	SAM-KEY_00983993	SAM-KEY_00984029
US	8,170,620 B2	April 30, 2009	May 1, 2012	H. Kim	SAM-KEY_00984030	SAM-KEY_00984054
US	8,625,899 B2	July 9, 2009	Jan. 7, 2014	S. Kim et al.	SAM-KEY_00984055	SAM-KEY_00984090
US	8,005,720 B2	Aug.18, 2005	Aug. 23, 2011	M. King et al.	SAM-KEY_00984091	SAM-KEY_00984142
US	2012/0113023 A1	Mar. 30, 2011	May 10, 2012	J. Koch et al.	SAM-KEY_00984143	SAM-KEY_00984276
US	8,547,354 B2	Mar. 30, 2011	Oct.1, 2013	J. Koch et al.	SAM-KEY_00984277	SAM-KEY_00984411
US	2013/0187861 A1	Jan. 19, 2012	July 25, 2013	J. Lavallee	SAM-KEY_00984412	SAM-KEY_00984441
US	2013/0187861 A1	Jan. 19, 2012	July 25, 2013	J. Lavallee	SAM-KEY_00984412	SAM-KEY_00984441
US	2013/0318467 A1	Aug. 9, 2013	Nov. 28, 2013	B. Lee et al.	SAM-KEY_00984442	SAM-KEY_00984471
US	2010/0131880 A1	Dec. 1, 2008	May 27, 2010	S. Lee et al.	SAM-KEY_00984472	SAM-KEY_00984493

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	2005/0169527 A1	Dec. 20, 2004	Aug. 4, 2005	M. Longe et al.	SAM-KEY_00984494	SAM-KEY_00984548
US	5,933,525	April 10, 1996	Aug. 3, 1999	J. Makhoul et al.	SAM-KEY_00984549	SAM-KEY_00984564
US	5,933,525	April 10, 1996	Aug. 3, 1999	J. Makhoul et al.	SAM-KEY_00984549	SAM-KEY_00984564
US	2009/0288044 A1	May 19, 2008	Nov. 19, 2009	D. Matthews et al.	SAM-KEY_00984565	SAM-KEY_00984582
US	7,340,686 B2	Mar. 22, 2005	Mar. 4, 2008	D. Matthews et al.	SAM-KEY_00984583	SAM-KEY_00984606
US	8,584,031 B2	Nov. 19, 2008	Nov. 12, 2013	B. Moore et al.	SAM-KEY_00984616	SAM-KEY_00984697
US	2004/0100479	May 9, 2003	May 27, 2004	M. Nakano et al.	SAM-KEY_00984701	SAM-KEY_00984786
KR	2009-0122010	May 23, 2008	Nov. 26, 2009	S. Park et al.	SAM-KEY_00986134 SAM-KEY_00993848	SAM-KEY_00986152 SAM-KEY_00993866
US	2009/0315836 A1	June 24, 2008	Dec. 24, 2009	P. Pihlaja	SAM-KEY_00986153	SAM-KEY_00986166
US	8,249,347 B1	May 19, 2011	Aug. 21, 2012	G.D. Ramkumar et al.	SAM-KEY_00986682	SAM-KEY_00986693
US	8,249,347 B1	May 19, 2011	Aug. 21, 2012	G. Ramkumar et al.	SAM-KEY_00986682	SAM-KEY_00986693

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	8,571,862 B2	Oct.13, 2009	Oct. 29, 2013	A. Rao et al.	SAM-KEY_00986694	SAM-KEY_00986740
US	2013/0120595 A1	June 19, 2012	May 16, 2013	J.J. Roach et al.	SAM-KEY_00986741	SAM-KEY_00986829
US	2013/0120595 A1	June 19, 2012	May 16, 2013	J. Roach et al.	SAM-KEY_00986741	SAM-KEY_00986829
US	9,250,797 B2	Sept. 30, 2008	Feb. 2, 2016	B. Roberts et al,	SAM-KEY_00986830	SAM-KEY_00986861
US	2010/0050076 A1	Aug. 29, 2008	Feb. 25, 2010	V. Roth	SAM-KEY_00986872	SAM-KEY_00986885
US	2010/0088597 A1	Sept. 29, 2009	April 8, 2010	S. Shin et al.	SAM-KEY_00987795	SAM-KEY_00987833
US	8,788,964 B2	Oct. 19, 2009	July 22, 2014	S. Shin et al.	SAM-KEY_00987834	SAM-KEY_00987866
US	61/389,000	Sept. 28, 2011	May 3, 2012	S. Sirpal et al.	SAM-KEY_00987912	SAM-KEY_00988168
US	61/389,087	Oct. 1, 2010		S. Sirpal et al.	SAM-KEY_00988169	SAM-KEY_00988231
US	61/389,117	Oct. 1, 2010		C. Reeves et al.	SAM-KEY_00988232	SAM-KEY_00988375
US	61/458,150	Nov. 17, 2010		P. Webber	SAM-KEY_00988376	SAM-KEY_00988606
US	61/539,884	Sept. 27, 2011		D. Burton et al.	SAM-KEY_00988607	SAM-KEY_00989111

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	2012/0110486	Sept. 28, 2011	May 3, 2012	S. Sirpal et al.	SAM-KEY_00989112	SAM-KEY_00989149
US	8,832,577 B2	Sept. 28, 2011	Sept. 9, 2014	S. Sirpal et al.	SAM-KEY_00989150	SAM-KEY_00989188
WO	2012/044782 A1	Sept. 29, 2011	April 5, 2012	S. Sirpal et al.	SAM-KEY_00989189	SAM-KEY_00989255
US	8,200,247 B1	Feb. 8, 2010	June 12, 2012	V. Starenky et al.	SAM-KEY_00989256	SAM-KEY_00989283
US	9,588,674 B2	Nov. 30, 2012	Mar. 7, 2017	P. Strutin-Belinoff et al.	SAM-KEY_00989284	SAM-KEY_00989294
US	7,917,286 B2	Dec. 16, 2005	Mar. 29, 2011	B. Taylor et al.	SAM-KEY_00989408	SAM-KEY_00989424
US	9,933,938 B1	June 16, 2015	April 3, 2018	A. Tse et al.	SAM-KEY_00989596	SAM-KEY_00989629
US	2009/0249247 A1	Jan. 30, 2009	Oct. 1, 2009	E. Tseng et al.	SAM-KEY_00989630	SAM-KEY_00989657
US	2011/0157029 A1	Dec. 31, 2009	June 30, 2011	E. Tseng	SAM-KEY_00989658	SAM-KEY_00989682
WO	2009/097555 A2	Jan. 30, 2009	Aug. 6, 2009	E. Tseng et al.	SAM-KEY_00989683	SAM-KEY_00989756
US	2002/0067346 A1	Sept. 21, 2001	June 6, 2002	E. Mouton	SAM-KEY_00989757	SAM-KEY_00989763
US	2003/0022701 A1	July 25, 2001	Jan. 30, 2003	A. Gupta	SAM-KEY_00989764	SAM-KEY_00989775

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	2011/0161845 A1	Dec. 31, 2009	June 30, 2011	E. Stallings et al.	SAM-KEY_00989776	SAM-KEY_00989795
US	5,848,356	Oct. 2, 1995	Dec. 8, 1998	S. Jambhekar et al.	SAM-KEY_00989796	SAM-KEY_00989821
US	6,751,487	Feb. 8, 2000	June 15, 2004	N. Rydbeck et al.	SAM-KEY_00989822	SAM-KEY_00989837
US	2011/0161852 A1	Dec. 31, 2009	June 30, 2011	J. Vainio et al.	SAM-KEY_00989920	SAM-KEY_00989948
US	2010/0105443 A1	Nov. 10, 2009	April 29, 2010	M. Vaisanen	SAM-KEY_00989949	SAM-KEY_00989974
US	2010/0107067 A1	Oct. 27, 2008	April 29, 2010	M. Vaisanen	SAM-KEY_00989975	SAM-KEY_00989985
US	6,359,572 B1	Sept. 3, 1998	Mar. 19, 2002	P. Vale	SAM-KEY_00989986	SAM-KEY_00990009
US	2013/0039570 A1	Sept. 15, 2012	Feb. 14, 2013	L. Vincent et al.	SAM-KEY_00990010	SAM-KEY_00990028
US	8,744,173 B2	Sept. 15, 2012	June 3, 2014	L. Vicent et al.	SAM-KEY_00990029	SAM-KEY_00990050
WO	2004/070871	Feb. 4, 2004	Aug. 19, 2004	M. Wedel et al.	SAM-KEY_00990051	SAM-KEY_00990076
US	2013/0050102 A1	Nov. 28, 2011	Feb. 28, 2013	N. Wang et al.	SAM-KEY_00990077	SAM-KEY_00990083
US	2010/0302172 A1	May 27, 2009	Dec. 2, 2010	W. Wilairat	SAM-KEY_00990087	SAM-KEY_00990096

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	10,198,163 B2	June 6, 2013	Feb. 5, 2019	M. Yabuki	SAM-KEY_00990097	SAM-KEY_00990121
WO	2013/183722 A1	June 6, 2013	Dec. 12, 2013	M. Yabuki	SAM-KEY_00990122 SAM-KEY_00992545	SAM-KEY_00990161 SAM-KEY_00992621
US	2009/0295750 A1	May 27, 2009	Dec. 3, 2009	H. Yamazaki et al.	SAM-KEY_00990162	SAM-KEY_00990182
TW	2012484489 A1	May 31, 2011	Dec. 1, 2012	Z. Zhuang	SAM-KEY_00990210 SAM-KEY_00992494	SAM-KEY_00990234 SAM-KEY_00992544
US	9,916,081	Feb. 1, 2013	13-Mar-18	J. Zhu et al.	SAM-KEY_00990183	SAM-KEY_00990209
EP	1445823	Oct. 2, 2003	Nov. 8, 2004	M. Wedel et al.	SAM-KEY_00991834	SAM-KEY_00991849
US	2015/0088923 A1	Sept. 23, 2010	Mar. 26, 2015	L. Garcia-Barrio et al.	SAM-KEY_00993239	SAM-KEY_00993253
US	7,921,361	Oct. 12, 2007	Apr. 5, 2011	H. Gunn et al.	SAM-KEY_00993254	SAM-KEY_00993303
JP	2012198944A	July 25, 2012	Oct. 18, 2012	T. Ishihara et al.	SAM-KEY_00993337 SAM-KEY_00993356	SAM-KEY_00993355 SAM-KEY_00993379

Country	Pat./App./Pub. No.	Date of Filing	Date of Issue/Pub.	Inventor(s)	Bates Range Start	Bates Range End
US	2013/0046544A1	Mar. 14, 2011	Feb. 21, 2013	D. Kay et al.	SAM-KEY_00993424	SAM-KEY_00993478
US	2013/0047114A1	Aug. 16, 2012	Feb. 21, 2013	H. Murakami et al.	SAM-KEY_00993503	SAM-KEY_00993518
US	8,745,018	July 10, 2009	June 3, 2014	D. Singleton et al.	SAM-KEY_00993615	SAM-KEY_00993647
EP	399176	Mar. 28, 1990	Nov. 28, 1990	J. Tattari	SAM-KEY_00993820	SAM-KEY_00993822
EP	651544	Oct. 28, 1994	May 3, 1995	D. Allard et al.	SAM-KEY_00993823	SAM-KEY_00993834
EP	1379101 A1	July 1, 2002	Jan. 7, 2004	M. Erixon et al.	SAM-KEY_00993835	SAM-KEY_00993847
US	9,547,375	June 17, 2013	Jan. 17, 2017	T. Paek et al.	SAM-KEY_00993869	SAM-KEY_00993898
US	2001/0044281	June 15, 2001	Nov. 22, 2001	P. Peterzell et al.	SAM-KEY_00993899	SAM-KEY_00993906
US	2003/0048257	Sep. 6, 2001	Mar. 13, 2003	S. Mattila	SAM-KEY_00993907	SAM-KEY_00993927
US	5,537,608	June 2, 1995	July 16, 1996	B. Beatty et al.	SAM-KEY_00993928	SAM-KEY_00993943
US	D284,759	Oct. 25, 1983	July 22, 1986	A. Nagele et al.	SAM-KEY_00993944	SAM-KEY_00993946
WO	2004/095414	April 19, 2004	Nov. 4, 2004	B. Ghassabian	SAM-KEY_00993949	SAM-KEY_00994267

Table 2: Non-Patent Publications

Title	Pub. Date	Author(s)	Publisher	Bates Range Start	Bates Range End
More than dotting the I's – Foundations for crossing-based interfaces	April 1, 2002	J. Accot et al.	Association for Computing Machinery	SAM-KEY_00979947	SAM-KEY_00979954
Newton Apple MessagePad Handbook	1995	Apple Computer, Inc.	Apple Computer, Inc.	SAM-KEY_00981676	SAM-KEY_00981871
Pad++: Zoomable Graphical Sketchpad For Exploring Alternate Interface Physics	1996	B. Bederson et al.	Academic Press Ltd.	SAM-KEY_00982269	SAM-KEY_00982297
CrossY: A Crossing-Based Drawing Application	Oct. 2004	G. Apitz et al.	Association for Computing Machinery	SAM-KEY_00982499	SAM-KEY_00982508
Artistic Resizing: A Technique For Rich Scale-Sensitive Vector Graphics	Oct. 2005	P. Dragicevic et al.	Association for Computing Machinery	SAM-KEY_00982521	SAM-KEY_00982530
Barrier Pointing: Using Physical Edges to Assist Target Acquisition on Mobile Device Touch Screens	Oct. 2007	J. Froehlich et al.	Association for Computing Machinery	SAM-KEY_00982613	SAM-KEY_00982620
Samsung Galaxy User Manual	Oct. 2009	Samsung Electronics	Samsung Electronics	SAM-KEY_00982678	SAM-KEY_00982764
FlowMenu: Combining Command, Text, and Data Entry	2000	F, Guimbretière et al.	Association for Computing Machinery	SAM-KEY_00982841	SAM-KEY_00982844
HTC Dream User Manual	2009	HTC Corp.	HTC Corp.	SAM-KEY_00982845	SAM-KEY_00983058
On-line Personalization of a Touch Screen Based Keyboard	Jan. 2003	J. Himberg et al.	Association for Computing Machinery	SAM-KEY_00983059	SAM-KEY_00983066
Customizable Keyboard	Oct. 2010	E. Missimer et al.	Association for Computing Machinery	SAM-KEY_00984607	SAM-KEY_00984608

Title	Pub. Date	Author(s)	Publisher	Bates Range Start	Bates Range End
Mobile Text Entry: Relationship between Walking Speed and Text Input Task Difficulty	Sept. 2005	S. Mizobuchi et al.	Association for Computing Machinery	SAM-KEY_00984609	SAM-KEY_00984615
Gyrophone ("MyOrigo Magazine")	Oct. 2, 2003	D. Chow	What Mobile Magazine	SAM-KEY_00984698	SAM-KEY_00984700
Neonode N2 Overview	Mar. 26, 2008	MobileBurn.com	MobileBurn.com	SAM-KEY_00984832	SAM-KEY_00984832
Palm Pre - The Missing Manual	Aug. 2009	E. Baig	O'Reilly Media, Inc.	SAM-KEY_00985412	SAM-KEY_00985700
Palm Pre Plus User Guide	2010	Palm, Inc.	Palm, Inc.	SAM-KEY_00985701	SAM-KEY_00985924
Palm Pre Plus User Guide	2009	Palm, Inc.	Palm, Inc.	SAM-KEY_00985925	SAM-KEY_00986133
Which? Samsung Galaxy i7500 Google Android phone launches at IFA Berlin	Sept. 4, 2009	Which?	YouTube	SAM-KEY_00986488	SAM-KEY_00986488
I bought the first Samsung Galaxy!	Mar. 22, 2023	Destructive Dan	YouTube	SAM-KEY_00986534	SAM-KEY_00986534
Retro Review: T-Mobile MyTouch 3G Android (HTC Magic)	Mar. 30, 2016	One Stop Reviews	YouTube	SAM-KEY_00986540	SAM-KEY_00986540
Samsung Galaxy I7500 Preview	May 27, 2009	Phone Arena	YouTube	SAM-KEY_00986541	SAM-KEY_00986541
Samsung Galaxy Review	Aug. 10, 2009	Phone Arena	YouTube	SAM-KEY_00986542	SAM-KEY_00986542
Samsung Galaxy I7500 Review	Aug. 7, 2009	Phone Arena Team	Phone Arena	SAM-KEY_00986636	SAM-KEY_00986657
HTC Magic Review	June 1, 2009	Gareth Beavis	Tech Radar, Future US Inc.	SAM-KEY_00986670	SAM-KEY_00986681

Title	Pub. Date	Author(s)	Publisher	Bates Range Start	Bates Range End
Buttons as First Class Objects on an X Desktop	Nov. 1991	G. Robertson et al.	Association for Computing Machinery	SAM-KEY_00986862	SAM-KEY_00986871
Bezel Swipe: Conflict-Free Scrolling and Multiple Selection on Mobile Touch Screen Devices	April 8, 2009	V. Roth et al.	CHI 2009 ~ Multimodal Mobile Interaction	SAM-KEY_00986886	SAM-KEY_00986889
Samsung Galaxy S III: 4G LTE Smartphone User Manual	2013	Samsung Telecomm-unications America, LLC	Samsung Telecomm-unications America, LLC	SAM-KEY_00986890	SAM-KEY_00987092
Samsung Galaxy Tab2 7.0 Android Tablet User Manual	2012	Samsung Elecs. Am., Inc.	Samsung Elecs. Am., Inc.	SAM-KEY_00987180	SAM-KEY_00987330
Samsung Galaxy Note 10.1 Android Tablet User Manual	2012	Samsung Elecs. Am., Inc.	Samsung Elecs. Am., Inc.	SAM-KEY_00987331	SAM-KEY_00987579
Samsung Galaxy Nexus User's Guide	2011	Google Inc.	Google Inc.	SAM-KEY_00987580	SAM-KEY_00987686
Laser Pointer Interaction Techniques using Peripheral Areas of Screens	May 1, 2006	B. Shizuki et al.	Association for Computing Machinery	SAM-KEY_00987867	SAM-KEY_00987870
Simon Says "Here's How!" Users Manual	1994	IBM Corp.	IBM Corp.	SAM-KEY_00987871	SAM-KEY_00987911
The Google Phone Pocket Guide	2009	J. O'Grady	Peachpit Press	SAM-KEY_00989425	SAM-KEY_00989593
Samsung Galaxy S II Mobile Phone User Manual	2011	Samsung Telecomm-unications America, LLC	Samsung Telecomm-unications America, LLC	SAM-KEY_00990235	SAM-KEY_00990437
Alternatives to WhatsApp: IM and VoIP Apps for Smartphones	2013	N. Unuth	About.com	SAM-KEY_00990443	SAM-KEY_00990443
Enter the Phablet: A History of Phone-Tablet Hybrids	Feb. 13, 2012	S. Segan	PC Mag	SAM-KEY_00991850	SAM-KEY_00991865

Title	Pub. Date	Author(s)	Publisher	Bates Range Start	Bates Range End
Is Samsung's 'phablet' the shape of things to come?	April 5, 2012	J. Wagstaff et al.	NBC News	SAM-KEY_00991866	SAM-KEY_00991869
MyOrigo mydevice Z1 User Manual ("MyOrigo Manual")	No later than Dec. 19, 2003	MyOrigo OY, Ltd.	MyOrigo OY, Ltd	SAM-KEY_00992022	SAM-KEY_00992137
Samsung ChatON Takes Chatting on your Phone to the Next Level	Sept. 25, 2012	J. Strietelmeier	Gadgeteer	SAM-KEY_00992449	SAM-KEY_00992463
Samsung ChatON – IM App Review	Oct. 5, 2013	N. Unuth	About.com	SAM-KEY_00992464	SAM-KEY_00992465
Samsung dazzles phablet followers with more girth, size	Sept. 26, 2013	M. Kim	Reuters	SAM-KEY_00992466	SAM-KEY_00992478
Samsung unveils ChatON 2.0 with multiple device syncing, new social features and more	Dec. 27, 2012	KS Sandhya Iyer	Gadgets360	SAM-KEY_00992479	SAM-KEY_00992484
Samsung's ChatON App Updated To v2.7.3 With Voice And Video Chat For GS4, Animated GIFs, And More	June 11, 2013	R. Whitwam	Android Police	SAM-KEY_00992485	SAM-KEY_00992493
How to Install the ICS Messaging App on ANY Android Phone	Jan. 17, 2012	T. Schofield	YouTube	SAM-KEY_00992883	SAM-KEY_00992883
ChatON Chat Your Way Tutorial Video	Sept. 2, 2011	Samsung	YouTube	SAM-KEY_00992885	SAM-KEY_00992885
DetroitBORG Galaxy Note 10.1 Unboxing	Aug. 25, 2012	DetroitBORG	YouTube	SAM-KEY_00992886	SAM-KEY_00992886
The Verge, Samsung Galaxy Note 10.1 review ("Verge Note 10.1 Review")	Aug. 15, 2012	The Verge	YouTube	SAM-KEY_00992887	SAM-KEY_00992887
Samsung Galaxy Note 10.1 Launches Tomorrow in the U.S.	Aug. 15, 2012	Kellen	Droid Life	SAM-KEY_00992913	SAM-KEY_00992919

Title	Pub. Date	Author(s)	Publisher	Bates Range Start	Bates Range End
Samsung Relaunches the Galaxy Note 10.1 with Quad-core Processor and 2GB RAM, Arriving This Month	Aug. 6, 2012	Kellen	Droid Life	SAM-KEY_00992920	SAM-KEY_00992926
Microsoft Lumia 640 LTE	Mar. 4, 2015	GSMArena	GSMArena	SAM-KEY_00993867	SAM-KEY_00993868
Samsung i7500 android Hands-On	May 7, 2009	Gear65.com	YouTube	SAM-KEY_00993948	SAM-KEY_00993948
HTC Magic Mobile Phone – Part 1 – Unboxing & Review	Aug. 10, 2009	Geekanoids	YouTube	SAM-KEY_00993947	SAM-KEY_00993947

Defendants further incorporate by reference all "U.S. Patent Documents" and "Other Publications" cited on the face of the Patents-in-Suit. Any citation to one or more of the above prior art references, or other prior art references regarding any method or system, should be construed to constitute not only a citation to the prior art reference itself, but also a reference to the system itself. Discovery has only just begun in this case, and Defendants will supplement if and when more information becomes available from Plaintiff or third parties.

B. Prior Art Disclosures—Known/Use/Sales/Offers for Sale

Defendants believe that there were prior art disclosures in the form of sales, offers for sale, and/or uses by others of products that qualify as prior art under pre-AIA 35 U.S.C. § 102(a) and/or (b) or under AIA 35 U.S.C. § 102(a)(1) against one or more of the Asserted Claims of the Patents-in-Suit. The below-identified prior art products include products Defendants are currently aware of through an on-going diligent and reasonable investigation at this early stage of discovery and/or based on public available information. Details regarding such offers for sale and public uses may be within the possession of third parties. As discovery progresses, Defendants intend and reserve the

right to promptly supplement and/or amend the lists below to include additional prior art products that anticipate and/or render the Asserted Claims obvious.

Table 3: Prior Art Products

System[1]	Sale or Use Date
Apple Newton MessagePad 2000	At least by March 1997
HTC G1 1.6	At least by September 23, 2008, and not later than September 15, 2009
HTC Hero 1.5	At least by October 11, 2009
HTC Hero 2.1	At least by January 2010
HTC Magic 1.6	At least by July 8, 2009
Lumia 640	At least by March 2, 2015
Motorola Droid A855	At least by November 6, 2009
Motorola Moto E 2nd Gen.	At least by February 25, 2015
MyOrigo MyDevice	At least by October 2003
Neonode N2	At least by 2008
Palm Pre	At least by February 2009
Samsung Behold II	At least by November 4, 2009
Samsung Galaxy GT-i7500	At least by June 29, 2009
Samsung Galaxy Nexus	At least by November 2011, and not later than November 28, 2012
Samsung Galaxy Note 10.1	At least by July 2012, and not later than January 15, 2013
Samsung Galaxy Tab2 7.0	At least by April 2012, and not later than November 19, 2013
Sony P800	At least by October 15, 2002

[1] To the extent Plaintiff asserts that any prior art product does not qualify as prior art under the relevant statute, the documents and videos cited in each Exhibit as evidence of these systems' functionality are independently prior art and would anticipate or render obvious the Asserted Claims for the reasons given in each Exhibit.

For the public uses identified herein, Defendants are investigating the identities of the individuals who knew about and/or were involved in the making, first public use, offer for sale and/or sale of these products and systems. Defendants are also investigating the exact date that these products and systems were first made, first publicly used, offered for sale and/or sold. In addition, Defendants are currently investigating the dates of conception and reduction to practice of these products and systems and when these products and systems were first known or used by others.

In the course of their investigation, Defendants may identify additional prior art documents describing these products, systems, and/or disclosures that may also anticipate and/or render obvious as invalidating printed publications. Any citation to one or more of prior art references regarding these products, systems, and/or disclosures should be construed to constitute not only a citation to the prior art reference itself, but also a reference to the associated products, systems, and/or disclosures.

C. Prior art under Pre-AIA 35 U.S.C. § 102(f) and/or AIA 35 U.S.C. § 101

Discovery has only just recently begun, and inventor discovery is forthcoming. Based on limited discovery received to date, Defendants contend that the Asserted Claims subject to the pre-AIA statutory provisions are invalid under 35 U.S.C. § 102(f) and/or for failing to satisfy § 116 on the grounds that the named inventor of the Patents-in-Suit did not invent the subject matter claimed therein and/or improperly omitted an inventor. Similarly, Defendants contend that the Asserted Claims subject to the AIA provisions are invalid under 35 U.S.C. § 101 on the grounds that the named inventor of the Patents-in-Suit is not "[w]hoever invent[ed] or discover[ed]" the alleged inventions and, thus, is not a person who "may obtain a patent therefor." A patent is invalid if more or fewer than the true inventors are named. Should Defendants obtain additional evidence, they will provide the name of the person(s) from whom and the circumstances under which the alleged invention or any part of it was derived.

For example, Defendants believe that one or more other people may have invented or contributed to the subject matter claimed in the Patents-in-Suit, whose subject matter qualifies as prior art under pre-AIA 35 U.S.C. § 102(f) against one or more of the Patent-in-Suits. Defendants may identify additional information describing additional persons, facts, and circumstances that may also demonstrate that the named inventors are not entitled to the Patents-in-Suit under pre-AIA 35 U.S.C. § 102(f) and/or failed to satisfy the requirements under § 116 such that the Asserted Claims of the Patents-in-Suit are invalid.

Additionally, Plaintiff may have in its possession, custody, or control information related to or pertaining to prior art under pre-AIA 35 U.S.C. § 102(f) and/or information concerning the failure to satisfy § 116. Defendants will supplement these Invalidity Contentions if and when Plaintiff produces such information and Defendants have had the opportunity to obtain and analyze that information. Defendants contend that the Patents-in-Suit are invalid under pre-AIA 35 U.S.C. § 102(f) and/or § 116 in the event Defendants obtain evidence that the named inventor of any of the Patents-in-Suit did not invent (either together or in conjunction with other parties) the subject matter claimed therein and/or omitted a true inventor.

As another example, Defendants believe that one or more other people may have invented or contributed to the subject matter claimed in the Patents-in-Suit, whose subject matter qualifies as prior art under AIA 35 U.S.C. § 101 against one or more of the Patent-in-Suits. Defendants may identify additional information describing additional persons, facts, and circumstances that may also demonstrate that the named inventors are not entitled to the Patents-in-Suit under AIA 35 U.S.C. § 101 such that the Asserted Claims of the Patents-in-Suit are invalid.

Additionally, Plaintiff may have in its possession, custody, or control information related to or pertaining to prior art under AIA 35 U.S.C. § 101. Defendants will supplement these Invalidity Contentions if and when Plaintiff produces such information and Defendants have had the

opportunity to obtain and analyze that information. Defendants contend that the Patents-in-Suit subject to AIA are invalid under 35 U.S.C. § 101 in the event Defendants obtain evidence that the named inventor of any of the Patents-in-Suit did not invent (either together or in conjunction with other parties) the subject matter claimed therein and/or omitted a true inventor.

D. Prior art under Pre-AIA 35 U.S.C. § 102(g)

Each prior art patent, publication, or product identified above was either filed or issued (for patents), published (for publications), or known, used, offered for sale or sold (for disclosures, products, and/or systems) before the earliest priority date of the Patents-in-Suit. Additionally, each prior art patent, publication, or product identified above does not appear to have been abandoned, suppressed, or concealed, so that each such reference also constitutes evidence of prior invention pursuant to 35 U.S.C. § 102(g) to the extent that it is in the U.S. The persons or entities involved with each such invention include the named inventors on the above-identified patents, the authors listed on the above-identified publications, and the entities and individuals identified in connection with the above-identified products and systems. Plaintiff has not provided conception dates or evidence thereof earlier than the filing dates of the Patents-in-Suit or the alleged priority dates listed on the faces of the Patents-in-Suit. Nor has Plaintiff provided reduction to practice dates or evidence thereof and/or any purported diligence associated therewith. Should the Court permit Plaintiff to provide any of such evidence, Defendants reserve the right to assert that any of the prior art references identified in the sections above as pre-AIA 35 U.S.C. §102(a) prior art is also pre-AIA 35 U.S.C. §102(g) prior art. Investigation, analysis, and discovery are ongoing in this matter, and Defendants reserve the right to supplement this response as appropriate.

E. Invalidity by Anticipation or Obviousness

Subject to the Defendants' reservation of rights stated in these Invalidity Contentions and based on Defendants' present understanding of the Asserted Claims and the apparent interpretations

that Plaintiff is asserting based on Plaintiff's Complaint and its Infringement Contentions, Defendants provide below exemplary references and combinations of references that anticipate and/or render the Asserted Claims of the '602 Patent obvious in Table 4, exemplary references and combinations of references that anticipate and/or render the Asserted Claims of the '922 Patent obvious in Table 5, and exemplary references and combinations of references that anticipate and/or render the Asserted Claims of the '144 Patent obvious in Table 6.

Aspects of these Invalidity Contentions are based, in whole or in part, on Defendants' present understanding of Plaintiff's apparent interpretations of the Asserted Claims based on Plaintiff's Complaint and its Infringement Contentions. Given Plaintiff's apparent interpretations of the Asserted Claims, Defendants have attempted to apply those interpretations, but this application of Plaintiff's interpretations is not an agreement or admission that any of Plaintiff's interpretations are correct. To be clear, Defendants do not agree with Plaintiff's Infringement Contentions but are merely offering Invalidity Contentions based on those interpretations.

The references identified in the exhibits attached to these Invalidity Contentions may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied upon to show how the state of the art in the relevant time frame invalidates the Asserted Claims. In some instances, multiple prior art publications discuss the same underlying system, software, or other project. For example, some patents and published patent applications reflect commercial products or services offered in the market. It would have been obvious to consider and combine the teachings of a patent or patent application that relate to a certain product or service with the features of that product or service as provided commercially. Similarly, where multiple publications discuss the same underlying product, service, project, or system, it would have been obvious to combine the discussions and disclosures of the publications as they would have been understood to describe features or potential features of the underlying subject matter. Likewise, where one publication

discusses another publication, it would have been obvious to consider and combine the teachings of each publication in combination with each other.

Defendants' contentions that the references in this section, in various combinations, render the Asserted Claims of the Patents-in-Suit obvious under 35 U.S.C. § 103 are in no way an admission or suggestion that each reference does not independently anticipate the Asserted Claims under 35 U.S.C. § 102. Any of these references may be combined with other disclosed references, the disclosed products and systems, and/or with the knowledge of one of ordinary skill in the art during the relevant time period to render obvious, and, therefore, invalidate, the Asserted Claims of the Patents-in-Suit.

Although Defendants have identified at least one disclosure of a limitation for each prior art reference, each and every disclosure of the same limitation in the same reference is not necessarily identified. To focus the issues, Defendants cite only exemplary and representative portions of an identified reference, even where a reference may contain additional support for a particular claim limitation. Persons of ordinary skill in the art read an item of prior art as a whole and in the context of other publications and literature. Thus, to understand and interpret any specific statement or disclosure within a prior art reference that Defendants identify as exemplary and representative, such persons of ordinary skill in the art would rely on other information within the reference, along with other publications and their general scientific knowledge. As such, Defendants may rely upon uncited portions of the prior art references and on other publications and expert testimony to provide context, and as aids to understanding and interpreting the exemplary portions that are cited.

No showing of a specific motivation to combine prior art is required to combine the references disclosed above and in the attached charts, as each combination of art would have no unexpected results, and at most would simply represent a known alternative to one of ordinary skill in the art. *See KSR*, 550 U.S. at 415-17 (rejecting the Federal Circuit's "rigid" application of the teaching,

suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach). That said, the Supreme Court's rationale, that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle," applies equally here. *Id.* at 420-21. Nevertheless, in addition to the information contained in the section(s) above and elsewhere in these contentions, Defendants hereby identify additional motivations and reasons to combine the cited art. Further motivations are provided in the attached charts.

One or more combinations of the prior art references identified herein would have been obvious because these references would have been combined using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or a teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining the prior art references identified above because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompts variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combinations of the prior art references identified above would have been obvious because the combinations represent the known potential options with a reasonable expectation of success.

Motivation to combine any two or more of the identified references, systems, and/or products comes from the fact that the references, systems, and/or products teach structural designs and use of multiple display devices, and one would have been motivated by considerations of efficiency, effectiveness, convenience, cost-savings, power savings, and accessibility, to combine the various teachings. Additional evidence that there would have been a motivation or reason to combine the prior art references identified above includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the

existence of a known problem for which there was an obvious solution; the existence of a known need or problem in the field of endeavor at the time of the invention; and the background knowledge that would have been possessed by a person having ordinary skill in the art. For example, the prior art references, systems, and/or products are generally directed to the same or similar problems. Some references expressly incorporate others by reference or are authored by the same inventor. Thus, a skilled artisan seeking to solve these problems would have looked to these cited references in combination.

Thus, the motivation or reason to combine the teachings of the prior art references disclosed herein is found in the references themselves and in: (1) the nature of the problem being solved; (2) the express, implied, and inherent teachings of the prior art; (3) the knowledge of persons of ordinary skill in the art; (4) the fact that the prior art is generally directed towards the same problem; (5) the predictable results obtained in combining the different elements of the prior art; (6) the use of a known technique to improve similar devices, methods, or products in the same way; (7) the predictable results obtained in applying a known technique to a known device, method, or product ready for improvement; (8) the finite number of identified predictable solutions having a reasonable expectation of success; and/or (9) known work in various technological fields that could be applied to the same or different technological fields based on design incentives or other market forces.

1. ’602 Patent

Table 4: Exemplary Anticipatory and Combinations for the Asserted Claims of the ’602 Patent

Chart	Prior Art References
A1	Tseng in view of one or more of Jeong, Roth, Brown, Wilairat, Hinckley, Hisatomi, Roth Bezel Swipe, Samsung Galaxy GT-i7500, Samsung Behold II, HTC G1 1.6, HTC Hero 1.5, HTC Hero 2.1, HTC Magic 1.6, Motorola Droid A855, Palm Pre, and Neonode N2

Chart	Prior Art References
A2	Jeong in view of one or more of Tseng, Roth, Brown, Wilairat, Hinckley, Hisatomi, Roth Bezel Swipe, Samsung Galaxy GT-i7500, Samsung Behold II, HTC G1 1.6, HTC Hero 1.5, HTC Hero 2.1, HTC Magic 1.6, Motorola Droid A855, Palm Pre, and Neonode N2
A3	HTC G1 1.6 in view of one or more of Jeong, Tseng, Roth, Brown, Wilairat, Hinckley, Hisatomi, Roth Bezel Swipe, Samsung Galaxy GT-i7500, Samsung Behold II, HTC Hero 1.5, HTC Hero 2.1, HTC Magic 1.6, Motorola Droid A855, Palm Pre, and Neonode N2
A4	Samsung Behold II in view of one or more of Jeong, Tseng, Roth, Brown, Wilairat, Hinckley, Hisatomi, Roth Bezel Swipe, Samsung Galaxy GT-i7500, HTC Hero 1.5, HTC Hero 2.1, HTC Magic 1.6, Motorola Droid A855, Palm Pre, and Neonode N2
A5	Motorola Droid A855 in view of one or more of Jeong, Tseng, Roth, Brown, Wilairat, Hinckley, Hisatomi, Roth Bezel Swipe, Samsung Galaxy GT-i7500, HTC Hero 1.5, HTC Hero 2.1, HTC Magic 1.6, Palm Pre, and Neonode N2
A6	HTC Hero 1.5 and/or 2.1 in view of one or more of Jeong, Tseng, Roth, Brown, Wilairat, Hinckley, Hisatomi, Roth Bezel Swipe, Samsung Galaxy GT-i7500, HTC G1 1.6, HTC Magic 1.6, Motorola Droid A855, Palm Pre, and Neonode N2
A7	Palm Pre in view of one or more of Jeong, Tseng, Roth, Brown, Wilairat, Hinckley, Hisatomi, Roth Bezel Swipe, Samsung Galaxy GT-i7500, HTC G1 1.6, HTC Hero 1.5, HTC Hero 2.1, HTC Magic 1.6, Motorola Droid A855, and Neonode N2
A8	Neonode N2 in view of one or more of Jeong, Tseng, Roth, Brown, Wilairat, Hinckley, Hisatomi, Roth Bezel Swipe, Samsung Galaxy GT-i7500, HTC G1 1.6, HTC Hero 1.5, HTC Hero 2.1, HTC Magic 1.6, Motorola Droid A855, and Palm Pre

The prior art identified above, and in the attached ’602 Patent charts, individually anticipate and/or can properly be combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the ’602 Patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art. The references disclosed in the attached charts and herein are also directed to the same or similar features as the purported

invention claimed in the Asserted Claims of the ’602 Patent. To the extent Plaintiff contends that any of these features solved a problem in the art, the references cited herein show that that problem was known to those of ordinary skill and had already been solved using obvious solutions.

To that end, the Asserted Claims of the ’602 Patent simply combine elements already combined and well known in the art and yield no more than what one skilled in the art would have expected from such a combination. For example, with respect to the ’602 Patent, when confronted with the alleged problems described in the ’602 Patent, one of ordinary skill in the art at the time of the alleged inventions would have been motivated to consider the techniques taught by the prior art cited in these Invalidity Contentions. Consideration of the teachings of this prior art, both individually and in combination, would necessarily lead to the alleged invention claimed in the ’602 Patent. This is demonstrated by the cited prior art, which disclose all of the elements of the Asserted Claims of the ’602 Patent, as well as motivations to modify or combine their individual teachings. One of skill in the art would have been motivated to either modify the prior art identified in the claim charts or to combine that prior art in the manner indicated, by, for example, their background knowledge, design incentives, effects of demands known to the design community, or other market forces. Moreover, the cited prior art share commonalities. To the extent it is argued that any cited prior art does not expressly disclose a particular claim or element, it would have been inherent in the disclosure and/or obvious to a person of ordinary skill in the art to include the claimed element to perform the invention as claimed in the ’602 Patent.

As described in the attached charts, all the elements of the Asserted Claims of the ’602 Patent were commonplace before the alleged date of inventions. For each element, there exists evidence from the cited prior art that it was well known in the art prior to the date of invention. To the extent it is argued any of the cited prior art references, systems, and/or products do not anticipate the

Asserted Claims, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely combinations of well-known methods and systems resulting in expected results.

Additionally, Defendants hereby incorporate by reference the motivations to combine references set forth during the prosecution of the Asserted Claims of the '602 Patent, including the statements and reasoning set forth by the examiner, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims of the '602 Patent.

2. '922 Patent

Table 5: Exemplary Anticipatory and Combinations for the Asserted Claims of the '922 Patent

Chart	Prior Art References
B1	Goktekin in view of one or more of Lavallee, Sirpal-486, Sirpal-000, Makhoul, Kim-582, Beran, Wang, Yabuki, Roach, Vincent, Ramkumar, Garcia-Barrio, and Aravamudan
B2	Koch in view of one or more of Lavallee, Sirpal-486, Sirpal-000, Wang, Matthews, and Yabuki
B3	Samsung Galaxy Note 10.1 in view of one or more of Note 10.1 Manual, *Verge Note 10.1 Review*, *DetroitBORG Galaxy Note 10.1 Unboxing*, *ChatON Tutorial, ICS Messaging*, *About.com*, *Gadgets360*, *Android Police*, *Gadgeteer*, Lavallee, Sirpal-486, Sirpal-000, Wang, Matthews, Nexus, Koch, *PC Mag*, *NBC News*, *Reuters*, and Yabuki
B4	Samsung Galaxy Tab2 7.0 in view of one or more of Tab2 7.0 Manual, *ChatON Tutorial, ICS Messaging*, *About.com*, *Gadgets360*, *Android Police*, *Gadgeteer*, Lavallee, Sirpal-486, Sirpal-000, Wang, Matthews, Nexus, Koch, *PC Mag*, *NBC News*, *Reuters*, and Yabuki
B5	Samsung Galaxy Nexus in view of one or more of Nexus Manual, Lavallee, Sirpal-486, Sirpal-000, Wang, Matthews, and Yabuki
B6	Zhuang in view of one or more of Koch, Sirpal-486, Sirpal-000, Lavallee, Wang, Matthews, Nexus, and Yabuki
B7	Paek in view of one or more of Lavallee, Sirpal-486, Sirpal-000, Koch, Wang, Matthews, and Yabuki

The prior art identified above, and in the attached ’922 Patent charts, individually anticipate and/or can properly be combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the ’922 Patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art. The references disclosed in the attached charts and herein are also directed to the same or similar features as the purported invention claimed in the Asserted Claims of the ’922 Patent. To the extent Plaintiff contends that any of these features solved a problem in the art, the references cited herein show that that problem was known to those of ordinary skill and had already been solved using obvious solutions.

To that end, the Asserted Claims of the ’922 Patent simply combine elements already combined and well known in the art and yield no more than what one skilled in the art would have expected from such a combination. For example, with respect to the ’922 Patent, when confronted with the alleged problems described in the ’922 Patent, one of ordinary skill in the art at the time of the alleged inventions would have been motivated to consider the techniques taught by the prior art cited in these Invalidity Contentions. Consideration of the teachings of this prior art, both individually and in combination, would necessarily lead to the alleged invention claimed in the ’922 Patent. This is demonstrated by the cited prior art, which disclose all of the elements of the Asserted Claims of the ’922 Patent, as well as motivations to modify or combine their individual teachings. One of skill in the art would have been motivated to either modify the prior art identified in the claim charts or to combine that prior art in the manner indicated, by, for example, their background knowledge, design incentives, effects of demands known to the design community, or other market forces. Moreover, the cited prior art share commonalities. To the extent it is argued that any cited prior art does not expressly disclose a particular claim or element, it would have been inherent in the disclosure and/or obvious to a person of ordinary skill in the art to include the claimed element to perform the invention as claimed in the ’922 Patent.

As described in the attached charts, all the elements of the Asserted Claims of the ’922 Patent were commonplace before the alleged date of inventions. For each element, there exists evidence from the cited prior art that it was well known in the art prior to the date of invention. To the extent it is argued any of the cited prior art references, systems, and/or products do not anticipate the Asserted Claims, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely combinations of well-known methods and systems resulting in expected results.

Additionally, Defendants hereby incorporate by reference the motivations to combine references set forth during the prosecution of the Asserted Claims of the ’922 Patent, including the statements and reasoning set forth by the examiner, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims of the ’922 Patent.

3. ’144 Patent

Table 6: Exemplary Anticipatory and Combinations for the Asserted Claims of the ’144 Patent

Chart	Prior Art References
C1	Bast in view of one or more of Wedel, Rydbeck, Yamaguchi, Dutta, Nakano, Kobayashi, Benoit, Pensjo, Jambhekar, and Gupta
C2	Pensjo in view of one or more of Bast, Wedel, Rydbeck, Yamaguchi, Dutta, Nakano, Kobayashi, Benoit, Jambhekar, and Gupta
C3	Mouton in view of one or more of Bast, Wedel, Rydbeck, Yamaguchi, Dutta, Nakano, Kobayashi, Benoit, Pensjo, and Jambhekar
C4	Nakano in view of one or more of Bast, Wedel, Rydbeck, Yamaguchi, Dutta, Kobayashi, Pensjo, Jambhekar, and Gupta
C5	Gupta in view of one or more of Bast, Wedel, Rydbeck, Yamaguchi, Dutta, Kobayashi, Benoit, Pensjo, and Jambhekar
C6	Dutta in view of one or more of Bast, Wedel, Rydbeck, Yamaguchi, Nakano, Kobayashi, Benoit, Jambhekar, and Gupta
C7	MyOrigo Magazine in view of one or more of Bast, Wedel, Rydbeck, Yamaguchi, Dutta, Nakano, Benoit, Jambhekar, and Gupta

Chart	Prior Art References
C8	MyOrigo Manual in view of one or more of Wedel, Rydbeck, Yamaguchi, Dutta, Nakano, Kobayashi, Benoit, Jambhekar, and Gupta
C9	Sony P800 in view of one or more of Bast, Wedel, Rydbeck, Yamaguchi, Dutta, Nakano, Kobayashi, Benoit, Pensjo, Jambhekar, and Gupta
C10	Apple Newton in view of one or more of Bast, Wedel, Rydbeck, Yamaguchi, Dutta, Nakano, Kobayashi, Benoit, Pensjo, Gupta, Mouton, MyOrigo Magazine, and Sony P800
C11	Motorola Moto E 2nd Gen. in view of one or more of Bast, Pensjo, Gupta, Wedel, Rydbeck, Yamaguchi, Dutta, and Benoit
C12	Lumia 640 in view of one or more of Bast, Pensjo, Gupta, Wedel, Rydbeck, Yamaguchi, and Dutta

The prior art identified above, and in the attached ’144 Patent charts, individually anticipate and/or can properly be combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the ’144 Patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art. The references disclosed in the attached charts and herein are also directed to the same or similar features as the purported invention claimed in the Asserted Claims of the ’144 Patent. To the extent Plaintiff contends that any of these features solved a problem in the art, the references cited herein show that that problem was known to those of ordinary skill and had already been solved using obvious solutions.

To that end, the Asserted Claims of the ’144 Patent simply combine elements already combined and well known in the art and yield no more than what one skilled in the art would have expected from such a combination. For example, with respect to the ’144 Patent, when confronted with the alleged problems described in the ’144 Patent, one of ordinary skill in the art at the time of the alleged inventions would have been motivated to consider the techniques taught by the prior art cited in these Invalidity Contentions. Consideration of the teachings of this prior art, both individually and in combination, would necessarily lead to the alleged invention claimed in the ’144 Patent. This

is demonstrated by the cited prior art, which disclose all of the elements of the Asserted Claims of the ’144 Patent, as well as motivations to modify or combine their individual teachings. One of skill in the art would have been motivated to either modify the prior art identified in the claim charts or to combine that prior art in the manner indicated, by, for example, their background knowledge, design incentives, effects of demands known to the design community, or other market forces. Moreover, the cited prior art share commonalities. To the extent it is argued that any cited prior art does not expressly disclose a particular claim or element, it would have been inherent in the disclosure and/or obvious to a person of ordinary skill in the art to include the claimed element to perform the invention as claimed in the ’144 Patent.

As described in the attached charts, all the elements of the Asserted Claims of the ’144 Patent were commonplace before the alleged date of inventions. For each element, there exists evidence from the cited prior art that it was well known in the art prior to the date of invention. To the extent it is argued any of the cited prior art references, systems, and/or products do not anticipate the Asserted Claims, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely combinations of well-known methods and systems resulting in expected results.

Additionally, Defendants hereby incorporate by reference the motivations to combine references set forth during the prosecution of the Asserted Claims of the ’144 Patent, including the statements and reasoning set forth by the examiner, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims of the ’144 Patent.

III. Priority

Defendants contend that none of the Asserted Claims are entitled to their claimed priority dates. As explained below, each Patent-in-Suit purports to claim priority to prior applications whose disclosures do not support the Asserted Claims. Accordingly, the Asserted Claims are not entitled to the benefit of the earlier filing dates of these applications. *See, e.g.*, *In re Katz Interactive Call*

Processing Litig., 639 F.3d 1303, 1322 (Fed. Cir. 2011); *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306 (Fed. Cir. 2008). To the extent the claims are not invalid for failing to comply with 35 U.S.C. § 112, including, for example, written description,[2] the earliest priority date for the Asserted Claims is, at most, no earlier than the following for each of the Patents-in-Suit:

- '602 Patent: February 11, 2010
- '922 Patent: December 24, 2013
- '144 Patent: January 22, 2017

A. '602 Patent

The Asserted Claims of the '602 Patent are not entitled to the claimed priority date. Plaintiff alleges that the Asserted Claims of the '602 Patent "are entitled to a priority date at least as early as December 20, 2009, and possibly earlier than this date." Plaintiff's PR 3-1 and 3-2 Disclosures. The '602 Patent purports to claim priority to the following provisional and/or foreign applications:

- U.S. Provisional No. 61/294,382 (filed January 12, 2010);
- Israel Application No. 202852 (filed December 20, 2009);
- Israel Application No. 203090 (filed December 31, 2009);
- Israel Application No. 203560 (filed January 27, 2010);
- Israel Application No. 203922 (filed February 11, 2010);

[2] For each of the Patents-in-Suit, there exists a wealth of prior art that leads to conclusions of prior art invalidity under Sections 102 and 103. In terms of the teachings provided by this prior art and the motivations to combine different individual prior art references within this wealth of art, these Invalidity Contentions provide numerous examples. Should Plaintiff try to later dispute the teachings provided by this prior art and/or dispute any of the motivations to combine individual references within this wealth of prior art, Plaintiff's later arguments in dispute of what would have been known to person of ordinary skill may well raise additional Section 112 bases for the invalidity of the Asserted Claims, including additional examples of written description deficiencies as well as a lack of an enabling disclosure. Since Plaintiff has not yet shared those positions, should it later choose to do so, Defendants reserve their rights to amend these contentions based on this later provided information.

- Israel Application No. 205052 (filed April 13, 2010);
- Israel Application No. 205329 (filed April 25, 2010);
- Israel Application No. 206257 (filed June 9, 2010);
- Israel Application No. 207114 (filed July 20, 2010);
- Israel Application No. 207545 (filed August 11, 2010);
- Israel Application No. 207665 (filed August 17, 2010);
- Israel Application No. 208140 (filed September 14, 2010);
- Israel Application No. 208740 (filed October 14, 2010);
- Israel Application No. 208790 (filed October 18, 2010);
- Israel Application No. 209218 (filed November 9, 2010);
- Israel Application No. 209305 (filed November 14, 2010);
- Israel Application No. 209416 (filed November 18, 2010); and
- Israel Application No. 209484 (filed November 21, 2010).

See '602 Patent at (60), (30).

However, none of the priority applications sufficiently supports the Asserted Claims of the '602 Patent, and there is no written description support for them in the '602 Patent, as explained below in Section IV with reference to exemplary claim elements that lack such support. Because the applications to which the '602 Patent claims priority do not support the claim elements identified in Section IV, the claims containing those claim elements—and any claim(s) depending directly or indirectly therefrom—are not entitled to the benefit of an earlier filing date. To the extent the Asserted Claims of the '602 Patent are not invalid for failing to comply with Section 112, the earliest possible priority date for these claims is February 11, 2010.

B. '922 Patent

The Asserted Claims of the '922 Patent are not entitled to the claimed priority date. Plaintiff

alleges that the Asserted Claims of the ’922 Patent “are entitled to a priority date at least as early as February 17, 2013, and possibly earlier than this date.” Plaintiff’s PR 3-1 and 3-2 Disclosures. The ’922 Patent purports to claim priority to the following U.S. patent applications and/or provisional applications:

- U.S. App. No. 14/767,606 (filed February 18, 2014), now abandoned;
- U.S. Provisional No. 61/765,751 (filed February 17, 2013);
- U.S. Provisional No. 61/766,747 (filed February 20, 2013);
- U.S. Provisional No. 61/769,285 (filed February 26, 2013);
- U.S. Provisional No. 61/772,066 (filed March 4, 2013);
- U.S. Provisional No. 61/774,605 (filed March 8, 2013);
- U.S. Provisional No. 61/777,102 (filed March 12, 2013);
- U.S. Provisional No. 61/778,888 (filed March 13, 2013);
- U.S. Provisional No. 61/802,690 (filed March 17, 2013);
- U.S. Provisional No. 61/803,456 (filed March 20, 2013);
- U.S. Provisional No. 61/804,681 (filed March 24, 2013);
- U.S. Provisional No. 61/810,805 (filed April 11, 2013);
- U.S. Provisional No. 61/811,756 (filed April 14, 2013);
- U.S. Provisional No. 61/813,271 (filed April 13, 2013);
- U.S. Provisional No. 61/814,290 (filed April 21, 2013);
- U.S. Provisional No. 61/819,598 (filed May 5, 2013);
- U.S. Provisional No. 61/821,331 (filed May 9, 2013);
- U.S. Provisional No. 61/822,934 (filed May 14, 2013);
- U.S. Provisional No. 61/823,971 (filed May 16, 2013);

- U.S. Provisional No. 61/825,049 (filed May 19, 2013);
- U.S. Provisional No. 61/827,020 (filed May 24, 2013);
- U.S. Provisional No. 61/830,114 (filed June 2, 2013);
- U.S. Provisional No. 61/833,512 (filed June 11, 2013);
- U.S. Provisional No. 61/833,991 (filed June 12, 2013);
- U.S. Provisional No. 61/834,889 (filed June 14, 2013);
- U.S. Provisional No. 61/835,704 (filed June 17, 2013);
- U.S. Provisional No. 61/837,662 (filed June 21, 2013);
- U.S. Provisional No. 61/838,288 (file June 23, 2013);
- U.S. Provisional No. 61/838,403 (filed June 24, 2013);
- U.S. Provisional No. 61/841,360 (filed June 30, 2013);
- U.S. Provisional No. 61/843,391 (filed July 7, 2013);
- U.S. Provisional No. 61/846,030 (filed July 14, 2013);
- U.S. Provisional No. 61/858,210 (filed July 25, 2013);
- U.S. Provisional No. 61/860,396 (filed July 31, 2013);
- U.S. Provisional No. 61/865,254 (filed August 13, 2013);
- U.S. Provisional No. 61/866,119 (filed August 15, 2013);
- U.S. Provisional No. 61/868,172 (filed August 21, 2013);
- U.S. Provisional No. 61/869,722 (filed August 25, 2013);
- U.S. Provisional No. 61/875,192 (filed September 9, 2013);
- U.S. Provisional No. 61/878,695 (filed September 17, 2013);
- U.S. Provisional No. 61/879,152 (filed September 18, 2013);
- U.S. Provisional No. 61/882,160 (filed September 25, 2013);

- U.S. Provisional No. 61/893,291 (filed October 21, 2013);
- U.S. Provisional No. 61/899,240 (filed November 3, 2013);
- U.S. Provisional No. 61/902,242 (filed November 10, 2013);
- U.S. Provisional No. 61/908,122 (filed November 24, 2013);
- U.S. Provisional No. 61/908,248 (filed November 25, 2013);
- U.S. Provisional No. 61/913,472 (filed December 9, 2013);
- U.S. Provisional No. 61/920,572 (filed December 24, 2013);
- U.S. Provisional No. 61/926,474 (filed January 13, 2014);
- U.S. Provisional No. 61/927,039 (filed January 14, 2014);
- U.S. Provisional No. 61/929,187 (filed January 20, 2014);
- U.S. Provisional No. 61/931,633 (filed January 26, 2014); and
- U.S. Provisional No. 61/937,545 (filed February 9, 2014).

See '922 Patent at (62), (60).

However, none of the priority applications sufficiently supports the Asserted Claims of the '922 Patent, and there is no written description support for them in the '922 Patent, as explained below in Section IV with reference to exemplary claim elements that lack such support. Because the applications to which the '922 Patent claims priority do not support the claim elements identified in Section IV, the claims containing those claim elements—and any claim(s) depending directly or indirectly therefrom—are not entitled to the benefit of an earlier filing date. To the extent the Asserted Claims of the '922 Patent are not invalid for failing to comply with Section 112, the earliest possible priority date for these claims is December 24, 2013.

C. '144 Patent

The Asserted Claims of the '144 Patent are not entitled to the claimed priority date. Plaintiff alleges that the Asserted Claims of the '144 Patent "are entitled to a priority date at least as early as

April 18, 2003, and possibly earlier than this date." Plaintiff's PR 3-1 and 3-2 Disclosures. The '144 Patent purports to claim priority to the following patent applications and/or provisional applications:

- U.S. App. No. 14/146,125 (filed January 2, 2014), now abandoned;
- U.S. App. No. 10/553,575 (filed September 26, 2006), now abandoned;
- PCT/US2004/012082 (filed April 19, 2004);
- U.S. Provisional No. 60/463,844 (filed April 18, 2003);
- U.S. Provisional No. 60/466,594 (filed April 30, 2003);
- U.S. Provisional No. 60/468,028 (filed May 5, 2003);
- U.S. Provisional No. 60/474,447 (filed May 30, 2003);
- U.S. Provisional No. 60/475,533 (filed June 3, 2003);
- U.S. Provisional No. 60/482,706 (filed June 26, 2003);
- U.S. Provisional No. 60/482,998 (filed June 27, 2003);
- U.S. Provisional No. 60/496,702 (filed August 20, 2003);
- U.S. Provisional No. 60/500,602 (filed September 5, 2003);
- U.S. Provisional No. 60/504,331 (filed September 19, 2003);
- U.S. Provisional No. 60/510,885 (filed October 14, 2003);
- U.S. Provisional No. 60/536,564 (filed January 14, 2004);
- U.S. Provisional No. 60/552,968 (filed March 11, 2004); and
- U.S. Provisional No. 60/557,140 (filed March 26, 2004);
- U.S. Provisional No. 60/496,702.

See '144 Patent at (63), (60).

However, none of the priority applications sufficiently supports the Asserted Claims of the '144 Patent, and there is no written description support for them in the '144 Patent, as explained

below in Section IV with reference to exemplary claim elements that lack such support. Because the applications to which the '144 Patent claims priority do not support the claim elements identified in Section IV, the claims containing those claim elements—and any claim(s) depending directly or indirectly therefrom—are not entitled to the benefit of an earlier filing date. To the extent the Asserted Claims of the '144 Patent are not invalid for failing to comply with Section 112, the earliest possible priority date for these claims is January 22, 2017, the filing date of the application that issued as the '144 Patent.

IV. Invalidity Under 35 U.S.C. § 112

Defendants contend that one or more of the Asserted Claims are invalid under 35 U.S.C. § 112. As explained below, these claims are indefinite and/or fail to satisfy the written description and/or enablement requirements.

A. '602 Patent

1. Inadequate Section 112 Support

One or more of the Asserted Claims of the '602 Patent are invalid under 35 U.S.C. § 112, ¶ 1, or 35 U.S.C. § 112(a).

The '602 Patent does not provide sufficient written description support to establish that the alleged inventor possessed the alleged inventions recited in the Asserted Claims of the '602 Patent. *See Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). Nor does the '602 Patent permit a person of ordinary skill in the art to practice the full scope of the claimed invention without undue experimentation. *See Genentech Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997).

For example, the '602 Patent does not provide sufficient support—by itself or through any disclosure incorporated by reference—for at least the following claim terms in combination with the other recited limitations of the claim:

- "at least one window located in the touch screen on an edge of the touch screen . . . wherein . . . said gliding action at first interacting with said at least one window on the touch screen" (claim 1);
- "wherein said at least one window functions independently of an interface of an application in use on the touch screen" (Claim 1);
- "wherein a gliding action provided from outside of the touch screen towards inside of the touch screen, said gliding action at first interacting with said at least one window on the touch screen" (Claim 1);
- "wherein the system relates said gliding action to a function which is not related to a mouse function" (Claim 2);
- "the processor relates a gliding action provided towards any arbitrary direction inside the screen to presenting a same interface" (Claim 18);
- "a gliding action provided from said zone of the touch screen towards any arbitrary direction inside the touch screen at first interacts with said zone" (Claim 19);
- "wherein said zone is present on said edge regardless of the interface of an application on said touch screen" (Claim 19);
- "wherein said function is displaying a same interface for any said gliding action, said gliding action interacting with any portion of said zone" (Claim 32); and
- "wherein said gliding action is provided from outside the touchscreen towards inside the touch screen, wherein said gliding action at first interacts with said zone on said touch screen" (claim 33).

Because the '602 Patent does not support these claim elements, the foregoing claims—and any claim(s) depending directly or indirectly therefrom—are invalid under 35 U.S.C. § 112, ¶ 1, or 35 U.S.C. § 112(a).

2. Indefiniteness

As explained below, one or more of the Asserted Claims of the '602 Patent are also invalid as indefinite under 35 U.S.C. § 112, ¶ 2, or 35 U.S.C. § 112(b). These claims fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014); *see also IPXL Holdings, L.L.C. v. amazon.com, Inc.*, 430 F.3d 1377, 1383-84 (Fed. Cir. 2005). Accordingly, these claims are invalid as indefinite. For example, an artisan of ordinary skill could not discern, with reasonable certainty, the scope of the following claim terms of the '602 Patent:

- "at least one window located in the touch screen on an edge of the touch screen" (Claim 1);
- "wherein said at least one window functions independently of an interface of an application in use on the touch screen" (Claim 1);
- "wherein a gliding action provided from outside of the touch screen towards inside of the touch screen, said gliding action at first interacting with said at least one window on the touch screen, is processed by said processor" (Claim 1);
- "the system relates said gliding action to a function which is not related to a mouse function" (Claim 2);
- "substantial portion" (Claims 4, 16, and 36);
- "line" (Claims 5 and 23);
- "substantially equal" (Claims 8, 11, 26, 30, and 35);
- "wherein the processor relates a gliding action provided towards any arbitrary direction inside the screen to presenting a same interface" (Claim 18);
- "a gliding action provided from said zone of the touch screen towards any arbitrary direction inside the touch screen at first interacts with said zone" (Claim 19); and

- "a zone in form of a bar located in the touch screen on an edge of the touch screen" where a "gliding action is provided from outside the touch screen, wherein said gliding action first interacts with said zone on said touch screen" (Claim 33).

Accordingly, these claims—and any claim(s) depending directly or indirectly therefrom—are invalid under 35 U.S.C. § 112, ¶ 2, or 35 U.S.C. § 112(b) as indefinite.

B. '922 Patent

1. Inadequate Section 112 Support

One or more of the Asserted Claims of the '922 Patent are invalid under 35 U.S.C. § 112, ¶ 1, or 35 U.S.C. § 112(a).

The '922 Patent does not provide sufficient written description support to establish that the alleged inventor possessed the alleged inventions recited in the Asserted Claims of the '922 Patent. *See Ariad Pharm.*, 598 F.3d at 1351. Nor does the '922 Patent permit a person of ordinary skill in the art to practice the full scope of the claimed invention without undue experimentation. *See Genentech*, 108 F.3d at 1365.

For example, the '922 Patent does not provide sufficient support—by itself or through any disclosure incorporated by reference—for at least the following claim terms in combination with the other recited limitations of the claim:

- "condition under the control of said keyboard" (claims 1 and 12);
- "wherein based on accomplishment of a condition under the control of said keyboard, the system activates a second application and displays an interface of the second application and a reduced interface corresponding to said keyboard on at least a portion of said second zone" (claims 1 and 12);
- "wherein upon interacting with the interface of any of said applications, the focus of the system is given to the interacted application" (claim 2 and 20);

- "wherein an information received from one of said applications is shared with at least the other application while said interface of said first application and said interface of said second application are simultaneously displayed on said touchscreen" (claims 4 and 18);
- "wherein said information is copied from one of said applications and pasted in the other application" (claim 6);
- "wherein said second application is a search application" (claim 8);
- "button of said keyboard assigned to activating said search application" / "button of said keyboard that is related to activating said search application" (claims 8 and 15);
- "wherein said search application use at least one keyword typed through said keyboard" (claims 9 and 16);
- "wherein said interface of said second application is displayed on the touch screen by using a search application" (claim 15); and
- "wherein said search application use at least one keyword typed through said keyboard after said search application is activated" (claim 17).

Because the '922 Patent does not support these claim elements, the foregoing claims—and any claim(s) depending directly or indirectly therefrom—are invalid under 35 U.S.C. § 112, ¶ 1, or 35 U.S.C. § 112(a).

2. Indefiniteness

As explained below, one or more of the Asserted Claims of the '922 Patent are also invalid as indefinite under 35 U.S.C. § 112, ¶ 2, or 35 U.S.C. § 112(b). These claims fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. *Nautilus*, 572 U.S. at 901; *see also IPXL Holdings*, 430 F.3d at 1383-84. Accordingly, these claims are invalid as indefinite.

For example, an artisan of ordinary skill could not discern, with reasonable certainty, the scope of the following claim terms of the ’922 Patent:

- “reduced interface” (claim 1);
- “wherein based on accomplishment of a condition under the control of said keyboard” (claim 1);
- “the focus of the system” (claim 2);
- “wherein upon interacting with the interface of any of said applications, the focus of the system is given to the interacted application” (claim 2);
- “wherein said keyboard is used with both of said applications” (claim 3);
- “wherein said information is copied from one of said applications and pasted in the other application” (claim 6);
- “a search application activated by interacting with a button of said keyboard” (claim 8);
- “use at least one keyword typed through said keyboard” (claim 9); and
- “said interface of said second application is displayed on the touch screen by using a search application” (claim 15).

Accordingly, these claims—and any claim(s) depending directly or indirectly therefrom—are invalid under 35 U.S.C. § 112, ¶ 2, or 35 U.S.C. § 112(b) as indefinite.

C. ’144 Patent

1. Inadequate Section 112 Support

One or more of the Asserted Claims of the ’144 Patent are invalid under 35 U.S.C. § 112, ¶ 1, or 35 U.S.C. § 112(a).

The ’144 Patent does not provide sufficient written description support to establish that the alleged inventor possessed the alleged inventions recited in the Asserted Claims of the ’144 Patent.

See Ariad Pharm., 598 F.3d at 1351. Nor does the '144 Patent permit a person of ordinary skill in the art to practice the full scope of the claimed invention without undue experimentation. *See Genentech*, 108 F.3d at 1365.

For example, the '144 Patent does not provide sufficient support—by itself or through any disclosure incorporated by reference—for at least the following claim terms in combination with the other recited limitations of the claim:

- "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing" (Claims 1-5, 7, and 8);
- "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit" (Claims 3, 4, 12 and 13);
- "display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device us used, respectively, in landscape position and in portrait position" (Claim 5);
- "wherein the width of the device is approximately half of said length" (Claim 7);
- "wherein the thickness of the device is less than 20 percent of said width" (Claim 8);
- "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone" (Claims 9-14);
- "display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position" (Claims 9-14);
- "display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device" (Claims 15-20);

- "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit" (Claims 15-20); and
- "display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position" (Claim 20).

Because the '144 Patent does not support these claim elements, the foregoing claims—and any claim(s) depending directly or indirectly therefrom—are invalid under 35 U.S.C. § 112, ¶ 1, or 35 U.S.C. § 112(a).

2. Indefiniteness

As explained below, one or more of the Asserted Claims of the '144 Patent are also invalid as indefinite under 35 U.S.C. § 112, ¶ 2, or 35 U.S.C. § 112(b). These claims fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. *Nautilus*, 572 U.S. at 901; *see also IPXL Holdings*, 430 F.3d at 1383-84. Accordingly, these claims are invalid as indefinite. For example, an artisan of ordinary skill could not discern, with reasonable certainty, the scope of the following claim terms of the '144 Patent:

- "a practically rectangular-shaped housing within which the components of a mobile phone are integrated" (Claims 1-5, 7, and 8);
- "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user" (Claims 1-5, 7, and 8);
- "wherein the width of the front surface is substantially shorter than the length" (Claims 1-5, 7, and 8);
- "wherein the housing has a thin thickness" (Claim 1-5, 7, and 8);

- "none of said components is noticeably extended out from said housing" (Claims 1-5, 7 and 8);
- "wherein the width of the device is approximately half of said length" (Claim 7);
- "a body having a practically rectangular shape" (Claims 9-20);
- "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and mouth of a user" (Claims 9-14);
- "wherein the width of the front surface of the mobile phone is significantly shorter than the length" (Claims 9-14);
- "wherein said body has a thin thickness" (Claim 9-14);
- "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and mouth of a user" (Claim 10);
- "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body" (Claim 14); and
- "none of said components is noticeably extended out from said the body" (Claim 19).

Accordingly, these claims—and any claim(s) depending directly or indirectly therefrom—are invalid under 35 U.S.C. § 112, ¶ 2, or 35 U.S.C. § 112(b) as indefinite.

V. P.R. 3-4: Document Production Accompanying Invalidity Contentions

Defendants have produced documents, including SAM-KEY_00007560-SAM-KEY_00007857, SAM-KEY_00016296-SAM-KEY_00017636, SAM-KEY_00165914-SAM-KEY_00186727, SAM-KEY_00189708-SAM-KEY_00189925, SAM-KEY_00191151-SAM-KEY_00855960, SAM-KEY_00978651-SAM-KEY_00979942, SAM-KEY_00979947-SAM-

KEY_00993815, SAM-KEY_00993820-SAM-KEY_00994306, pursuant to P.R. 3-4(a) and P.R. 3-4(b). In addition, pursuant to P.R. 3-4(a) and under the Protective Order entered in this action, Defendants are making source code available in the Washington, D.C. office of their counsel.

VI. Invalidity Under 35 U.S.C. § 101 and Defendants' Subject Matter Eligibility Contentions

The Asserted Claims of the Patents-in-Suit are invalid under 35 U.S.C. § 101 for failing to recite patent-eligible subject matter. Defendants incorporate by reference herein their Subject Matter Eligibility Contentions concurrently served with these Invalidity Contentions.

Dated: January 29, 2025

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CERTIFICATE OF SERVICE

I hereby certify that on January 29, 2025, I caused to be served copies of the foregoing **DEFENDANTS' INVALIDITY CONTENTIONS** on Plaintiff through its counsel of record via email.

Dated: January 29, 2025

/s/ *Seth D. Katz*
Seth D. Katz
Case Manager

Appendix C1

Exhibit C1
Invalidity of Asserted Claims of the '144 Patent
in view of Bast

European Patent Application Publication No. EP1336949A1 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under pre-AIA 35 U.S.C. § 102(a) and/or 102(a)(1).[1] Bast anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends Bast does not disclose one or more limitations of the claims, it would have been obvious to combine Bast with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of Bast and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).
- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C6.

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- United States Patent No. 8,375,334 to Nakano et. al ("Nakano"), filed on May 9, 2003, and granted on February 12, 2013, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. §102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C4.

- United Kingdom Patent Application Publication No. 2331204 to Kobayashi ("Kobayashi"), filed on November 5, 1998, and published on May 12, 1999, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. §102(a)(1).

- French Patent Application Publication No. 2830093 to Benoit et al. ("Benoit"), filed on September 25, 2001, and published on March 28, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1).

- European Patent Application Publication No. 1229428 to Pensjo ("Pensjo"), filed on February 2, 2001, and published on July 8, 2002, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C2.

- United States Patent No. 5,848,356 to Jambhekar et al. ("Jambhekar"), filed on October 2, 1995, and granted on December 8, 1998, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to Bast, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

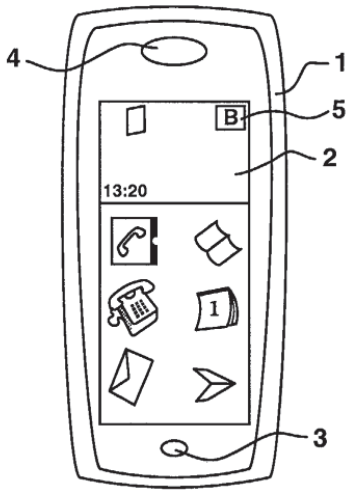
Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserves the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

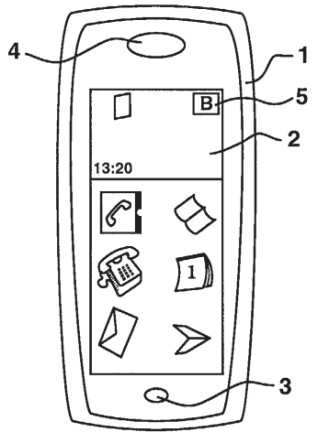
In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the

asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

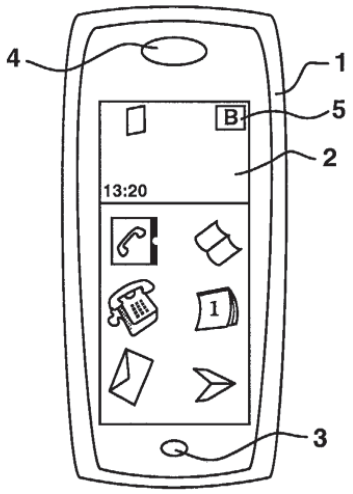
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Bast discloses a mobile terminal that functions as a mobile phone device. (Bast at [0010], [0025], FIG. 1.) For example, "mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile phone." (Bast at [0010].) Further, Bast discloses, "[t]he invention applies to any device equipped with a rectangular screen and, more particularly, to a mobile terminal acting as a mobile telephone and/or personal digital assistant." (Bast at [0025].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].)

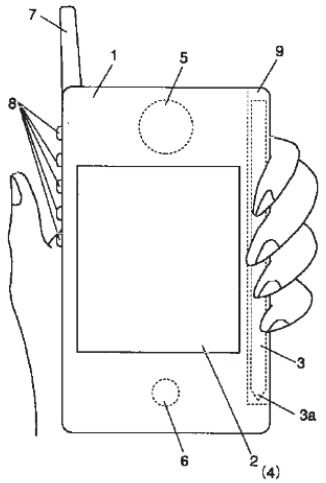
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The invention applies to any device equipped with a rectangular screen and, more particularly, to a mobile terminal acting as a mobile telephone and/or personal digital assistant." (Bast at [0025].)
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, Bast discloses rectangular housing 1 that contains the components of a mobile phone, such as a large screen 2, a microphone 3, and a speaker 4. (Bast at [0003], [0010], FIG. 1.) The housing includes a front surface, a back surface, and four side surfaces. (Bast at [0003], [0010], FIG. 1.)  **Figure 1** (Bast at FIG. 1) Additional exemplary citations include:

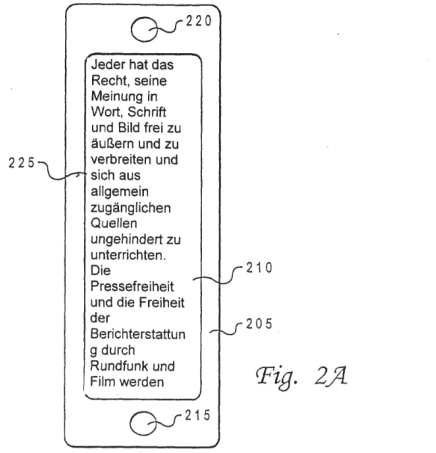
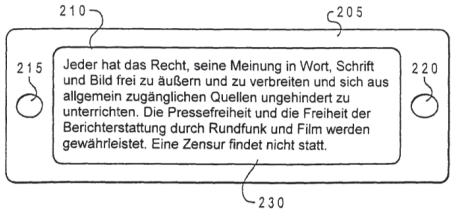
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"For ergonomic reasons, particularly related to the distance between the user's mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular." (Bast at [0003].) "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "According to the invention, the tilt of the housing is detected by accelerometers. These electronic sensors are now widely used in automobiles, particularly for the triggering of airbags®. They are sufficiently small so as to have no direct impact on the volume of the device in which they are integrated and are no more sensitive to drops than any electronic component, which enables them to endure the conventional mechanical constraints of consumer electronics. They can also be placed automatically on a printed circuit board and soldered automatically. They therefore do not adversely affect the mass-production of products that integrate them. Additionally, they do not pollute." (Bast at [0015].) "The terminal illustrated in Figure 6 includes two accelerometers 9a and 9b, disposed perpendicularly to one another, in a plane parallel to a horizontal surface 10 when the terminal housing 1 is held vertically. An accelerometer 9 conventionally supplies signals representative of the coordinates, in a plane, of a mass moving in this plane as a function of the forces of gravity and acceleration exerted on the accelerometer. The accelerometer 9a enables the central processing unit to determine the rolling of the terminal, i.e., its pivoting movements perpendicular to the axis of the accelerometer 9a, while the accelerometer 9b makes it possible to measure the pitch, i.e., the pivoting movements perpendicular to the axis of the accelerometer 9b. Because the two accelerometers 9a and 9b are orthogonal, they enable

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	the central processing unit 7 to determine the movements of the housing in three dimensions, accounting for both gravity and acceleration. The central processing unit 7 can thus determine the orientation of the housing and, consequently, that of the screen 2 in space." (Bast at [0016].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].) *See also* Bast at [0012], [0019]-[0023], Figs. 6, 8-9.
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." For example, Bast discloses a mobile phone, including a microphone and a speaker at the top and bottom of the device, respectively. (Bast at [0010], FIG. 1.) Further, Bast discloses that for ergonomic reasons, it is preferable to configure the size of a mobile phone to correspond to the distance between the mouth and ear of a user. (Bast at [0002], [0003].) Accordingly, the mobile phone disclosed by Bast should be understood to be sized accordingly to the design goals recognized by Bast: making the speaker and microphone of the device line, each located at an end of the device, correspond to the ear and mouth of a user.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "Terminals, particularly mobile terminals serving as a mobile telephone and/or personal digital assistant, are equipped with a screen that enables various types of information to be displayed. The nature of the information to be displayed changes rapidly. Mobile phones, for example, increasingly perform functions previously associated with a laptop computer. This is particularly true of calendars, address books, communication with an Internet-type network, and email. The screen size is therefore essential." (Bast at [0002].) "For ergonomic reasons, particularly related to the distance between the user's mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular." (Bast at [0003].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is

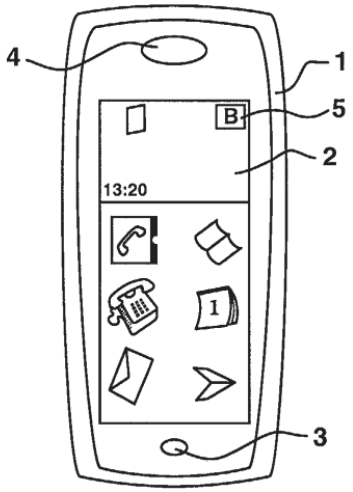
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1) 【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Bast such that the length of the front surface of the mobile phone, and correspondingly the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be

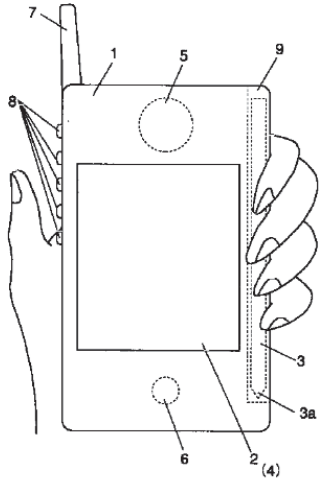
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (the mobile phone of Bast with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

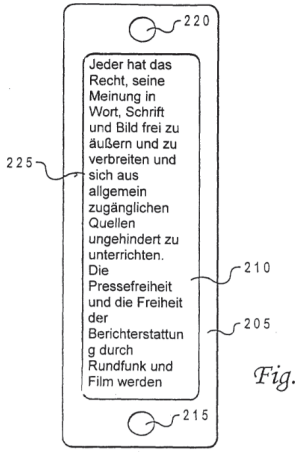
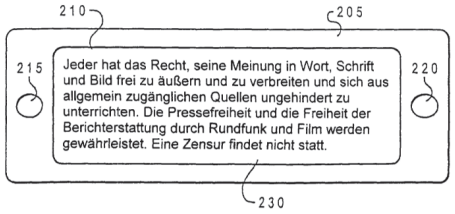
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)
[1c] wherein the width of the front surface is substantially shorter than the length and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length." For example, Bast teaches that it is preferable to configure a mobile phone according to the distance between a user's mouth and ear, which maintains close proximity between a user's mouth and the device's microphone as well as a user's ear and the device's speaker. (Bast at [0003].) Accordingly, Bast recognizes that mobile phones were increasingly becoming rectangular, before the alleged priority

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	date of the ’144 patent. (*Id*.) And as a result, the displays included within mobile phones were also becoming increasingly rectangular, to accommodate a mobile phone housing that had a length corresponding to the distance between the ear and mouth of a user while also providing an ergonomic design that was easy to hold. (*Id*.) Thus, Bast discloses a mobile phone, including its front surface, having a width that is shorter than its length, as shown in Figure 1 below. (Bast at [0010], FIG 1.)  **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: “For ergonomic reasons, particularly related to the distance between the user’s mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular.” (Bast at [0003].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"To maximize use of the screen's display capabilities, some terminals include a means for determining the orientation of the terminal so as to automatically toggle the display from portrait mode, when the terminal is held vertically, to landscape mode, when it is held horizontally, and vice versa. Two types of approaches have so far been proposed for determining the orientation of the terminal." (Bast at [0004].) "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Yamaguchi and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi, discloses a mobile phone that is 100-150mm in length and 60-75mm in width. (Yamaguchi at [0009].) Yamaguchi explains that this mobile phone sizing improves portability and operability because it allows a user to store the phone in a pocket of clothing, hold it one hand, and operate the device with ease. (Yamaguchi at [0015], FIG. 1.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) For example, Dutta, like Bast, also teaches that the ideal size for a mobile phone is determined by the typical ear-to-mouth distance of a user. (Dutta at [0003].) And Dutta further explains the result of this design motivation and consideration is that mobile phones themselves are "long and narrow," with one edge length significantly larger than the other edge length." (Dutta at [0004], [0006], [0008], [0017], FIGS. 2A-2B.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone as disclosed by Bast such that the width of the front surface is shorter than the length. Each of Yamaguchi and Dutta teaches that configuring a mobile phone such that the width of the front surface is shorter than the length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	produced by the speaker during a phone call. As taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) Similarly, as explained by Dutta, the ideal size of a mobile phone is based on the distance between a user's ear and mouth, which naturally results in phones becoming long and narrow such that the length is longer than the width of the device. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Yamaguchi and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Dutta into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Yamaguchi and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Yamaguchi and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone sizing a mobile phone such that the width to length dimensions are as taught by Yamaguchi and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].)

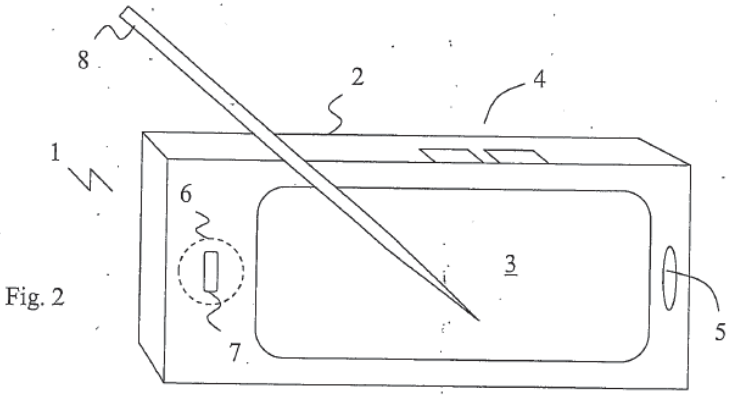
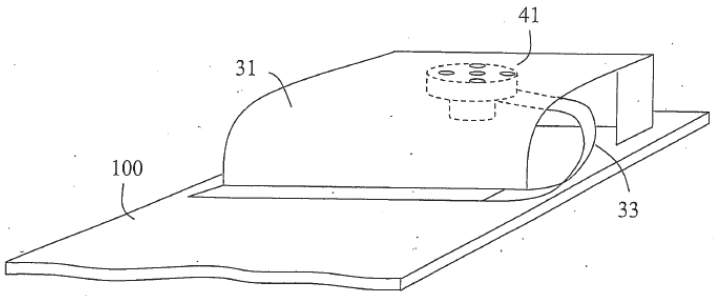
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A further object of the present invention is to provide an improved method of displaying data on a handheld device, in which one edge length of the display is significantly larger than the other edge length." (Dutta at [0008].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) *See also infra* claim [7].
[1d] wherein the housing has a thin thickness; and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the housing has a thin thickness." For example, Bast teaches that size is a crucial consideration when designing a mobile phone. Thus, a POSITA would find it obvious to configure the mobile phone disclosed by Bast such that its size was sufficiently small in order for the phone to be "mobile" and could be used with "one hand." (Bast at [0005], [0015].) Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In a first type of terminal, the orientation of the terminal is determined by tilt detectors in the form of small tubes containing a small amount of conductive liquid, typically mercury. Depending on the tilt of the tube, the liquid is located at one end of the tube or the other. Two electrical contacts are located side by side at each end of the tube. When the liquid is assembled at one end, it covers the two contacts and enables an electrical current to circulate between these contacts. It is thus possible, by monitoring the current circulating at either side of the tube, to deduce its tilt and, consequently, that of the terminal. This solution, although effective, includes major disadvantages that have prevented its dissemination on a large scale and particularly in the mobile telephone domain. Indeed, because the detector works on a mechanical principle, it cannot be miniaturized, which prohibits its use in scopes where size is a crucial element, as is the situation in cellular telephony or consumer electronics. In addition, the use of tubes and mercury carries a double risk linked to the fragility of the detector. Mobile phones are usually designed to withstand successive drops of more than 1.50 m. These are strict conditions under which a tilt detector of this type has every chance of breaking. The consequences are doubly serious: not only is the terminal no longer operational, but also the risk of pollution from mercury leakage is very high. In addition, these tilt detectors are difficult to mass-produce because they cannot be positioned and welded automatically." (Bast at [0005].) "Other terminals have favored the use of electronic sensors, which are better suited to mobile telephony or consumer electronics, and more particularly proximity sensors (optoelectronic sensors or inductance sensors) to determine the position of the user's hands on the terminal. This approach is based on the assumption that, depending on whether they are using the terminal in portrait mode or landscape mode, the user does not hold the terminal in the same way. The appearance of the device must be considered to encourage the user to put their hands near the sensors. This solution has the merit of avoiding the disadvantages mentioned above, but it has its own limitations. Small terminals, like cellular phones, digital cameras, and music players, are often used with one hand. It is therefore not uncommon for the user to change the tilt of the device without changing their grip. In such situations, a toggle device based on proximity sensors is ineffective. In addition, the use of gloves outdoors is also likely to alter the accuracy of the proximity sensors and, consequently, to inhibit the toggle device." (Bast at [0006].)

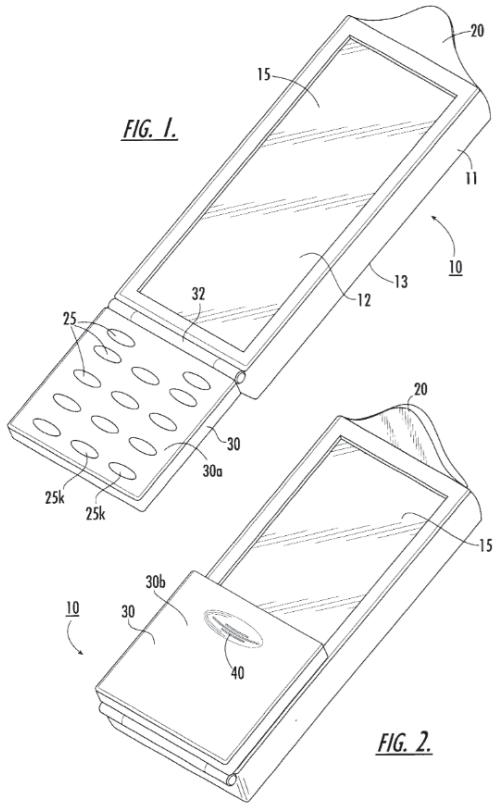
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"According to the invention, the tilt of the housing is detected by accelerometers. These electronic sensors are now widely used in automobiles, particularly for the triggering of airbags®. They are sufficiently small so as to have no direct impact on the volume of the device in which they are integrated and are no more sensitive to drops than any electronic component, which enables them to endure the conventional mechanical constraints of consumer electronics. They can also be placed automatically on a printed circuit board and soldered automatically. They therefore do not adversely affect the mass-production of products that integrate them. Additionally, they do not pollute." (Bast at [0015].) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Wedel, Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Wedel, Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like. For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must have been thin. As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].) Dutta similarly teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires that the device is thin so that a user's hands can wrap around its edges. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the housing has a thinness as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.)

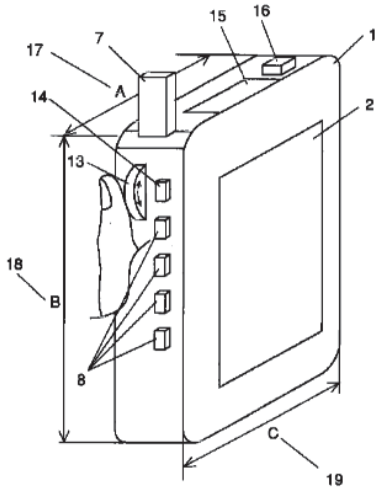
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Wedel discloses the following at FIGS. 2 and 11:  Fig. 2  Fig. 11 "The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore, a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized" wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.)

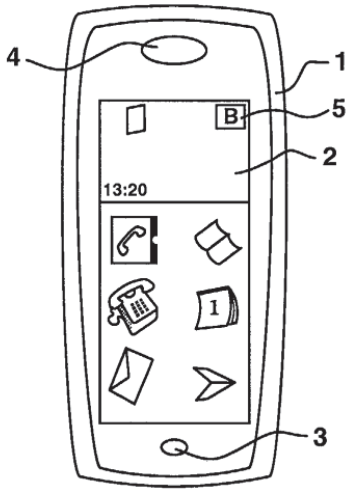
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.) "Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and "rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].) "According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].) "Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図6】  "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) *See also infra* claim [8].
[1e] a display unit integrated within the front surface of said housing	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent

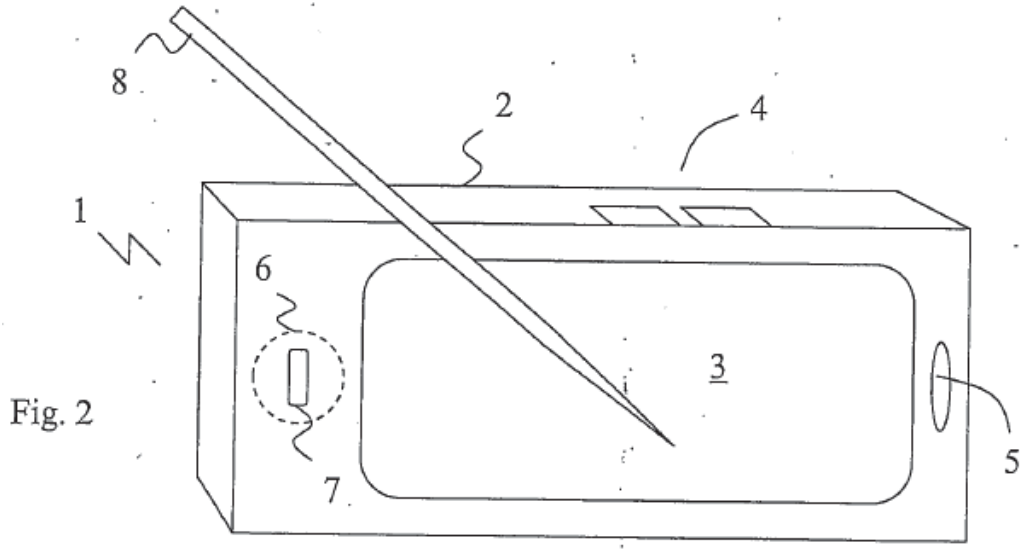
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
wherein said display unit practically covers the entire front surface of said housing;	interpretation of this limitation, discloses "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing." For example, Bast discloses a large screen 2 that functions as a display and is integrated into the front surface of the housing 1 that covers the majority of the front surface of housing 1. (Bast at [0010]-[0013], [0024], FIG. 1.) Bast teaches making screen 2 "as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc." (Bast at [0010].)  **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "Terminals, particularly mobile terminals serving as a mobile telephone and/or personal digital assistant, are equipped with a screen that enables various types of information to be displayed. The

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	nature of the information to be displayed changes rapidly. Mobile phones, for example, increasingly perform functions previously associated with a laptop computer. This is particularly true of calendars, address books, communication with an Internet-type network, and email. The screen size is therefore essential." (Bast at [0002].) "For ergonomic reasons, particularly related to the distance between the user's mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular." (Bast at [0003].) "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "The information can be displayed on screen 2 either in vertical mode (portrait mode), as shown in Figure 2, or in horizontal mode (landscape mode), as shown in Figure 3. The vertical display is, for example, the most suitable for viewing a directory. This is because it enables a large number of short pieces of information constituting a list, such as a name list, to be displayed one after another. Likewise, the horizontal display is more suitable for viewing text because it minimizes the number of line breaks and enables more comfortable reading. It is also more suitable for viewing images that are more wide than tall." (Bast at [0011].) "To enable the user to discretionally toggle from one display to the other, as is considered to be more suitable at a given time, the mobile terminal can be equipped with a toggle button. This button can be a conventional button disposed on the housing or a virtual toggle button 5, accessible to the user and

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	permanently displayed, in the form of an icon on the touch screen 2 (Figures 1 to 3). An equivalent function is accessible by means of a menu." (Bast at [0012].) "As shown in Figures 4 and 5, the display being in vertical mode (step F1) or in horizontal mode (step F2), a circuit 6 for detecting the orientation of the terminal transmits detection signals to a central processing unit 7 on the mobile terminal. In steps F3 and F4, following steps F1 and F2 respectively, the central processing unit checks whether there should be a change in the display mode. If this is not the case (NO output from F3 or F4), the central processing unit loops back to the previous step, and the display mode remains unchanged. Otherwise (YES output from F3 or F4), the central processing unit transposes the image to be displayed, pixel by pixel, into the new display mode requested, i.e., in horizontal mode in a step F5 following step F3 or in vertical mode in a step F6 following step F4. The transposed image is then transmitted, in steps F7 or F8, respectively, to a screen controller 8 that puts the display on the screen 2 into horizontal (F2) or vertical (F1) mode, respectively. Traditionally, the screen controller 8 stores the image transmitted by the central processing unit and continuously refreshes it by applying the appropriate voltages to the rows and columns of the matrix constituting the screen." (Bast at [0013].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Wedel and Gupta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel discloses a mobile phone device with a touch screen display. (Wedel at 1:30-2:14, FIG. 2.) Wedel explains that "[t]he size of a keypad 4 and a display 3 basically sets the limit of how

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	small terminal 1 can be." (Wedel at 1:31-2:1.) Thus, to allow for a larger display while maintaining a small terminal, Wedel proposes removing all physical keys from the front surface of the mobile phone, such that the display may cover more of the front surface of the phone. (Wedel at 2:8-10, FIG. 2.) As another example, Gupta discloses a "full-length touchscreen display." (Gupta at [0015], [0017], [0020], [0023]-[0025], [0030], [0035], [0041], [0042], [0051], FIGS. 2-4, 8.) Additionally, Gupta explains that while the device remains small, the screen should be large enough for "practical information viewing." (Gupta at [0003], [0004], [0020],[0025], [0026], [0049].) A POSITA thus would have understood that the screen would cover the entire front surface of the device, such that it could be as large as possible. A POSITA would have been motivated to configure a mobile phone such that the display unit covers a large portion of the housing. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel and Gupta. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display while maintaining a small device size, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel and/or Gupta into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) according to known methods to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); (B) use of a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to improve similar devices in the same way (allowing more space for a larger touch display while maintaining a small device size); (C) applying a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel and Gupta) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include:

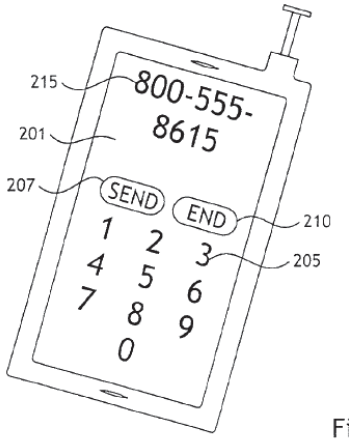
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A combined speaker and antenna arrangement for a communication terminal, comprising a support structure (100) carrying a first antenna element (101), and a second antenna element (31) arranged at a predetermined distance from said first antenna element. Said second antenna element is a conductive first portion (31) of a sheet of flexible film, and an elongated second portion (32) of said flexible film, carrying a conductive lead extends from adjacent to said first portion to a speaker (41) connected to an outer end of said elongated second portion. The second, elongated, portion is bent such that said speaker is positioned between said film and said support structure, adjacent to an aperture in said first portion." (Wedel at abstract.) "In order to benefit from the capabilities of the transmission system, the future generation of phones will have a large display in order to perform multimedia input and output, and the picture quality will be of high importance. Still, the keypad or keyboard must be large enough to allow people to press one key at a time." (Wedel at 1:26-29.) "Figure 1 discloses a typical example of a state of the art mobile phone 1, carried by a housing or chassis 2. The size of a keypad 4 and a display 3 basically sets the limit of how small the terminal 1 can be. However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3. Figs 1 and 3 show two typical examples of state of the art communication terminals 1, whereas the skilled persons will realise that combinations of the two are also well known as well as other designs, such as a so called clamshell type terminal." (Wedel at 1:30-2:14.) "In the state of the art communication terminal a terminal output 7 is mounted on the front of the terminal above the display with the speaker 6 immediately behind the output 7, as shown in Figs 1 and 2. This means that even with a smallest available speaker used today, with a diameter of about 13 mm, the terminal would be approximately this much longer in its longitudinal extension than what would

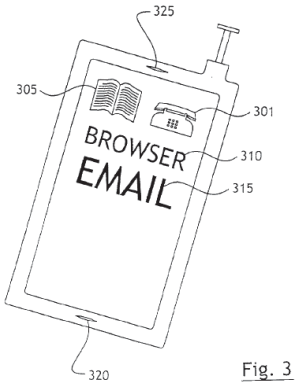
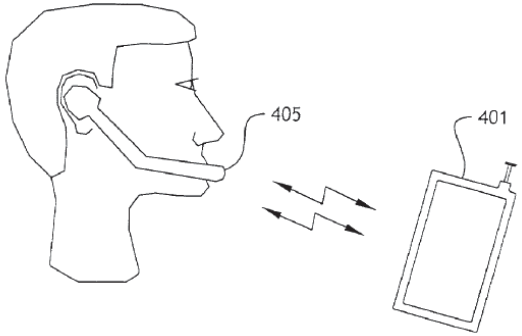
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	have been the case if only the display 3 and/or keypad 4 had defined the length of the terminal 1. The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:15-25.) "First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated. Furthermore, even though the antenna cavity 21 has been partly occupied by the speaker, experimental laboratory tests on this design have surprisingly shown that the presence of the speaker will not result in reduced antenna performance if tuned properly. The use of hot bar soldering will not lead to bulging solder pads. Which also contributes to saving space." (Wedel at 13:5-13.) Wedel discloses the following at FIG. 2:  Fig. 2 (Wedel at FIG. 2.)

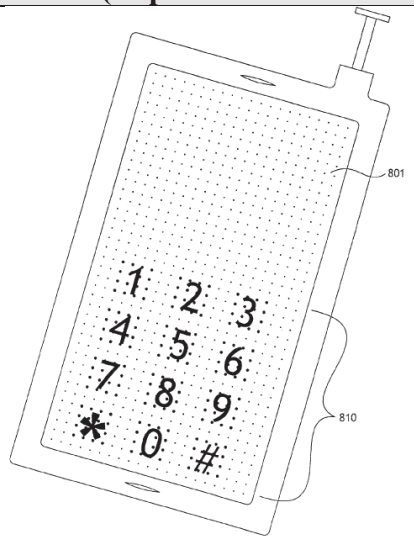
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].) "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "FIG. 8 shows a tactile response display screen of the present invention." (Gupta at [0015].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].)

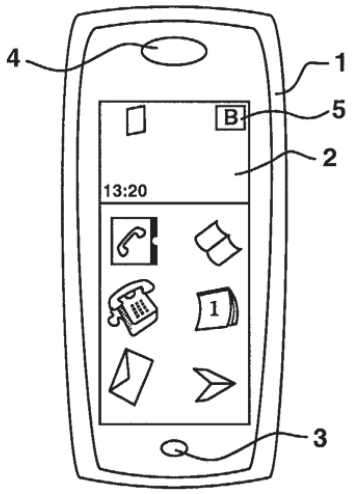
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered, the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].) "In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].) "The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "The touch sensor may also be a film layer of the tactile surface itself, or may include touch sensitive elements interspersed adjacent to the tactile dot elements So that neither the touch sensor nor the tactile display elements overlay the other. Other touch screens embodiments use grids of interruptible light beams, capacitive discharge sensors, and conductive grids sensing a circuit made across nearby nodes, all of which are considered herein to be structures (circuits and components) equivalent to each other." (Gupta at [0024].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers

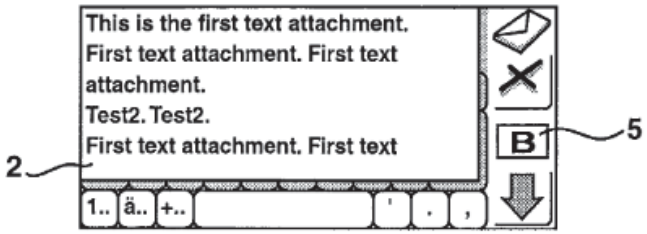
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "FIG. 4 illustrates an alternate embodiment of the present invention that uses a wireless headset (405) to communicate with the telephone (401) of the present invention. In order to reduce the size and weight of the telephone (401) and also to give more room for the display, this embodiment does not have a built-in speaker and microphone. Instead, the wireless headset (405) performs the same task as a built-in speaker and microphone." (Gupta at [0030].) "The telephone is controlled by a controller (510) that is coupled to the transmitter (501), receiver (505), and the touchscreen display (515) of the present invention. The controller (510), in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use other types of controllers such as microprocessors, application specific integrated circuits (ASIC), or other such controllers." (Gupta at [0035].) "As illustrated in FIG. 8, the display is comprised of a matrix of individually addressable dot or tactile elements. The elements are arranged in an evenly spaced grid covering the entire display. In an alternate embodiment, the tactile portion of the display is only on part of the display, such as the lower half, in order to provide a 'telephone keypad' area when in that particular mode. In the preferred embodiment, the elements are spaced less than 0.10 inch apart in order to allow the sensation of a continuous line." (Gupta at [0041].) "Each tactile element is switchable between an inactive position in which the dot is flush with the surrounding surface and an active position in which the dot is raised above the surrounding surface.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	The mechanism to provide this may be of any type including: electromechanical, electromagnetic, and switchable dimpled plastic film. In the preferred embodiment, the tactile display is transparent in order to permit the conventional liquid crystal display to be seen below the raised surface." (Gupta at [0042].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].) Gupta discloses the following at FIGS. 2-4 and 8:  Fig. 2 (Gupta at FIG. 2)

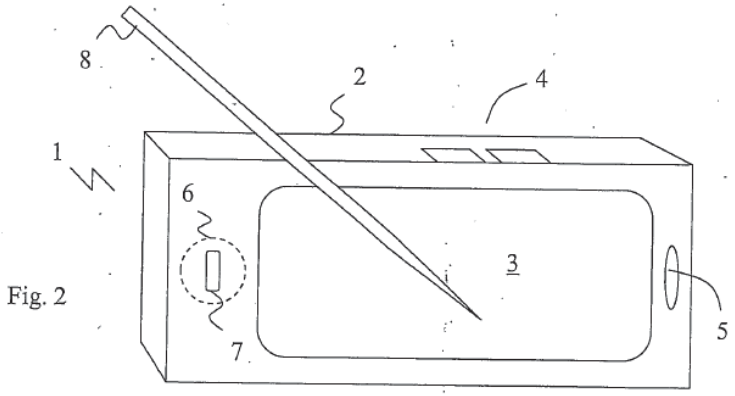
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3)  Fig. 4 (Gupta at FIG. 4)

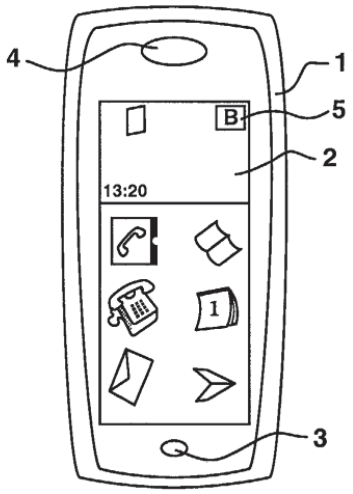
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8)
[1f] wherein said mobile phone device does not include a physical key on the front surface, and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said mobile phone device does not include a physical key on the front surface." For example, Bast discloses a mobile phone that does not include a physical key on the front surface. (Bast at FIG. 1.) Bast teaches that the touch screen includes a virtual keypad and a virtual toggle button 5. (Bast at [0010], [0012], [0024].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"To enable the user to discretionally toggle from one display to the other, as is considered to be more suitable at a given time, the mobile terminal can be equipped with a toggle button. This button can be a conventional button disposed on the housing or a virtual toggle button 5, accessible to the user and permanently displayed, in the form of an icon on the touch screen 2 (Figures 1 to 3). An equivalent function is accessible by means of a menu." (Bast at [0012].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].)  **Figure 3** (Bast at FIG. 3.) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

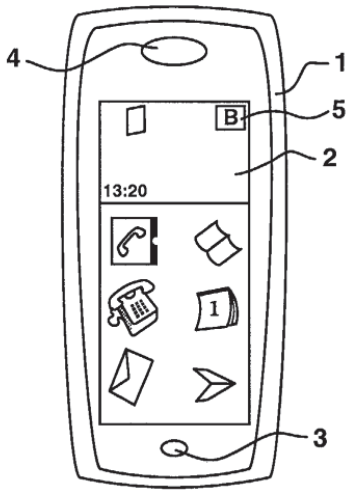
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.) A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2
[1g] wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing." For example, Bast discloses a mobile phone that does not include components extended out from its housing. (Bast at FIG. 1.) Bast explains that the mobile phone device uses the touch screen and stylus for input and output. (Bast at [0010], [0012], [0024].)

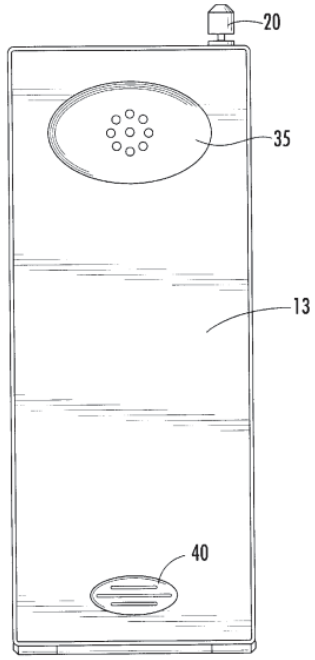
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Figure 1 (Bast at FIG. 1) Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].)

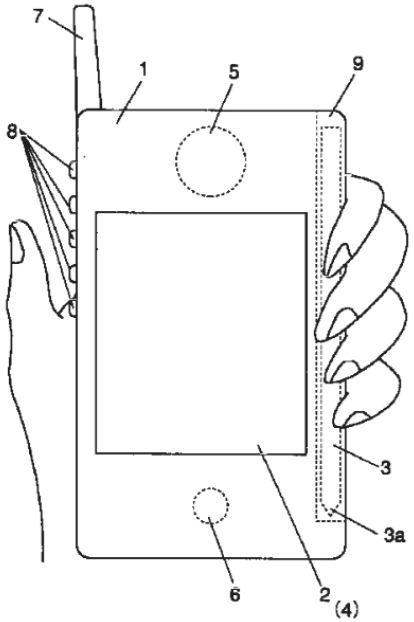
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"To enable the user to discretionally toggle from one display to the other, as is considered to be more suitable at a given time, the mobile terminal can be equipped with a toggle button. This button can be a conventional button disposed on the housing or a virtual toggle button 5, accessible to the user and permanently displayed, in the form of an icon on the touch screen 2 (Figures 1 to 3). An equivalent function is accessible by means of a menu." (Bast at [0012].) "Calibration essentially consists of determining the vertical position of the device. This calibration can be carried out automatically or manually. In one preferred embodiment, the robustness of the system is increased by combining the two calibration modes." (Bast at [0018].) "A small mechanical switch (not shown) disposed at the base of the housing 1 enables the orientation of the terminal to be manually calibrated. When the user places the terminal vertically on a table or any other horizontal surface 10, the switch closes and the central processing unit 7 considers the corresponding position to be the vertical position." (Bast at [0020].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].)

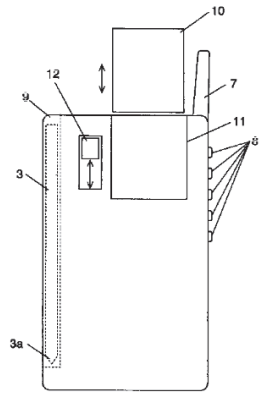
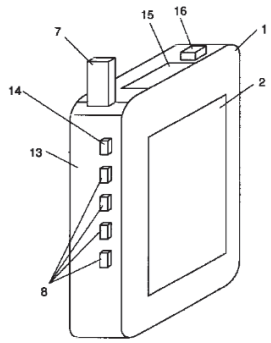
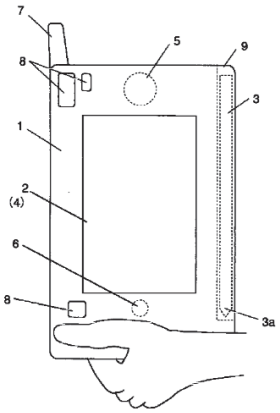
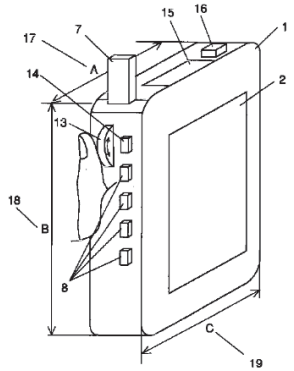
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2pre] The device of claim 1,	Claim 2 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 2 are anticipated and/or obvious for the same reasons set out in claim 1. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[2a] wherein said practically rectangular shape has rounded corners.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners."

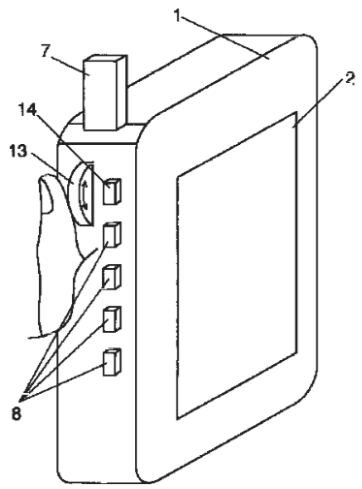
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Bast discloses a housing 1 wherein the corners have slightly rounded edges. (Bast at FIG. 1.)  **Figure 1** (Bast at FIG. 1) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

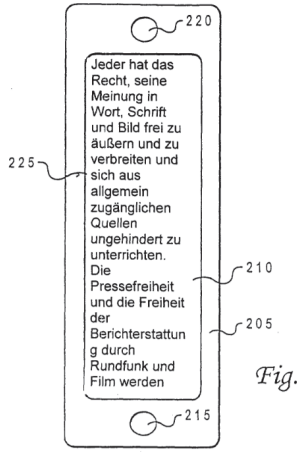
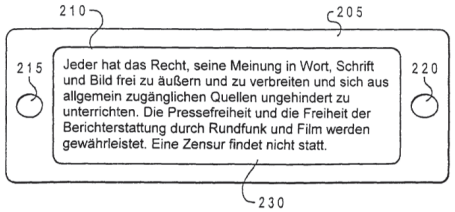
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck discloses a mobile phone housing that is generally rectangular and includes rounded corners. (Rydbeck at FIG. 3.) As another example, Yamaguchi discloses a mobile phone device having a rectangular housing with rounded corners. (Yamaguchi at FIGS. 1, 3-7). As a further example, Dutta discloses a mobile phone having a rectangular housing with rounded corners. (Dutta at FIGS. 2A-2B.) A POSITA would have been motivated to configure a mobile phone such that the housing has rounded corners to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to round the corners to improve user experience and make the design more ergonomical. Thus, a POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (a housing with rounded corners as taught by Rydbeck, Yamaguchi, and Dutta according to known methods to yield predictable results (improving the user experience and ergonomics of a mobile phone); (B) use of a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and ergonomics); (C) applying a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device ergonomics); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: Rydbeck discloses the following at FIG. 3:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 3. Yamaguchi discloses the following at FIG. 1:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体 2 液晶表示部 3 ペン 4 タッチパネル部 5 スピーカー部 6 マイク部 7 アンテナ部 8 各種操作スイッチ 9 ペン収納部  Yamaguchi discloses the following at FIGS. 3 and 5-7:

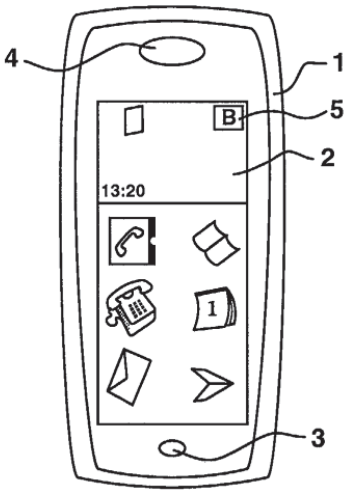
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図３】  【図５】  【図７】  【図６】  Yamaguchi discloses the following at FIG. 4:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図4】  Dutta discloses the following at FIGS. 2A-2B:

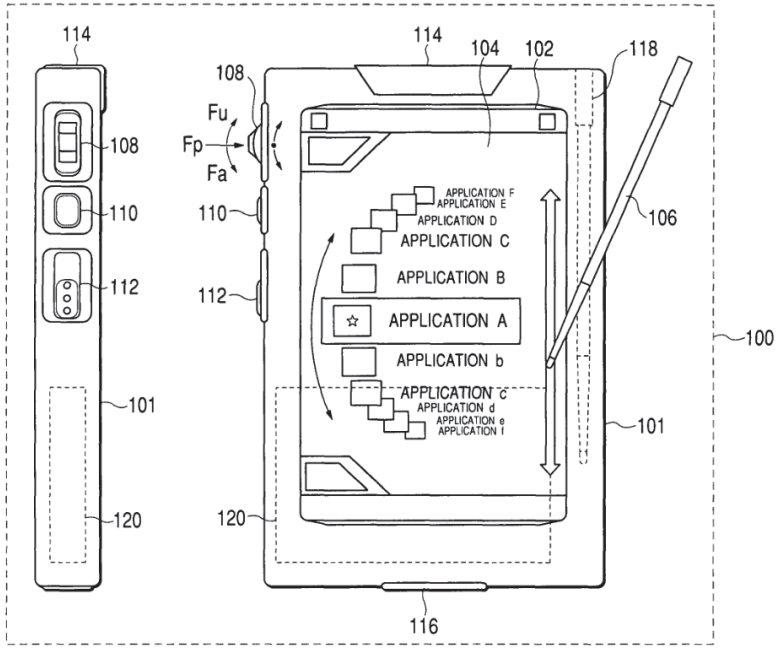
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B*

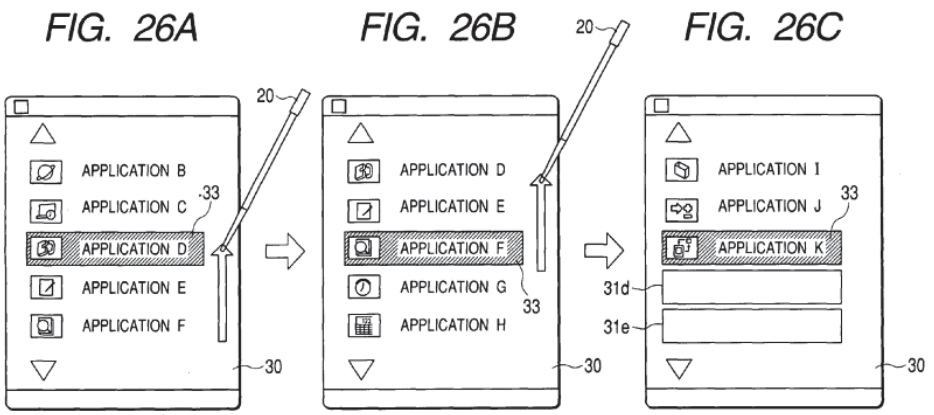
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3pre] device of claim 1	Claim 3 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 3 are anticipated and/or obvious for the same reasons set out in claim 1. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].

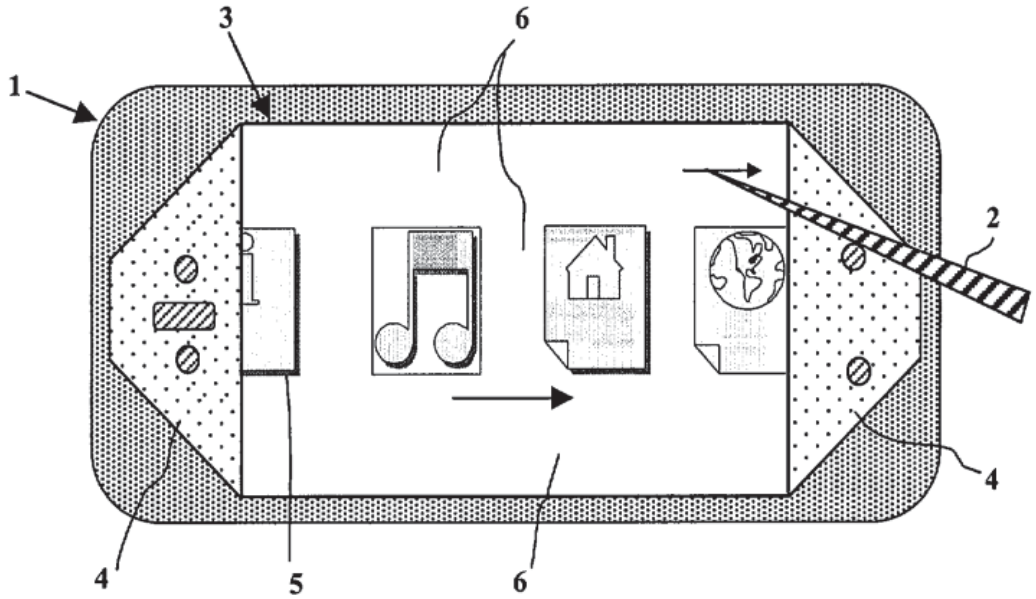
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." For example, Bast discloses an electronic display that shows a plurality of program and function icons. (Bast at [0010], FIG. 1.) The icons correspond to various applications that are programmed into the terminal. (*Id*.) Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) Bast discloses the following at FIG. 1:

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Figure 1 (Bast at FIG. 1)
[3b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." It would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Nakano and/or Benoit to display a plurality of other applications upon a user action on the display unit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a

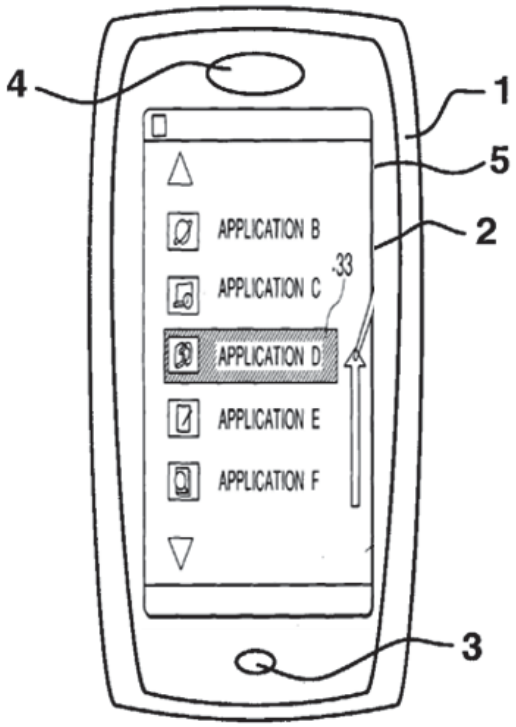
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Nakano discloses a mobile phone that includes a touch panel 104. (Nakano at 2:49-51, FIG. 1.) Nakano teaches a method of improving the control of a menu display by using said touch panel. (*Id*.) The touch panel is integrated into the display of the portable device disclosed by Nakano, which may be a mobile phone. (Nakano at 7:20-39.) Nakano teaches using a drag operation to control the display of various entities shown on the display. (Nakano 7:40-52.) The drag operation taught by Nakano may comprise drawing a finger across the display panel or using a stylus to do the same. (Nakano at 7:57-8:16). Nakano teaches that programming a device, display, and touch panel in this way allows for improved control of display entities that are shown on the display. (Nakano at 8:50-54). The display entities disclosed by Nakano may correspond to programs, also known as applications, that can be activated and executed by the device. (Nakano at 8:65-9:6.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Thus, Nakano teaches programming a device, such as a mobile phone, so that is operative to allow a user to slide a finger or stylus pen across a menu screen, displaying a plurality of application icons in the form of menu items. (Nakano at 15:66-16:10). A dragging operation, also known as a sliding operation, allows a user to move the menu items displayed in various directions across the screen. (Nakano at 25:40-47, FIGS. 19A-19B.) As shown in FIGS. 26A-C, menu items, also known as application icons, that are not originally shown on the display may be displayed based on a dragging or sliding input from a user. (Nakano at 28:36-29:10, FIGS. 26A-C.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Nakano at FIGS. 26A-26C.) As another example, Benoit teaches a display used in a mobile phone that can display a series of icons that correspond to programs and respond to a sweeping input to display a plurality of additional icons. (Benoit at (cover page, 57).) Benoit further teaches that it is desirable to display large icons corresponding to applications, making them easily distinguishable. (Benoit at 2:17-18.) And the dexterity needed to control the display of application icons is reduced because the control input can be made across the entire screen, including the area where the application icons are shown. (*Id*.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit. Configuring a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (combining display unit operative to display a plurality of additional application icons in response to a sweeping action into the mobile phone disclosed by Bast, which is operative to display a plurality of application icons) according to known

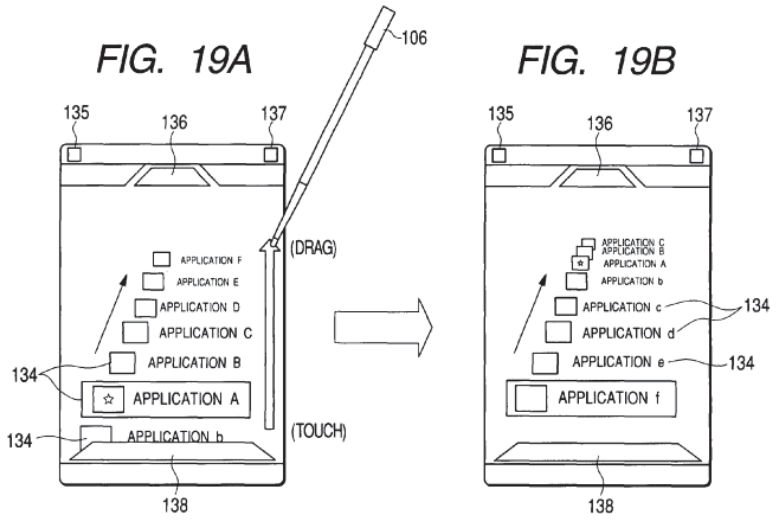
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. In one exemplary combination, the mobile phone of Bast may be combined with the display, touch panel, and control method disclosed by Nakano would resemble the device shown below. In this combination, Bast is modified to include the touch display and control method taught by Nakano, while retaining the housing, microphone, and speaker disclosed and taught by Bast.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 One exemplary combination of Bast with Nakano (FIG. 1 of Bast combined with FIG. 26A of Nakano.) Additional exemplary citations include: "The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:49-51.) "The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano 7:40-52.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a "tap-in" and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a "tap-out". The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a "tap". According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16). "According to the invention, the following advantage is obtained. Information display entities are arranged on a virtual face. Scroll display is allowed by moving a virtual camera whose line of sight faces the virtual face, thus more readily allowing scroll control in a virtual space." (Nakano at 8:50-54). "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection." (Nakano at 15:66-16:10). "In FIG. 19A, a menu item in the middle of the menu is in the selection state. Menu items preceding and following the item are three-dimensionally represented in one-point perspective in the upward direction in the screen. Dragging with the stylus pen 106 in the upward direction so as to slide the menu display in the upward direction causes the menu panel 134 to move in the upward direction along the one-point perspective, for example, as shown in FIG. 19B." (Nakano at 25:40-47.) "In FIG. 26A, the menu display area 31 a displays "Application B", the menu display area 31 b displays "Application C", the menu display area 31 c displays "Application D", the menu display area 31 d displays "Application E", and the menu display area 31 e displays "Application F", respectively. In the selection candidate display area 32, that is, in the menu display area 31 c, the focus 33 is overlaid on Application D. The Application D is a candidate for selection. In the menu screen 30, dragging the stylus pen 20 in the upward direction scrolls through the menu display entities in the menu screen 30 as shown in FIG. 26B. In FIG. 26B, the menu display area 31 a displays "Application D", the menu display area 31 b displays "Application E", the menu display area 31 c displays "Application F", the menu display area 31 d displays "Application G", and the menu display area 31 e displays "Application H", respectively. The menu display entities on the screen are scrolled though in the upward direction by two rows. On the menu display entity displayed in the selection candidate display area 32, that is, on Application F, is overlaid the focus 33. The Application F is a candidate for selection. Dragging with the stylus pen 20 refers to an operation (including standstill state) of sliding

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	the stylus pen 20 on the LCD panel 11 with the tip of the stylus pen 20 in contact with the LCD panel 11. In FIG. 26B, further dragging in the upward direction further scrolls through the menu entities on the screen in the upward direction. As shown in FIG. 26C, when the lowermost menu display entity (Application K in the figure) reaches the selection candidate display area 32, the scroll comes to a halt. In FIG. 26C, the menu display area 31 a displays "Application I", the menu display area 31 b displays "Application J", and the menu display area 31 c displays "Application K", respectively. On the menu display entity displayed in the selection candidate display area 32, that is, on Application K, is overlaid the focus 33. The Application K is a candidate for selection. While a drag is made in the upward direction in FIGS. 26A through 26C, the same applies to a drag in the downward direction. That is, as shown in FIG. 27A, dragging in the downward direction scrolls through the menu display entities in the downward direction. As shown in FIG. 27B, when the uppermost menu display entity (Application A in the figure) reaches the selection candidate display area 32, that is, the menu display area 31 c, the scroll comes to a halt. While the drag operation is made in the rightmost area of the menu screen 30 for clarity in FIGS. 26A through 26C and FIGS. 27A and 27B, the drag operation is allowed across the menu screen 30 as shown in FIG. 31 in practice." (Nakano at 28:36-29:10.) Nakano discloses the following at FIGS. 19A-B:

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (57).) "In addition, the use of a touch screen generates another serious problem. That is, because the icons and drop-down menus are generally fixed, the user always uses their finger or a stylus to point at the same small areas of the touch screen. This leads, therefore, to local damage, decalibration, and premature wear of the touch screen. The object of this invention is to ameliorate the disadvantages of the aforementioned systems and to propose a human-machine interface with a touch screen in which navigation is simplified. Another object of the invention is to limit the premature decalibration of touch screens.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon. Preferably, the control area is extended so as to distribute the touch points and prevent the premature wear of the touch screen over the defined areas. The entire surface of the touch screen not covering an icon can be expected to constitute the control area. Thus, the control is no longer localized in a limiting manner. Unlike the prior art, the scrolling of icons allows these icons to be shown at a large size such that they are easily distinguishable. With such a method according to the invention, the fact of having an extended control area prevents the constant use of certain small areas of the screen. According to an advantageous characteristic of the invention, the touch command for scrolling the series of icons comprises a touch followed by a directional movement. The scrolling speed and direction are defined by the point of contact and the projection into the scrolling direction of a vector obtained as a result of the directional movement. The point of contact can be anywhere over the entire extended control area. The icons can be shown independently of each other, whether attached or embedded in a scrolling banner, and representing, for example, a landscape. Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen. These icons can be scrolled to show the icon representing the application intended to be launched in the foreground in the center of the screen.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	According to a preferred embodiment of the invention, the icons scroll along a virtual circle inscribed in a plane perpendicular to the plane of the screen. Scrolling then makes it possible to show each icon on the screen successively, with the other icons remaining in the background. In this case, it is possible to envisage that only the icon shown on the touch screen is capable of launching an application. It is also possible to envisage that all the icons remain permanently visible on the touch screen during scrolling. As such, all the icons may be active. According to an advantageous embodiment of the invention, the scrolling of a series of icons may exhibit inertia as a function of the scrolling speed. Consequently, when a user lifts their finger or stylus from the touch screen, the scrolling continues for a few short moments based on the movement made by that user to carry out the scrolling. According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 2:1-3:24.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
[4pre] The device of claim 3	Claim 4 depends from claim 3. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 3 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 3 to show the additional limitations of claim 4 are anticipated and/or obvious for the same reasons set out in claim 3. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 3." *See supra* claim [3].
[4a] wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit."

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Bast discloses a display that is operative to display a plurality of application icons. (Bast at [0010].) And Bast discloses a touch screen that is operative to respond to interactions from a user. (*Id*.) Accordingly, it would be inherent in the mobile phone design disclosed by Bast that the touch screen must be operative to open application icons in response to a user's touch. A POSITA would recognize that the mobile phone disclosed by Bast must be programmed in this way in order to be functional, else the application icons could not be opened. To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Nakano and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Nakano discloses that a tap operation (a predefined interaction) may be used to select a display entity, such as menu item corresponding to an application. (Nakano at 9:49-57.) In response, a program corresponding to said menu item or display entity may be activated. (Nakano at 9:58-62.) Accordingly, a tap operation may activate an application program corresponding to a selected information display entity, such as an application icon. (Nakano at 9:63-67.) Nakano further discloses that tapping a stylus pen on a menu display entity shown on the display of the device may activate an application program corresponding to that menu display entity. (Nakano at 34:26-30.) As another example, Benoit teaches displaying application icons that launch when a brief contact is made with said icon. (Benoit at 3:5-8.) Thus, the brief contact is a predefined interaction that opens that corresponding application when input by the user. (*See id*.) A POSITA would have recognized that Benoit taught the method of opening an application icon in response to a user providing a predefined interaction with said icon.

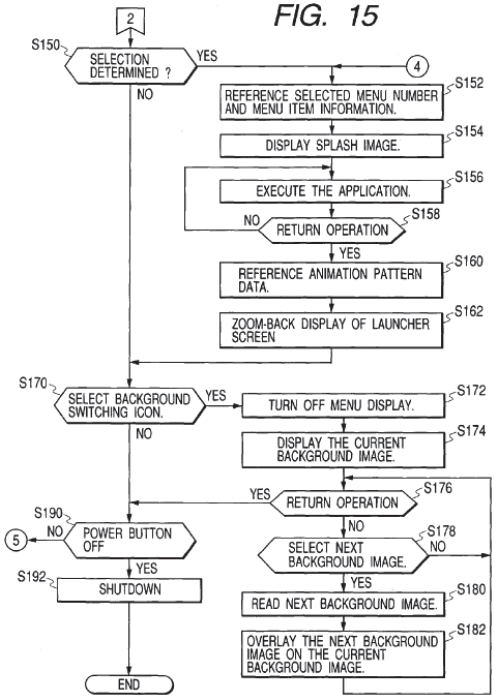
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone such that an application is opened upon a user providing a predefined interaction with an icon, such as a tap. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (combining display unit operative to open an application icons in response to a predefined interaction provided by the user into the mobile phone architecture disclosed by Bast, which is operative to display a plurality of application icons) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to open an application icon upon detecting a predefined user input directed at an application icon as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to open an application in response to user providing a predefined interaction with an icon corresponding to said application as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "The PDA can execute a plurality of application software programs (also referred to as simply 'applications') by way of arithmetic operation by a built-in CPU. Application software includes schedule software, address book software, memo pad software, word processing software, calculator software, electronic mail software, web browser software, music playback software, graphics viewer software, and clock display software. Operation of selection and execution of application software is controlled by the application management program called 'launcher'. With application software programs and/or documents registered in advance, the application software programs and/or documents are displayed on a menu by the launcher, and directly started via simple input operation." (Nakano at 1:20-33.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"However, in a scroll operation and selection of a menu display entity, at least two operations are required. The scroll operation on a touchpanel is the same as the mouse operation, for example tapping operation, on an ordinary PC." (Nakano at 1:52-55.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a 'tap-in' and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a 'tap-out'. The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a 'tap'. According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:13-26.) "According to the invention, a tap operation may be used, on top of a drag operation, to select a desired information display entity. A method for selecting an information display entity may be switched as appropriate, such as using a drag operation in case a desired information display entity is not displayed in the predetermined display area, and a tap operation in case one is displayed. In any case, it is possible to readily select a desired information display entity thus enhancing its operability." (Nakano at 9:49-57.) "In case determination is made by the second determination means, the activation means may activate a program corresponding to an information display entity determined as a candidate for selection by the second determination means, if any." (Nakano at 9:58-62.) "According to the invention, a tap operation may be used to activate an application program corresponding to a selected information display entity. That is, a single tap operation directly activates a desired application thus enhancing its operability." (Nakano at 9:63-67.) "The processor 20 performs arithmetic operation in accordance with programs to make centralized control of the PDA 100 as well as execute a launcher or various application programs for the PDA 100." (Nakano at 18:31-35.) "The control program 502 executes a so-caller 'launcher' to work as utility software to help activate the application program 510. The control program 502 comprises processing concerning menu display shown in FIG. 2 and includes a menu item selector 22 and a menu display controller 24 in a processor 20." (Nakano at 20:55-60.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIGS. 13 through 15 are flowcharts illustrating the flow of processing from selection of an item to activation of an application in this embodiment." (Nakano at 22:59-61.) "In case the stylus pen is released from the touch panel 104, a so-called tap-out operation is made (YES in step S118), execution proceeds to activation of an application described later. In case a tap input is made with the stylus pen 106 (YES in step S120), the menu item selector 22 determines whether any menu panel 134 includes the position coordinates which are tapped on referring to the menu panel position information 523. In case any menu panel 134 is tapped on (YES in step S122), the menu item selector 22 changes the selected menu number 531 to the menu number of the menu panel 134 (step S124). Execution then proceeds to activation of an application described later." (Nakano at 23:18-26.) "FIG. 15 is a flowchart specifically illustrating the flow of processing from determination of a selected item to activation of an application program and the flow of screen switchover. As shown in FIG. 15, in case determination of a selected item is input by way of a push on the side controller 108 or a tap using the stylus pen 106 (YES in step S150), the processor 20 references the menu item information 524 in accordance with the selected menu number 531 (step S152) to retrieve the corresponding splash image data 536 and displays the data on the screen (step S154). After that, the processor 20 loads and activates the application (step S156)." (Nakano at 24:34-44.) "While the desired menu panel 134 is selected on the screen and the selected menu panel 134 is determined then an application is activated in this example, the application may be automatically activated when the desired menu panel 134 has moved to the display position P0 and selected on the screen. To be more specific, a step of comparing the specified menu number 532 with the selected menu number 531 is added before step S142 in FIG. 14. In case the specified menu number 532 is the same as the selected menu number 531, a step of checking the attribute of a registered menu item by referencing the menu item information 524 and a step of proceeding to step S152 (FIG. 15) in case the attribute is an applications are executed." (Nakano at 25:1-13.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Next, the method for activating an application program corresponding to the menu display entity will be described. The application program corresponding to the menu display entity is activated by way of the operation input using (1) the stylus pen 20 or (2) the side controller 14. When the application is activated, display on the screen 30 is terminated and the screen of the activated application appears on the LCD panel 11." (Nakano at 34:9-16.) "Activation of an application program corresponding to each menu display entity by way of the stylus pen 20 is made by way of (1) tap or (2) drag." (Nakano at 34:20-22.) "Tapping the stylus pen 20 on any of the menu display entities displayed in the menu screen 30, or to be more specific, the menu display area 31, the application program corresponding to the menu display entity displayed in the tapped position is activated." (Nakano at 34:26-30.) "After that, when the stylus pen 20 which has been in contact with the LCD panel 11 is released from the LCD panel 11 (hereinafter referred to as 'tap-out' as appropriate), an application program corresponding to Application Dawaiting activation is activated." (Nakano at 34:52-56.) "A drag is available as a method for selecting a desired menu display entity as well as a tap. In case a desired menu display entity is not displayed in the menu screen 30, a drag is used, and in case it is displayed, a tap is used, in a selective way. In any case, it is possible to readily select a desired menu display entity thus enhancing its operability." (Nakano at 34:65-35:3.) "The application activation controller 320 calls the application program from the storage section 400 based on application activation condition data 426 and executes the application program. Also, in response with a tap by way of the stylus pen 20 or a 'push' on the side controller 14, the application activation controller 320 calls the application program from the storage section 400 and executes the application program." (Nakano at 36:5-12.) "In case the input determination section 311 has determined that operation is a tap (step S14: YES), the input determination section 311 determines whether the indicated position by the stylus pen 20 is included in which menu display area 31 (step S15).

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	In case the input determination section 311 has determined that whether the indicated position is included in any menu display area 31 (step S15: YES), the Application activation controller 320 identifies the menu display area 31 which includes the indicated position and calls the application program 411 corresponding to the menu display entity displayed in the identified area and execute the application program (step S16).” (Nakano at 37:50-62.) “While an application program corresponding to a menu display entity which shifted to the activation wait state is activated by halting a drag and performing a tap-out after a predetermined period in that state in the embodiments, an application program corresponding to a menu display entity which is a candidate for selection at the point of tap-out may be activated.” (Nakano at 41:55-61.) Nakano discloses the following at FIG. 15:  FIG. 15

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Nakano at FIG. 15) "Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen." (Benoit at 3:5-8.) "Scrolling is carried out according to a method illustrated in the diagram in figure 2. When a user contacts the touch screen 3 by means of the control stylus 2, they use the stylus for pointing in step 7 in accordance with figure 2. If the stylus points at an icon in step 8, the operating system launches an application, in step 9, related to the pointed-at icon." (Benoit at 4:21-5:2.) "A third embodiment of the series of icons is illustrated in figure 4, showing a continuous banner 14 representing a given landscape. This banner may be a series of icons adjoined to one another or a series of distinct icons embedded in specific locations on the banner. Under these conditions, the control area 6 may include the entire surface of the touch screen 3. However, it is necessary to distinguish between a scroll command and an application launch command if the stylus points at an icon. An application launch command is characterized by a brief touch of the stylus on the icon. By contrast, a scroll command is characterized by a long pointing comprising a touch followed by a lateral displacement on any contact area over the entire surface of the touch screen. In this particular example, the icons can be represented by the active areas 15 and 16." (Benoit at 5:17-6:3.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5pre] The device of claim 1	Claim 5 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 5 are anticipated and/or obvious for the same reasons set out in claim 1.

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[5a] wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." For example, Bast discloses a mobile phone having a rectangular screen on the front surface of the device. (Bast at [0003].) Bast recognizes that it was well known in the art to provide a mobile phone that includes a means for determining the orientation of the device, such that the display is operative to automatically switch from portrait mode to landscape mode when the device is held in each mode, respectively. (Bast at [0004].) The mobile phone disclosed by Bast is operative to display information on the screen 2, including text entered through a keyboard, in either portrait mode or landscape mode, as shown in Figure 2 and Figure 3, respectively. (Bast at [0010], [0011], FIGS, 2-3.) Bast teaches the use of accelerometers to detect the orientation of the housing and automatically adjust the display orientation to match the orientation of the housing. (Bast at [0016], [0023].)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

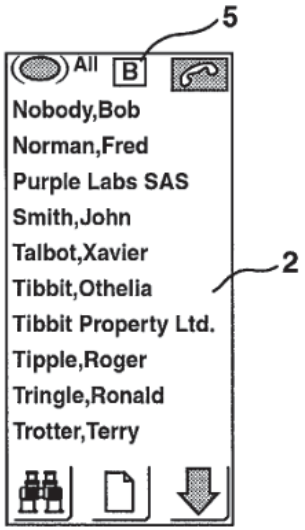


Figure 2

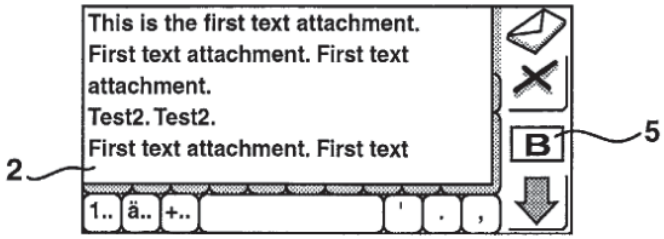


Figure 3

(Bast at FIG. 2 (left) and FIG. 3 (right).)

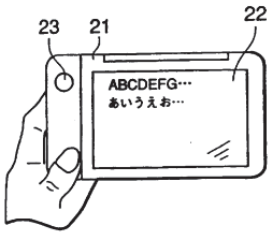
Additional exemplary citations include:

"For ergonomic reasons, particularly related to the distance between the user's mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular." (Bast at [0003].)

"To maximize use of the screen's display capabilities, some terminals include a means for determining the orientation of the terminal so as to automatically toggle the display from portrait mode, when the terminal is held vertically, to landscape mode, when it is held horizontally, and vice versa. Two types of approaches have so far been proposed for determining the orientation of the terminal." (Bast at [0004].)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "The information can be displayed on screen 2 either in vertical mode (portrait mode), as shown in Figure 2, or in horizontal mode (landscape mode), as shown in Figure 3. The vertical display is, for example, the most suitable for viewing a directory. This is because it enables a large number of short pieces of information constituting a list, such as a name list, to be displayed one after another. Likewise, the horizontal display is more suitable for viewing text because it minimizes the number of line breaks and enables more comfortable reading. It is also more suitable for viewing images that are more wide than tall." (Bast at [0011].) "The terminal illustrated in Figure 6 includes two accelerometers 9a and 9b, disposed perpendicularly to one another, in a plane parallel to a horizontal surface 10 when the terminal housing 1 is held vertically. An accelerometer 9 conventionally supplies signals representative of the coordinates, in a plane, of a mass moving in this plane as a function of the forces of gravity and acceleration exerted on the accelerometer. The accelerometer 9a enables the central processing unit to determine the rolling of the terminal, i.e., its pivoting movements perpendicular to the axis of the accelerometer 9a, while the accelerometer 9b makes it possible to measure the pitch, i.e., the pivoting movements perpendicular to the axis of the accelerometer 9b. Because the two accelerometers 9a and 9b are orthogonal, they enable the central processing unit 7 to determine the movements of the housing in three dimensions, accounting for both gravity and acceleration. The central processing unit 7 can thus determine the orientation of the housing and, consequently, that of the screen 2 in space." (Bast at [0016].)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The central processing unit 7 can thus determine the tilt of the housing at any moment. Based on these observations, it determines the user's behavior and the most suitable display mode. In a preferred embodiment, to avoid overly frequent changes, the central processing unit uses two different thresholds S1 and S2 to initiate the toggling of the display. As shown in Figure 10, one axis can cause the tilt angle of the housing to toggle from 0° in landscape mode to 90° in portrait mode. Toggling from one mode to the other does not happen when the tilt angle crosses 45°, but when it crosses thresholds S1 or S2. The central processing unit compares the tilt of the housing relative to the horizontal plane to a first threshold S1, which is less than 45° (45°-Delta), when the display is in portrait mode and to a second threshold S2, which is greater than 45° (45°+Delta), when the display is in landscape mode. Thus, the central processing unit always uses the threshold furthest from the display mode used to initiate a toggle to the other display mode. Thus, 45°+Delta is the tolerance angle before tilting the display." (Bast at [0023].) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Kobayashi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Kobayashi discloses a similar device to that disclosed by Bast and provides relevant teachings. Kobayashi teaches that is beneficial to have display which is operative to automatically adjust to the orientation it is being held in by the user. (Kobayashi at 2:5-23; see also *id*. at 19:25-20:4, FIGS. 4A, 4B.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Fig.4a  Fig.4b  "In this manner, the display screen on the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:25-20:4.) A POSITA would have been motivated to configure a mobile phone to display text in landscape direction and in portrait direction on said display unit when the device is used, respectively, in

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	landscape position and in portrait position. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Kobayashi. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily read text regardless of phone orientation, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Kobayashi into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (aligning the display orientation to the phone orientation, as taught by Kobayashi) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (reorienting the display based on device orientation as taught by Kobayashi) to improve similar devices in the same way (a mobile phone that allows a user to easily review text); (C) applying a known technique (reorienting the display based on device orientation as taught by Kobayashi) to a known device ready for improvement to yield predictable results (a mobile phone); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Kobayashi) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "The orientation at which data is displayed on portable terminal device is altered by detecting where the device is being held by a user. Pressure sensors or photo cells along two edges of the device may be used to alter the orientation by 90°. The orientation of data on the display may also be altered according to which function is being used or by operating a switch. Alternatively the device may have a plurality of displays at different orientations which may be used according to the way in which the terminal is being used. The portable terminal device may be a selective call receiver or a mobile telephone." (Kobayashi at Abstract.) "in view of the above-mentioned problems, in a preferred embodiment the present invention enhances an operability by controlling the direction of screen display on the display in accordance with whether or not the user's fingers and palm come into contact with a pressure sensor or a photo-detection sensor on any surface of a portable terminal device body." (Kobayashi at 13:14-19.) "When the mobile information terminal 31 is longitudinally used and held, the pressure sensors 33 and 34 are disposed on both the side surfaces of the mobile information terminal 31. The user's fingers and

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	palm ca-ne into contact with the pressure sensor 33 and/or the pressure sensor 34, whereby the direction of screen display on the display 32 is controlled. That is, when the user uses and holds the mobile information terminal 31 laterally as shown in Figs. 8a and 8b, the user's fingers and palm 10 do not c-cm into contact with the pressure sensors 33 and 34. Thus, the screen is displayed along the long side on the display 32. On the other hand, when the user uses and holds the mobile information terminal 31 longitudinally as shown in Figs. 9a and 9b, the user's fingers and palm come into contact with the pressure sensors 33 and/or 15 34. Thus, the screen is displayed along the short side on the display 32. In this way, the direction of display can be automatically changed in accordance with the direction in which the user views the display." (Kobayashi at 18:2-19.) "The direction of screen display on the display 32 is controlled by the controller 36 in accordance with whether or not the signal from. the pressure sensors 33 and 34 is detected. That is, when the user's fingers and palm do not cane into contact with the pressure sensors 33 and 34, the signal is not outputted from the pressure sensors 33 and 34. Thus, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm come into contact with the pressure sensors 33 and 34, the signal is outputted from the pressure sensors 33 and 34. When the signal is inputted from the pressure sensors 33 and/or 34, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the short side. The direction of screen display can be controlled in accordance with, for example, whether a binary signal has me value or the other value, instead of whether or not the signal is detected. When the telephone function is used, the telephone number to be called is inputted from the input section 35. The telephone number to be called inputted from, the input section 35 is translated/received from an antenna 42 through the controller 36 and a radio section 41. When the voice is transmitted/received, an audio amplifier 40, a receiver 38 and a microphone 39 are used as the input/output unit. When the data other than the voice is transmitted/received, the input section 35 and the display 32 are used. 2 5 In this manner, the display screen m the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:2-20:4.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The direction of screen display on the display 52 is controlled by the controller 56 in accordance with whether or not the signal from the photo-detection sensor 54 is detected. That is, when the user's fingers and palm are not put on the photo-detection sensor 54, the signal is not outputted from the photo-detection sensor 54. Thus, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm are put on the photo-detection sensor 54, the signal is outputted from the photo-detection sensor 54. When the signal is inputted from the photo-detection sensor 54, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the short side." (Kobayashi at 22:14-25.) "Moreover, the direction of screen display in the display can be 26 controlled in accordance with whether or not the user's finger and palm came into contact with the pressure sensor or the photo-detection sensor on any surface of the portable terminal device body. Thus, the direction of display screen on the display can automatically controlled in response to how the user holds the portable terminal device, without needing any user's operation. The operability can be thus enhanced." (Kobayashi at 25:27-26:6.) *See also* Kobayashi at Figs. 6, 7. Further, to the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Jambhekar, Wedel, and/or Pensjo. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

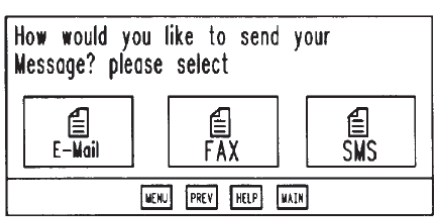


FIG.8A

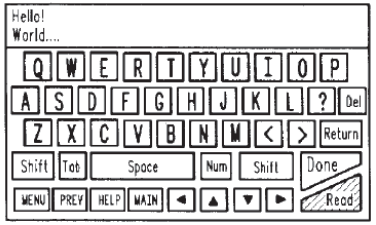


FIG.8B

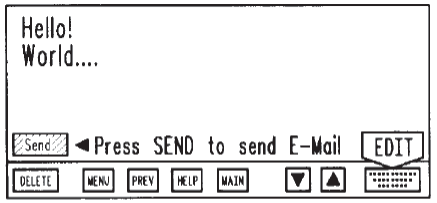


FIG.8C

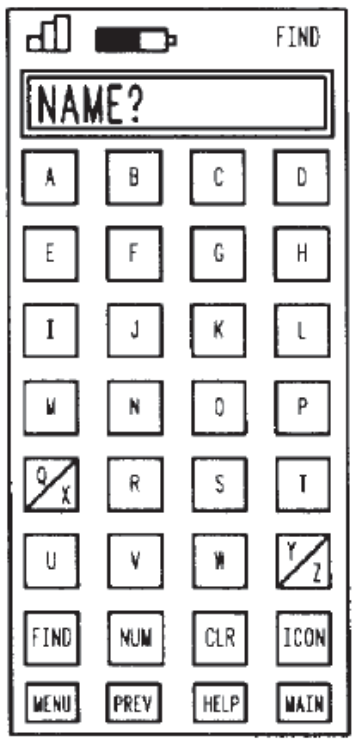


FIG.8D

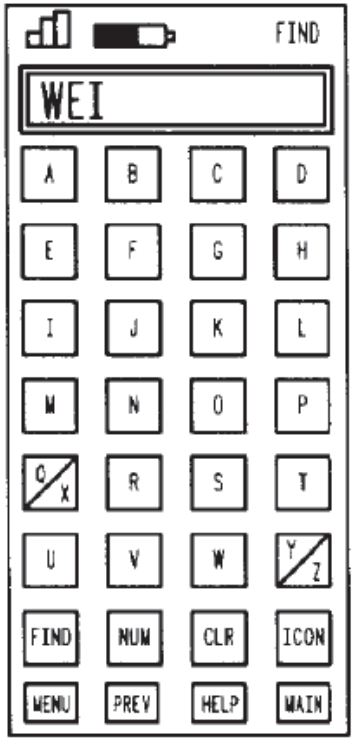


FIG.8E

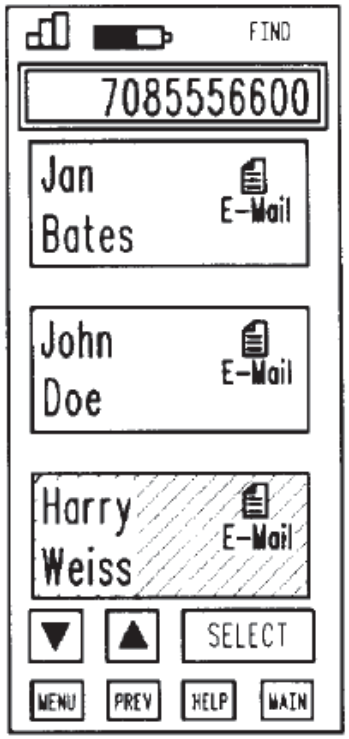
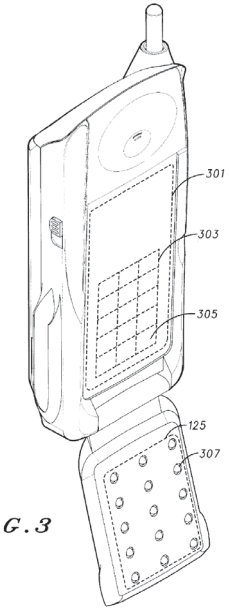
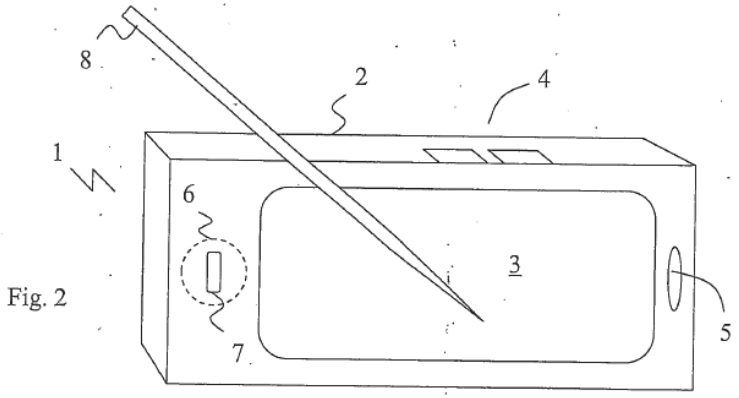


FIG.8F

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Similarly, Wedel discloses that a virtual keypad can be displayed on a touch screen to enable data input, which a POSITA would have understood includes inputting text. (Wedel at 2:6-11, FIG. 2.) Likewise, Pensjo discloses a virtual keyboard that can be used "for input of alphanumeric characters." (Pensjo at [0005], [0009], [0014].) A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Jambhekar, Wedel, and Pensjo. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar, Wedel, and/or Pensjo into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar, Wedel, and Pensjo) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the

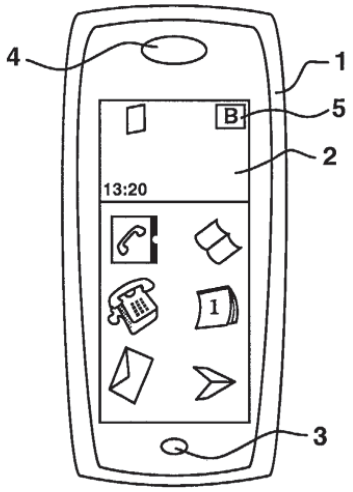
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.) "Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 3 (Jambhekar at FIG. 3) "Several of the functions of the keypad 4 have been included on a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:6-11.) Wedel discloses the following at FIG. 2:

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].) "According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, Bast teaches that it is preferable to configure a mobile phone according to the distance between a user's mouth and ear, which maintains close proximity between a user's mouth and the device's microphone as well as a user's ear and the device's speaker. (Bast at [0003].) Accordingly, Bast recognizes that mobile phones were increasingly becoming rectangular, before the alleged priority date of the '144 patent. (*Id*.) And as a result, the displays included within mobile phones were also becoming increasingly rectangular, to accommodate a mobile phone housing that had a length corresponding to the distance between the ear and mouth of a user while also providing an ergonomic design that was easy to hold. (*Id*.) Thus, Bast discloses a mobile phone having a width that is shorter than its length, as shown in Figure 1 below. (Bast at [0010], FIG 1.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "For ergonomic reasons, particularly related to the distance between the user's mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular." (Bast at [0003].) "To maximize use of the screen's display capabilities, some terminals include a means for determining the orientation of the terminal so as to automatically toggle the display from portrait mode, when the terminal is held vertically, to landscape mode, when it is held horizontally, and vice versa. Two types of approaches have so far been proposed for determining the orientation of the terminal." (Bast at [0004].)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Rydbeck and/or Yamaguchi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Rydbeck discloses a mobile phone wherein the length is 8-10 inches and the width is less than about 4 inches. (Rydbeck at 4:39-43.) As another example, Yamaguchi discloses a mobile phone 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) A POSITA would have found it obvious to configure the mobile phone as disclosed by Bast with width and length dimensions as claimed. Each of Rydbeck and Yamaguchi teaches configuring a mobile phone such that the width of the device is about half of its length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone with similar dimensions to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound produced by the speaker during a phone call. For example, as taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck and Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Rydbeck and/or Yamaguchi into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Rydbeck and Yamaguchi) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Rydbeck and Yamaguchi) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone with a width to length ratio as taught by Rydbeck and Yamaguchi) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck and Yamaguchi) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:39-43.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1.

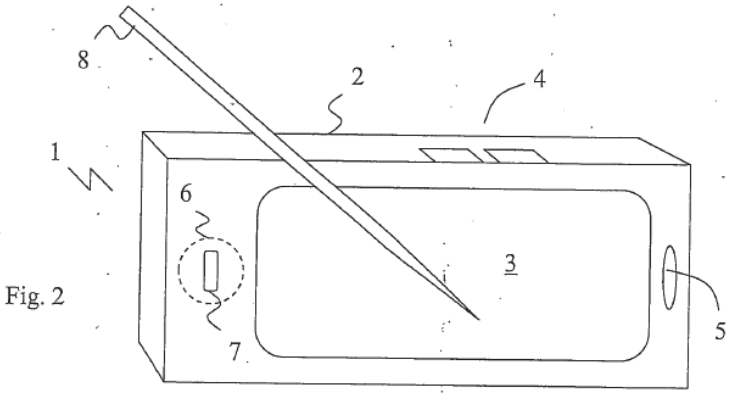
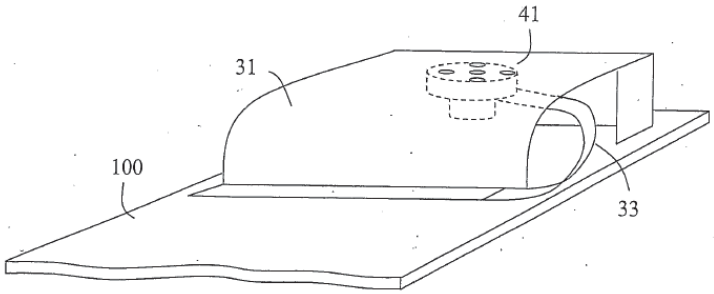
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, Bast teaches that size is a crucial consideration when designing a mobile phone. Thus, a POSITA would find it obvious to configure the mobile phone disclosed by Bast such that its size was small in order for the phone to be "mobile" and so that it could be used with "one hand." (Bast at [0005], [0015].) Additional exemplary citations include: "In a first type of terminal, the orientation of the terminal is determined by tilt detectors in the form of small tubes containing a small amount of conductive liquid, typically mercury. Depending on the tilt of the tube, the liquid is located at one end of the tube or the other. Two electrical contacts are located side by side at each end of the tube. When the liquid is assembled at one end, it covers the two contacts and enables an electrical current to circulate between these contacts. It is thus possible, by monitoring the current circulating at either side of the tube, to deduce its tilt and, consequently, that of the terminal. This solution, although effective, includes major disadvantages that have prevented its dissemination on a large scale and particularly in the mobile telephone domain. Indeed, because the detector works on a mechanical principle, it cannot be miniaturized, which prohibits its use in scopes where size is a crucial element, as is the situation in cellular telephony or consumer electronics. In addition, the use of tubes and mercury carries a double risk linked to the fragility of the detector. Mobile phones are usually designed to withstand successive drops of more than 1.50 m. These are strict conditions under which a tilt detector of this type has every chance of breaking. The consequences are doubly serious: not only is the terminal no longer operational, but also the risk of pollution from mercury leakage is very high. In addition, these tilt detectors are difficult to mass-produce because they cannot be positioned and welded automatically." (Bast at [0005].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Other terminals have favored the use of electronic sensors, which are better suited to mobile telephony or consumer electronics, and more particularly proximity sensors (optoelectronic sensors or inductance sensors) to determine the position of the user's hands on the terminal. This approach is based on the assumption that, depending on whether they are using the terminal in portrait mode or landscape mode, the user does not hold the terminal in the same way. The appearance of the device must be considered to encourage the user to put their hands near the sensors. This solution has the merit of avoiding the disadvantages mentioned above, but it has its own limitations. Small terminals, like cellular phones, digital cameras, and music players, are often used with one hand. It is therefore not uncommon for the user to change the tilt of the device without changing their grip. In such situations, a toggle device based on proximity sensors is ineffective. In addition, the use of gloves outdoors is also likely to alter the accuracy of the proximity sensors and, consequently, to inhibit the toggle device." (Bast at [0006].) "According to the invention, the tilt of the housing is detected by accelerometers. These electronic sensors are now widely used in automobiles, particularly for the triggering of airbags®. They are sufficiently small so as to have no direct impact on the volume of the device in which they are integrated and are no more sensitive to drops than any electronic component, which enables them to endure the conventional mechanical constraints of consumer electronics. They can also be placed automatically on a printed circuit board and soldered automatically. They therefore do not adversely affect the mass-production of products that integrate them. Additionally, they do not pollute." (Bast at [0015].) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Yamaguchi and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

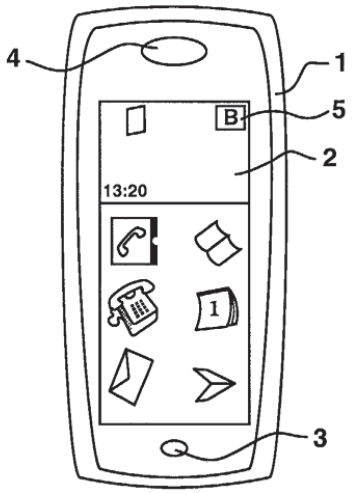
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi discloses a mobile phone that is 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) Thus, the mobile phone disclosed by Yamaguchi has a thickness that is 20 percent of its width. Further, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) A POSITA would have found it obvious to configure the mobile phone as disclosed by Bast with width and thickness dimensions as claimed. Yamaguchi teaches configuring a mobile phone such that the thickness of the device is 20 percent of its width, which improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and provides a display that is as large as possible. Wedel simultaneously teaches that there is demand for ever smaller, lighter phones. A POSITA would thus have been motivated to configure a mobile phone with a thickness to width ratio less than Yamaguchi's to gain market advantage. (Wedel at 1:14-21, 3:19-21.) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve user experience and market demand as suggested by Wedel. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Wedel into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as suggested by Yamaguchi and Wedel) according to known methods to yield predictable results (improving the portability and marketability of a mobile phone); (B) use of a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to a

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and/or Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.)

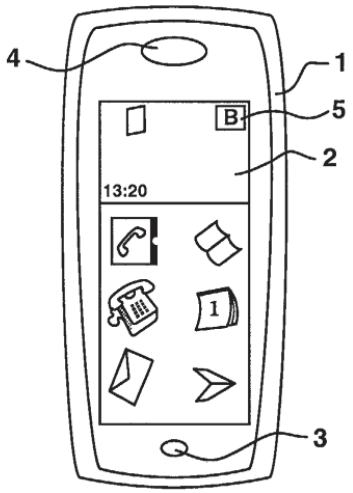
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:

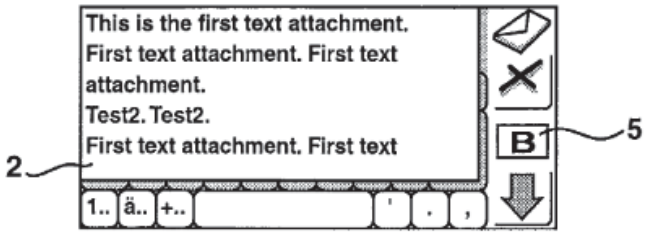
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2  Fig. 11

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone." For example, Bast discloses a mobile terminal that functions as a mobile phone. (Bast at [0010], [0025], FIG. 1.) For example, "mobile terminal shown in Figure 1 combines the functions of a personal

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	digital assistant (PDA) and a mobile phone." (Bast at [0010].) Further, Bast discloses, "[t]he invention applies to any device equipped with a rectangular screen and, more particularly, to a mobile terminal acting as a mobile telephone and/or personal digital assistant." (Bast at [0025].)  **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "The invention applies to any device equipped with a rectangular screen and, more particularly, to a mobile terminal acting as a mobile telephone and/or personal digital assistant." (Bast at [0025].)
[9a] a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces,	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra* claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").
[9c] wherein the width of the front surface of the mobile phone is significantly shorter than the length, and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").
[9d] wherein said body has a thin thickness	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9e] a touch sensitive display unit	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, Bast discloses a large touch screen on the front of a mobile phone, that is integrated into the housing of the mobile phone. (Bast at [0010], FIG. 1) The touch screen 2 is rectangular and as large as possible to allow for data entry. (*Id*.)  **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data,

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "To enable the user to discretionally toggle from one display to the other, as is considered to be more suitable at a given time, the mobile terminal can be equipped with a toggle button. This button can be a conventional button disposed on the housing or a virtual toggle button 5, accessible to the user and permanently displayed, in the form of an icon on the touch screen 2 (Figures 1 to 3). An equivalent function is accessible by means of a menu." (Bast at [0012].)
[9f] a virtual keyboard to enter text; and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text." For example, Bast discloses a keyboard with virtual keys used for dialing and text entry. (Bast at [0010], FIG. 3)  **Figure 3** (Bast at FIG. 3.) Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Jambhekar, Wedel, and/or Pensjo. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

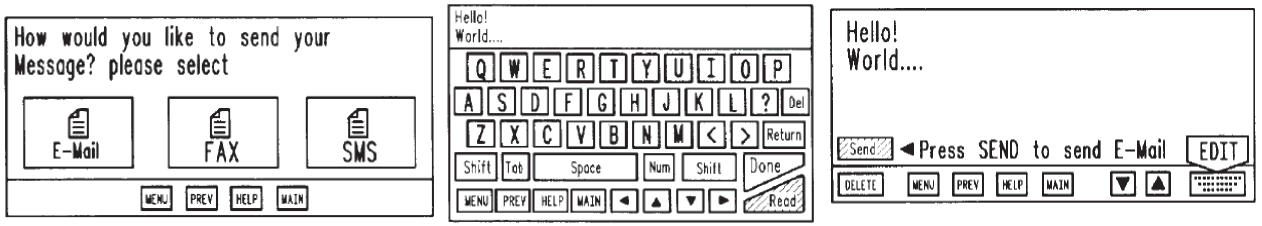


FIG.8A FIG.8B FIG.8C

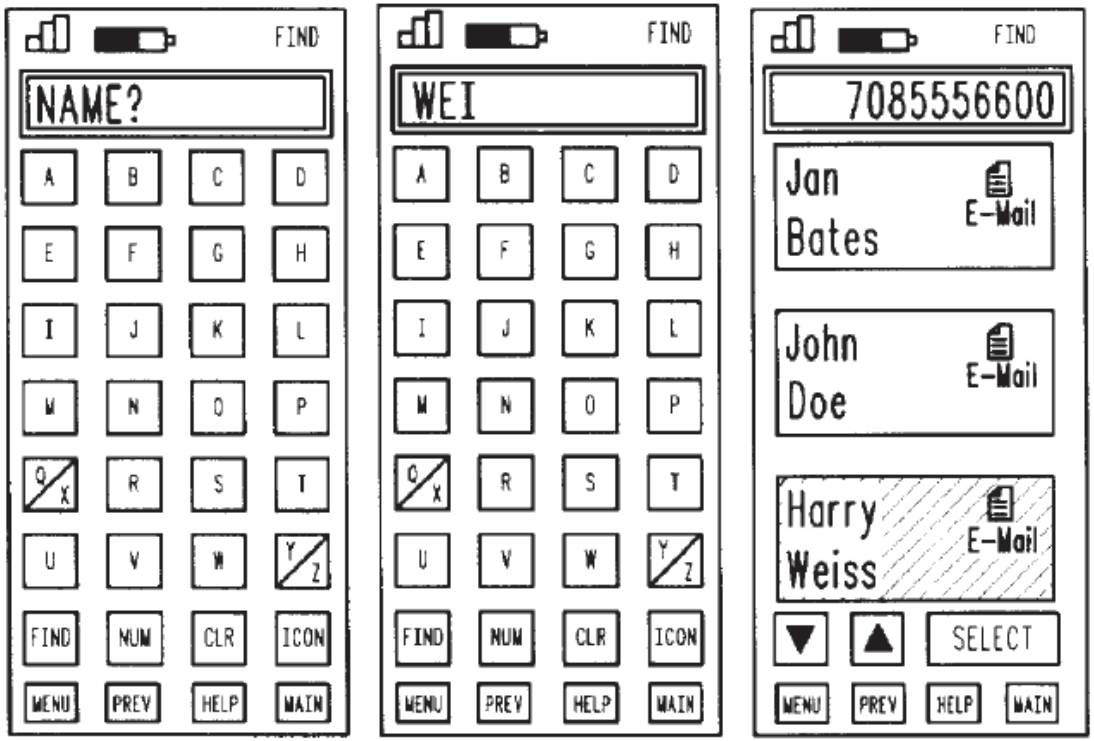
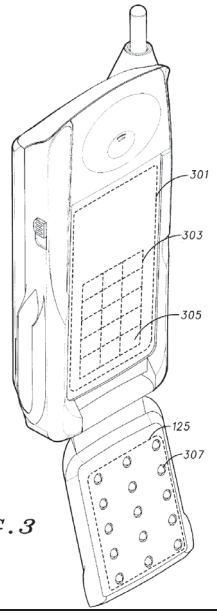
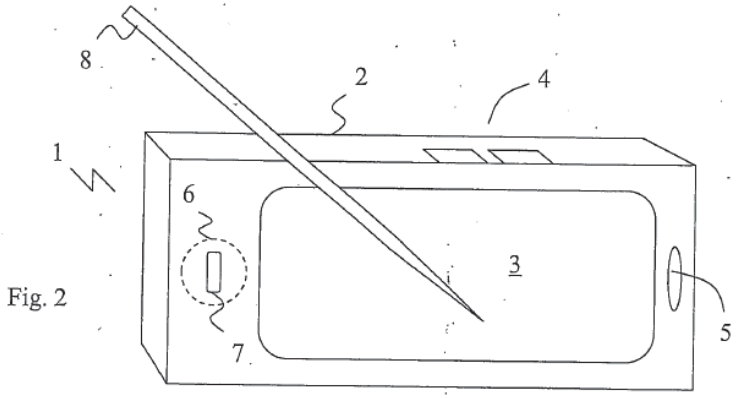


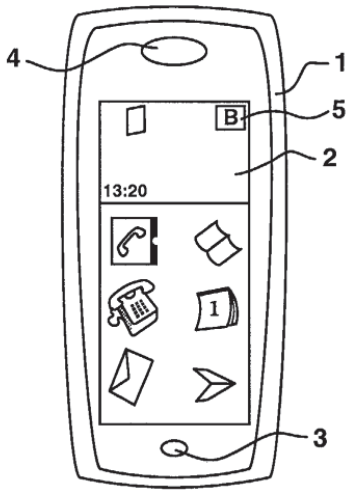
FIG.8D FIG.8E FIG.8F

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Similarly, Wedel discloses that a virtual keypad can be displayed on a touch screen to enable data input, which a POSITA would have understood includes inputting text. (Wedel at 2:6-11, FIG. 2.) Likewise, Pensjo discloses a virtual keyboard that can be used "for input of alphanumeric characters." (Pensjo at [0005], [0009], [0014].) A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Jambhekar, Wedel, and Pensjo. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar, Wedel, and/or Pensjo into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar, Wedel, and Pensjo) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the radiotelephone control functions, including the advanced and the limited radiotelephone control

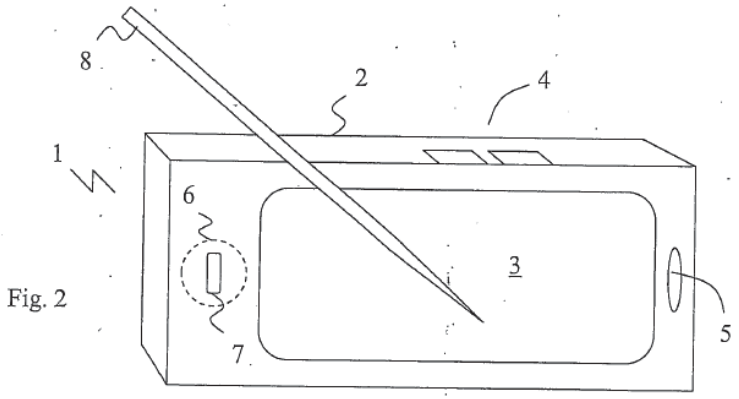
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.) "Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:  FIG. 3

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Jambhekar at FIG. 3) "Several of the functions of the keypad 4 have been included un a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:6-11.) Wedel discloses the following at FIG. 2:  Fig. 2 "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].) "According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].)
[9g] a microphone and a speaker	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, Bast discloses that the housing includes a microphone 3 and a speaker 4 located at the bottom and top of the front surface of the housing, respectively. (Bast at [0010], FIG. 1)

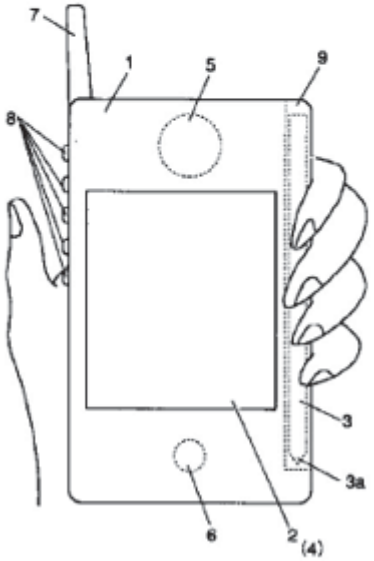
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Figure 1 (Bast at FIG. 1) Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].)

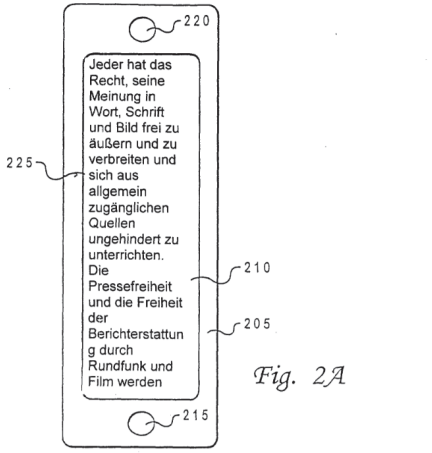
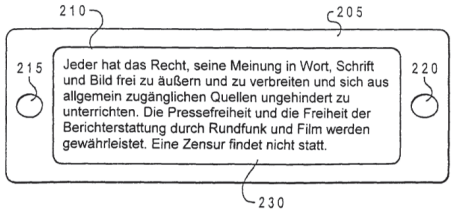
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Wedel, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel discloses that the terminal 1 includes "a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1." (Wedel at 2:1-11, FIG. 2.) Additionally, Yamaguchi discloses a "mobile-communication-information terminal device" including a "speaker part 5" and a "microphone part 6." (Yamaguchi at claim 1, [0003], [0005], [0011], [0017], FIG. 1.) Additionally, Dutta discloses a mobile phone including a microphone and a speaker. (Dutta at [0018], FIGS. 2A-B.) A POSITA would have been motivated to configure a mobile phone to include a microphone and a speaker. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel, Yamaguchi, and Dutta. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to make phone calls, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (including a microphone and speaker as taught by Wedel, Yamaguchi, and Dutta) according to known methods to yield predictable results (a mobile phone that allows a place calls using the microphone and speaker); (B) use of a known technique (allowing a user to make calls using a microphone and speaker as taught by Wedel, Yamaguchi, and Dutta) to improve similar devices in the same way (a mobile phone that allows a user to make phone calls); (C) applying a known technique (allowing a user to place calls using a microphone and speaker as taught by Wedel,

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. . . . A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:1-11.) Wedel discloses the following at FIG. 2:  Fig. 2 (Wedel at FIG. 2.) "A mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, the device

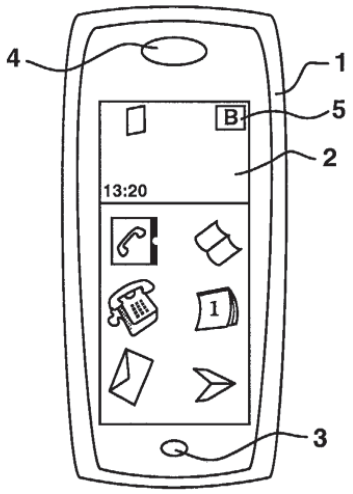
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body." (Yamaguchi at claim 1.) "FIG. 7 is a front view of a mobile-communication-information terminal device according to the existing art. In the mobile-communication-information terminal device according to the existing art, as shown in FIG. 7, a liquid-crystal display part 2, which outputs and displays text, graphics data, and wireless status, is provided on a front-surface portion of a device body 1; a touch panel part 4, by which data inputs are made by touching with a pen tip, is disposed on a front surface of the liquid-crystal display part 2; a pen-housing part 9 for housing a pen 3 is located on a lower portion of the liquid-crystal display part 2; and an antenna part 7 is located on a rear surface of the liquid-crystal display part 2 and near a side-surface portion thereof. Moreover, various manipulable switches 8 are provided on the same surface as the liquid-crystal display part 2 and at locations centered on the liquid-crystal display part 2 in a left-right direction, and a speaker part 5, which outputs audio, and a microphone part 6, by which audio is inputted, are disposed on the same surface as the liquid-crystal display part 2 and centered on the liquid-crystal display part 2 in the left-right direction. In addition, although not shown in the drawings, a card-housing part for a memory card having a data storage function and, adjacent thereto, a card EJECT button having an EJECT function are provided on a lower portion of the device body 1, and the device body 1 has a shape having overall horizontally elongated dimensional ratios." (Yamaguchi at [0003].) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In

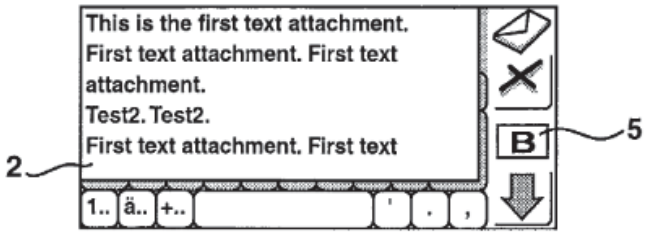
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "EMBODIMENTS OF THE INVENTION The invention according to claim 1 of the present invention is a mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, and the device being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body; thus, the invention has the effects that, if pen input is not required, then various manipulations can be performed with the one hand holding the device body, and audio input/output can be performed without adjusting one's grip on the device body, thereby improving ease of manipulation." (Yamaguchi at [0011].) "As shown in FIG. 1 and FIG. 2, the mobile-communication-information terminal device is constituted by: a liquid-crystal display part 2, which is disposed on a front-surface portion of a device body 1 and outputs and displays text and graphics data; a touch panel part 4, which is disposed on a front-surface portion of the liquid-crystal display part 2 and by which inputs can be made by touching with a tip 3a of a pen 3; a speaker part 5, which outputs audio and is disposed at an upper portion of the liquid-crystal display part 2 and on the same surface as the liquid-crystal display part 2; a microphone part 6, into which audio is inputted and which is disposed at a lower portion of the liquid-crystal display part 2 and on the same surface as the liquid-crystal display part 2; an antenna part 7 and various manipulable switch parts 8, which are disposed on a same-side surface portion of the device body 1; a pen-housing part 9, which is disposed on a side-surface portion of the device body 1 opposite the aforementioned;

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	and the like; furthermore, the various manipulable switch parts 8 are disposed at locations such that they can be manipulated by the thumb of one hand holding the device body 1." (Yamaguchi at [0017].) Yamaguchi discloses the following at FIG. 1: FIG. 1 1: Device body 2: Liquid-crystal display part 3: Pen 4: Touch panel part 5: Speaker part 6: Microphone part 7: Antenna part 8: Various manipulable switches 9: Pen-housing part  (Yamaguchi at FIG. 1.)

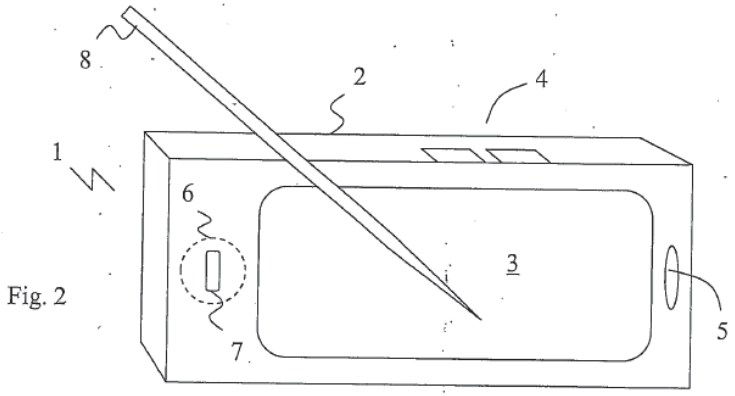
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].) Dutta discloses the following at FIGS. 2A-B:  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").
[9i] wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text, and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f]. For example, Bast discloses a mobile phone omitting any physical buttons on the front surface and omitting a physical keyboard to enter text. (Bast at FIG. 1.) Bast teaches that the touch screen provides a virtual keypad and virtual toggle button 5, thus removing the need for physical buttons and keyboards. (Bast at [0010], [0012], [0024].) *See also supra* claim [9f].

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].)

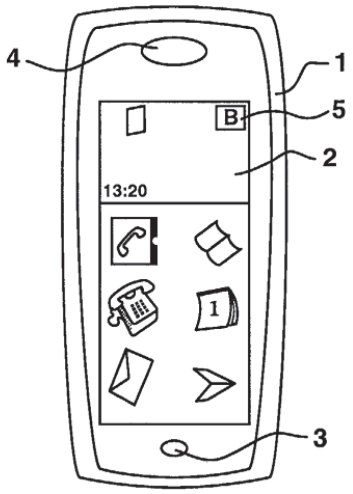
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"To enable the user to discretionally toggle from one display to the other, as is considered to be more suitable at a given time, the mobile terminal can be equipped with a toggle button. This button can be a conventional button disposed on the housing or a virtual toggle button 5, accessible to the user and permanently displayed, in the form of an icon on the touch screen 2 (Figures 1 to 3). An equivalent function is accessible by means of a menu." (Bast at [0012].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].)  **Figure 3** (Bast at FIG. 3.) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.) A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:

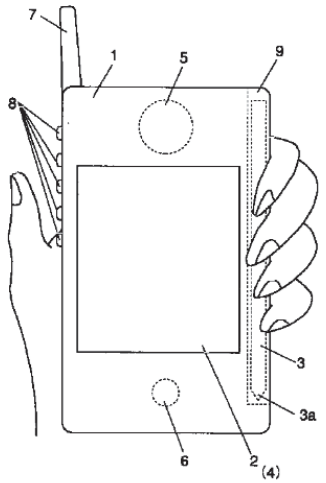
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2
[9j] wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

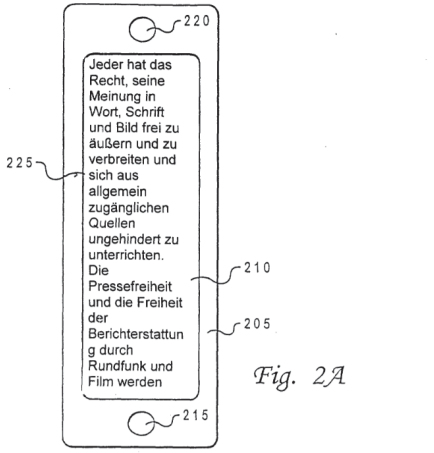
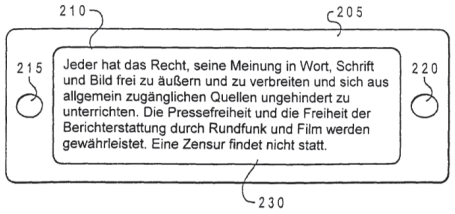
Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[10a] wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user." Bast discloses a mobile phone, including a microphone and a speaker at the top and bottom of the device, respectively. (Bast at [0010], FIG. 1.) Further, Bast discloses that for ergonomic reasons, it is preferable to configure the size of a mobile phone to correspond to the distance between the mouth and ear of a user. (Bast at [0002], [0003].) Accordingly, the mobile phone disclosed by Bast should be understood to be sized accordingly to the design goals recognized by Bast: making the speaker and microphone of the device line, each located at an end of the device, correspond to the ear and mouth of a user.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "Terminals, particularly mobile terminals serving as a mobile telephone and/or personal digital assistant, are equipped with a screen that enables various types of information to be displayed. The nature of the information to be displayed changes rapidly. Mobile phones, for example, increasingly perform functions previously associated with a laptop computer. This is particularly true of calendars, address books, communication with an Internet-type network, and email. The screen size is therefore essential." (Bast at [0002].) "For ergonomic reasons, particularly related to the distance between the user's mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular." (Bast at [0003].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the distance between the ear and mouth of a user corresponds to the distance between the ear and the mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1) 【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Bast such that the distance between the microphone and speaker of the device corresponds to the distance between a user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance. A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (the mobile phone of Bast with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[12a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].
[12b] wherein upon providing a sweeping action on said display unit, plurality of other	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display

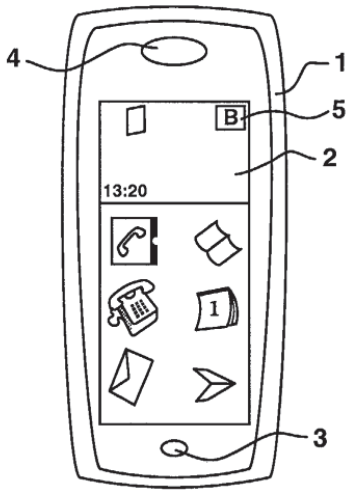
Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
icons corresponding to plurality of other applications are displayed on said display unit.	unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendants incorporate all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].
[13a] wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9.

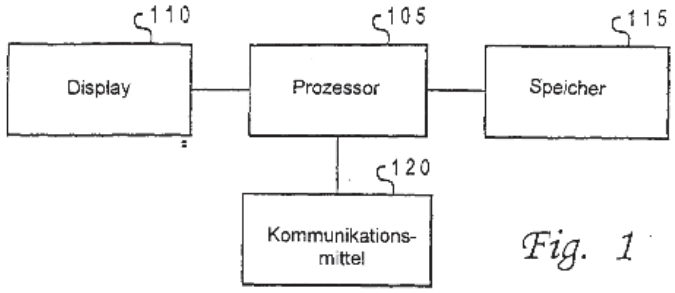
Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Bast discloses a mobile terminal that functions as a mobile phone device. (Bast at [0010], [0025], FIG. 1.) For example, "mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile phone." (Bast at [0010].) Further, Bast discloses, "[t]he invention applies to any device equipped with a rectangular screen and, more particularly, to a mobile terminal acting as a mobile telephone and/or personal digital assistant." (Bast at [0025].)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 **Figure 1** (Bast at FIG. 1) Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The invention applies to any device equipped with a rectangular screen and, more particularly, to a mobile terminal acting as a mobile telephone and/or personal digital assistant." (Bast at [0025].)
[15a] a body having a practically rectangular shape;	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].
[15b] a processor; and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor." For example, Bast discloses a "central processing unit" that can display images on the screen, and implement programmed steps. (Bast at [0013], [0014], Figs. 4-5.) A POSITA would recognize that Bast's central processing unit is a processor. Additional exemplary citations include: "As shown in Figures 4 and 5, the display being in vertical mode (step F1) or in horizontal mode (step F2), a circuit 6 for detecting the orientation of the terminal transmits detection signals to a central processing unit 7 on the mobile terminal. In steps F3 and F4, following steps F1 and F2 respectively, the central processing unit checks whether there should be a change in the display mode. If this is not the case (NO output from F3 or F4), the central processing unit loops back to the previous step, and the display mode remains unchanged. Otherwise (YES output from F3 or F4), the central processing unit transposes the image to be displayed, pixel by pixel, into the new display mode requested, i.e., in horizontal mode in a step F5 following step F3 or in vertical mode in a step F6 following step F4. The transposed image is then transmitted, in steps F7 or F8, respectively, to a screen controller 8 that puts the display on the screen 2 into horizontal (F2) or vertical (F1) mode, respectively. Traditionally, the screen controller 8 stores the image transmitted by the central processing unit and continuously refreshes it by applying the appropriate voltages to the rows and columns of the matrix constituting the screen." (Bast at [0013].)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The central processing unit 6 can store the display modes most commonly used by a user and thus reproduce, for each application, the user's preferred display mode, vertical or horizontal, i.e., the display mode most frequently used for a given application. In an alternative embodiment, it can store the display mode most recently used for a given application and select this display mode when selecting this application again." (Bast at [0014].) "The accelerometer 9a enables the central processing unit to determine the rolling of the terminal, i.e., its pivoting movements perpendicular to the axis of the accelerometer 9a, while the accelerometer 9b makes it possible to measure the pitch, i.e., the pivoting movements perpendicular to the axis of the accelerometer 9b. Because the two accelerometers 9a and 9b are orthogonal, they enable the central processing unit 7 to determine the movements of the housing in three dimensions, accounting for both gravity and acceleration. The central processing unit 7 can thus determine the orientation of the housing and, consequently, that of the screen 2 in space." (Bast at [0016].) *See also* Bast at [0019]-[0022], [0023], Figs. 4-5. To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Dutta and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Dutta discloses a mobile phone that includes a processor 105 capable of writing data to a display 110. (Dutta at [0015], FIG. 1) In addition, the processor can read and write data to memory and communicate with a wireless network. (*Id*.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 1 (Dutta at FIG. 1) As another example, Benoit discloses a communication tool including a "data processing unit," or "central processing unit," which is a processor. (Benoit at 1:6-7, 3:22-24, claim 10.) A POSITA would have been motivated to configure a mobile phone to include a processor. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Dutta and Benoit. A POSITA would have been motivated to include a processor to allow the phone to execute instructions, improving operation for the user. Thus, a POSITA would have considered the combination of the teachings of Dutta and/or Benoit into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (including a processor in a mobile phone as taught by Dutta and Benoit) according to known methods to yield predictable results (proving computing and/or processing capability); (B) use of a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to improve similar devices in the same way (providing computing and/or processing capability); (C) applying a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to a known device ready for improvement to yield predictable results (providing computing and/or processing capability); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Dutta and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "The present invention relates to a method for navigating a computer program by means of a touch screen. It has a particularly interesting application in a personal digital assistant (PDA) for launching an application or even for general navigation within a program or between multiple programs. However, the invention has a broader scope because it can be applied to any communication tool comprising a touch screen and a data processing unit. In current communication tools, such as microcomputers, there is an operating system capable of managing all the programs present in the computer. In general, the human-machine interface of such an operating system presents a set of active areas." (Benoit at 1:3-10.) "According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 3:22-24.) "A communication tool equipped with a touch screen and a central processing unit for carrying out a method according to any one of the preceding claims." (Benoit at claim 10.)
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device." *See supra* claim [1e]

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
integrated within said device;	(discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].
[15e] wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit").A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
	show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[17a] wherein upon providing a predefined interaction with an icon, the corresponding	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a] (discussing

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
application is opened on the screen.	limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[18a] wherein said device does not include a physical key on the front surface of the device.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface")

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15.

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body.	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15. Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in	Bast, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
landscape position and in portrait position.	

Appendix C2

Exhibit C2
Invalidity of Asserted Claims of the '144 Patent
in view of Pensjo

European Patent Application Publication No. EP1229428A1 to Pensjo ("Pensjo"), filed on February 2, 2001, and published on July 8, 2002, qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under pre-AIA 35 U.S.C. §§ 102(a) and (b) and/or 102(a)(1).[1] Pensjo anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends Pensjo does not disclose one or more limitations of the claims, it would have been obvious to combine Pensjo with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of Pensjo and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- European Patent Application Publication No. 1336949 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C1.
- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C6.

- United States Patent No. 8,375,334 to Nakano et. al ("Nakano"), filed on May 9, 2003, and granted on February 12, 2013, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C4.

- United Kingdom Patent Application Publication No. 2331204 to Kobayashi ("Kobayashi"), filed on November 5, 1998, and published on May 12, 1999, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

- French Patent Application Publication No. 2830093 to Benoit et al. ("Benoit"), filed on September 25, 2001, and published on March 28, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1).

- United States Patent No. 5,848,356 to Jambhekar et al. ("Jambhekar"), filed on October 2, 1995, and granted on December 8, 1998, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to Pensjo, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

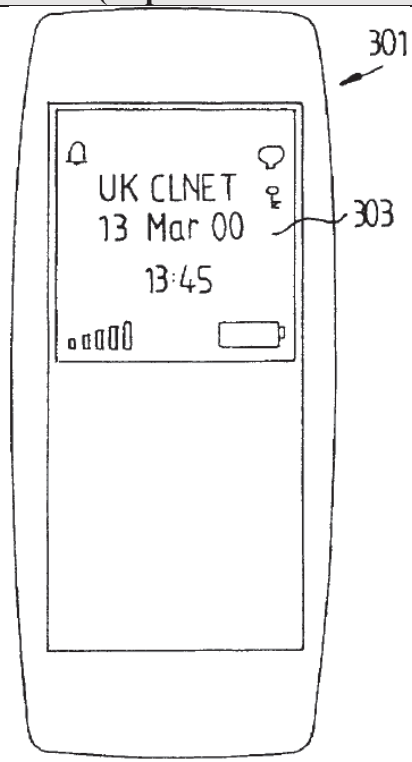
Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserves the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the

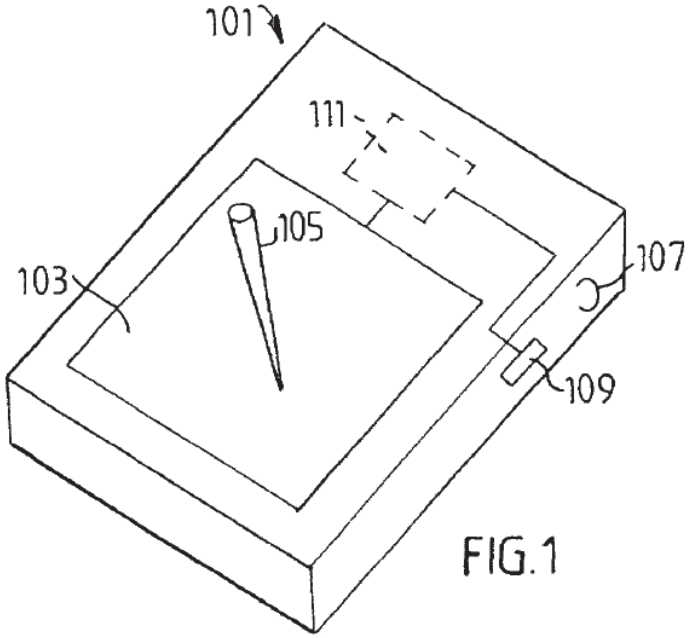
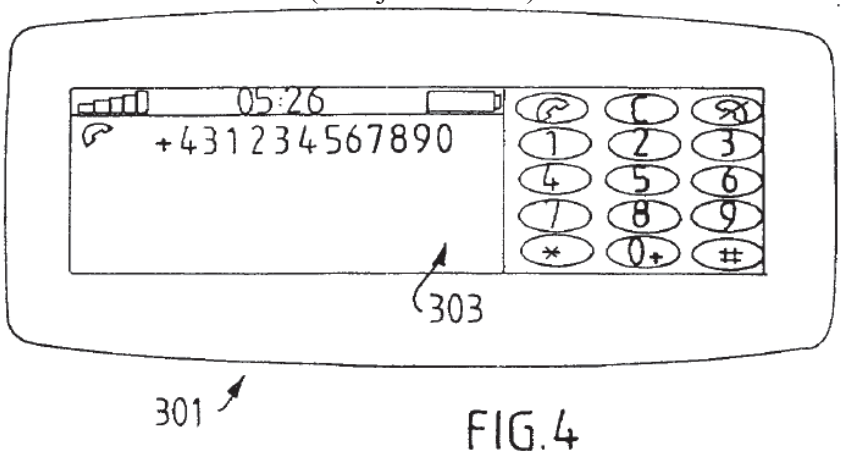
asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

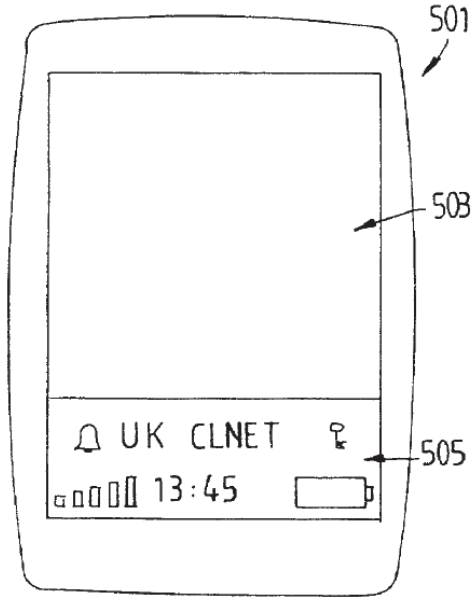
To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

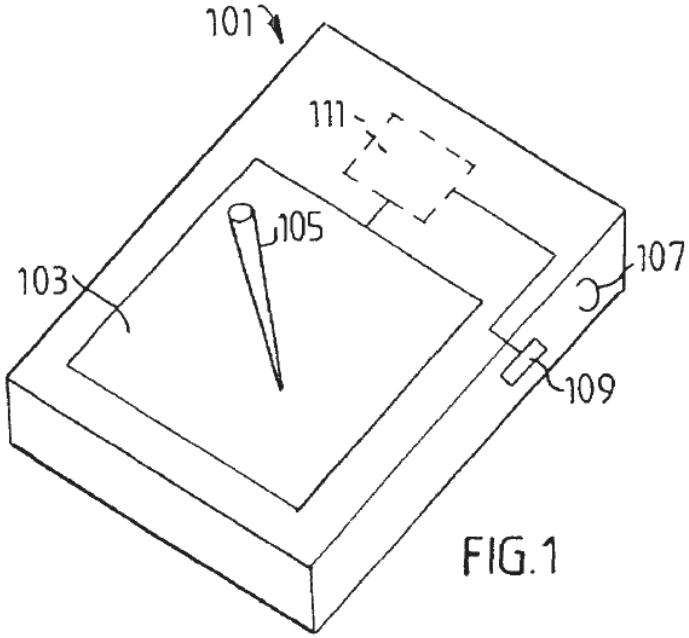
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Pensjo discloses a mobile telephone, which is a mobile phone device. (Pensjo at [0007], [0010], [0011], FIGS. 1, 3-5.)

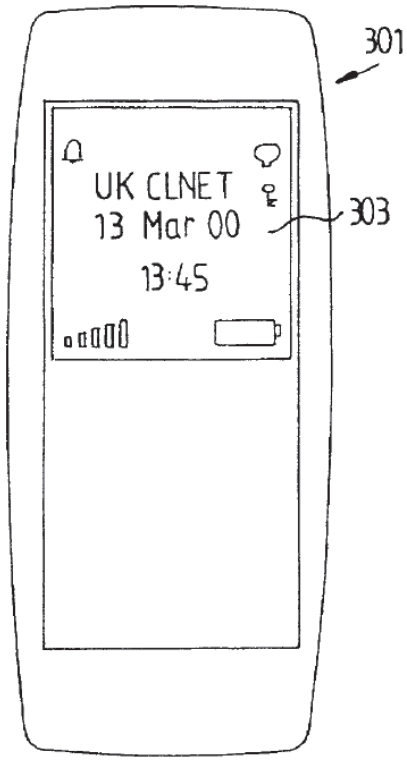
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3) Additional exemplary citations include: "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which:

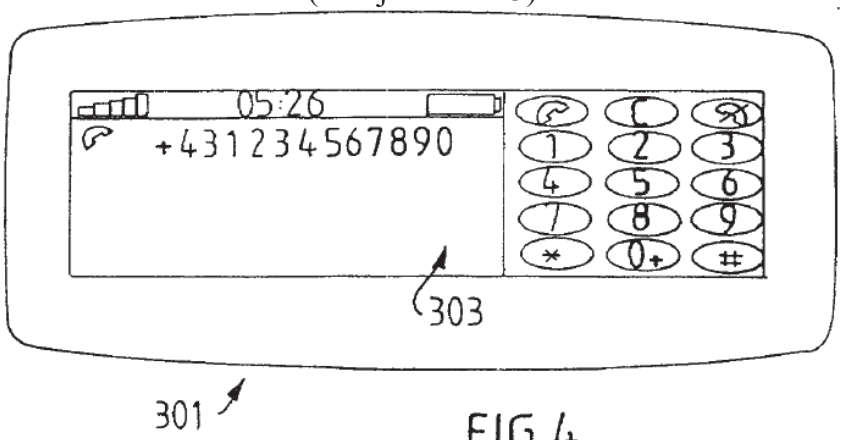
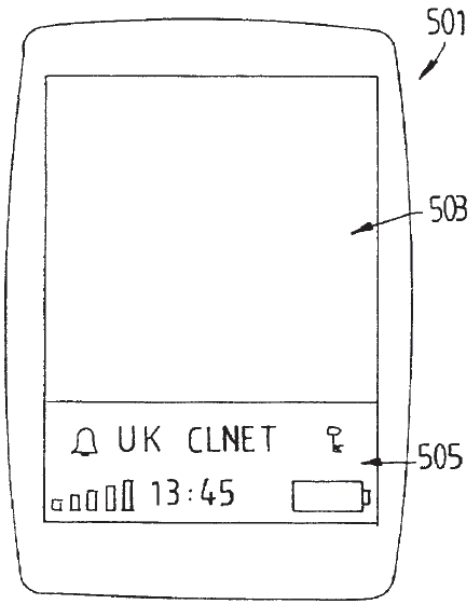
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	- Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) Pensjo discloses the following at FIGS. 1, 4, and 5:

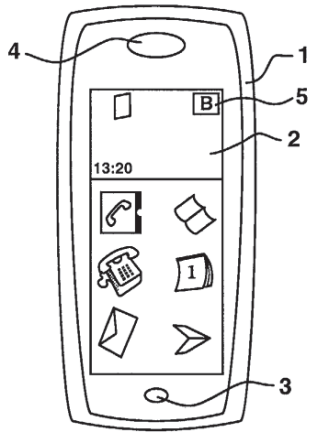
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1 (Pensjo at FIG. 1)  FIG.4 (Pensjo at FIG. 4)

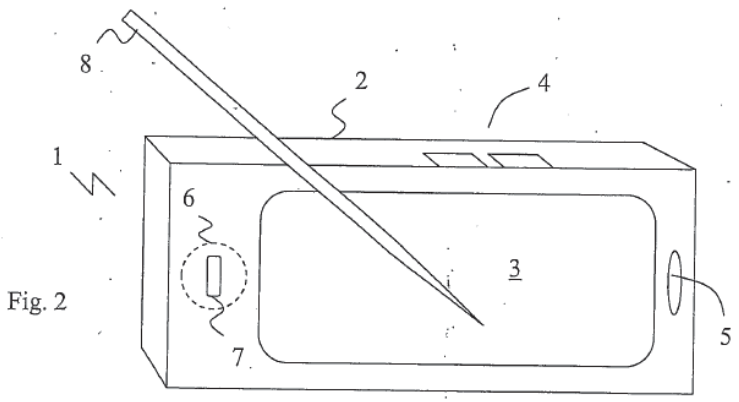
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 5 (Pensjo at FIG. 5)
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, Pensjo discloses a rectangular-shaped housing for a mobile phone that contains the components of a mobile phone. (Pensjo at [0007], [0008], FIGS. 1, 3-5.) The housing includes a front surface, a back surface, and four side surfaces. (Pensjo at [0007], FIGS. 1, 3-5.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Pensjo at FIG. 1) Additional exemplary citations include: "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 1 illustrates a view of a portable device 101 comprising a touch sensitive screen display 103 used for input of operational commands and/or data. The device 101 further includes a pen 105 as a pointing

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	tool for touching specific areas of the screen display 103 in a predefined manner. When not in use, the pen can be placed in a pen holder 107 of the portable device. The pen holder is in this example placed on the side of the device and comprises a ring for receiving the pen. The pen holder may of course be designed and placed in many different ways within the scope of the invention, such as a recess together with some kind of a spring-like element. The device 101 further comprises a mechanism 109 for detecting whether the pen is located in the holder or not, and an electronic control unit 111 connected to the pen detecting mechanism 109. The control unit 111 operates to control circuits, not shown, for displaying various patterns, pictures and/or information on the screen display 103." (Pensjo at [0008].) Pensjo discloses the following at FIGS. 3-5:  FIG.3

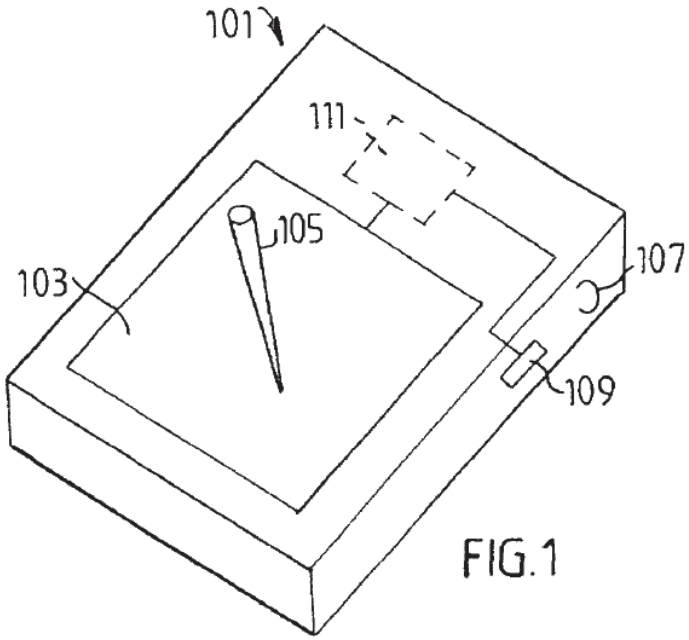
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Pensjo at FIG. 3)  FIG.4 (Pensjo at FIG. 4)  FIG.5

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Pensjo at FIG. 5) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Bast and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Bast discloses rectangular housing 1 that contains the components of a mobile phone, such as a large screen 2, a microphone 3, and a speaker 4. (Bast at [0003], [0010], FIG. 1.) The housing includes a front surface, a back surface, and four side surfaces. (Bast at [0003], [0010], FIG. 1.)  Figure 1 (Bast at FIG. 1)

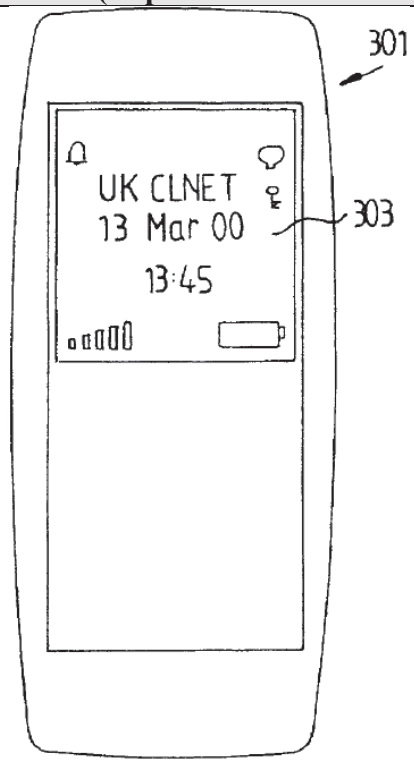
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Similarly, Wedel discloses a mobile phone device including multiple components, such as a screen, a microphone, and a speaker. (Wedel at 2:1-11, FIG. 2.)  Fig. 2 (Wedel at FIG. 2) A POSITA would have understood that to be functional a mobile phone must include several components, such as a screen, a microphone, and a speaker, and that they would be included in the housing as Bast and Wedel teach. (Bast at [0003], [0010], FIG. 1; Wedel at 2:1-11, FIG. 2.) Because Pensjo discloses a housing for a mobile phone, (Pensjo at [0007], [0008], FIGS. 1, 3-5), a POSITA would have understood that the necessary components would be included within the housing. A POSITA would have been motivated to configure a mobile phone to include multiple necessary components. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Bast and Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to make phone calls, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Bast and/or Wedel into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (integrating multiple necessary components in a mobile phone housing as taught by Bast and Wedel) according to known methods to yield predictable results (a mobile phone that includes the necessary components to function); (B) use of a known technique (integrating multiple necessary components in a mobile phone housing as taught by Bast and Wedel) to improve similar devices in the same way (a

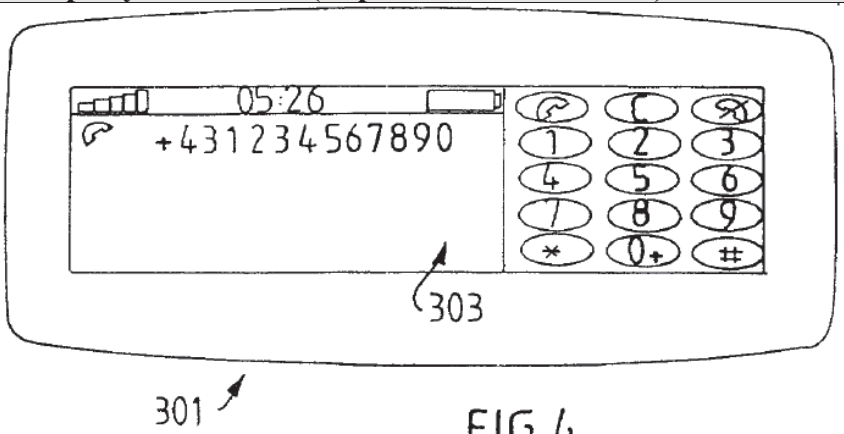
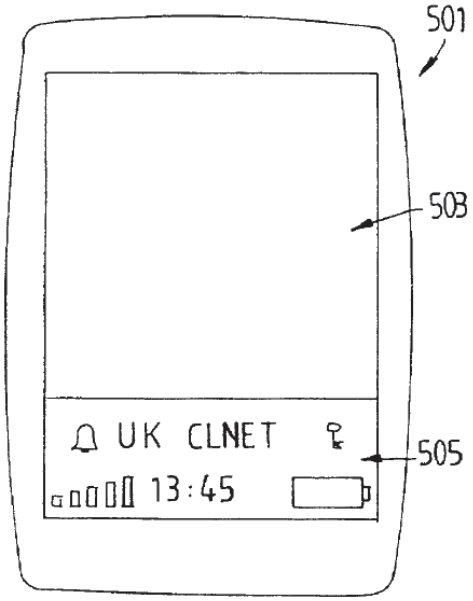
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	mobile phone that includes the necessary components to function); (C) applying a known technique (integrating multiple necessary components in a mobile phone housing as taught by Bast and Wedel) to a known device ready for improvement to yield predictable results (a mobile phone that includes the necessary components to function); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast and Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "For ergonomic reasons, particularly related to the distance between the user's mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular." (Bast at [0003].) "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "According to the invention, the tilt of the housing is detected by accelerometers. These electronic sensors are now widely used in automobiles, particularly for the triggering of airbags®. They are sufficiently small so as to have no direct impact on the volume of the device in which they are integrated and are no more sensitive to drops than any electronic component, which enables them to endure the conventional mechanical constraints of consumer electronics. They can also be placed automatically on a printed circuit board and soldered automatically. They therefore do not adversely affect the mass-production of products that integrate them. Additionally, they do not pollute." (Bast at [0015].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The terminal illustrated in Figure 6 includes two accelerometers 9a and 9b, disposed perpendicularly to one another, in a plane parallel to a horizontal surface 10 when the terminal housing 1 is held vertically. An accelerometer 9 conventionally supplies signals representative of the coordinates, in a plane, of a mass moving in this plane as a function of the forces of gravity and acceleration exerted on the accelerometer. The accelerometer 9a enables the central processing unit to determine the rolling of the terminal, i.e., its pivoting movements perpendicular to the axis of the accelerometer 9a, while the accelerometer 9b makes it possible to measure the pitch, i.e., the pivoting movements perpendicular to the axis of the accelerometer 9b. Because the two accelerometers 9a and 9b are orthogonal, they enable the central processing unit 7 to determine the movements of the housing in three dimensions, accounting for both gravity and acceleration. The central processing unit 7 can thus determine the orientation of the housing and, consequently, that of the screen 2 in space." (Bast at [0016].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].) *See also* Bast at [0012], [0019]-[0023], Figs. 6, 8-9. "However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. . . . A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:1-11.)
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." A POSITA would have understood the length of Pensjo's device would correspond to the distance between the ear and mouth of the user because the device is a mobile telephone, and such dimensions would have been obvious to allow the user to hold an end of the device containing a speaker against

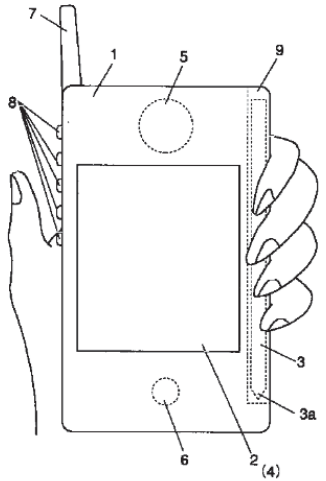
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	their ear and an end of the device containing a microphone near their mouth. (Pensjo at [0007], [0010], [0011], FIGS. 1, 3-5.) *See also infra* [9g].  (Pensjo at FIG. 1) Additional exemplary citations include: "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data.

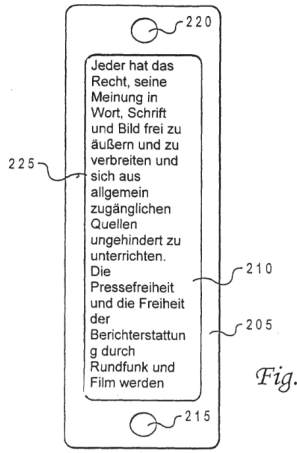
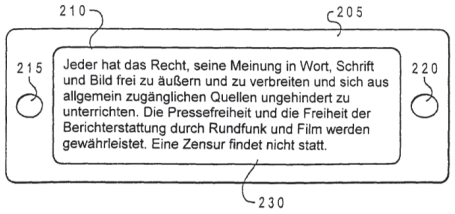
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	- Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) Pensjo discloses the following at FIGS. 3-5:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.4 (Pensjo at FIG. 4)  FIG.5 (Pensjo at FIG. 5)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

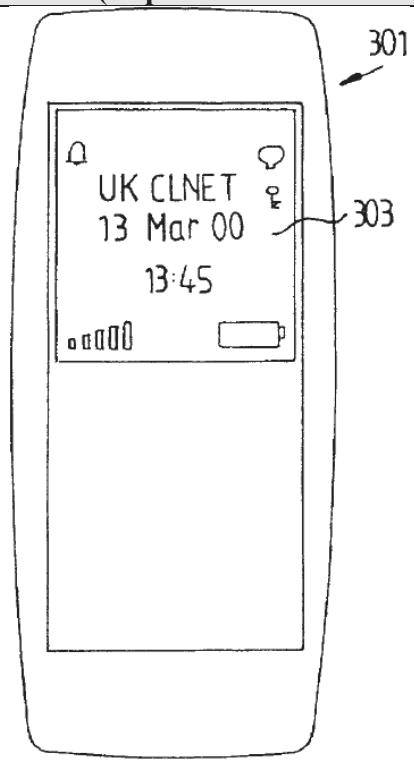
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

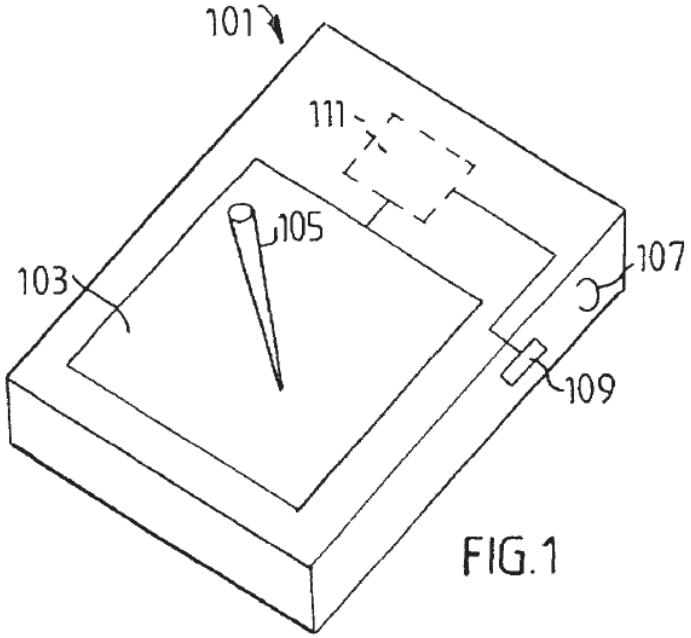
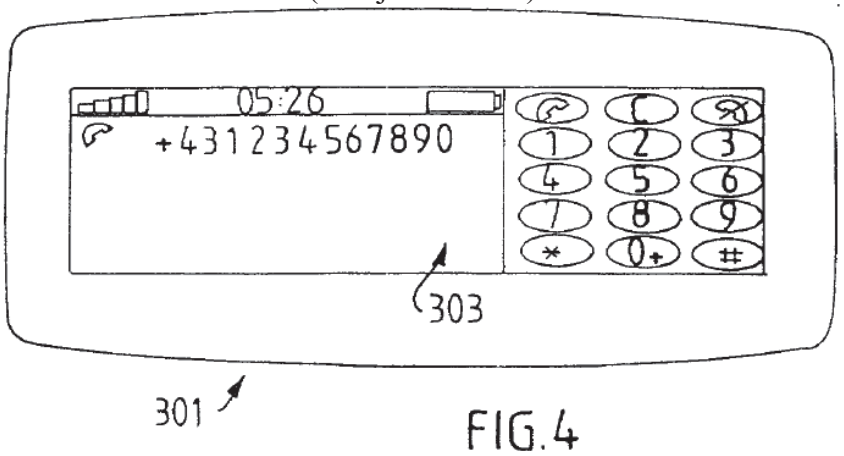
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Pensjo such that the length of the front surface of the mobile phone, and correspondingly the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta, [0003].) A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be

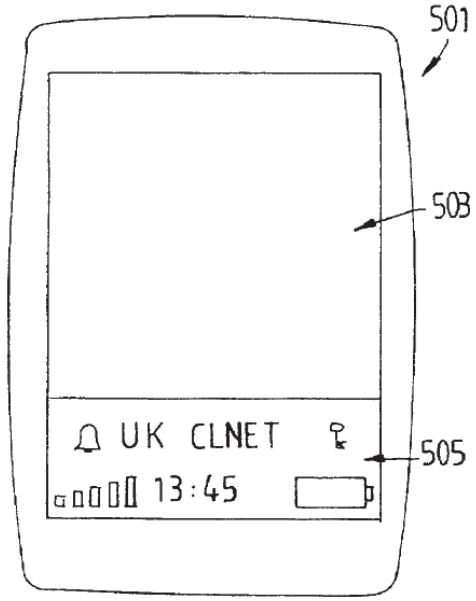
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (the mobile phone of Pensjo with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

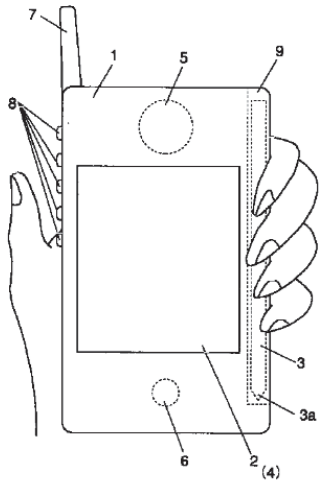
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-

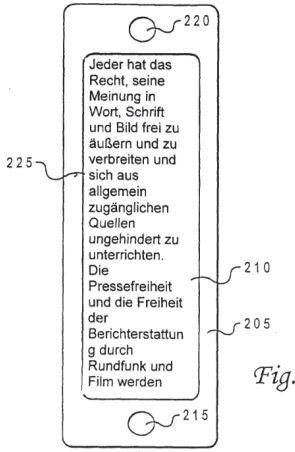
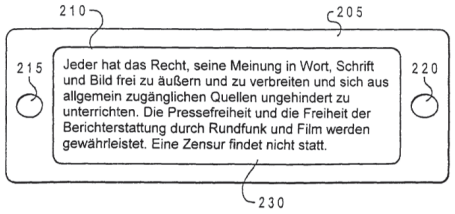
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)
[1c] wherein the width of the front surface is substantially shorter than the length and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length." For example, Pensjo discloses a mobile phone, including its front surface, where the width is shorter than the length. (Pensjo at FIGS. 1, 3-5.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3) Additional exemplary citations include: Pensjo discloses the following at FIGS. 1, 4, and 5:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1 (Pensjo at FIG. 1)  FIG.4 (Pensjo at FIG. 4)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 5 (Pensjo at FIG. 5) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Yamaguchi and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi, discloses a mobile phone that is 100-150mm in length and 60-75mm in width. (Yamaguchi at [0009].) Yamaguchi explains that this mobile phone sizing improves portability

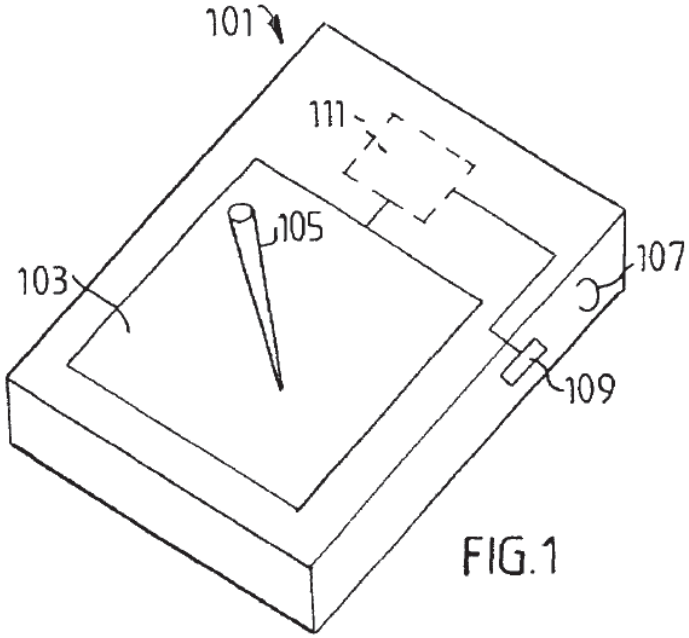
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	and operability because it allows a user to store the phone in a pocket of clothing, hold it one hand, and operate the device with ease. (Yamaguchi at [0015], FIG. 1.) 【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) For example, Dutta teaches that the ideal size for a mobile phone is determined by the typical ear-to-mouth distance of a user. (Dutta at [0003].) And Dutta further explains the result of this design motivation and consideration is that mobile phones themselves are “long and narrow” with “one edge length significantly larger than the other edge length.” (Dutta at [0004], [0006], [0008], [0017], FIGS. 2A-2B.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone as disclosed by Pensjo such that the width of the front surface is shorter than the length. Each of Yamaguchi and Dutta teaches configuring a mobile phone such that the width of the front surface is shorter than the length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	produced by the speaker during a phone call. As taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) Similarly, as explained by Dutta, the ideal size of a mobile phone is based on the distance between a user's ear and mouth, which naturally results in phones becoming long and narrow such that the length is longer than the width of the device. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Yamaguchi and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Dutta into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Yamaguchi and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Yamaguchi and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone such that the width to length dimensions are as taught by Yamaguchi and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].)

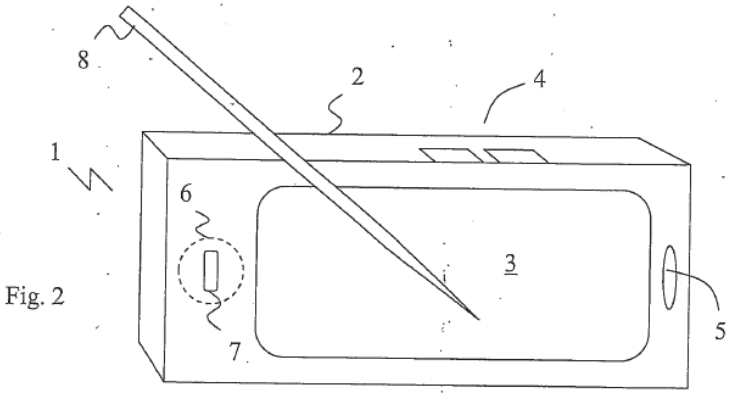
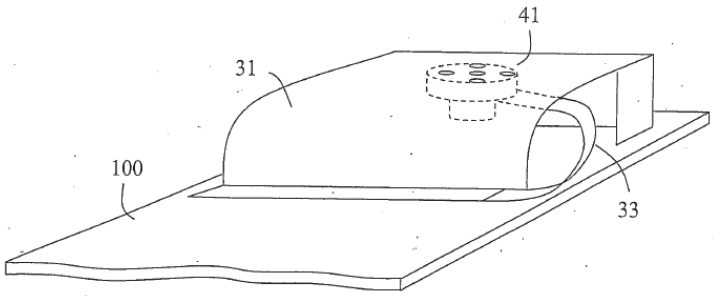
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A further object of the present invention is to provide an improved method of displaying data on a handheld device, in which one edge length of the display is significantly larger than the other edge length." (Dutta at [0008].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) *See also infra* claim [7].
[1d] wherein the housing has a thin thickness; and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the housing has a thin thickness." For example, Pensjo discloses a view of the mobile phone depicting a thickness that is less than the height or width of the phone. (Pensjo at FIG. 1).

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Pensjo at FIG. 1) Pensjo further discloses that the device may be stored in a pocket, and therefore must have been thin. (Pensjo at [0013].) Additional exemplary citations include: "According to one aspect of the invention, the device is in a first passive mode, or sleep mode, when the pen is present in the pen holder 107. In this state, the touch functionality of the screen is preferably not activated such that data or commands cannot be entered by mistake, e.g., when the device is located in a pocket or a suitcase. The screen may in this mode display various information, such as phone numbers, e-mails, reminder alerts etc. When the device switches from the first mode to a second active mode after the pen has been removed from the pen holder 107, the screen appearance changes into a layout designed for input of commands and/or data and also the touch functionality of the screen is activated." (Pensjo at [0013].)

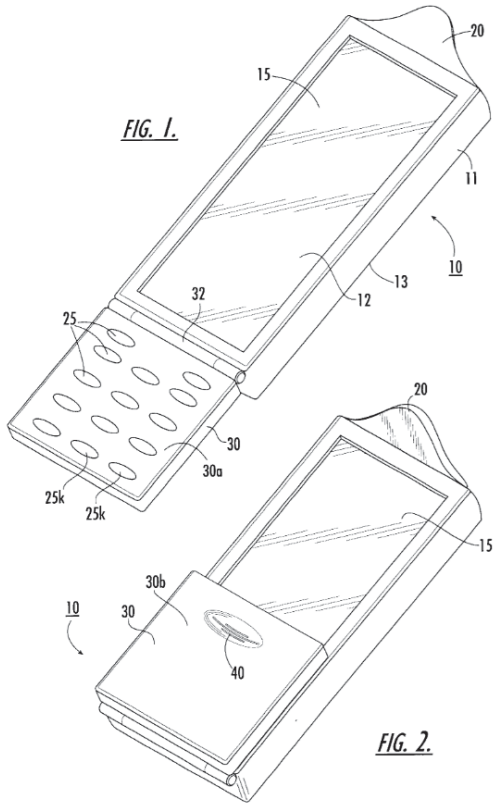
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Wedel, Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Wedel, Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like. For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must have been thin. As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Dutta similarly teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires that the device is thin so that a user's hands can wrap around its edges. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the housing has a thinness as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:

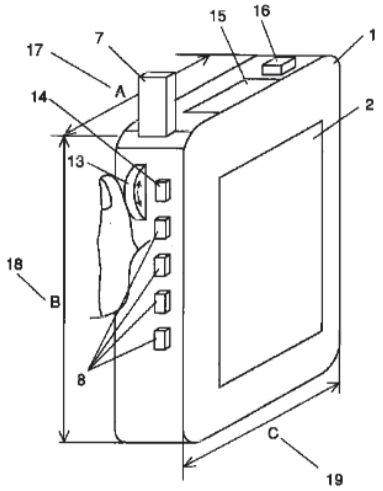
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2)  Fig. 11 (Wedel at FIG. 11) "The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore, a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized" wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.)

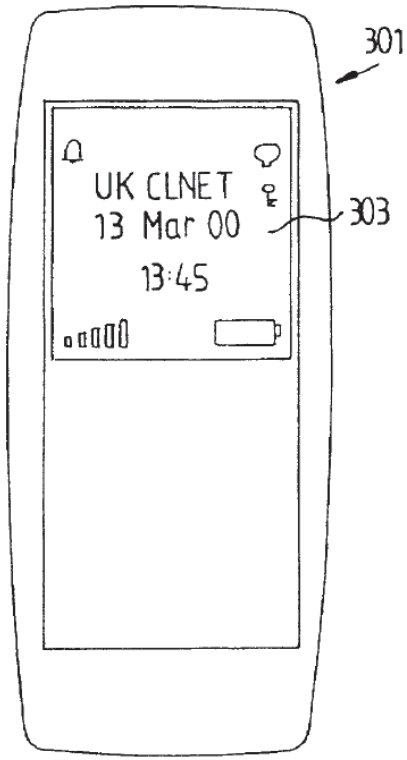
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.) "Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and "rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].) "According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a

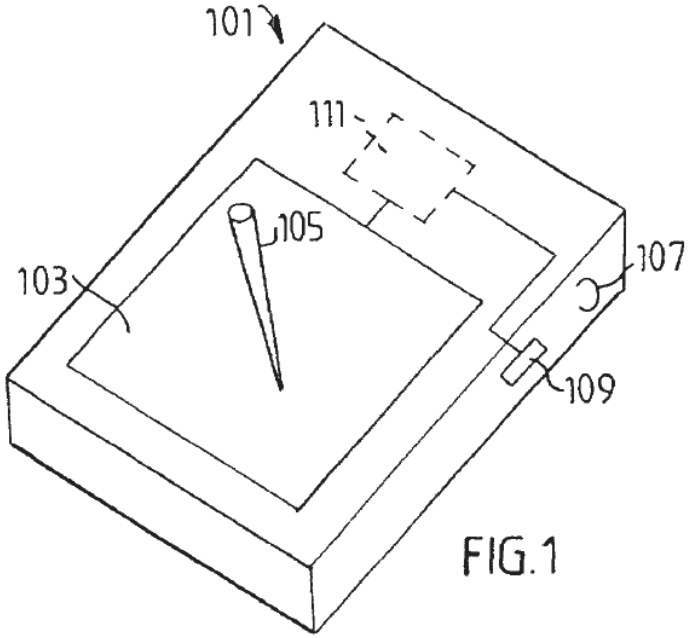
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].) "Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].)

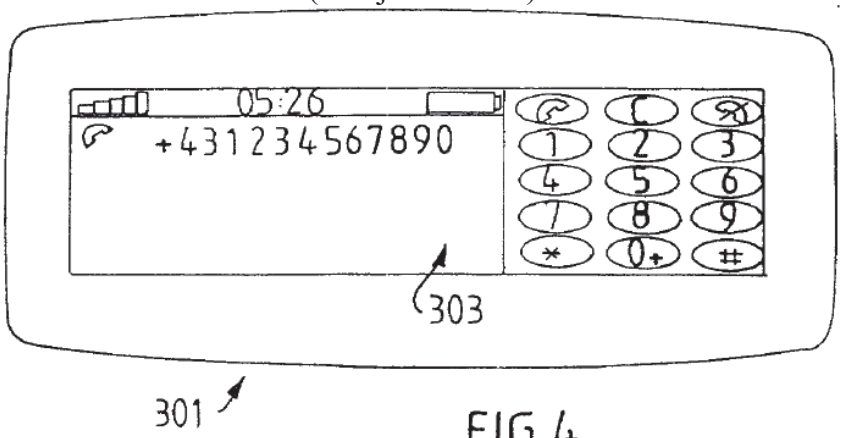
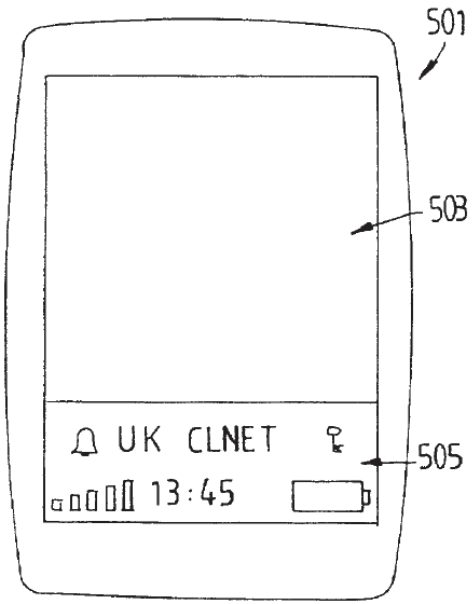
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図6】  "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) *See also infra* claim [8].
[1e] a display unit integrated within the front surface of said housing wherein said display unit	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit integrated within the front

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
practically covers the entire front surface of said housing;	surface of said housing wherein said display unit practically covers the entire front surface of said housing." For example, Pensjo discloses a touch screen display that is integrated into the front surface of the housing and covers the majority of the front surface of the housing. (Pensjo at [0001], [0004], [0007], [0008], [0010], [0012], FIGS. 1, 3-5.)  FIG. 3 (Pensjo at FIG. 3) Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "It is an object of the present invention to provide a method and a device which facilitates the operation by a user of a portable touch screen device. This object and others are obtained by a method and a touch screen device, in particular a wireless communication device, wherein the presence of a pen in a pen holder of the touch screen device is detected by a mechanism, such as a switch. The appearance of the user interface, in particular the layout of the screen, is changed when the pen is removed from or placed in the pen holder. Also, the illumination characteristics of the screen, such as brightness or colour, may be changed in response to the presence of the pen in the pen holder." (Pensjo at [0004].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 1 illustrates a view of a portable device 101 comprising a touch sensitive screen display 103 used for input of operational commands and/or data. The device 101 further includes a pen 105 as a pointing tool for touching specific areas of the screen display 103 in a predefined manner. When not in use, the pen can be placed in a pen holder 107 of the portable device. The pen holder is in this example placed on the side of the device and comprises a ring for receiving the pen. The pen holder may of course be designed and placed in many different ways within the scope of the invention, such as a recess together with some kind of a spring-like element. The device 101 further comprises a mechanism 109 for detecting whether the pen is located in the holder or not, and an electronic control unit 111 connected to the pen detecting mechanism 109. The control unit 111 operates to control circuits, not shown, for displaying various patterns, pictures and/or information on the screen display 103." (Pensjo at [0008].)

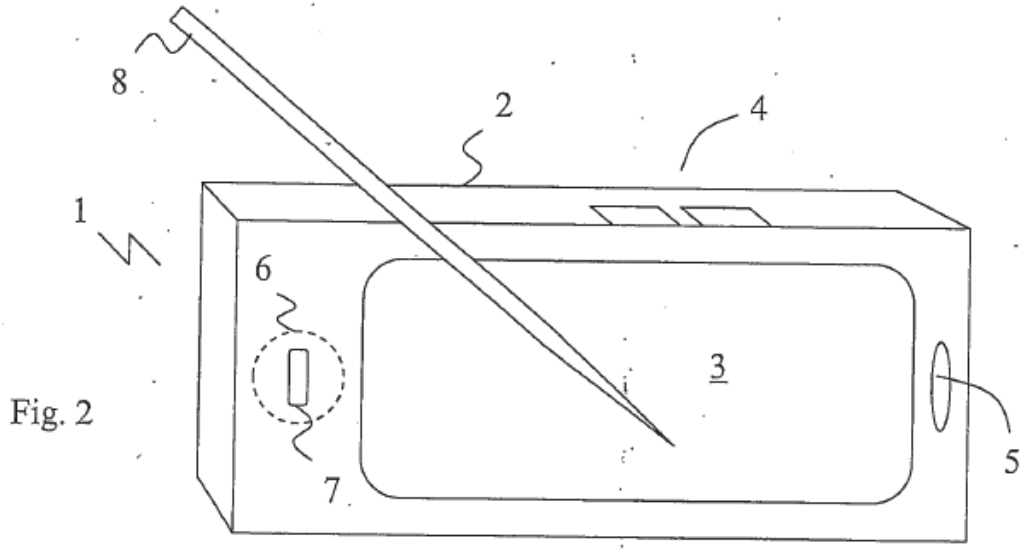
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) "Finally, Fig. 5 is a view of an exemplary electronic device 501, comprising a touch screen 503, where the device has changed from a sleeping mode into an active mode in response to the pen being removed from the pen holder, not shown. The user may be alerted of the change into the active mode by illuminating, e.g., the lower part 505 of the screen 503." (Pensjo at [0012].) Pensjo discloses the following at FIGS. 1, 4, and 5:  FIG.1

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Pensjo at FIG. 1)  FIG.4 (Pensjo at FIG. 4)  FIG.5

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Pensjo at FIG. 5) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Wedel and Gupta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel discloses a mobile phone device with a touch screen display. (Wedel at 1:30-2:14, FIG. 2.) Wedel explains that "[t]he size of a keypad 4 and a display 3 basically sets the limit of how small terminal 1 can be." (Wedel at 1:31-2:1.) Thus, to allow for a larger display while maintaining a small terminal, Wedel proposes removing all physical keys from the front surface of the mobile phone, such that the display may cover more of the front surface of the phone. (Wedel at 2:8-10, FIG. 2.) As another example, Gupta discloses a "full-length touchscreen display." (Gupta at [0015], [0017], [0020], [0023]-[0025], [0030], [0035], [0041], [0042], [0051], FIGS. 2-4, 8.) Additionally, Gupta explains that while the device remains small, the screen should be large enough for "practical information viewing." (Gupta at [0003], [0004], [0020],[0025], [0026], [0049].) A POSITA thus would have understood that the screen would cover the entire front surface of the device, such that it could be as large as possible. A POSITA would have been motivated to configure a mobile phone such that the display unit covers a large portion of the housing. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel and Gupta. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display while maintaining a small device size, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel and/or Gupta into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (including a display unit that covers a

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	large portion of the front surface of a mobile phone as taught by Wedel and Gupta) according to known methods to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); (B) use of a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to improve similar devices in the same way (allowing more space for a larger touch display while maintaining a small device size); (C) applying a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel and Gupta) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "A combined speaker and antenna arrangement for a communication terminal, comprising a support structure (100) carrying a first antenna element (101), and a second antenna element (31) arranged at a predetermined distance from said first antenna element. Said second antenna element is a conductive first portion (31) of a sheet of flexible film, and an elongated second portion (32) of said flexible film, carrying a conductive lead extends from adjacent to said first portion to a speaker (41) connected to an outer end of said elongated second portion. The second, elongated, portion is bent such that said speaker is positioned between said film and said support structure, adjacent to an aperture in said first portion." (Wedel at abstract.) "In order to benefit from the capabilities of the transmission system, the future generation of phones will have a large display in order to perform multimedia input and output, and the picture quality will be of high importance. Still, the keypad or keyboard must be large enough to allow people to press one key at a time." (Wedel at 1:26-29.) "Figure 1 discloses a typical example of a state of the art mobile phone 1, carried by a housing or chassis 2. The size of a keypad 4 and a display 3 basically sets the limit of how small the terminal 1 can be. However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Figure

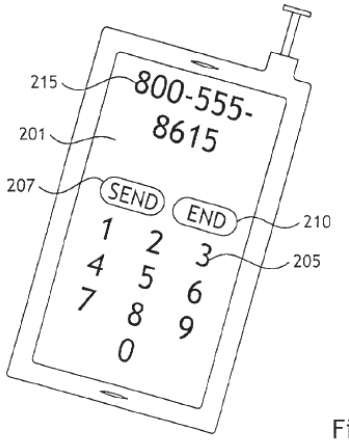
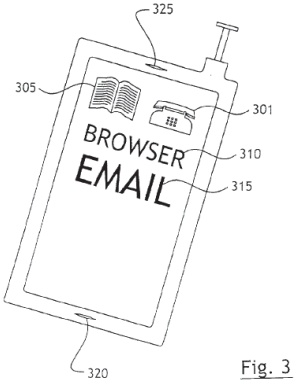
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3. Figs 1 and 3 show two typical examples of state of the art communication terminals 1, whereas the skilled persons will realise that combinations of the two are also well known as well as other designs, such as a so called clamshell type terminal." (Wedel at 1:30-2:14.) "In the state of the art communication terminal a terminal output 7 is mounted on the front of the terminal above the display with the speaker 6 immediately behind the output 7, as shown in Figs 1 and 2. This means that even with a smallest available speaker used today, with a diameter of about 13 mm, the terminal would be approximately this much longer in its longitudinal extension than what would have been the case if only the display 3 and/or keypad 4 had defined the length of the terminal 1. The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:15-25.) "First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated. Furthermore, even though the antenna cavity 21 has been partly occupied by the speaker, experimental laboratory tests on this design have surprisingly shown that the presence of the speaker will not result in reduced antenna performance if tuned properly. The use of hot bar soldering will not lead to bulging solder pads. Which also contributes to saving space." (Wedel at 13:5-13.) Wedel discloses the following at FIG. 2:

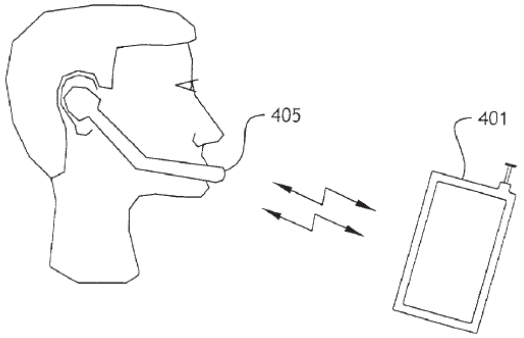
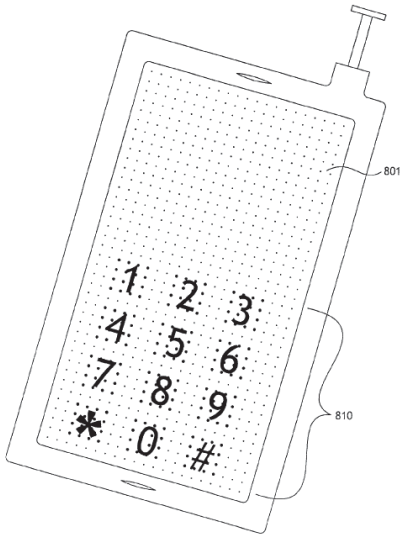
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2.) "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].) "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "FIG. 8 shows a tactile response display screen of the present invention." (Gupta at [0015].)

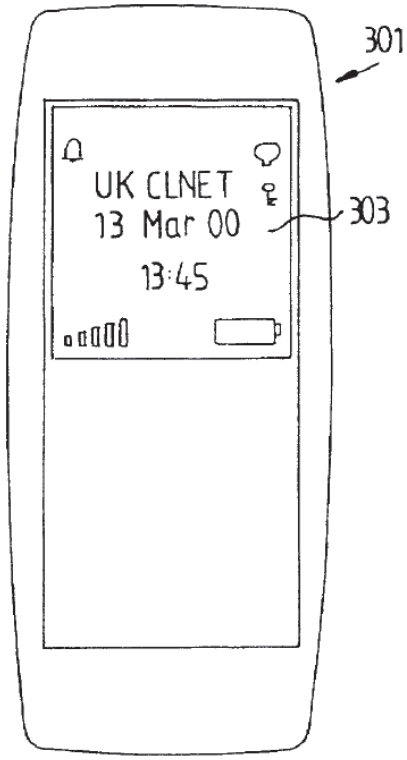
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered, the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].) "In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "The touch sensor may also be a film layer of the tactile surface itself, or may include touch sensitive elements interspersed adjacent to the tactile dot elements So that neither the touch sensor nor the tactile display elements overlay the other. Other touch screens embodiments use grids of interruptible light beams, capacitive discharge sensors, and conductive grids sensing a circuit made across nearby nodes, all of which are considered herein to be structures (circuits and components) equivalent to each other." (Gupta at [0024].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "FIG. 4 illustrates an alternate embodiment of the present invention that uses a wireless headset (405) to communicate with the telephone (401) of the present invention. In order to reduce the size and weight of the telephone (401) and also to give more room for the display, this embodiment does not

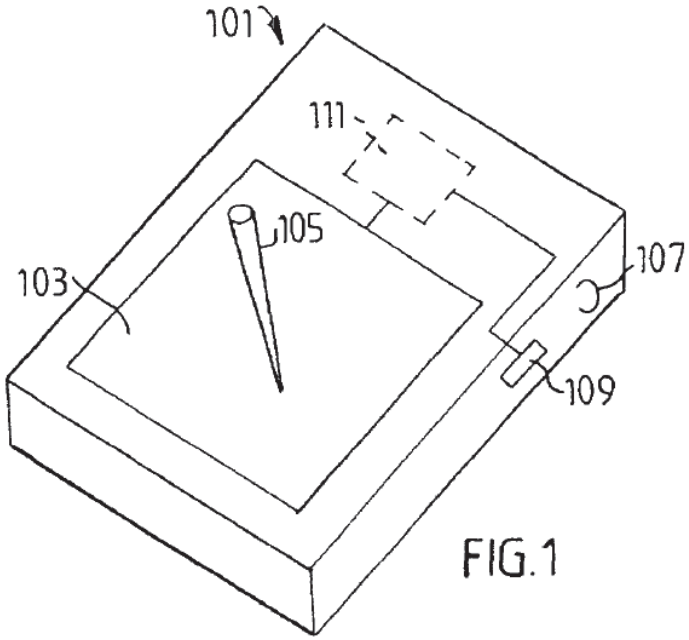
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	have a built-in speaker and microphone. Instead, the wireless headset (405) performs the same task as a built-in speaker and microphone." (Gupta at [0030].) "The telephone is controlled by a controller (510) that is coupled to the transmitter (501), receiver (505), and the touchscreen display (515) of the present invention. The controller (510), in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use other types of controllers such as microprocessors, application specific integrated circuits (ASIC), or other such controllers." (Gupta at [0035].) "As illustrated in FIG. 8, the display is comprised of a matrix of individually addressable dot or tactile elements. The elements are arranged in an evenly spaced grid covering the entire display. In an alternate embodiment, the tactile portion of the display is only on part of the display, such as the lower half, in order to provide a 'telephone keypad' area when in that particular mode. In the preferred embodiment, the elements are spaced less than 0.10 inch apart in order to allow the sensation of a continuous line." (Gupta at [0041].) "Each tactile element is switchable between an inactive position in which the dot is flush with the surrounding surface and an active position in which the dot is raised above the surrounding surface. The mechanism to provide this may be of any type including: electromechanical, electromagnetic, and switchable dimpled plastic film. In the preferred embodiment, the tactile display is transparent in order to permit the conventional liquid crystal display to be seen below the raised surface." (Gupta at [0042].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].)

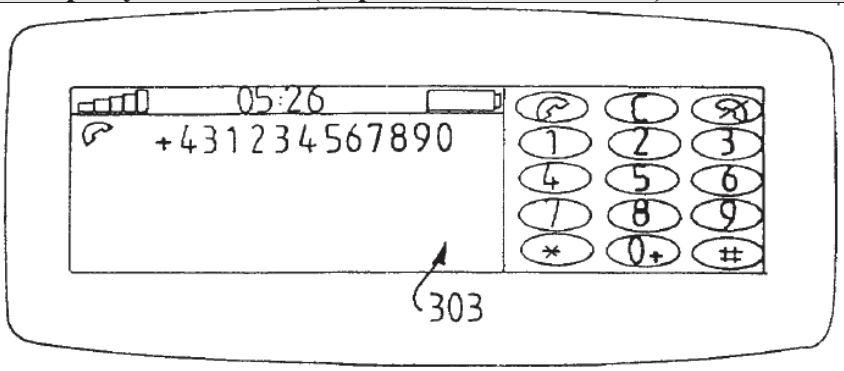
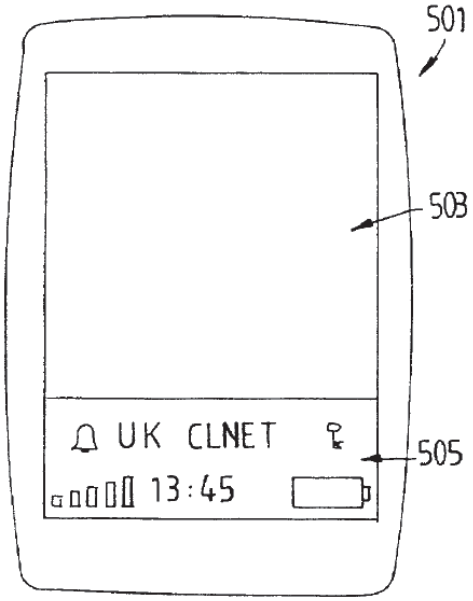
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta discloses the following at FIGS. 2-4 and 8:  Fig. 2 (Gupta at FIG. 2)  Fig. 3 (Gupta at FIG. 3)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

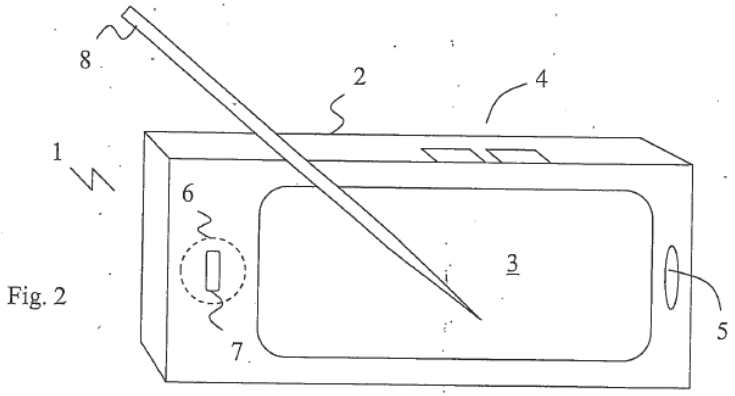
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1f] wherein said mobile phone device does not include a physical key on the front surface, and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said mobile phone device does not include a physical key on the front surface." For example, Pensjo discloses a mobile phone that does not include a physical key on the front surface. (Pensjo at FIGS. 1, 3-5.) Pensjo teaches that the touch screen includes a virtual keyboard. (Pensjo at [0005], [0009], [0011], [0014].)  FIG.3 (Pensjo at FIG. 3)

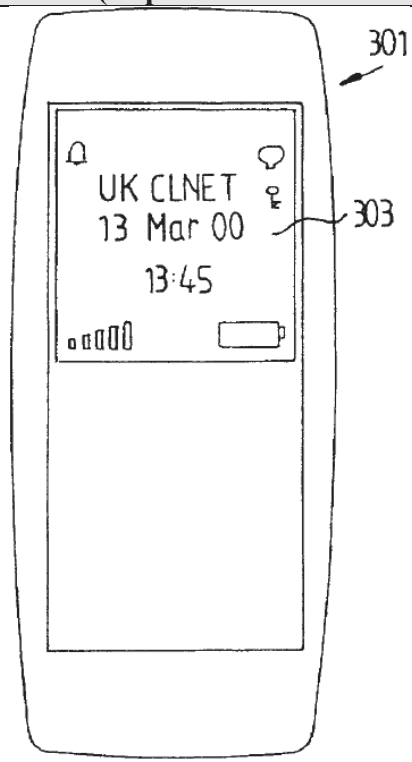
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) "According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Pensjo discloses the following at FIGS. 1, 4, and 5:  (Pensjo at FIG. 1)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.4 (Pensjo at FIG. 4)  FIG.5 (Pensjo at FIG. 5)

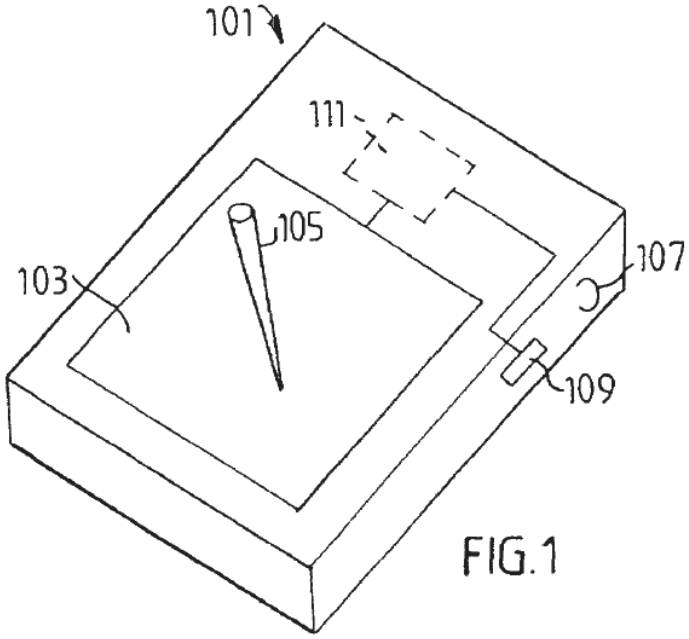
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.) A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include:

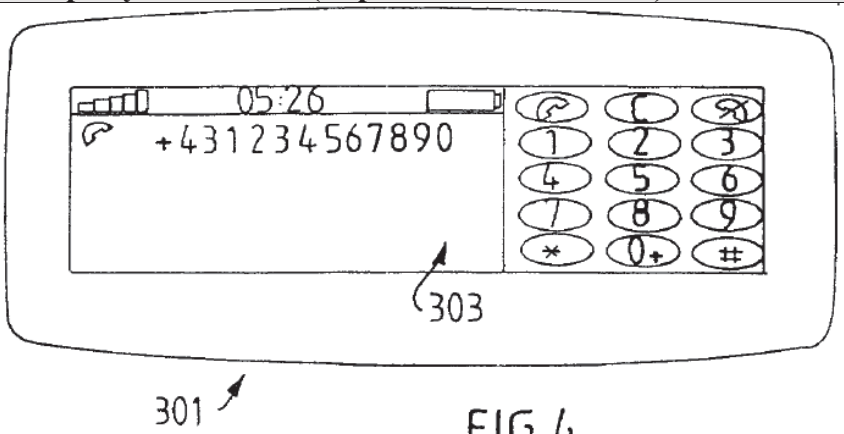
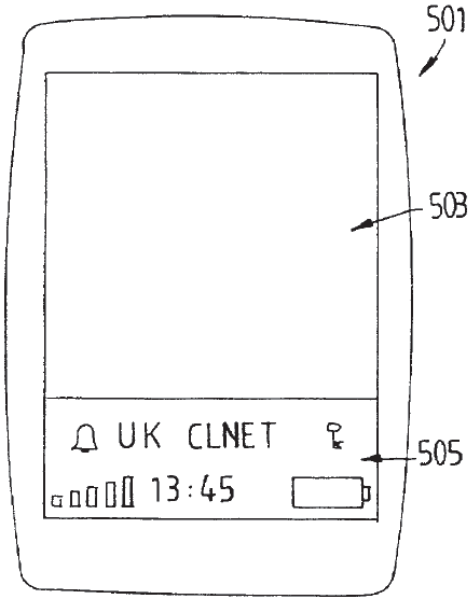
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:  Fig. 2 (Wedel at FIG. 2)
[1g] wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing." For example, Pensjo depicts a mobile phone with no components extending from the housing. (Pensjo at FIGS. 1, 3-5.) Pensjo explains that the mobile phone device uses the touch screen and stylus for input and output. (Pensjo at [0004], [0006]-[0014].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3) Additional exemplary citations include: "It is an object of the present invention to provide a method and a device which facilitates the operation by a user of a portable touch screen device. This object and others are obtained by a method and a touch screen device, in particular a wireless communication device, wherein the presence of a pen in a pen holder of the touch screen device is detected by a mechanism, such as a switch. The appearance of the user interface, in particular the layout of the screen, is changed when the pen is removed from or

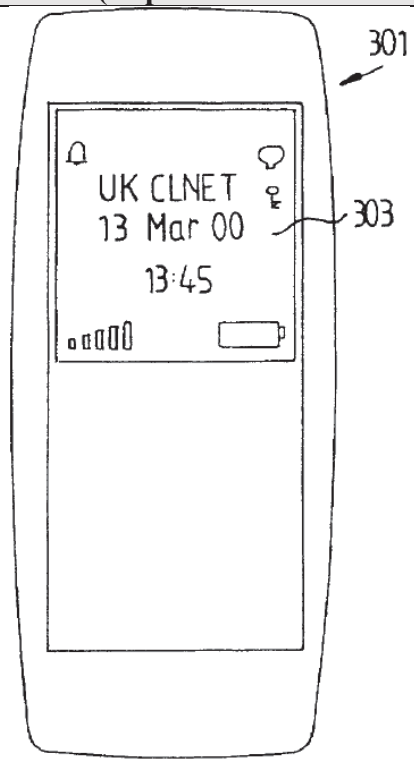
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	placed in the pen holder. Also, the illumination characteristics of the screen, such as brightness or colour, may be changed in response to the presence of the pen in the pen holder." (Pensjo at [0004].) "The use of the pen detection mechanism will in many applications facilitate the use of a portable touch screen apparatus. For example, when a user of a smart phone removes the pen from the pen holder, the user probably wants to input some kind of information. If the screen then is automatically changed into a layout which is designed for input of information, this will be very helpful to the user." (Pensjo at [0006].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 1 illustrates a view of a portable device 101 comprising a touch sensitive screen display 103 used for input of operational commands and/or data. The device 101 further includes a pen 105 as a pointing tool for touching specific areas of the screen display 103 in a predefined manner. When not in use, the pen can be placed in a pen holder 107 of the portable device. The pen holder is in this example placed on the side of the device and comprises a ring for receiving the pen. The pen holder may of course be designed and placed in many different ways within the scope of the invention, such as a recess together with some kind of a spring-like element. The device 101 further comprises a mechanism 109 for detecting whether the pen is located in the holder or not, and an electronic control unit 111 connected to the pen detecting mechanism 109. The control unit 111 operates to control circuits, not shown, for displaying various patterns, pictures and/or information on the screen display 103." (Pensjo at [0008].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal

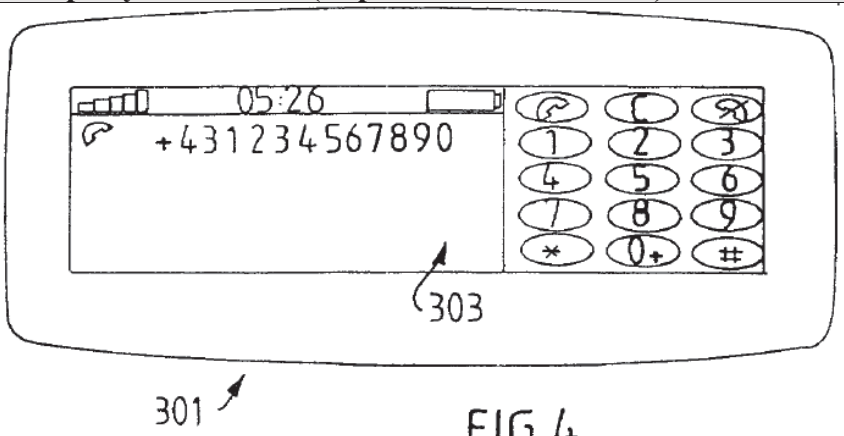
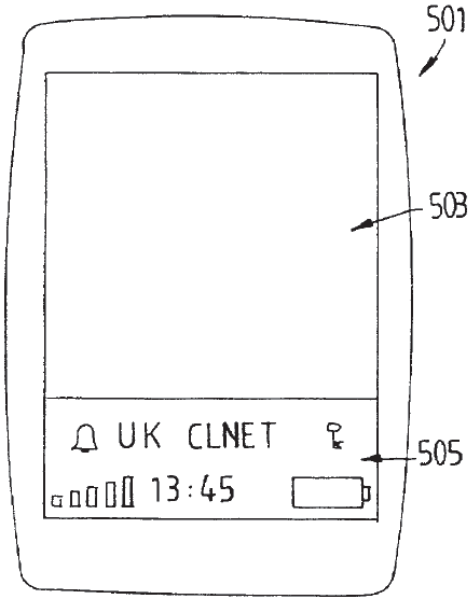
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a "portrait" format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) "Finally, Fig. 5 is a view of an exemplary electronic device 501, comprising a touch screen 503, where the device has changed from a sleeping mode into an active mode in response to the pen being removed from the pen holder, not shown. The user may be alerted of the change into the active mode by illuminating, e.g., the lower part 505 of the screen 503." (Pensjo at [0012].) "According to one aspect of the invention, the device is in a first passive mode, or sleep mode, when the pen is present in the pen holder 107. In this state, the touch functionality of the screen is preferably not activated such that data or commands cannot be entered by mistake, e.g., when the device is located in a pocket or a suitcase. The screen may in this mode display various information, such as phone numbers, e-mails, reminder alerts etc. When the device switches from the first mode to a second active mode after the pen has been removed from the pen holder 107, the screen appearance changes into a layout designed for input of commands and/or data and also the touch functionality of the screen is activated." (Pensjo at [0013].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].) Pensjo discloses the following at FIGS. 1, 4, and 5:  (Pensjo at FIG. 1)

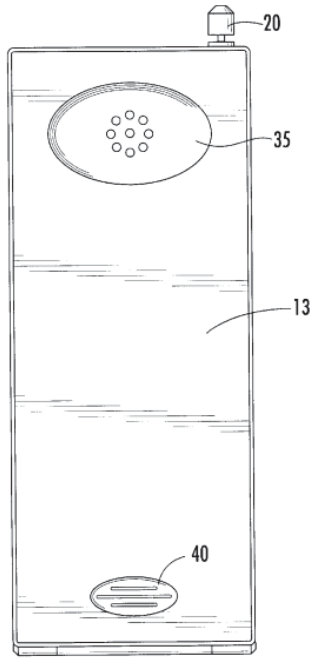
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.4 (Pensjo at FIG. 4)  FIG.5 (Pensjo at FIG. 5)

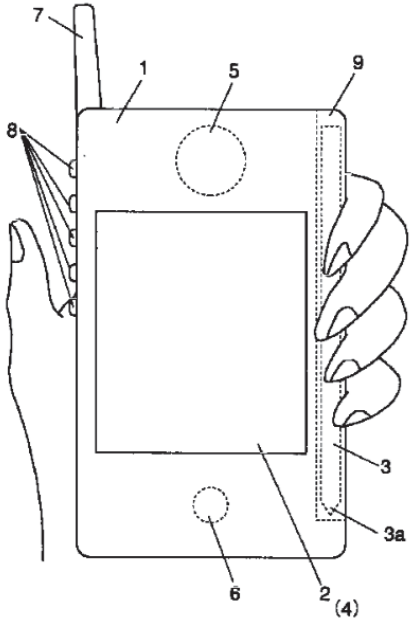
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2pre] The device of claim 1,	Claim 2 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 2 are anticipated and/or obvious for the same reasons set out in claim 1. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[2a] wherein said practically rectangular shape has rounded corners.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." For example, Pensjo discloses a housing wherein the corners have slightly rounded edges. (Pensjo at FIG. 3-5.)

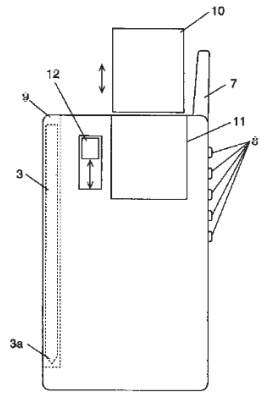
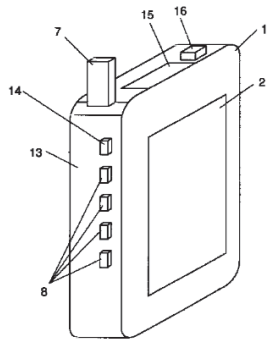
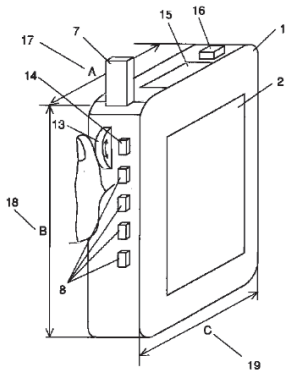
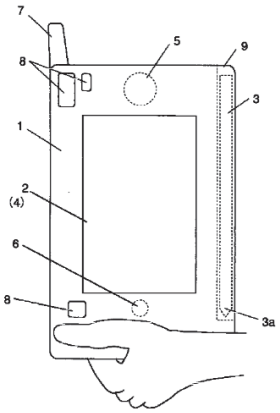
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3)

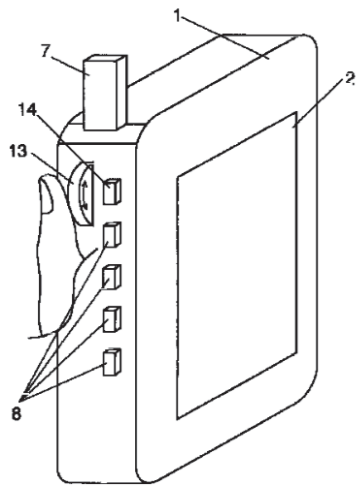
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.4 (Pensjo at FIG. 4)  FIG.5 (Pensjo at FIG. 5)

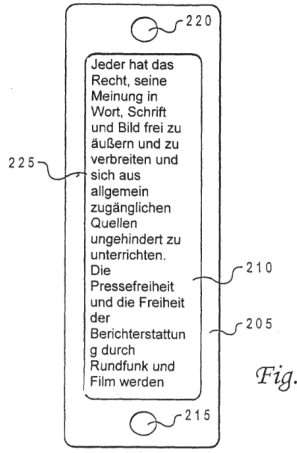
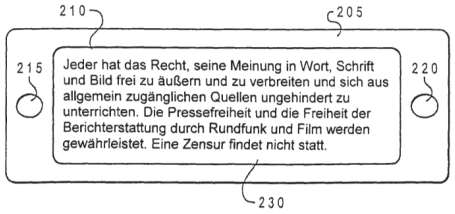
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Rydbeck discloses a mobile phone housing that is generally rectangular and includes rounded corners. (Rydbeck at FIG. 3.) As another example, Yamaguchi discloses a mobile phone device having a rectangular housing with rounded corners. (Yamaguchi at FIGS. 1, 3-7). As a further example, Dutta discloses a mobile phone having a rectangular housing with rounded corners. (Dutta at FIGS. 2A-2B.) A POSITA would have been motivated to configure a mobile phone such that the housing has rounded corners to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to round the corners in order to improve user experience and make the design more ergonomical. Thus, a POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (a housing with rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the user experience and ergonomics of a mobile phone); (B) use of a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and ergonomics); (C) applying a

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device ergonomics); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: Rydbeck discloses the following at FIG. 3:  FIG. 3. Yamaguchi discloses the following at FIG. 1:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  Yamaguchi discloses the following at FIGS. 3 and 5-7:

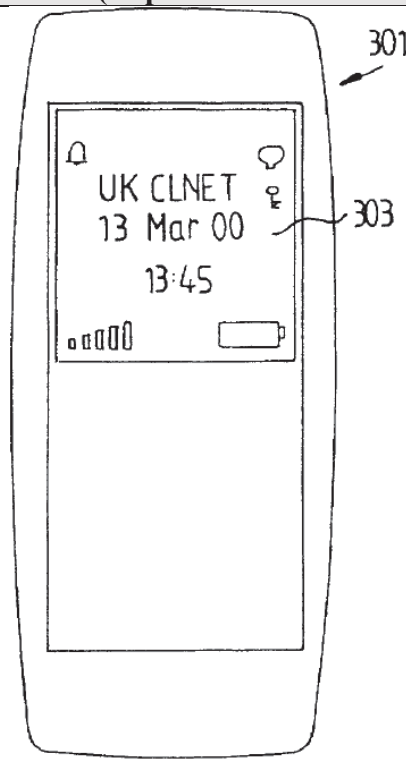
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図３】  【図５】  【図６】  【図７】  Yamaguchi discloses the following at FIG. 4:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図4】  Dutta discloses the following at FIGS. 2A-2B:

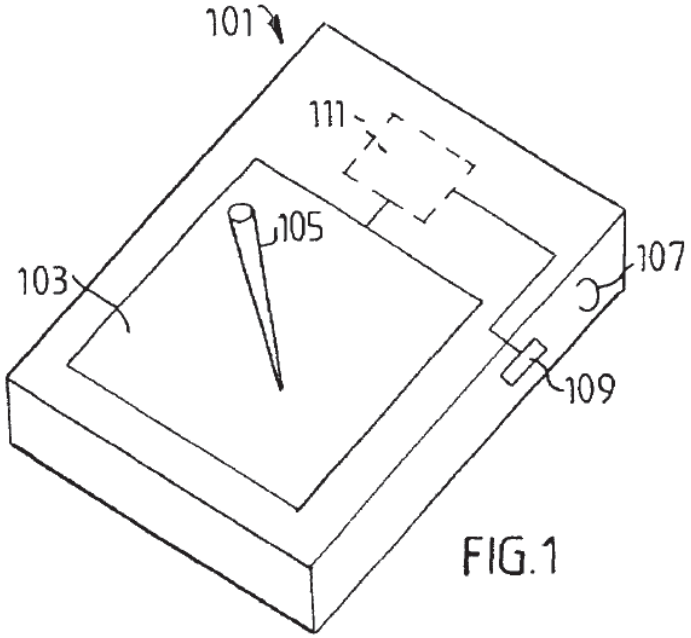
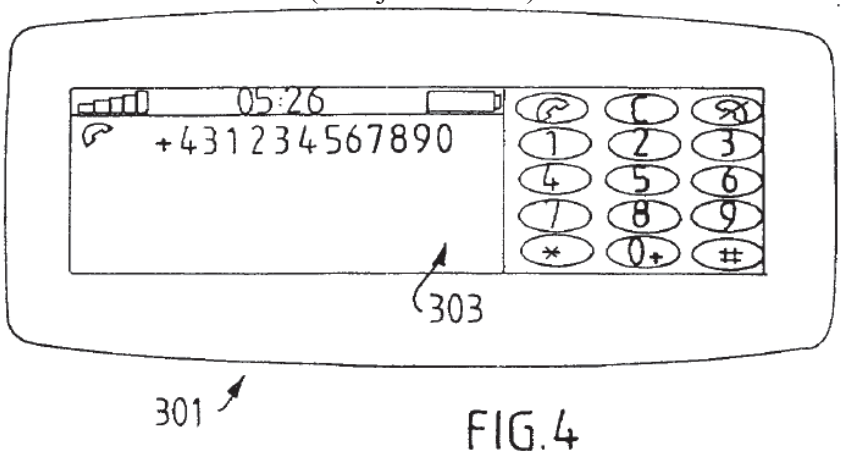
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B*

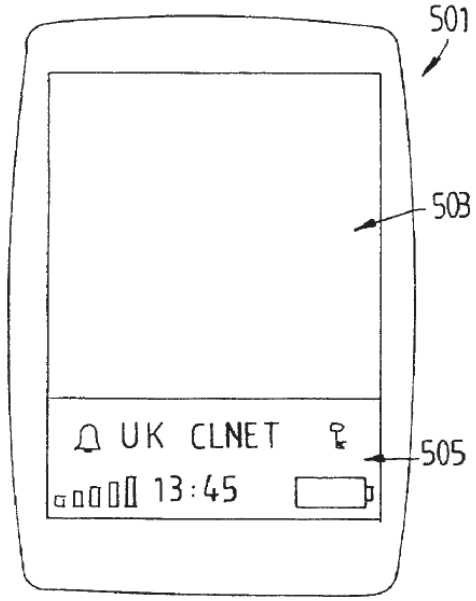
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3pre] device of claim 1	Claim 3 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 3 are anticipated and/or obvious for the same reasons set out in claim 1. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[3a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." For example, Pensjo discloses a display touchscreen and a plurality of applications. (Pensjo at [0005], [0008], [0010], [0011], [0014], FIGS. 1, 3-5.) Pensjo also discloses modifying the interface "depending on the applications used by the device," including "a telephone application" and an "e-mail application." (Pensjo at [0014].)

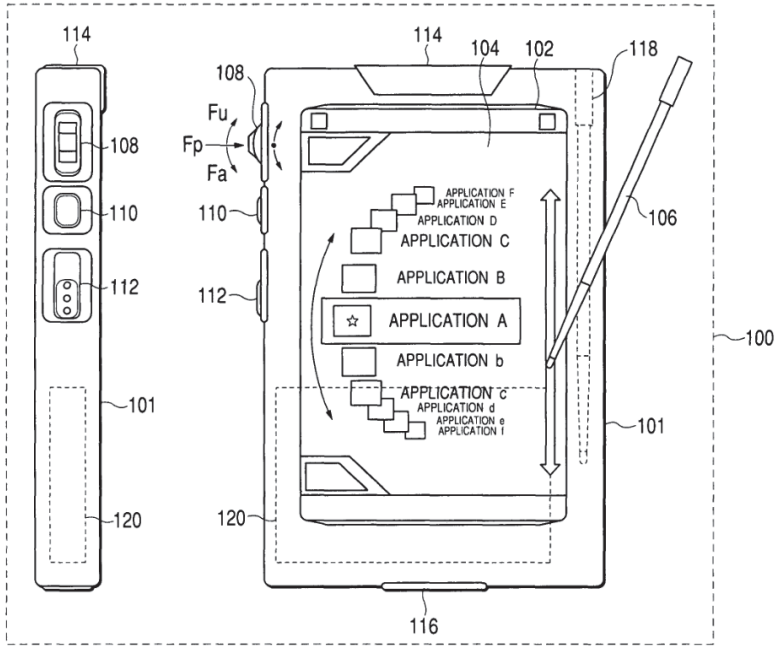
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3) Additional exemplary citations include: "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].)

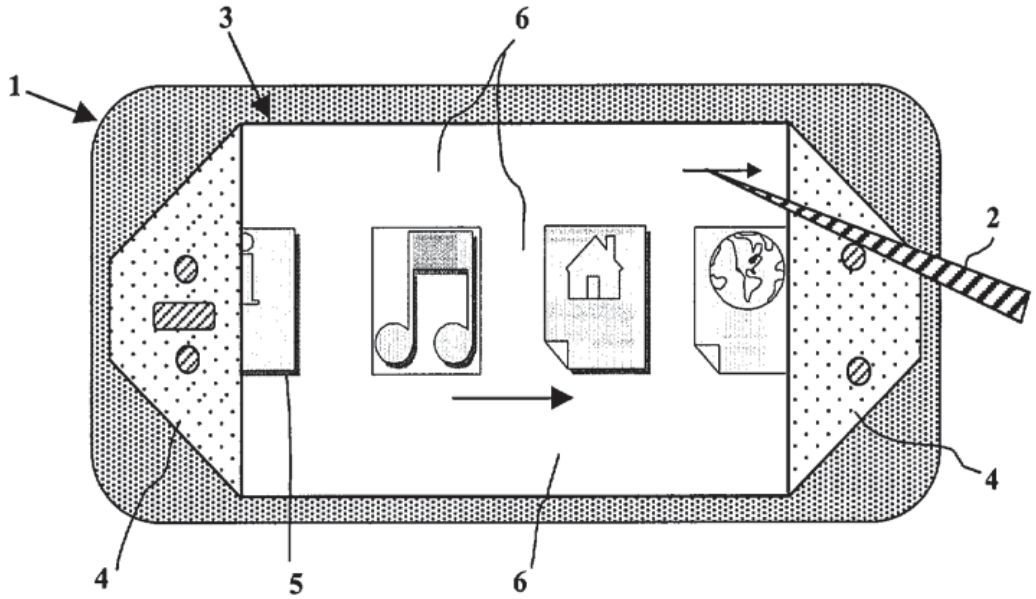
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Fig. 1 illustrates a view of a portable device 101 comprising a touch sensitive screen display 103 used for input of operational commands and/or data. The device 101 further includes a pen 105 as a pointing tool for touching specific areas of the screen display 103 in a predefined manner. When not in use, the pen can be placed in a pen holder 107 of the portable device. The pen holder is in this example placed on the side of the device and comprises a ring for receiving the pen. The pen holder may of course be designed and placed in many different ways within the scope of the invention, such as a recess together with some kind of a spring-like element. The device 101 further comprises a mechanism 109 for detecting whether the pen is located in the holder or not, and an electronic control unit 111 connected to the pen detecting mechanism 109. The control unit 111 operates to control circuits, not shown, for displaying various patterns, pictures and/or information on the screen display 103." (Pensjo at [0008].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a "landscape" format including a numeric keyboard." (Pensjo at [0011].) "According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].) Pensjo discloses the following at FIGS. 1, 4, and 5:

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1 (Pensjo at FIG. 1)  FIG.4 (Pensjo at FIG. 4)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 5 (Pensjo at FIG. 5) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Bast, Nakano, and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Each of Bast, Nakano, and Benoit explain that applications may be displayed as a plurality of icons to allow the user to see and select an application. A POSITA would have understood that representing applications as graphical icons would have supported Pensjo's goal of facilitating the user-friendly operation of a portable touch screen device by a user. (Pensjo at [0001], [0003].) For example, Bast discloses an electronic display that shows a plurality of program and function icons. (Bast at [0010], FIG. 1.) The icons correspond to various applications that are programmed into the terminal. (*Id*.) Similarly, Nakano discloses that "menu items," represented as icons and corresponding to a plurality of programs may be displayed. (Nakano at 1:34-40, 16:39-54, 21:1-6, 21:48-53, 28:24-27, 36:37-40, 44:34-39, 45:54-61, 51:24-29, FIGS. 1, 10, 26A-26C, 53-56.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Likewise, Benoit discloses a mobile phone that can display a series of icons that correspond to programs. (Benoit at (cover page, 57), 2:9-12, FIGS. 1, 3.)

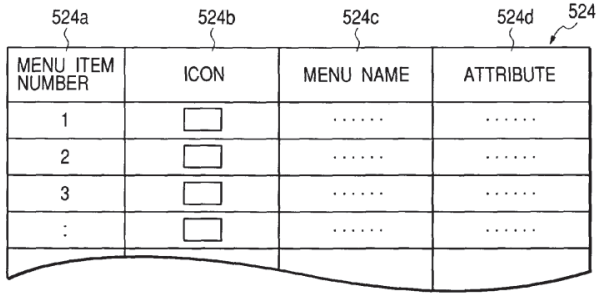
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone to display a plurality of icons corresponding to a plurality of applications on the display screen. Configuring a mobile phone to display a plurality of icons corresponding to a plurality of applications was routine and conventional to a POSITA, as shown by Bast, Nakano, and Benoit. A POSITA would have been motivated to configure a mobile phone in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Bast, Nakano, and/or Benoit's teachings into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (combining a mobile phone capable of executing a plurality of applications, as disclosed by Pensjo, with the technique of displaying a plurality of icons corresponding to the plurality of applications, as disclosed by Bast, Nakano, and Benoit) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (displaying a plurality of icons corresponding to a plurality of applications as taught by Bast, Nakano, and Benoit) to

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (displaying a plurality of icons corresponding to a plurality of applications as taught by Bast, Nakano, and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Nakano, and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "In the related art menu display by the launcher, icons representing application software programs and/or documents and their names are displayed in sets (the sets are hereinafter referred to as 'menu items'), arranged like tiles on a plane. The user selects any menu item by way of operation of a button such as a lever and across-hair key, or selection using a pointing device such as a stylus pen or a tracking pad." (Nakano at 1:34-40.) "In the menu display, a single menu item or a plurality of menu items are displayed. A menu item has an icon 130 and a menu name 132 as shown in FIG. 2D for example, and an icon and a menu name are handled as a set, or a menu panel 134. A menu item in a predetermined position B4 is a candidate for selection, which shows that the menu is in the selection state by way of a different display form of the menu panel 134 (the display form is hereinafter referred to as the 'selection display'). To be more specific, the area surrounding the icon 132 and the menu name 132 corresponding to the ground of the menu panel 134) is filled in with a color different from that of the menu panel 134 in the non-selection state. While in this embodiment, the menu panel 134 is a rectangle where the horizontal direction in the screen is the longitudinal direction, any other shape may be used. The menu panel 134 may display only the icon 130 or the menu name 132." (Nakano at 16:39-54.) "The menu screen information 520 stores various ii required for screen display of a launcher shown in FIG. 2, for example image information on various icons and their display position coordinates. The menu screen information 520 is set per menu display mode. Which mode of menu display is to be used is stored as the display mode 521." (Nakano at 21:1-6.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 10 shows an example of the menu item information 524. As shown in FIG. 10, the menu item information 524 stores, per menu item number 524a, the icon 524b of the icon 130, the menu name 524c of the menu name 132, and the attribute 524d of the menu item (for example distinction between an application, a folder and a file)" (Nakano at 21:48-53.) "The 'menu display entity' comprises an icon specifying an application and a menu name. In the following description, the menu name of each menu display entity is used to identify the menu entity." (Nakano at 28:24-27.) "FIG. 42 shows the data structure of the menu display entity data. As shown in FIG. 42, the menu display entity data comprises menu numbers, icons, and menu names keyed to a plurality of menu display entities." (Nakano at 36:37-40.) "Referring to FIG. 53A, on the launcher screen are displayed, as menu items, for example, application programs related to Mail, Browser, Address book, Schedule, Memo pad, File viewer, Accessory, System, and Setting, together with icons. In the storage section 622 are stored application programs (application software) related to theses [sic] menu items." (Nakano at 44:34-39.) "To the left of the window display section 641 are arranged icons 640 representing the menu items in the launcher screen (Mail, Browser, Address book, Schedule. Memo pad, File viewer. Accessory, and System) in the vertical direction, and are displayed the upward and downward scroll buttons 635 and 636. Tapping on the upward or downward scroll button 635 or 636 moves a cursor 37 (not shown in FIG. 54) between the icons 640." (Nakano at 45:54-61.) "In FIG. 55, the screen displays menu items as a plurality of items, for example, Schedule, Browse, Address book, and Schedule, as well as icons corresponding to the menu items to the left of these menu items. For these icons, various display control mentioned above will be performed as well as handling of items." (Nakano at 51:24-29.) Nakano discloses the following at FIGS. 10, 26A-26C, 53-56:

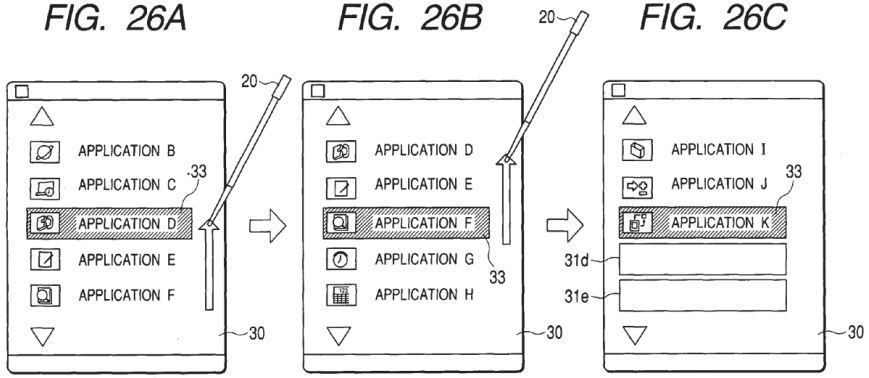
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations

FIG. 10

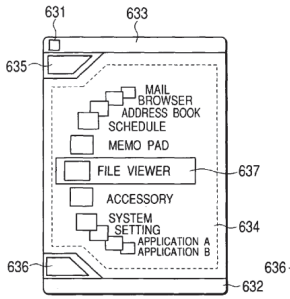
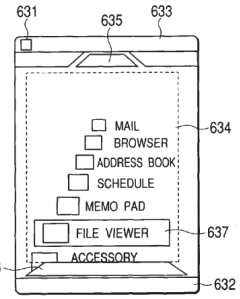
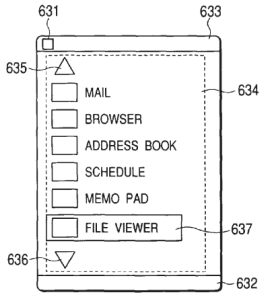


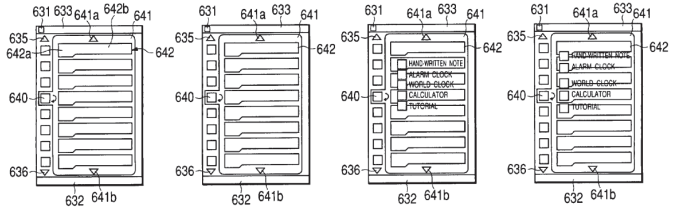
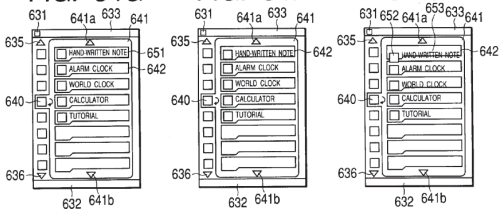
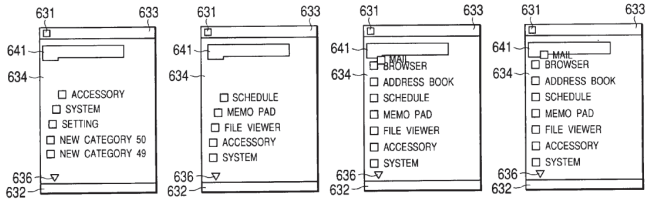
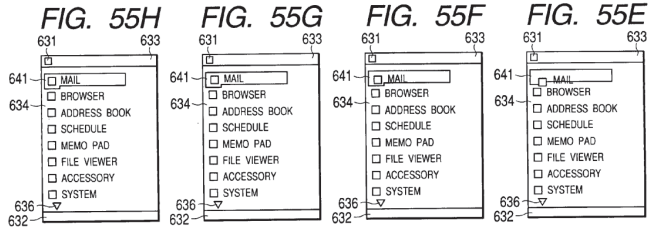
(Nakano at FIG. 10)

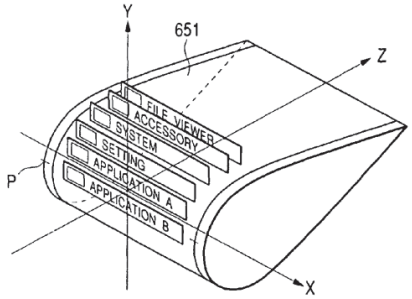
FIG. 26A FIG. 26B FIG. 26C

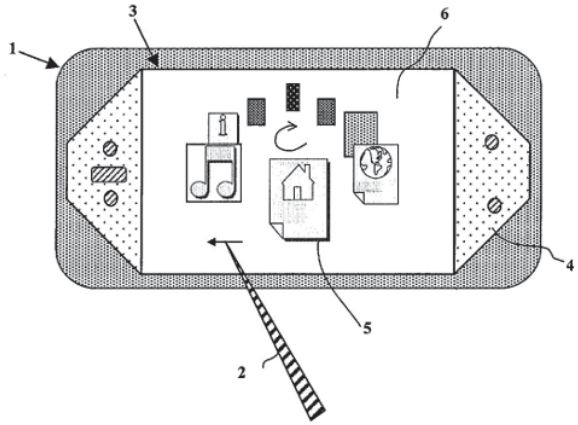


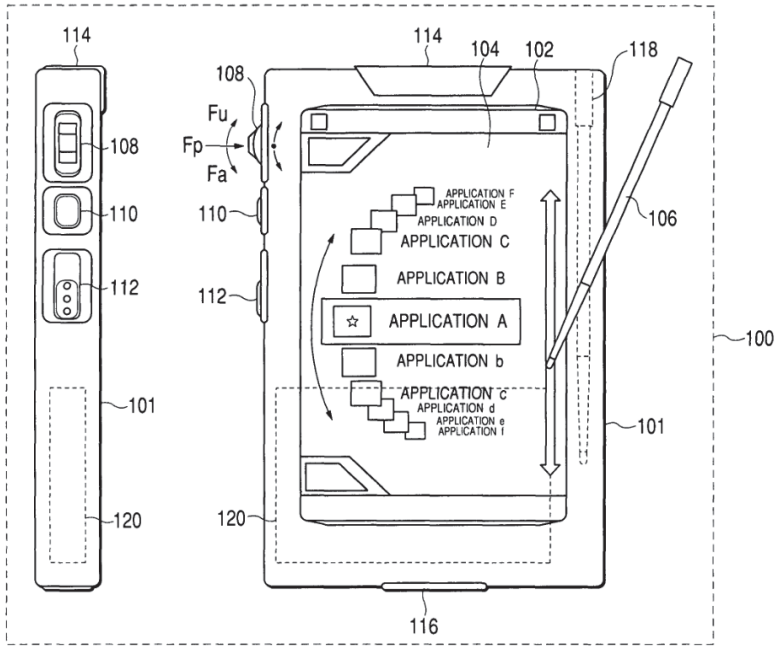
(Nakano at FIGS. 26A-C)

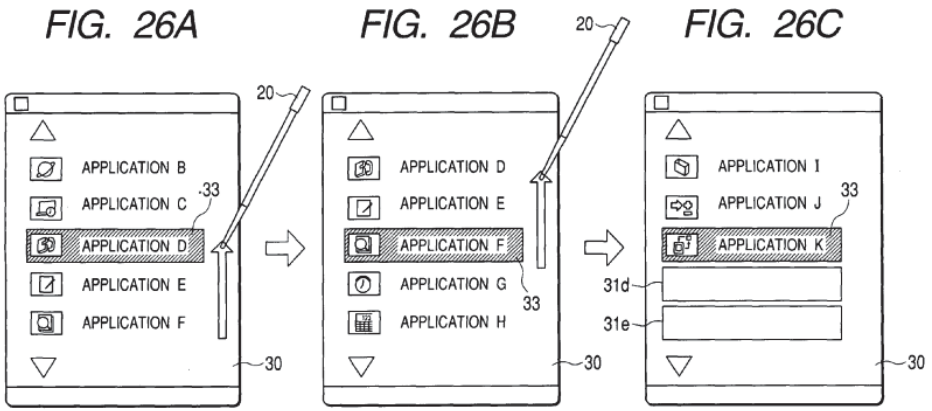
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 53A  FIG. 53B  FIG. 53C  (Nakano at FIGS. 53A-C)

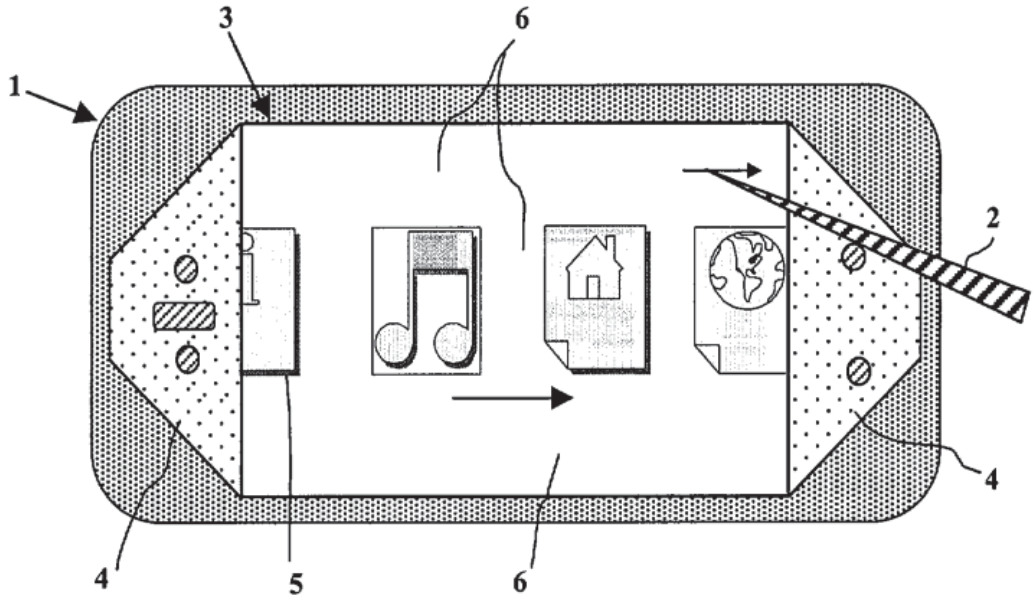
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 54A FIG. 54B FIG. 54C FIG. 54D  FIG. 54G FIG. 54F FIG. 54E  (Nakano at FIGS. 54A-G)
	FIG. 55A FIG. 55B FIG. 55C FIG. 55D  FIG. 55H FIG. 55G FIG. 55F FIG. 55E  (Nakano at FIGS. 55A-H)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 56  (Nakano at Fig. 56) "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (cover page, 57).) "The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon." (Benoit at 2:9-12.) Benoit discloses the following at FIG. 3:

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIGURE 3 (Benoit at FIG. 3)
[3b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." It would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Nakano and/or Benoit to display a plurality of other applications upon a user action on the display unit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Nakano discloses a mobile phone that includes a touch panel 104. (Nakano at 2:49-51, FIG. 1) Nakano teaches a method of improving the control of a menu display by using said touch panel. (*Id*.) The touch panel is integrated into the display of the portable device disclosed by Nakano, which may be a mobile phone. (Nakano at 7:20-39.) Nakano teaches using a drag operation to control the display of various entities shown on the display. (Nakano 7:40-52.) The drag operation taught by Nakano may comprise drawing a finger across the display panel or using a stylus to do the same. (Nakano at 7:57-8:16). Nakano teaches that programming a device, display, and touch panel in this way allows for improved control of display entities that are shown on the display. (Nakano at 8:50-54). The display entities disclosed by Nakano may correspond to programs, also known as applications, that can be activated and executed by the device. (Nakano at 8:65-9:6.) *FIG. 1* 

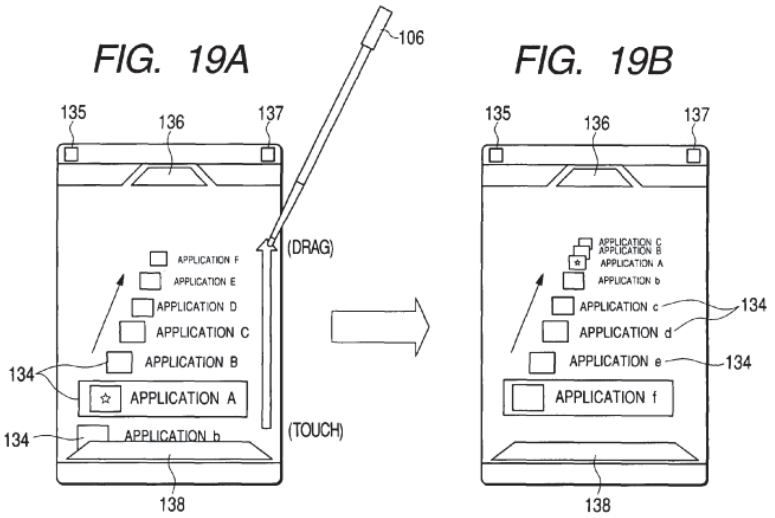
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Nakano at FIG. 1) Thus, Nakano teaches programming a device, such as a mobile phone, so that is operative to allow a user to slide a finger or stylus pen across a menu screen, displaying a plurality of application icons in the form of menu items. (Nakano at 15:66-16:10). A dragging operation, also known as a sliding operation, allows a user to move the menu items displayed in various directions across the screen. (Nakano at 25:40-47, FIGS. 19A-19B.) As shown in FIGS. 26A-C, menu items, also known as application icons, that are not originally shown on the display may be displayed based on a dragging or sliding input from a user. (Nakano at 28:36-29:10, FIGS. 26A-C.)  (Nakano at FIGS. 26A-26C.) As another example, Benoit teaches a display used in a mobile phone that can display a series of icons that correspond to programs and respond to a sweeping input to display a plurality of additional icons. (Benoit at (cover page, 57).) Benoit further teaches that it is desirable to display large icons corresponding to applications, making them easily distinguishable. (Benoit at 2:17-18.) And the dexterity needed to control the display of application icons is reduced because the control input can be made across the entire screen, including the area where the application icons are shown. (*Id.*)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit. Configuring a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (combining display unit, as disclosed by Pensjo, with the ability to display of a plurality of additional application icons in response to a

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	sweeping action into the mobile phone, which is operative to display a plurality of application icons, as disclosed by Nakano and Benoit) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:49-51.) "The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano 7:40-52.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a "tap-in" and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a "tap-out". The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	the stylus pen is called a "tap". According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16). "According to the invention, the following advantage is obtained. Information display entities are arranged on a virtual face. Scroll display is allowed by moving a virtual camera whose line of sight faces the virtual face, thus more readily allowing scroll control in a virtual space." (Nakano at 8:50-54). "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection." (Nakano at 15:66-16:10).

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In FIG. 19A, a menu item in the middle of the menu is in the selection state. Menu items preceding and following the item are three-dimensionally represented in one-point perspective in the upward direction in the screen. Dragging with the stylus pen 106 in the upward direction so as to slide the menu display in the upward direction causes the menu panel 134 to move in the upward direction along the one-point perspective, for example, as shown in FIG. 19B." (Nakano at 25:40-47.) "In FIG. 26A, the menu display area 31 a displays "Application B", the menu display area 31 b displays "Application C", the menu display area 31 c displays "Application D", the menu display area 31 d displays "Application E", and the menu display area 31 e displays "Application F", respectively. In the selection candidate display area 32, that is, in the menu display area 31 c, the focus 33 is overlaid on Application D. The Application D is a candidate for selection. In the menu screen 30, dragging the stylus pen 20 in the upward direction scrolls through the menu display entities in the menu screen 30 as shown in FIG. 26B. In FIG. 26B, the menu display area 31 a displays "Application D", the menu display area 31 b displays "Application E", the menu display area 31 c displays "Application F", the menu display area 31 d displays "Application G", and the menu display area 31 e displays "Application H", respectively. The menu display entities on the screen are scrolled though in the upward direction by two rows. On the menu display entity displayed in the selection candidate display area 32, that is, on Application F, is overlaid the focus 33. The Application F is a candidate for selection. Dragging with the stylus pen 20 refers to an operation (including standstill state) of sliding the stylus pen 20 on the LCD panel 11 with the tip of the stylus pen 20 in contact with the LCD panel 11. In FIG. 26B, further dragging in the upward direction further scrolls through the menu entities on the screen in the upward direction. As shown in FIG. 26C, when the lowermost menu display entity (Application K in the figure) reaches the selection candidate display area 32, the scroll comes to a halt. In FIG. 26C, the menu display area 31 a displays "Application I", the menu display area 31 b displays "Application J", and the menu display area 31 c displays "Application K", respectively. On the menu display entity displayed in the selection candidate display area 32, that is, on Application K, is overlaid the focus 33. The Application K is a candidate for selection. While a drag is made in the upward direction in FIGS. 26A through 26C, the same applies to a drag in the downward direction. That is, as shown in FIG. 27A, dragging in the downward direction scrolls through the menu display entities in the downward direction. As shown in FIG. 27B, when the uppermost menu display entity (Application A in the figure) reaches the selection candidate display

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	area 32, that is, the menu display area 31 c, the scroll comes to a halt. While the drag operation is made in the rightmost area of the menu screen 30 for clarity in FIGS. 26A through 26C and FIGS. 27A and 27B, the drag operation is allowed across the menu screen 30 as shown in FIG. 31 in practice." (Nakano at 28:36-29:10.) Nakano discloses the following at FIGS. 19A-B:  "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (cover page, 57).)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In addition, the use of a touch screen generates another serious problem. That is, because the icons and drop-down menus are generally fixed, the user always uses their finger or a stylus to point at the same small areas of the touch screen. This leads, therefore, to local damage, decalibration, and premature wear of the touch screen. The object of this invention is to ameliorate the disadvantages of the aforementioned systems and to propose a human-machine interface with a touch screen in which navigation is simplified. Another object of the invention is to limit the premature decalibration of touch screens. The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon. Preferably, the control area is extended so as to distribute the touch points and prevent the premature wear of the touch screen over the defined areas. The entire surface of the touch screen not covering an icon can be expected to constitute the control area. Thus, the control is no longer localized in a limiting manner. Unlike the prior art, the scrolling of icons allows these icons to be shown at a large size such that they are easily distinguishable. With such a method according to the invention, the fact of having an extended control area prevents the constant use of certain small areas of the screen. According to an advantageous characteristic of the invention, the touch command for scrolling the series of icons comprises a touch followed by a directional movement. The scrolling speed and direction are defined by the point of contact and the projection into the scrolling direction of a vector obtained as a result of the directional movement. The point of contact can be anywhere over the entire extended control area. The icons can be shown independently of each other, whether attached or embedded in a scrolling banner, and representing, for example, a landscape.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen. These icons can be scrolled to show the icon representing the application intended to be launched in the foreground in the center of the screen. According to a preferred embodiment of the invention, the icons scroll along a virtual circle inscribed in a plane perpendicular to the plane of the screen. Scrolling then makes it possible to show each icon on the screen successively, with the other icons remaining in the background. In this case, it is possible to envisage that only the icon shown on the touch screen is capable of launching an application. It is also possible to envisage that all the icons remain permanently visible on the touch screen during scrolling. As such, all the icons may be active. According to an advantageous embodiment of the invention, the scrolling of a series of icons may exhibit inertia as a function of the scrolling speed. Consequently, when a user lifts their finger or stylus from the touch screen, the scrolling continues for a few short moments based on the movement made by that user to carry out the scrolling. According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 2:1-3:24.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
[4pre] The device of claim 3	Claim 4 depends from claim 3. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 3 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 3 to show the additional limitations of claim 4 are anticipated and/or obvious for the same reasons set out in claim 3.

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 3." *See supra* claim [3].
[4a] wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit." For example, Pensjo discloses that the mobile phone executes a plurality of applications that would be displayed on the display touch screen. (Pensjo at [0014].) And Pensjo discloses a touch screen that is operative to respond to interactions from a user. (Pensjo at [0009].) Accordingly, it would have been obvious in the mobile phone design disclosed by Pensjo that the touch screen must be operative to open application icons in response to a user's touch. A POSITA would recognize that the mobile phone disclosed by Pensjo must be programmed in this way in order to be functional, else the application icons could not be opened. Additional exemplary citations include: "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Nakano and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Nakano discloses that a tap operation (a predefined interaction) may be used to select a display entity, such as menu item corresponding to an application. (Nakano at 9:49-57.) In response, a program corresponding to said menu item or display entity may be activated. (Nakano at 9:58-62.) Accordingly, a tap operation may activate an application program corresponding to a selected information display entity, such as an application icon. (Nakano at 9:63-67.) Nakano further discloses that tapping a stylus pen on a menu display entity shown on the display of the device may activate an application program corresponding to that menu display entity. (Nakano at 34:26-30.) As another example, Benoit teaches displaying application icons that launch when a brief contact is made with said icon. (Benoit at 3:5-8.) Thus, the brief contact is a predefined interaction that opens that corresponding application when input by the user. (*See id*.) A POSITA would have recognized that Benoit taught the method of opening an application icon in response to a user providing a predefined interaction with said icon.

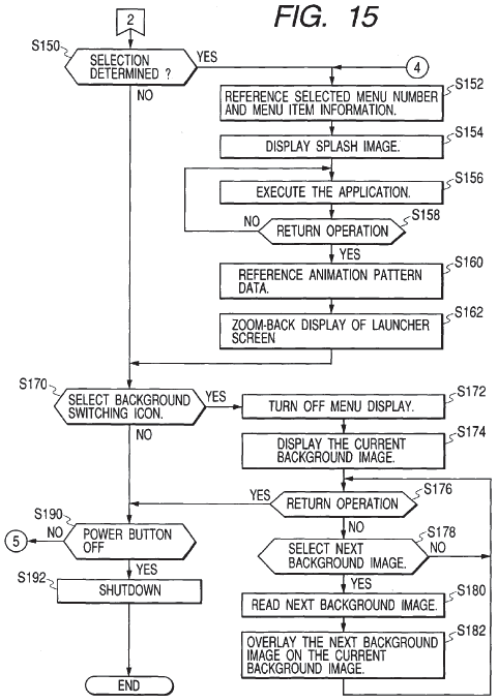
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone such that an application is opened upon a user providing a predefined interaction with an icon, such as a tap. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (combining display unit operative to open an application icons in response to a predefined interaction provided by the user into the mobile phone architecture disclosed by Pensjo, which is operative to display a plurality of application icons) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to open an application icon upon detecting a predefined user input directed at an application icon as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to open an application in response to user providing a predefined interaction with an icon corresponding to said application as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "The PDA can execute a plurality of application software programs (also referred to as simply 'applications') by way of arithmetic operation by a built-in CPU. Application software includes schedule software, address book software, memo pad software, word processing software, calculator software, electronic mail software, web browser software, music playback software, graphics viewer software, and clock display software. Operation of selection and execution of application software is controlled by the application management program called 'launcher'. With application software programs and/or documents registered in advance, the application software programs and/or documents are displayed on a menu by the launcher, and directly started via simple input operation." (Nakano at 1:20-33.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"However, in a scroll operation and selection of a menu display entity, at least two operations are required. The scroll operation on a touchpanel is the same as the mouse operation, for example tapping operation, on an ordinary PC." (Nakano at 1:52-55.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a 'tap-in' and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a 'tap-out'. The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a 'tap'. According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:13-26.) "According to the invention, a tap operation may be used, on top of a drag operation, to select a desired information display entity. A method for selecting an information display entity may be switched as appropriate, such as using a drag operation in case a desired information display entity is not displayed in the predetermined display area, and a tap operation in case one is displayed. In any case, it is possible to readily select a desired information display entity thus enhancing its operability." (Nakano at 9:49-57.) "In case determination is made by the second determination means, the activation means may activate a program corresponding to an information display entity determined as a candidate for selection by the second determination means, if any." (Nakano at 9:58-62.) "According to the invention, a tap operation may be used to activate an application program corresponding to a selected information display entity. That is, a single tap operation directly activates a desired application thus enhancing its operability." (Nakano at 9:63-67.) "The processor 20 performs arithmetic operation in accordance with programs to make centralized control of the PDA 100 as well as execute a launcher or various application programs for the PDA 100." (Nakano at 18:31-35.) "The control program 502 executes a so-caller 'launcher' to work as utility software to help activate the application program 510. The control program 502 comprises processing concerning menu display shown in FIG. 2 and includes a menu item selector 22 and a menu display controller 24 in a processor 20." (Nakano at 20:55-60.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIGS. 13 through 15 are flowcharts illustrating the flow of processing from selection of an item to activation of an application in this embodiment." (Nakano at 22:59-61.) "In case the stylus pen is released from the touch panel 104, a so-called tap-out operation is made (YES in step S118), execution proceeds to activation of an application described later. In case a tap input is made with the stylus pen 106 (YES in step S120), the menu item selector 22 determines whether any menu panel 134 includes the position coordinates which are tapped on referring to the menu panel position information 523. In case any menu panel 134 is tapped on (YES in step S122), the menu item selector 22 changes the selected menu number 531 to the menu number of the menu panel 134 (step S124). Execution then proceeds to activation of an application described later." (Nakano at 23:18-26.) "FIG. 15 is a flowchart specifically illustrating the flow of processing from determination of a selected item to activation of an application program and the flow of screen switchover. As shown in FIG. 15, in case determination of a selected item is input by way of a push on the side controller 108 or a tap using the stylus pen 106 (YES in step S150), the processor 20 references the menu item information 524 in accordance with the selected menu number 531 (step S152) to retrieve the corresponding splash image data 536 and displays the data on the screen (step S154). After that, the processor 20 loads and activates the application (step S156)." (Nakano at 24:34-44.) "While the desired menu panel 134 is selected on the screen and the selected menu panel 134 is determined then an application is activated in this example, the application may be automatically activated when the desired menu panel 134 has moved to the display position P0 and selected on the screen. To be more specific, a step of comparing the specified menu number 532 with the selected menu number 531 is added before step S142 in FIG. 14. In case the specified menu number 532 is the same as the selected menu number 531, a step of checking the attribute of a registered menu item by referencing the menu item information 524 and a step of proceeding to step S152 (FIG. 15) in case the attribute is an applications are executed." (Nakano at 25:1-13.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Next, the method for activating an application program corresponding to the menu display entity will be described. The application program corresponding to the menu display entity is activated by way of the operation input using (1) the stylus pen 20 or (2) the side controller 14. When the application is activated, display on the screen 30 is terminated and the screen of the activated application appears on the LCD panel 11." (Nakano at 34:9-16.) "Activation of an application program corresponding to each menu display entity by way of the stylus pen 20 is made by way of (1) tap or (2) drag." (Nakano at 34:20-22.) "Tapping the stylus pen 20 on any of the menu display entities displayed in the menu screen 30, or to be more specific, the menu display area 31, the application program corresponding to the menu display entity displayed in the tapped position is activated." (Nakano at 34:26-30.) "After that, when the stylus pen 20 which has been in contact with the LCD panel 11 is released from the LCD panel 11 (hereinafter referred to as 'tap-out' as appropriate), an application program corresponding to Application Dawaiting activation is activated." (Nakano at 34:52-56.) "A drag is available as a method for selecting a desired menu display entity as well as a tap. In case a desired menu display entity is not displayed in the menu screen 30, a drag is used, and in case it is displayed, a tap is used, in a selective way. In any case, it is possible to readily select a desired menu display entity thus enhancing its operability." (Nakano at 34:65-35:3.) "The application activation controller 320 calls the application program from the storage section 400 based on application activation condition data 426 and executes the application program. Also, in response with a tap by way of the stylus pen 20 or a 'push' on the side controller 14, the application activation controller 320 calls the application program from the storage section 400 and executes the application program." (Nakano at 36:5-12.) "In case the input determination section 311 has determined that operation is a tap (step S14: YES), the input determination section 311 determines whether the indicated position by the stylus pen 20 is included in which menu display area 31 (step S15).

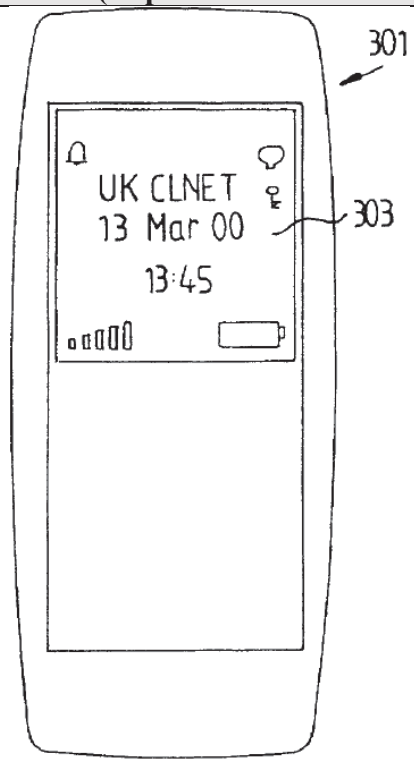
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	In case the input determination section 311 has determined that whether the indicated position is included in any menu display area 31 (step S15: YES), the Application activation controller 320 identifies the menu display area 31 which includes the indicated position and calls the application program 411 corresponding to the menu display entity displayed in the identified area and execute the application program (step S16).” (Nakano at 37:50-62.) “While an application program corresponding to a menu display entity which shifted to the activation wait state is activated by halting a drag and performing a tap-out after a predetermined period in that state in the embodiments, an application program corresponding to a menu display entity which is a candidate for selection at the point of tap-out may be activated.” (Nakano at 41:55-61.) Nakano discloses the following at FIG. 15:  FIG. 15

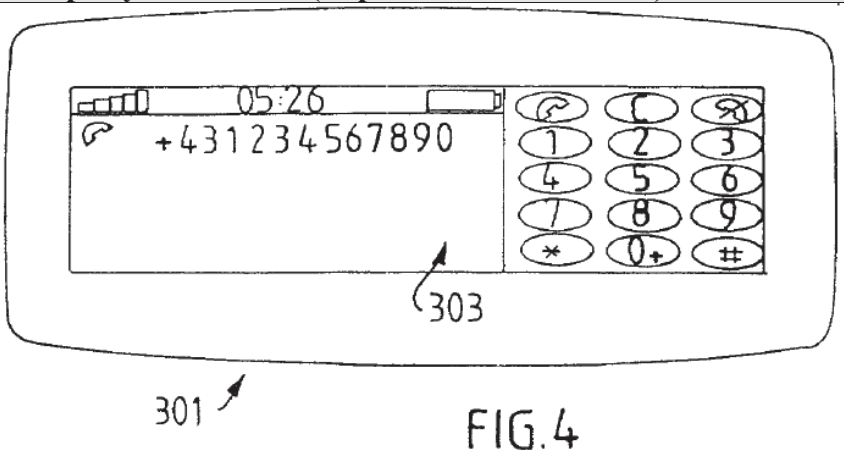
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Nakano at FIG. 15) "Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen." (Benoit at 3:5-8.) "Scrolling is carried out according to a method illustrated in the diagram in figure 2. When a user contacts the touch screen 3 by means of the control stylus 2, they use the stylus for pointing in step 7 in accordance with figure 2. If the stylus points at an icon in step 8, the operating system launches an application, in step 9, related to the pointed-at icon." (Benoit at 4:21-5:2.) "A third embodiment of the series of icons is illustrated in figure 4, showing a continuous banner 14 representing a given landscape. This banner may be a series of icons adjoined to one another or a series of distinct icons embedded in specific locations on the banner. Under these conditions, the control area 6 may include the entire surface of the touch screen 3. However, it is necessary to distinguish between a scroll command and an application launch command if the stylus points at an icon. An application launch command is characterized by a brief touch of the stylus on the icon. By contrast, a scroll command is characterized by a long pointing comprising a touch followed by a lateral displacement on any contact area over the entire surface of the touch screen. In this particular example, the icons can be represented by the active areas 15 and 16." (Benoit at 5:17-6:3.)

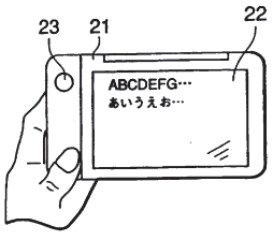
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5pre] The device of claim 1	Claim 5 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 5 are anticipated and/or obvious for the same reasons set out in claim 1. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[5a] wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." For example, Pensjo discloses displaying text in both portrait and landscape directions. (Pensjo at [0010], [0011], FIGS. 3, 4). Additionally, Pensjo explains that the text may be entered through a keyboard. (Pensjo at [0005], [0009], [0011], [0014].) Additional exemplary citations include: "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a "portrait" format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a "landscape" format including a numeric keyboard." (Pensjo at [0011].) "According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].) Pensjo discloses the following at FIGS. 3, 4:

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.4 (Pensjo at FIG. 4) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Kobayashi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. As another example, Kobayashi discloses a similar device to that disclosed by Pensjo and provides relevant teachings. Kobayashi teaches that is beneficial to have display which is operative to automatically adjust to the orientation it is being held in by the user. (Kobayashi at 2:5-23; see also *id*. at 19:25-20:4, FIGS. 4A, 4B.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Fig.4a  Fig.4b  "In this manner, the display screen on the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:25-20:4.) A POSITA would have been motivated to configure a mobile phone to display text in landscape direction and in portrait direction on said display unit when the device is used, respectively, in

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	landscape position and in portrait position. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Kobayashi. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily read text regardless of phone orientation, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Kobayashi into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (aligning the display orientation to the phone orientation, as taught by Kobayashi) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (reorienting the display based on device orientation as taught by Kobayashi) to improve similar devices in the same way (a mobile phone that allows a user to easily review text); (C) applying a known technique (reorienting the display based on device orientation as taught by Kobayashi) to a known device ready for improvement to yield predictable results (a mobile phone); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Kobayashi) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "The orientation at which data is displayed on portable terminal device is altered by detecting where the device is being held by a user. Pressure sensors or photo cells along two edges of the device may be used to alter the orientation by 90°. The orientation of data on the display may also be altered according to which function is being used or by operating a switch. Alternatively the device may have a plurality of displays at different orientations which may be used according to the way in which the terminal is being used. The portable terminal device may be a selective call receiver or a mobile telephone." (Kobayashi at Abstract.) "in view of the above-mentioned problems, in a preferred embodiment the present invention enhances an operability by controlling the direction of screen display on the display in accordance with whether or not the user's fingers and palm come into contact with a pressure sensor or a photo-detection sensor on any surface of a portable terminal device body." (Kobayashi at 13:14-19.) "When the mobile information terminal 31 is longitudinally used and held, the pressure sensors 33 and 34 are disposed on both the side surfaces of the mobile information terminal 31. The user's fingers and

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	palm ca-ne into contact with the pressure sensor 33 and/or the pressure sensor 34, whereby the direction of screen display on the display 32 is controlled. That is, when the user uses and holds the mobile information terminal 31 laterally as shown in Figs. 8a and 8b, the user's fingers and palm 10 do not c-cm into contact with the pressure sensors 33 and 34. Thus, the screen is displayed along the long side on the display 32. On the other hand, when the user uses and holds the mobile information terminal 31 longitudinally as shown in Figs. 9a and 9b, the user's fingers and palm come into contact with the pressure sensors 33 and/or 15 34. Thus, the screen is displayed along the short side on the display 32. In this way, the direction of display can be automatically changed in accordance with the direction in which the user views the display." (Kobayashi at 18:2-19.) "The direction of screen display on the display 32 is controlled by the controller 36 in accordance with whether or not the signal from. the pressure sensors 33 and 34 is detected. That is, when the user's fingers and palm do not cane into contact with the pressure sensors 33 and 34, the signal is not outputted from the pressure sensors 33 and 34. Thus, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm come into contact with the pressure sensors 33 and 34, the signal is outputted from the pressure sensors 33 and 34. When the signal is inputted from the pressure sensors 33 and/or 34, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the short side. The direction of screen display can be controlled in accordance with, for example, whether a binary signal has me value or the other value, instead of whether or not the signal is detected. When the telephone function is used, the telephone number to be called is inputted from the input section 35. The telephone number to be called inputted from, the input section 35 is translated/received from an antenna 42 through the controller 36 and a radio section 41. When the voice is transmitted/received, an audio amplifier 40, a receiver 38 and a microphone 39 are used as the input/output unit. When the data other than the voice is transmitted/received, the input section 35 and the display 32 are used. 2 5 In this manner, the display screen m the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:2-20:4.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The direction of screen display on the display 52 is controlled by the controller 56 in accordance with whether or not the signal from the photo-detection sensor 54 is detected. That is, when the user's fingers and palm are not put on the photo-detection sensor 54, the signal is not outputted from the photo-detection sensor 54. Thus, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm are put on the photo-detection sensor 54, the signal is outputted from the photo-detection sensor 54. When the signal is inputted from the photo-detection sensor 54, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the short side." (Kobayashi at 22:14-25.) "Moreover, the direction of screen display in the display can be 26 controlled in accordance with whether or not the user's finger and palm came into contact with the pressure sensor or the photo-detection sensor on any surface of the portable terminal device body. Thus, the direction of display screen on the display can automatically controlled in response to how the user holds the portable terminal device, without needing any user's operation. The operability can be thus enhanced." (Kobayashi at 25:27-26:6.) *See also* Kobayashi at Figs. 6, 7. Further, to the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Jambhekar. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

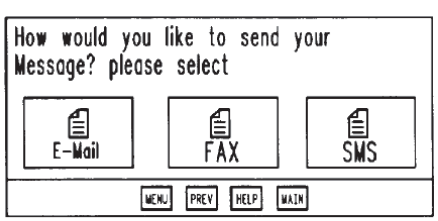


FIG.8A

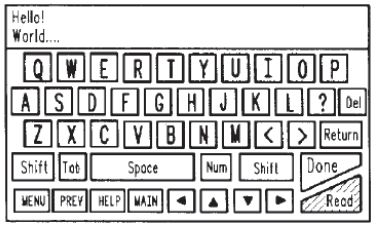


FIG.8B

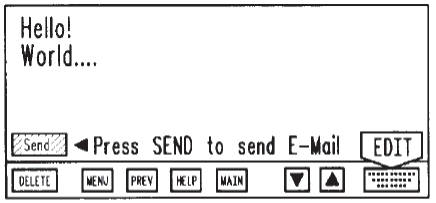


FIG.8C

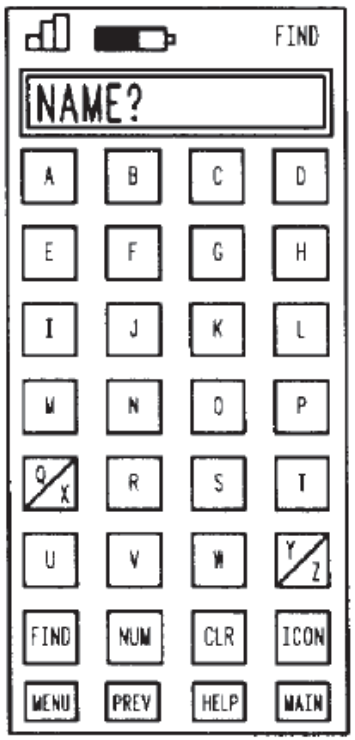


FIG.8D

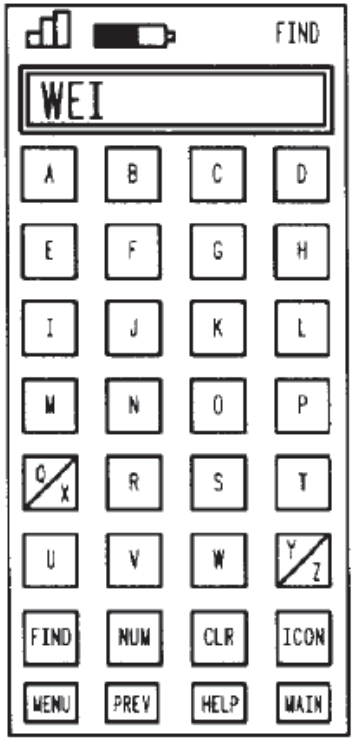


FIG.8E

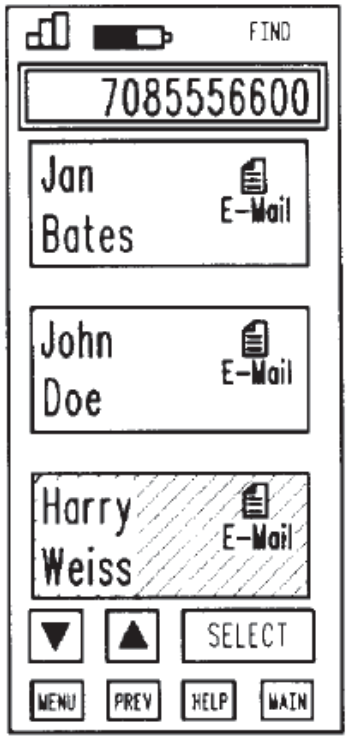
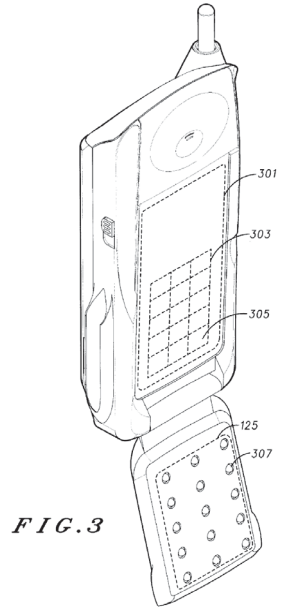
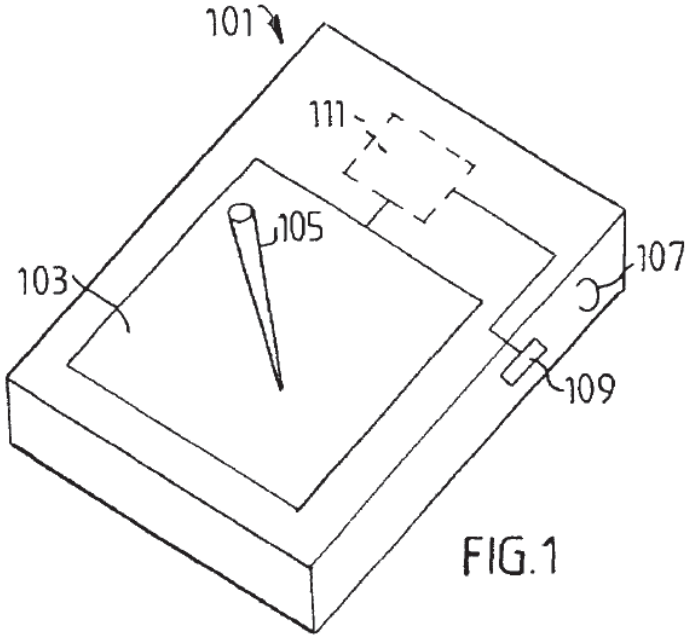


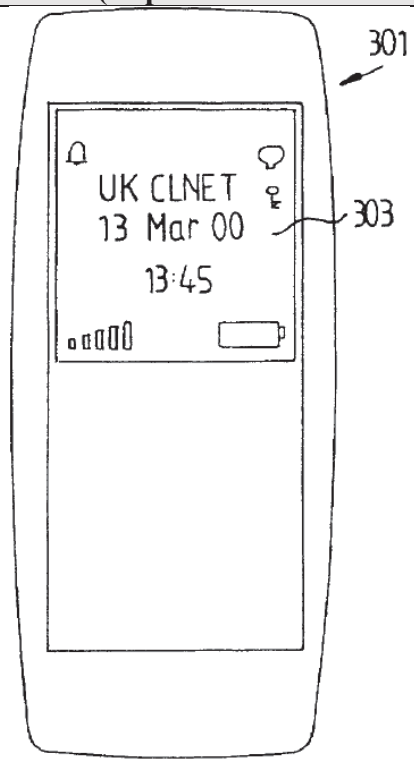
FIG.8F

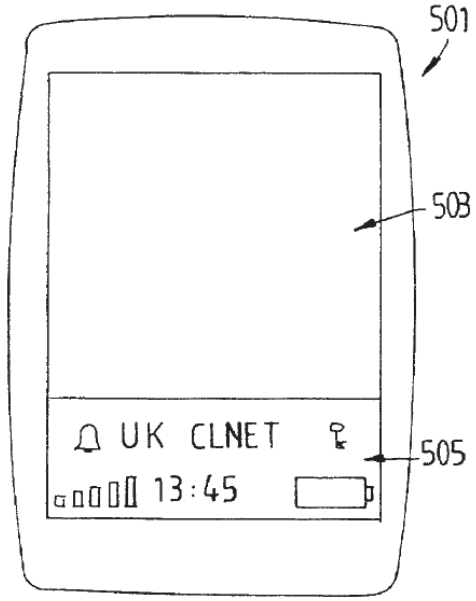
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text in either a portrait or landscape configuration. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Jambhekar. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard in either a portrait or landscape configuration as taught by Jambhekar) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard in either a portrait or landscape configuration as taught by Jambhekar) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard in either a portrait or landscape configuration as taught by Jambhekar) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:  FIG. 3 (Jambhekar at FIG. 3)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, Pensjo depicts a device where the width is less than the length. (Pensjo at FIGS. 1, 3, 5.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1 (Pensjo at FIG. 1)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3)

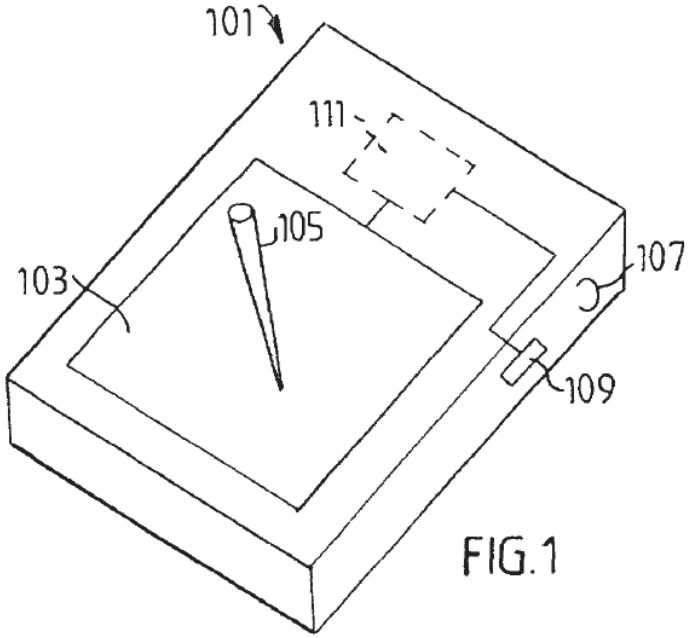
Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 5 (Pensjo at FIG. 5) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Rydbeck and/or Yamaguchi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck discloses a mobile phone wherein the length is 8-10 inches and the width is less than about 4 inches. (Rydbeck at 4:39-43.) As another example, Yamaguchi discloses a mobile phone 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) A POSITA would have found it obvious to configure the mobile phone as disclosed by Pensjo with width and length dimensions as claimed. Each of Rydbeck and Yamaguchi teaches configuring a mobile phone such that the width of the device is about half of its length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone with similar dimensions to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound produced by the speaker during a phone call. For example, as taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck and Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Rydbeck and/or Yamaguchi into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Rydbeck and Yamaguchi according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Rydbeck and Yamaguchi) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone with a width to length ratio as taught by Rydbeck and Yamaguchi) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck and Yamaguchi) that would

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:39-43.) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations

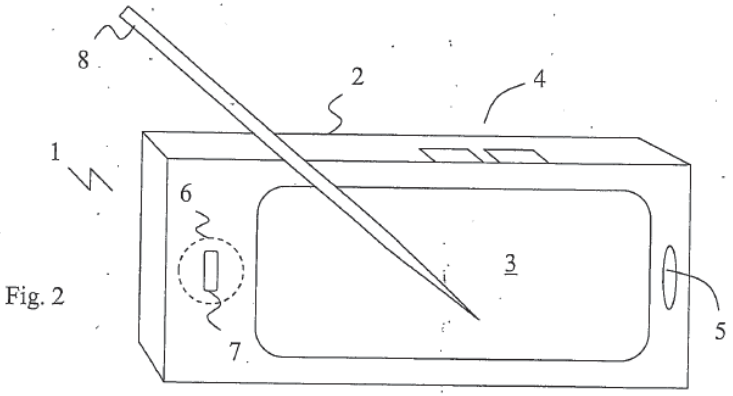
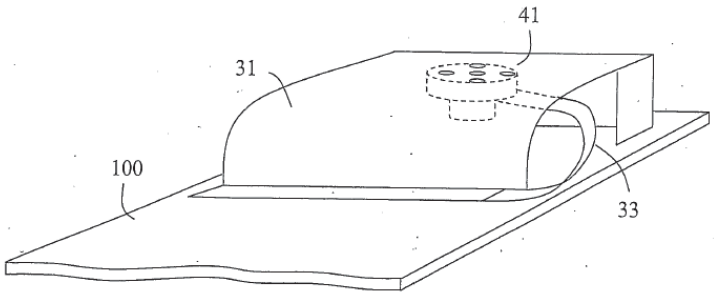
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, Pensjo depicts a mobile device where the thickness is less than the width.

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Pensjo at FIG. 1) Pensjo further discloses that the device may be stored in a pocket, necessitating a small thickness. (Pensjo at [0013].) Additional exemplary citations include: "According to one aspect of the invention, the device is in a first passive mode, or sleep mode, when the pen is present in the pen holder 107. In this state, the touch functionality of the screen is preferably not activated such that data or commands cannot be entered by mistake, e.g., when the device is located in a pocket or a suitcase. The screen may in this mode display various information, such as phone numbers, e-mails, reminder alerts etc. When the device switches from the first mode to a second active mode after the pen has been removed from the pen holder 107, the screen appearance changes into a layout designed for input of commands and/or data and also the touch functionality of the screen is activated." (Pensjo at [0013].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Yamaguchi and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi discloses a mobile phone that is 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) Thus, the mobile phone disclosed by Yamaguchi has a thickness that is 20 percent of its width. Further, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) A POSITA would have found it obvious to configure the mobile phone as disclosed by Pensjo with width and thickness dimensions as claimed. Yamaguchi teaches configuring a mobile phone such that the thickness of the device is 20 percent of its width, which improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and provides a display that is as large as possible. Wedel simultaneously teaches that there is demand for ever smaller, lighter phones. A POSITA would thus have been motivated to configure a mobile phone with a thickness to width ratio less than Yamaguchi's to gain market advantage. (Wedel at 1:14-21, 3:19-21.)

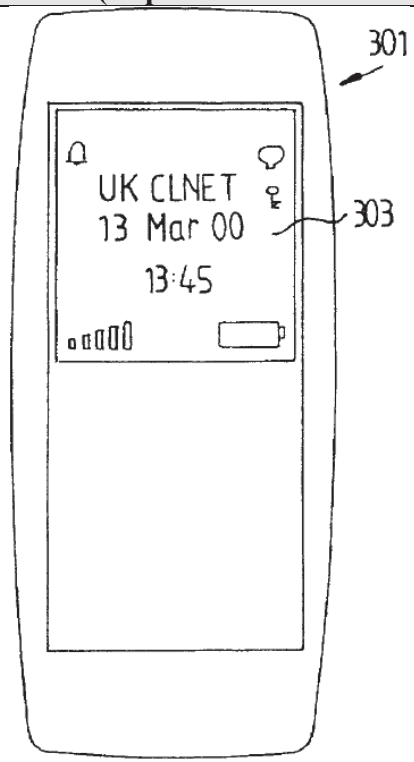
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve user experience and market demand as suggested by Wedel. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Wedel into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as suggested by Yamaguchi and Wedel) according to known methods to yield predictable results (improving the portability and marketability of a mobile phone); (B) use of a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and/or Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.)

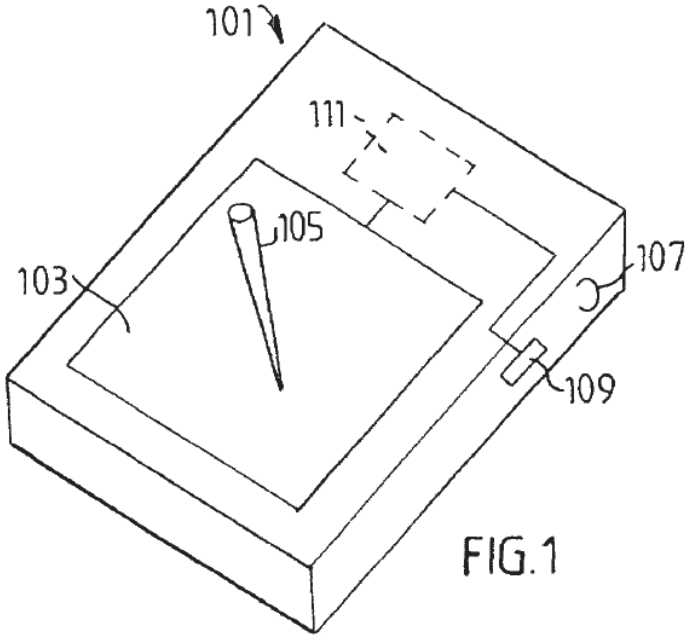
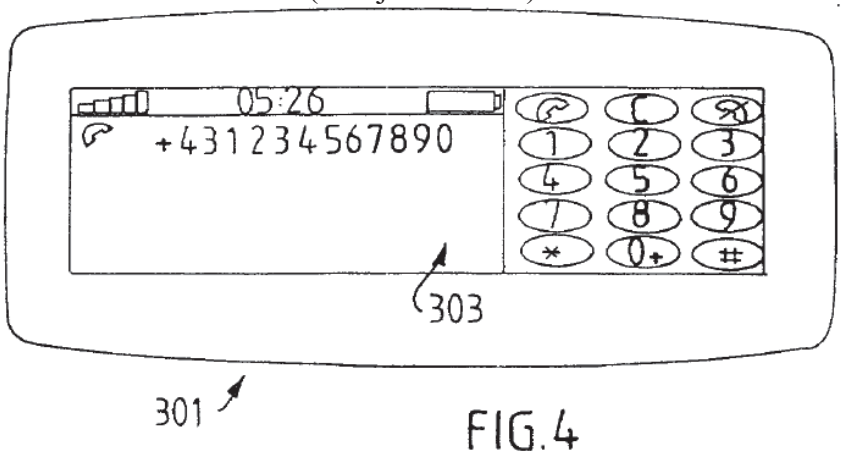
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:  Fig. 2 (Wedel at FIG. 2)  Fig. 11

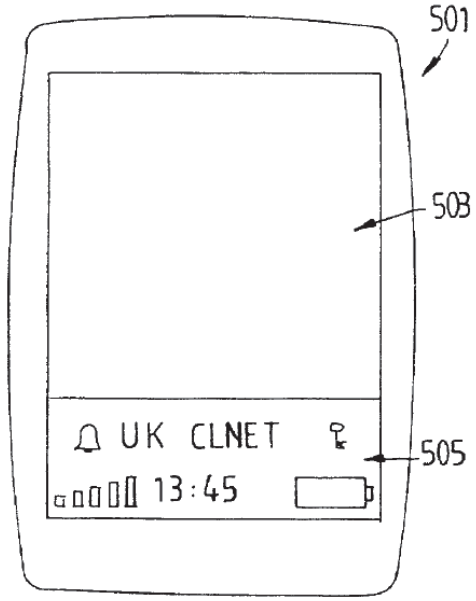
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Wedel at FIG. 11)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone." For example, Pensjo discloses a mobile telephone, which is a mobile phone. (Pensjo at [0007], [0010], [0011], FIGS. 1, 3-5.)

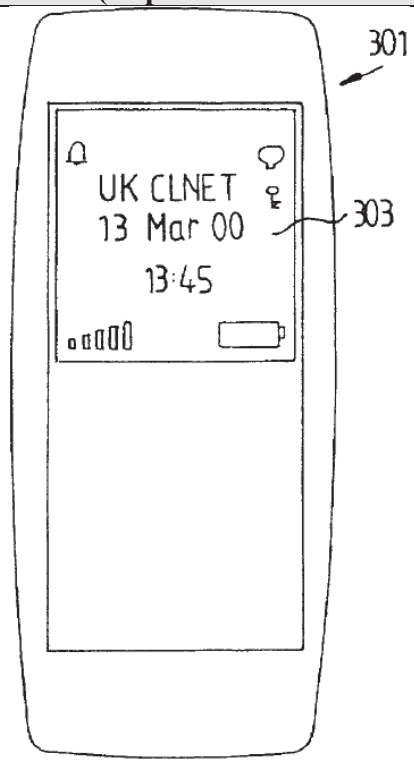
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3) Additional exemplary citations include: "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	- Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) Pensjo discloses the following at FIGS. 1, 4, and 5:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1 (Pensjo at FIG. 1)  FIG.4 (Pensjo at FIG. 4)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 5 (Pensjo at FIG. 5)
[9a] a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces,	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra*

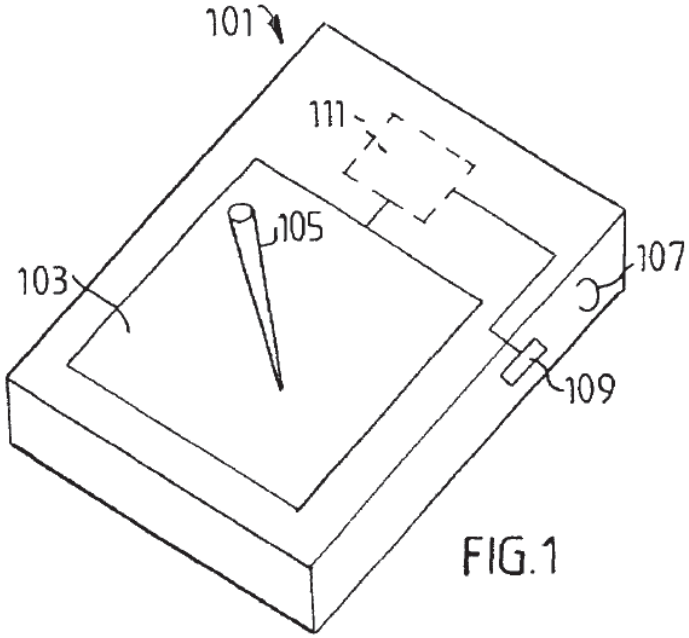
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
the ear and the mouth of a user and	claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").
[9c] wherein the width of the front surface of the mobile phone is significantly shorter than the length, and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").
[9d] wherein said body has a thin thickness	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").
[9e] a touch sensitive display unit	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, Pensjo discloses a touch screen display. (Pensjo at [0001]-[0004], [0006]-[0014], Claims 1, 5, 11, and 14, FIGS. 1, 3-5.)

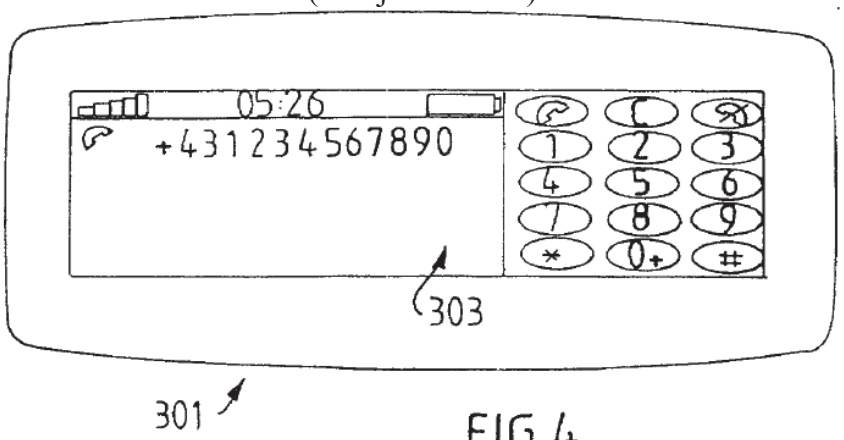
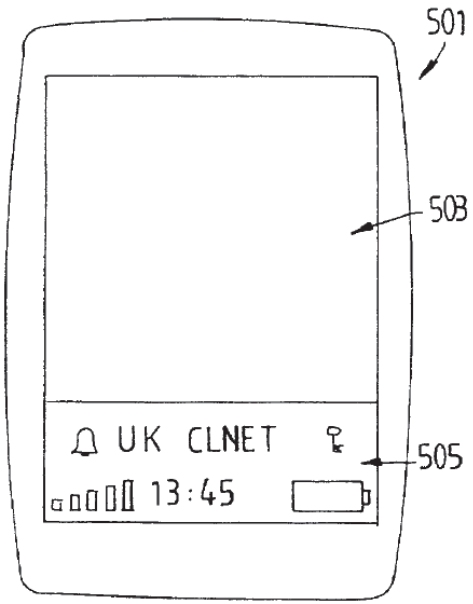
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3) Additional exemplary citations include: "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "Today, the use of portable or hand-held touch screen devices has become increasingly common. Examples of conventional touch screen devices include Personal Digital Assistants (PDA) and smart

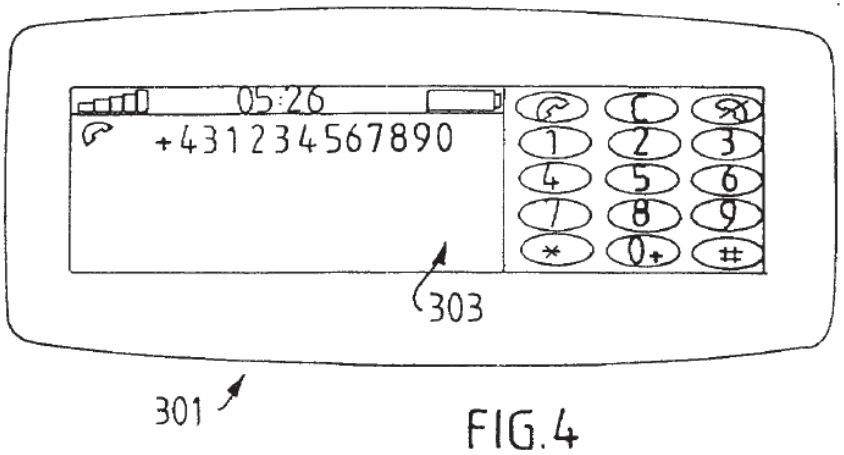
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	phones. These devices include a touch screen for presenting screen information and allowing the input of operational commands and/or data by touching the screen in a certain predefined manner. The screen can be touched by a human finger or, more commonly, by a pen-like pointing tool which is typically attachable to the device by means of some holding mechanism on the device. The pointing tool may be designed to have any shape, but most often it has a shape like a pen or stylus, and is hereafter referred to as a pen." (Pensjo at [0002].) "Presently, there is an increasing demand for touch screen devices which have improved functionality and are user-friendly." (Pensjo at [0003].) "It is an object of the present invention to provide a method and a device which facilitates the operation by a user of a portable touch screen device. This object and others are obtained by a method and a touch screen device, in particular a wireless communication device, wherein the presence of a pen in a pen holder of the touch screen device is detected by a mechanism, such as a switch. The appearance of the user interface, in particular the layout of the screen, is changed when the pen is removed from or placed in the pen holder. Also, the illumination characteristics of the screen, such as brightness or colour, may be changed in response to the presence of the pen in the pen holder." (Pensjo at [0004].) "The use of the pen detection mechanism will in many applications facilitate the use of a portable touch screen apparatus. For example, when a user of a smart phone removes the pen from the pen holder, the user probably wants to input some kind of information. If the screen then is automatically changed into a layout which is designed for input of information, this will be very helpful to the user." (Pensjo at [0006].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Fig. 1 illustrates a view of a portable device 101 comprising a touch sensitive screen display 103 used for input of operational commands and/or data. The device 101 further includes a pen 105 as a pointing tool for touching specific areas of the screen display 103 in a predefined manner. When not in use, the pen can be placed in a pen holder 107 of the portable device. The pen holder is in this example placed on the side of the device and comprises a ring for receiving the pen. The pen holder may of course be designed and placed in many different ways within the scope of the invention, such as a recess together with some kind of a spring-like element. The device 101 further comprises a mechanism 109 for detecting whether the pen is located in the holder or not, and an electronic control unit 111 connected to the pen detecting mechanism 109. The control unit 111 operates to control circuits, not shown, for displaying various patterns, pictures and/or information on the screen display 103." (Pensjo at [0008].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].)

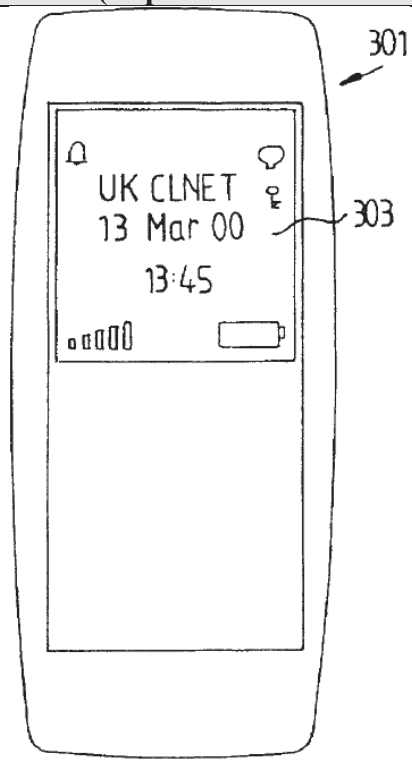
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Finally, Fig. 5 is a view of an exemplary electronic device 501, comprising a touch screen 503, where the device has changed from a sleeping mode into an active mode in response to the pen being removed from the pen holder, not shown. The user may be alerted of the change into the active mode by illuminating, e.g., the lower part 505 of the screen 503." (Pensjo at [0012].) "According to one aspect of the invention, the device is in a first passive mode, or sleep mode, when the pen is present in the pen holder 107. In this state, the touch functionality of the screen is preferably not activated such that data or commands cannot be entered by mistake, e.g., when the device is located in a pocket or a suitcase. The screen may in this mode display various information, such as phone numbers, e-mails, reminder alerts etc. When the device switches from the first mode to a second active mode after the pen has been removed from the pen holder 107, the screen appearance changes into a layout designed for input of commands and/or data and also the touch functionality of the screen is activated." (Pensjo at [0013].) "According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].) "A portable electronic device comprising a touch screen (103) for displaying a user interface, a pen (105) for entering commands and/or data to the touch screen (103), and a holder (107) for storing the pen (105), characterized by - a pen detecting mechanism (109) for detecting whether the pen (105) is located in the holder (107), and - a control unit (111) connected to the pen detecting mechanism (109) for changing the appearance of the user interface in response to signals from the pen detecting mechanism (109)." (Pensjo at Claim 1.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A device according to claim 4, characterized in that in the first passive mode, the touch screen (103) is non-responsive to input, and in the second active mode, the touch screen (103) is responsive to input." (Pensjo at Claim 5.) "A method of controlling a portable electronic device (101) comprising a touch screen (103) for displaying a user interface, a pen (105) for entering commands and/or data to the touch screen (103), and a holder (107) for storing the pen (105), characterized by the steps of: - detecting whether the pen (105) is located in the holder (107), and - changing the appearance of the user interface in response to the detecting step." (Pensjo at Claim 11.) "A device according to claim 4, characterized in that in the first passive mode, the touch screen (103) is non-responsive to input, and in the second active mode, the touch screen (103) is responsive to input." (Pensjo at Claim 14.) Pensjo discloses the following at FIGS. 1, 4, and 5:  FIG.1

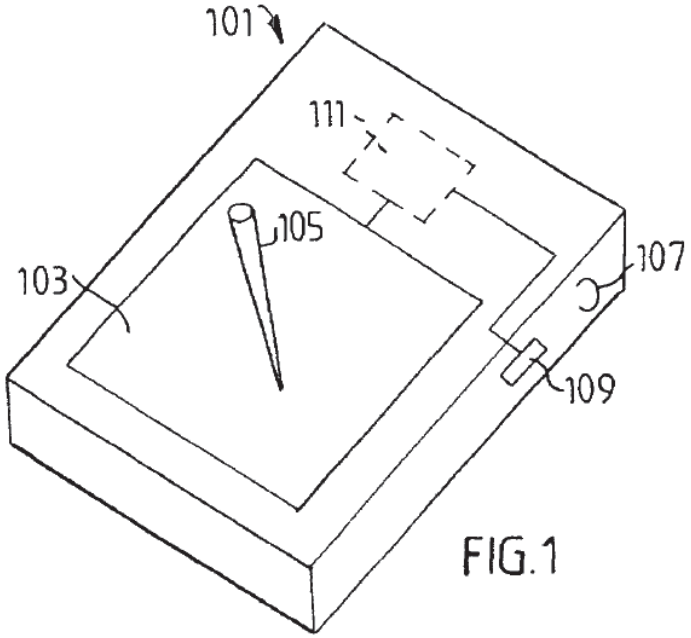
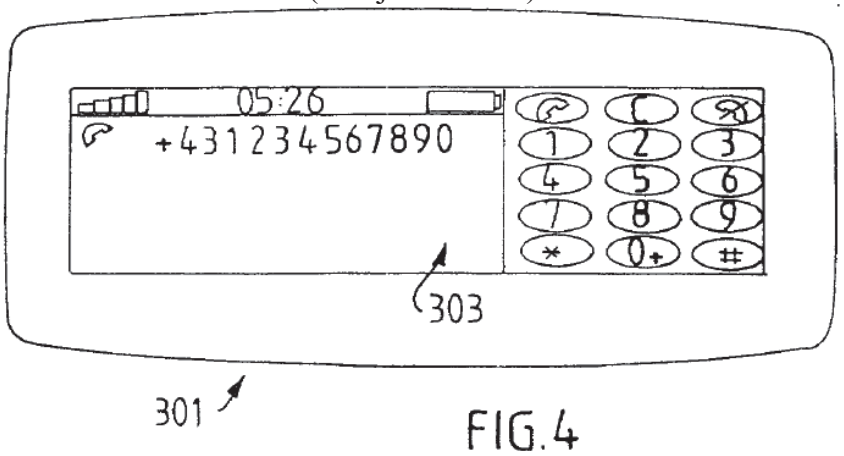
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Pensjo at FIG. 1)  FIG.4 (Pensjo at FIG. 4)  FIG.5

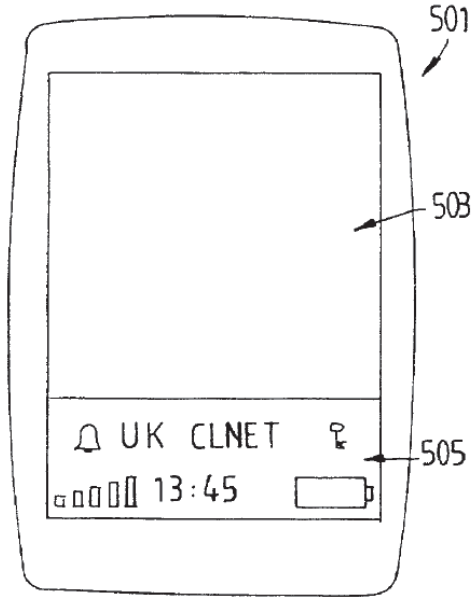
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Pensjo at FIG. 5)
[9f] a virtual keyboard to enter text; and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text." For example, Pensjo discloses "an alphabetic keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0005].) Pensjo's keyboard is virtual because it appears on the touch screen and allows input via touch instead of physical keys. (Pensjo at [0005], [0009], FIG. 4.)  FIG.4 (Pensjo at FIG. 4) Additional exemplary citations include: "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103

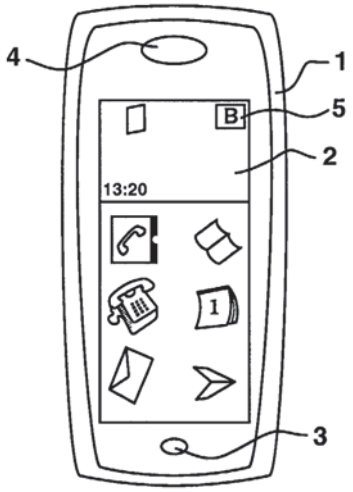
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].)
[9g] a microphone and a speaker	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, a POSITA would have understood that Pensjo's device would have inherently included a microphone and a speaker because it is intended for use as a "smart phone" or a "mobile telephone." (Pensjo at [0001], [0006], [0007], [0010], [0011], FIGS. 1, 3-5.) A POSITA would have understood a smart phone or mobile telephone to necessarily include a microphone and speaker for placing phone calls.

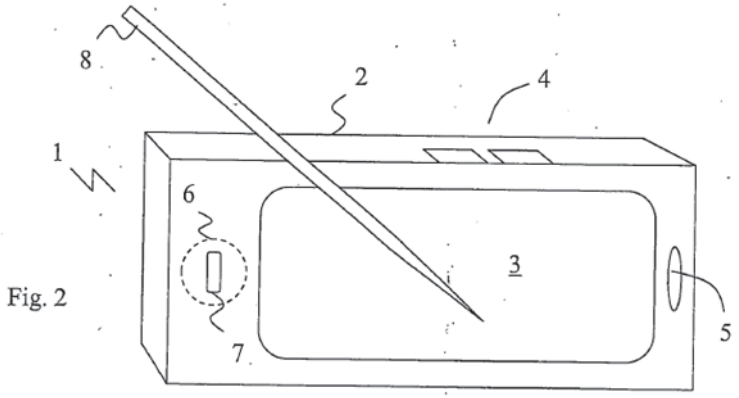
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3) Additional exemplary citations include: "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "The use of the pen detection mechanism will in many applications facilitate the use of a portable touch screen apparatus. For example, when a user of a smart phone removes the pen from the pen

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	holder, the user probably wants to input some kind of information. If the screen then is automatically changed into a layout which is designed for input of information, this will be very helpful to the user." (Pensjo at [0006].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) Pensjo discloses the following at FIGS. 1, 4, and 5:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1 (Pensjo at FIG. 1)  FIG.4 (Pensjo at FIG. 4)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 5 (Pensjo at FIG. 5) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Bast, Wedel, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

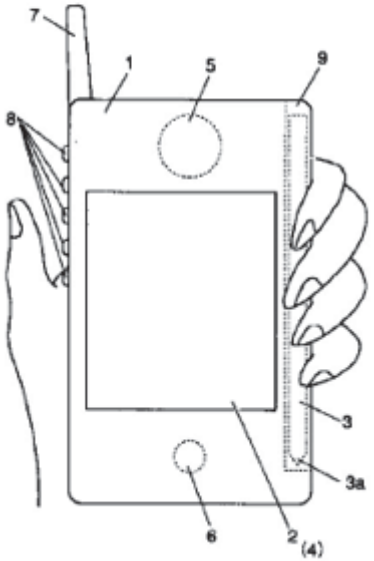
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Bast discloses that the housing includes a microphone 3 and a speaker 4 located at the bottom and top of the front surface of the housing, respectively. (Bast at [0010], FIG. 1)  Figure 1 (Bast at FIG. 1) For example, Wedel discloses that the terminal 1 includes "a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1." (Wedel at 2:1-11, FIG. 2.)

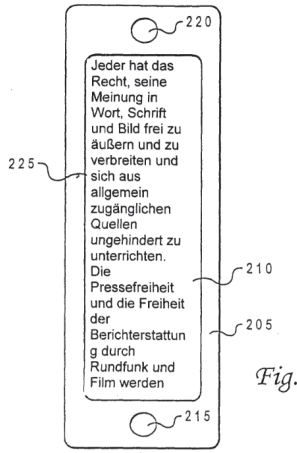
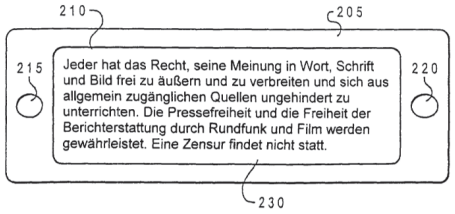
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2.) Additionally, Yamaguchi discloses a "mobile-communication-information terminal device" including a "speaker part 5" and a "microphone part 6." (Yamaguchi at claim 1, [0003], [0005], [0011], [0017], FIG. 1.) Additionally, Dutta discloses a mobile phone including a microphone and a speaker. (Dutta at [0018], FIGS. 2A-B.) A POSITA would have been motivated to configure a mobile phone to include a microphone and a speaker. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Bast, Wedel, Yamaguchi, and/or Dutta. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to make phone calls, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Bast, Wedel, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (including a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and Dutta) according to known methods to yield predictable results (a mobile phone that allows a place calls using the microphone and speaker); (B) use of a known technique (allowing a user to make calls using a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and Dutta) to improve similar devices in the same way (a mobile phone that allows a user to make phone calls); (C) applying a known technique (allowing a user to place calls using a microphone and

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	speaker as taught by Bast, Wedel, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Wedel, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. . . . A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:1-11.) "A mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, the device being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed

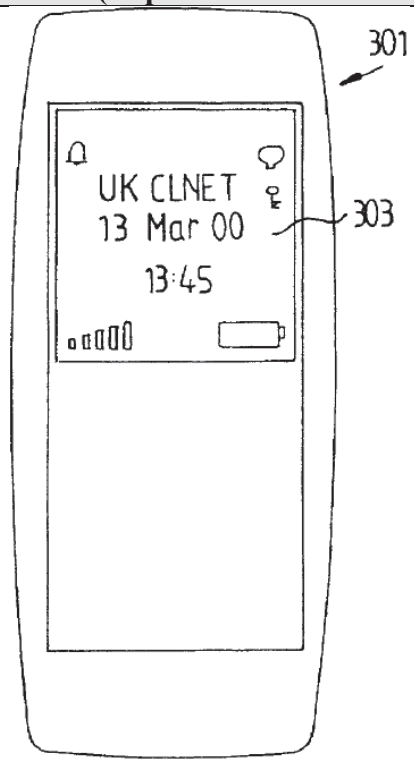
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body." (Yamaguchi at claim 1.) "FIG. 7 is a front view of a mobile-communication-information terminal device according to the existing art. In the mobile-communication-information terminal device according to the existing art, as shown in FIG. 7, a liquid-crystal display part 2, which outputs and displays text, graphics data, and wireless status, is provided on a front-surface portion of a device body 1; a touch panel part 4, by which data inputs are made by touching with a pen tip, is disposed on a front surface of the liquid-crystal display part 2; a pen-housing part 9 for housing a pen 3 is located on a lower portion of the liquid-crystal display part 2; and an antenna part 7 is located on a rear surface of the liquid-crystal display part 2 and near a side-surface portion thereof. Moreover, various manipulable switches 8 are provided on the same surface as the liquid-crystal display part 2 and at locations centered on the liquid-crystal display part 2 in a left-right direction, and a speaker part 5, which outputs audio, and a microphone part 6, by which audio is inputted, are disposed on the same surface as the liquid-crystal display part 2 and centered on the liquid-crystal display part 2 in the left-right direction. In addition, although not shown in the drawings, a card-housing part for a memory card having a data storage function and, adjacent thereto, a card EJECT button having an EJECT function are provided on a lower portion of the device body 1, and the device body 1 has a shape having overall horizontally elongated dimensional ratios." (Yamaguchi at [0003].) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to

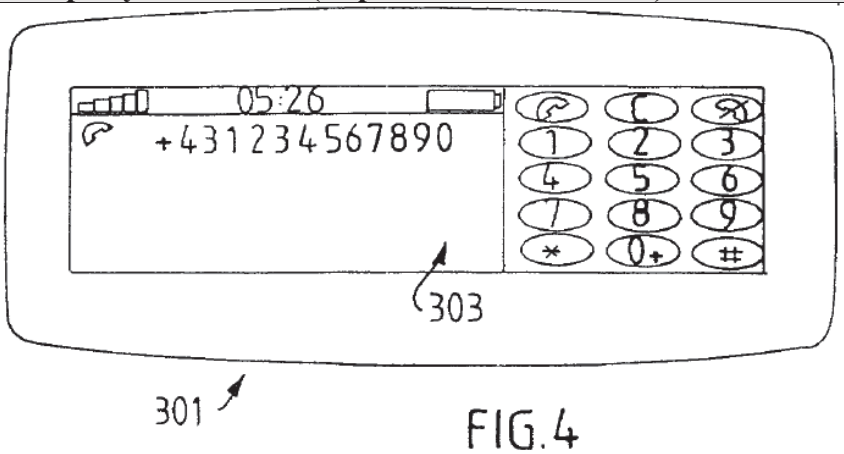
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "EMBODIMENTS OF THE INVENTION The invention according to claim 1 of the present invention is a mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, and the device being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body; thus, the invention has the effects that, if pen input is not required, then various manipulations can be performed with the one hand holding the device body, and audio input/output can be performed without adjusting one's grip on the device body, thereby improving ease of manipulation." (Yamaguchi at [0011].) "As shown in FIG. 1 and FIG. 2, the mobile-communication-information terminal device is constituted by: a liquid-crystal display part 2, which is disposed on a front-surface portion of a device body 1 and outputs and displays text and graphics data; a touch panel part 4, which is disposed on a front-surface portion of the liquid-crystal display part 2 and by which inputs can be made by touching with a tip 3a of a pen 3; a speaker part 5, which outputs audio and is disposed at an upper portion of the liquid-crystal display part 2 and on the same surface as the liquid-crystal display part 2; a microphone part 6, into which audio is inputted and which is disposed at a lower portion of the liquid-crystal display part 2 and on the same surface as the liquid-crystal display part 2; an antenna part 7 and various manipulable switch parts 8, which are disposed on a same-side surface portion of the device body 1; a pen-housing part 9, which is disposed on a side-surface portion of the device body 1 opposite the aforementioned; and the like; furthermore, the various manipulable switch parts 8 are disposed at locations such that they can be manipulated by the thumb of one hand holding the device body 1." (Yamaguchi at [0017].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Yamaguchi discloses the following at FIG. 1: FIG. 1 1: Device body 2: Liquid-crystal display part 3: Pen 4: Touch panel part 5: Speaker part 6: Microphone part 7: Antenna part 8: Various manipulable switches 9: Pen-housing part  (Yamaguchi at FIG. 1.) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority

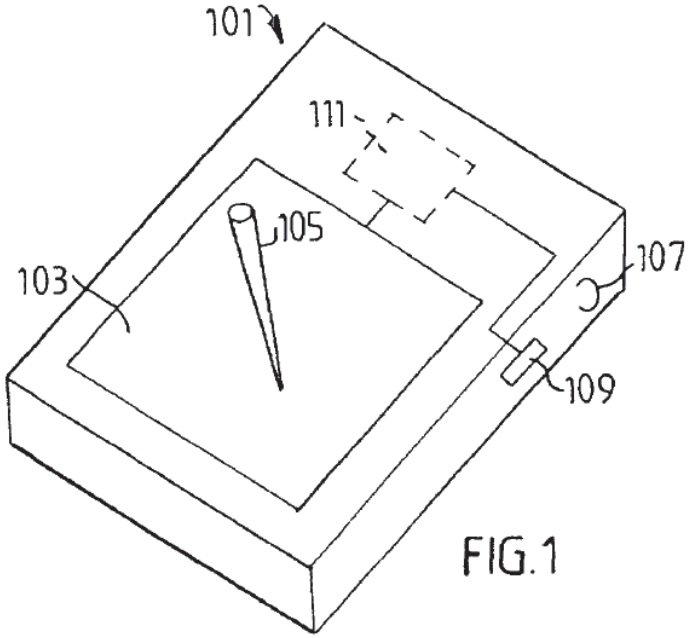
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].) Dutta discloses the following at FIGS. 2A-B:  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B)
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See*

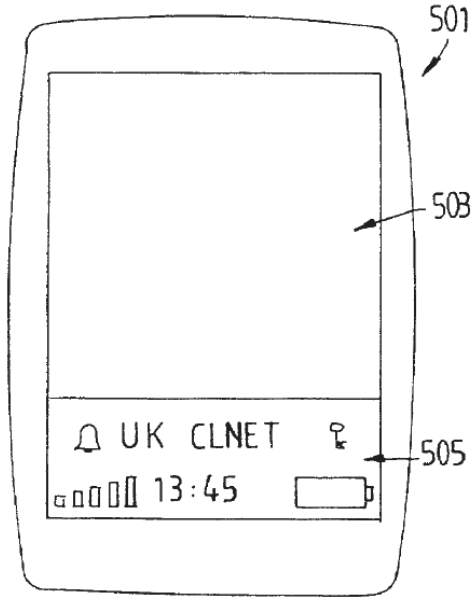
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
integrated within said mobile phone and	*supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").
[9i] wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text, and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f]. For example, Pensjo discloses a mobile phone that does not include a physical key on the front surface. (Pensjo at FIGS. 1, 3-5.) Pensjo also teaches that the touch screen includes a virtual keyboard. (Pensjo at [0005], [0009], [0011], [0014].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3)

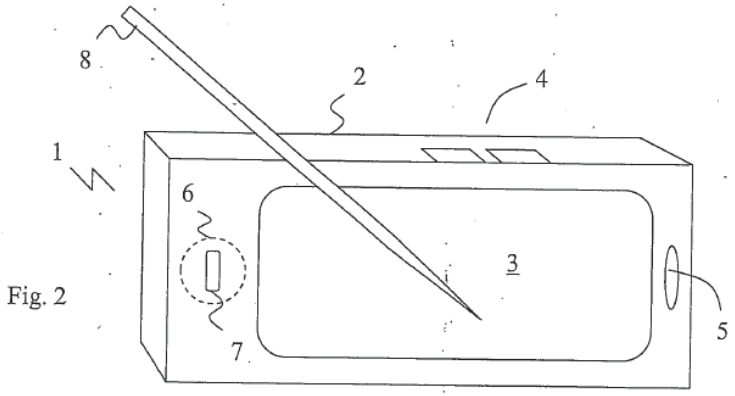
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.4 (Pensjo at FIG. 4) Additional exemplary citations include: "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) "According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].) Pensjo discloses the following at FIGS. 1 and 5:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1 (Pensjo at FIG. 1)

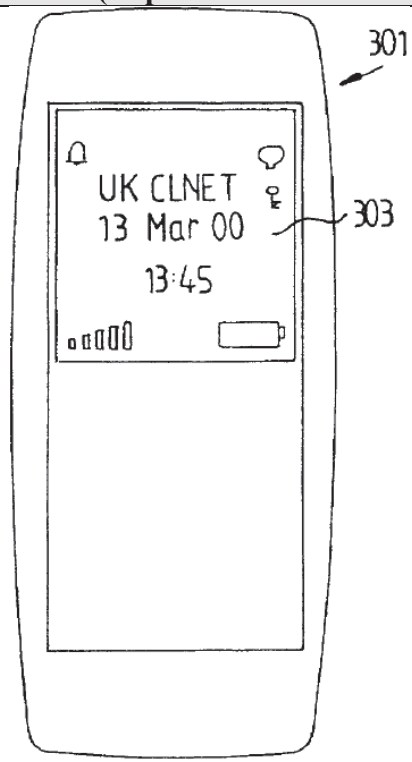
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 5 (Pensjo at FIG. 5) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:

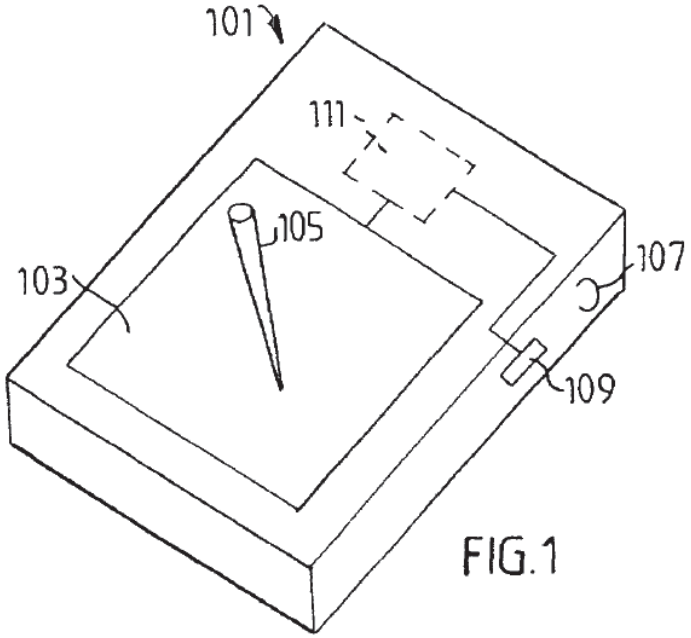
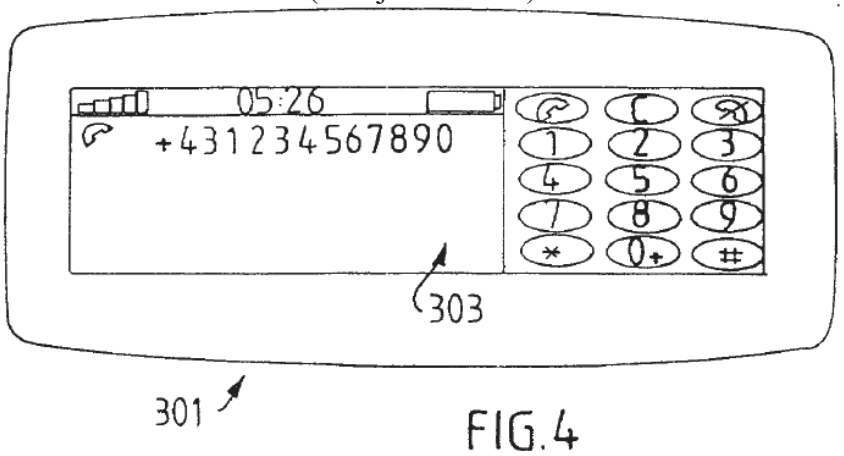
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2)
[9j] wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

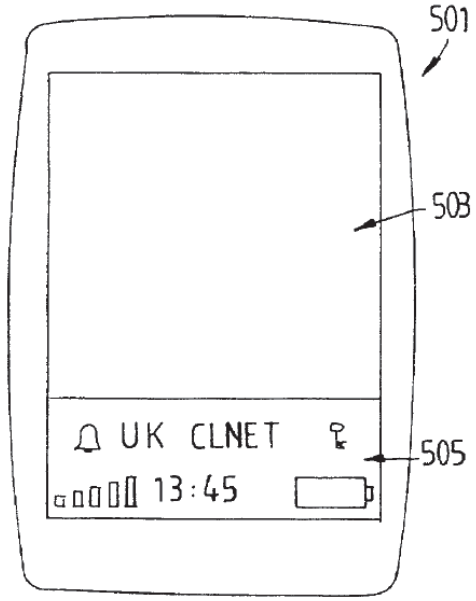
Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9.

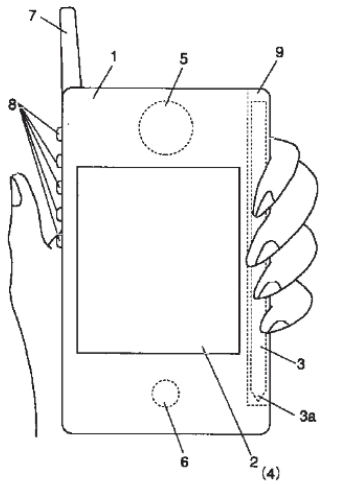
Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[10a] wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user." For example, a POSITA would have understood that Pensjo's device would have inherently included a microphone located near the bottom of the housing and a speaker located near the top of the housing because it is intended for use as a "smart phone" or a "mobile telephone." (Pensjo at [0001], [0006], [0007], [0010], [0011], FIGS. 1, 3-5.) *See also supra* claim [9g]. A POSITA would have understood a smart phone or mobile telephone to necessarily include a microphone and speaker for placing phone calls, and would have also understood that the speaker should be located near the user's ear and the microphone should be located near the user's mouth.

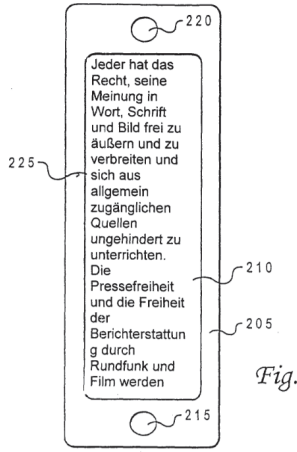
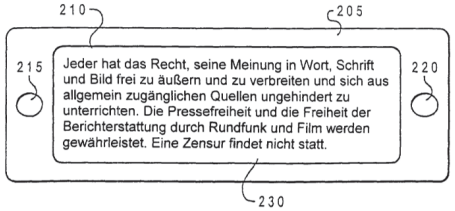
Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3) Additional exemplary citations include: "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "The use of the pen detection mechanism will in many applications facilitate the use of a portable touch screen apparatus. For example, when a user of a smart phone removes the pen from the pen

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	holder, the user probably wants to input some kind of information. If the screen then is automatically changed into a layout which is designed for input of information, this will be very helpful to the user." (Pensjo at [0006].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) Pensjo discloses the following at FIGS. 1, 4, and 5:

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1 (Pensjo at FIG. 1)  FIG.4 (Pensjo at FIG. 4)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 5 (Pensjo at FIG. 5) To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the distance between the ear and mouth of a user corresponds to the distance between the ear and the mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1) 【図１】 1 装置本体 2 液晶表示部 3 ペン 4 タッチパネル部 5 スピーカー部 6 マイク部 7 アンテナ部 8 各種操作スイッチ 9 ペン収納部 

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Pensjo such that the distance between the microphone and speaker of the device corresponds to the distance between a user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	this way in order to improve operability and device performance. A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (the mobile phone of Pensjo with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) "A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
	any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

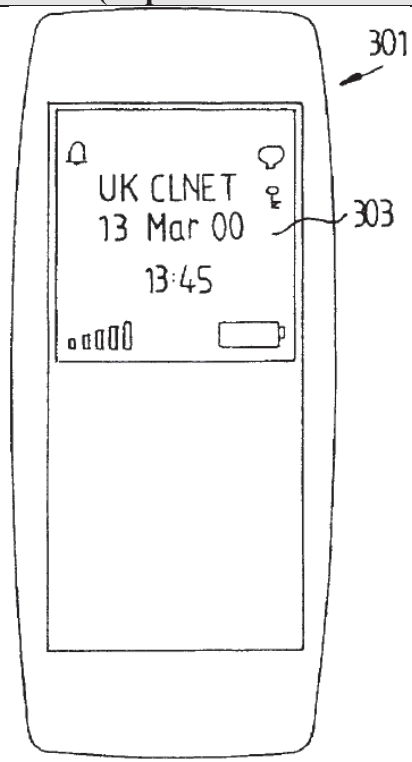
Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[12a] wherein plurality of icons corresponding to plurality of applications	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
are displayed on said display unit, and	
[12b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

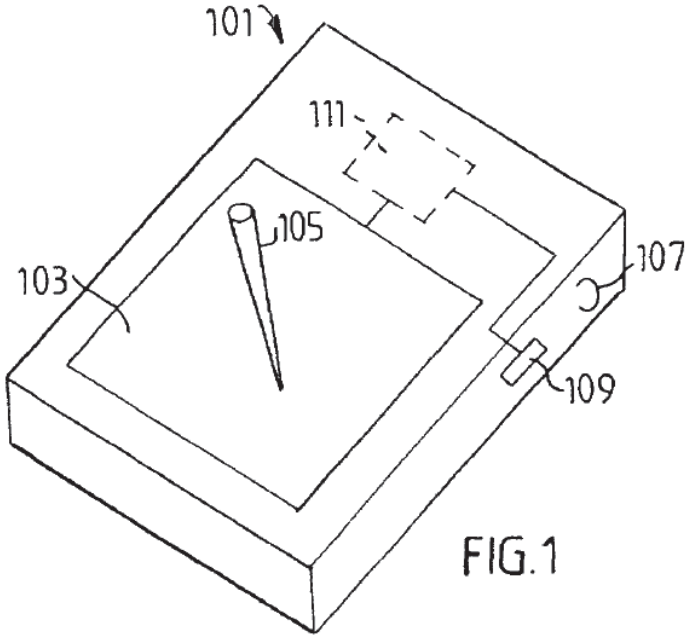
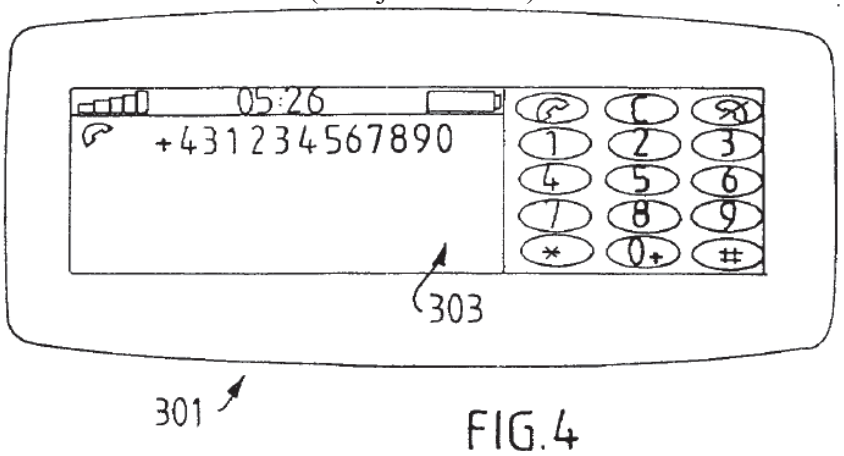
Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendants incorporate all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].
[13a] wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

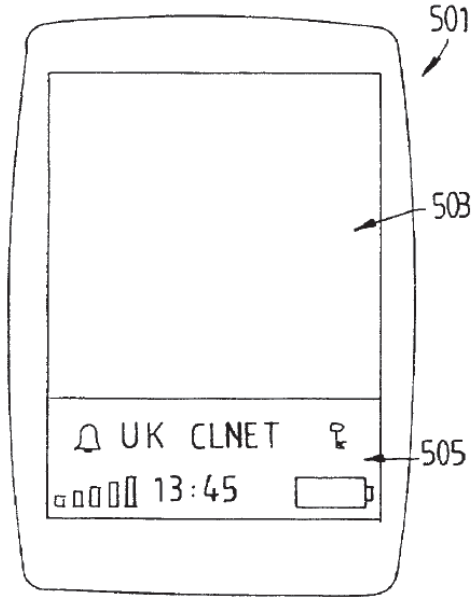
Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Pensjo discloses a mobile telephone, which is a mobile phone device. (Pensjo at [0007], [0010], [0011], FIGS. 1, 3-5.)

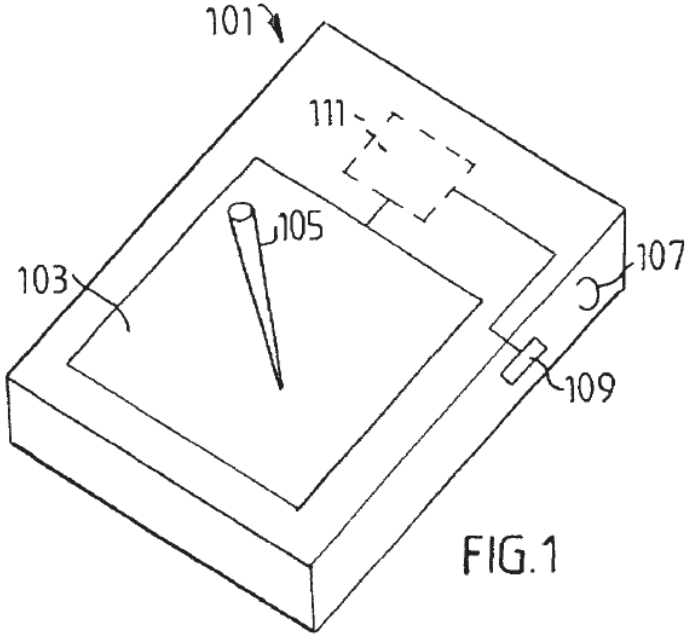
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3) Additional exemplary citations include: "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which:

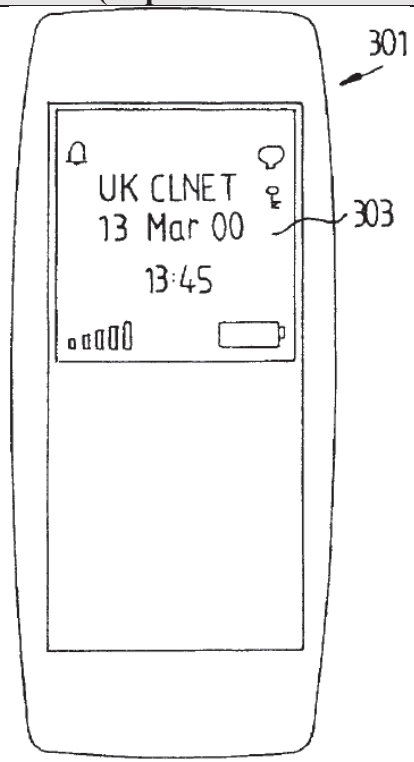
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	- Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].) Pensjo discloses the following at FIGS. 1, 4, and 5:

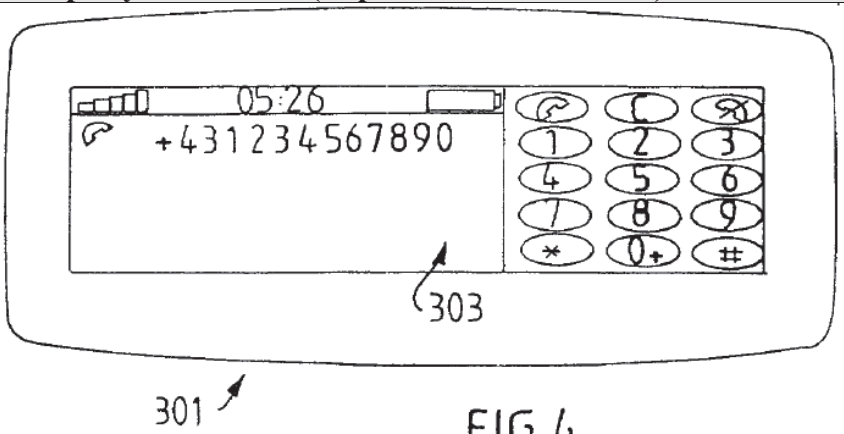
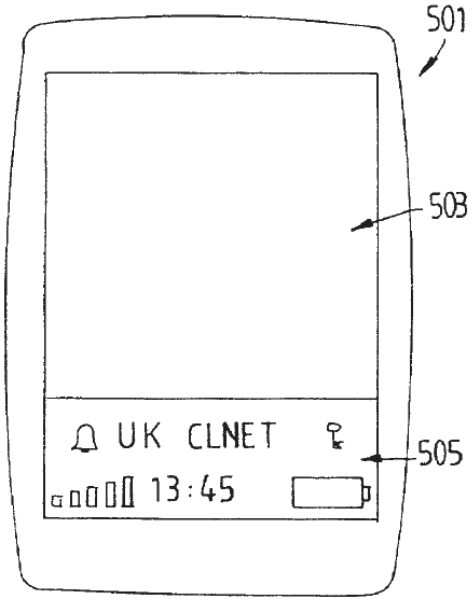
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1 (Pensjo at FIG. 1)  FIG.4 (Pensjo at FIG. 4)

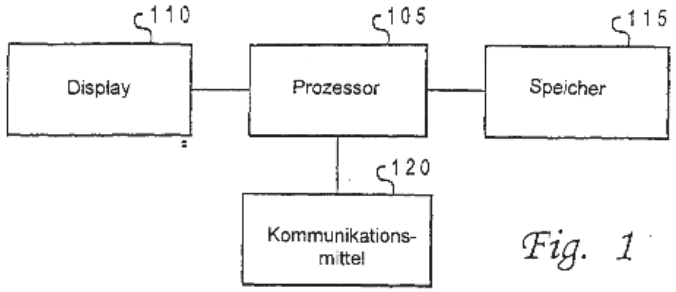
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 5 (Pensjo at FIG. 5)
[15a] a body having a practically rectangular shape;	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].
[15b] a processor; and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor." For example, a POSITA would have understood that Pensjo's device would have inherently included a processor because it is intended for use as a "smart phone" or a "mobile telephone." (Pensjo at [0001], [0006], [0007], [0010], [0011], FIGS. 1, 3-5.) Pensjo explains, for example, that its device includes a

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"control unit," (Pensjo at Abstract, [0008], [0009]), which a POSITA would have understood to be a processor. Additional exemplary citations include: "The present invention relates to a portable touch screen device, such as a PDA (Personal Digital Assistant) or a smart phone, and is intended to facilitate the operation of the device by a user." (Pensjo at [0001].) "The use of the pen detection mechanism will in many applications facilitate the use of a portable touch screen apparatus. For example, when a user of a smart phone removes the pen from the pen holder, the user probably wants to input some kind of information. If the screen then is automatically changed into a layout which is designed for input of information, this will be very helpful to the user." (Pensjo at [0006].) "The present invention will now be described in more detail and with reference to the accompanying drawings, in which: - Fig. 1 is a perspective view of a portable device comprising a touch screen used for input of commands and/or data. - Fig. 2 is a flowchart illustrating method steps performed when the apparatus of Fig. 1 is used. - Fig. 3 is a front view of a mobile telephone comprising a touch screen being in a first mode. - Fig. 4 is a view similar to that of Fig. 3, the touch screen being in a second mode. - Fig. 5 is a front view of a hand-held electronic device comprising a touch screen." (Pensjo at [0007].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a 'portrait' format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a 'landscape' format including a numeric keyboard." (Pensjo at [0011].)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Pensjo discloses the following at FIGS. 1 and 3-5:  (Pensjo at FIG. 1)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3 (Pensjo at FIG. 3)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.4 (Pensjo at FIG. 4)  FIG.5 (Pensjo at FIG. 5)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Pensjo does not disclose or render obvious this limitation, it would have been obvious in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of Pensjo combined with Dutta and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Dutta discloses a mobile phone that includes a processor 105 capable of writing data to a display 110. (Dutta at [0015], FIG. 1) In addition, the processor can read and write data to memory and communicate with a wireless network. (*Id*.)  (Dutta at FIG. 1) As another example, Benoit discloses a communication tool including a "data processing unit," or "central processing unit," which is a processor. (Benoit at 1:6-7, 3:22-24, claim 10.) A POSITA would have been motivated to configure a mobile phone to include a processor. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Dutta and Benoit. A POSITA would have been motivated to include a processor to allow the phone to

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	execute instructions, improving operation for the user. Thus, a POSITA would have considered the combination of the teachings of Dutta and/or Benoit into the mobile phone architecture disclosed by Pensjo to be an example of (A) combining prior art elements (including a processor in a mobile phone as taught by Dutta and Benoit) according to known methods to yield predictable results (proving computing and/or processing capability); (B) use of a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to improve similar devices in the same way (providing computing and/or processing capability); (C) applying a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to a known device ready for improvement to yield predictable results (providing computing and/or processing capability); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Dutta and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Pensjo to arrive at the claimed invention. Additional exemplary citations include: "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "The present invention relates to a method for navigating a computer program by means of a touch screen. It has a particularly interesting application in a personal digital assistant (PDA) for launching an application or even for general navigation within a program or between multiple programs. However, the invention has a broader scope because it can be applied to any communication tool comprising a touch screen and a data processing unit. In current communication tools, such as microcomputers, there is an operating system capable of managing all the programs present in the

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	computer. In general, the human-machine interface of such an operating system presents a set of active areas." (Benoit at 1:3-10.) "According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 3:22-24.) "A communication tool equipped with a touch screen and a central processing unit for carrying out a method according to any one of the preceding claims." (Benoit at claim 10.)
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device;	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device." *See supra* claim [1e] (discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of Pensjo, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].
[15e] wherein upon identifying an input corresponding to a sweeping action provided	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit.	displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit").A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
	rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[17a] wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a] (discussing limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[18a] wherein said device does not include a	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
physical key on the front surface of the device.	Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface")

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15. Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15.

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Pensjo, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position").

Appendix C3

Exhibit C3
Invalidity of Asserted Claims of the '144 Patent
in view of Mouton

United States Patent Application Publication No. 2002/0067346 to Mouton ("Mouton"), filed on September 21, 2001, and published on June 6, 2002, qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and/or AIA 35 U.S.C. § 102(a)(1) and (a)(2).[1] Mouton anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends Mouton does not disclose one or more limitations of the claims, it would have been obvious to combine Mouton with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of Mouton and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- European Patent Application Publication No. 1336949 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C1.
- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C6.

- United States Patent No. 8,375,334 to Nakano et. al ("Nakano"), filed on May 9, 2003, and granted on February 12, 2013, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C4.

- United Kingdom Patent Application Publication No. 2331204 to Kobayashi ("Kobayashi"), filed on November 5, 1998, and published on May 12, 1999, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

- French Patent Application Publication No. 2830093 to Benoit et al. ("Benoit"), filed on September 25, 2001, and published on March 28, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1).

- European Patent Application Publication No. 1229428 to Pensjo ("Pensjo"), filed on February 2, 2001, and published on July 8, 2002, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C2.

- United States Patent No. 5,848,356 to Jambhekar et al. ("Jambhekar"), filed on October 2, 1995, and granted on December 8, 1998, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to Mouton, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

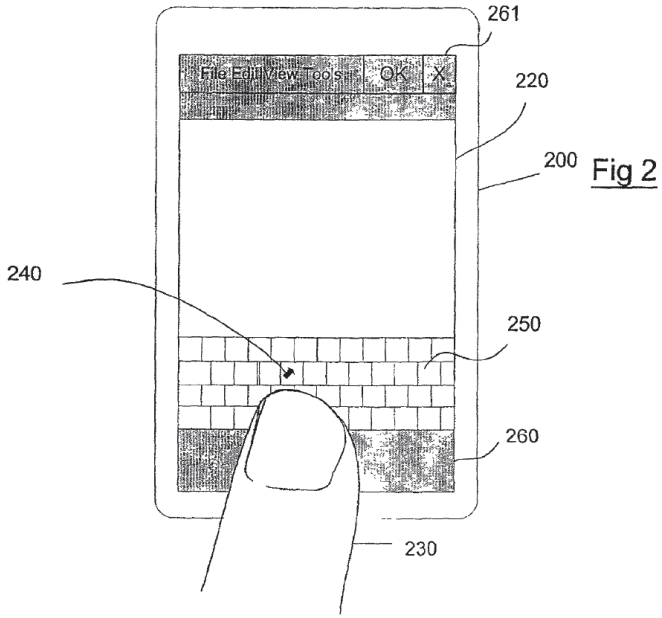
Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserves the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims

in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

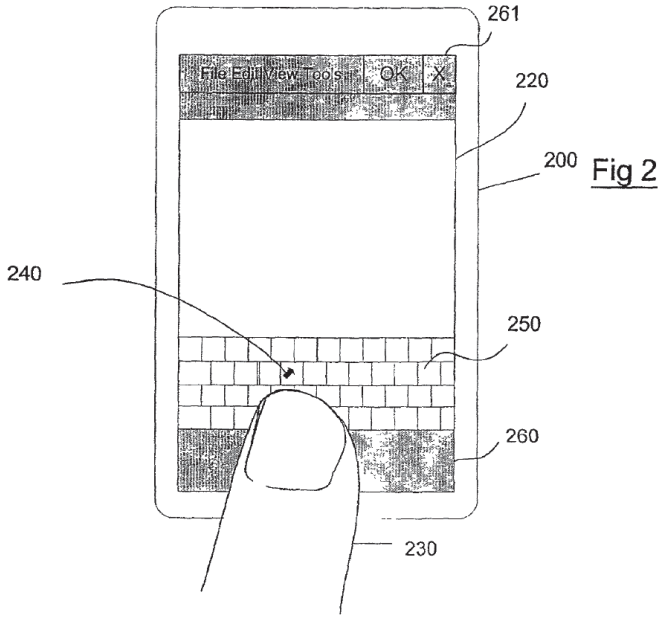
To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

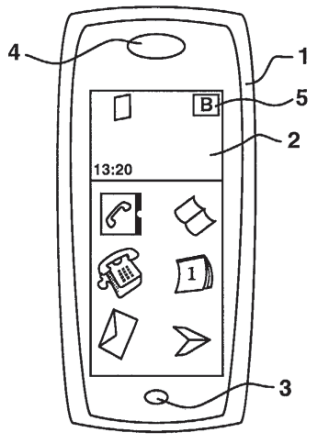
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Mouton discloses an electronic device, which may be a personal digital assistant or a mobile telephone, which is a mobile phone device. (Mouton at abstract, [0001], [0003], [0004], [0015], [0034], Claim 1, FIG. 2.)

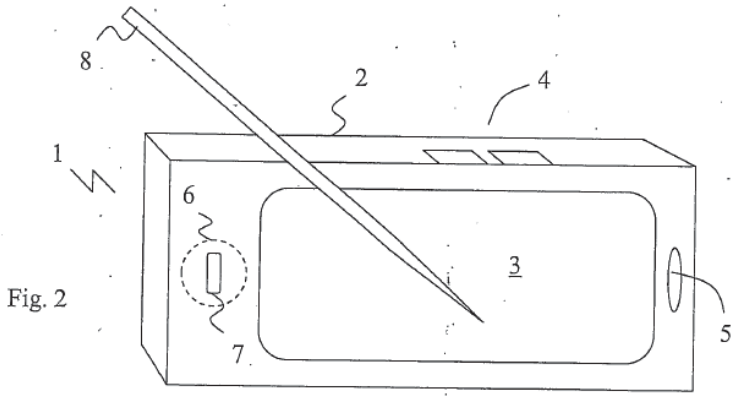
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig 2 (Mouton at FIG. 2) Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) "Due to increasing focus on compactness of electronic devices, however, the displays, especially in portable electronic devices, are becoming smaller and smaller. Popular electronic devices with a smaller display area include electronic organizers, PDA's (personal digital assistants), and graphical display-based telephones. Also available today are communicators that facilitate various types of communication such as voice, faxes, SMS (Short Messaging Services) messages, e-mail, and Internet-related applications. These products can likewise only contain a small display area. Often such devices do not use a full keyboard or a mouse, rather the display screens of these devices are touch sensitive to allow data input. A wide variety of gesture-based and other user interface techniques have been used and proposed to facilitate data entry through the touch screen." (Mouton at [0003].) "For instance, U.S. Pat. No. 5,745,116 describes a user interface for a mobile telephone in which a user performs a manual selection or a gesture selection of a screen object on a screen using a pointing device. After a manual selection, such as a single tap, the electronic device automatically presents a temporary directional palette having palette buttons that explicitly state functions of the electronic device. Each palette button has a unique compass direction relative to the original tap area. By making a second tap on a desired palette button, a novice user learns available functions of the electronic device and their corresponding directional gestures. Alternately, the user may perform a gesture selection of both a screen object and a function, such as making a double tap or drawing a line in the appropriate direction, before the directional palette appears on the screen." (Mouton at [0004].) "A personal digital assistant embodying the invention will now be described, by way of non-limiting example, with reference to the accompanying diagrammatic drawings, in which:" (Mouton at [0015].) "Whilst the invention is particularly useful in portable, handheld devices, it will be understood that technique may be applied to any kind of device, whether portable or not, that includes a tactile display, for instance printers, photocopiers, fax machines as well as industrial machinery." (Mouton at [0034].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Apparatus having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user, wherein the input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at Claim 1.)
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, Mouton discloses a rectangular housing for a mobile phone that contains the components of a mobile phone. (Mouton at abstract, [0001], FIG. 2.) The housing includes a front surface, a back surface, and four side surfaces. (Mouton at abstract, [0001], FIG. 2.)

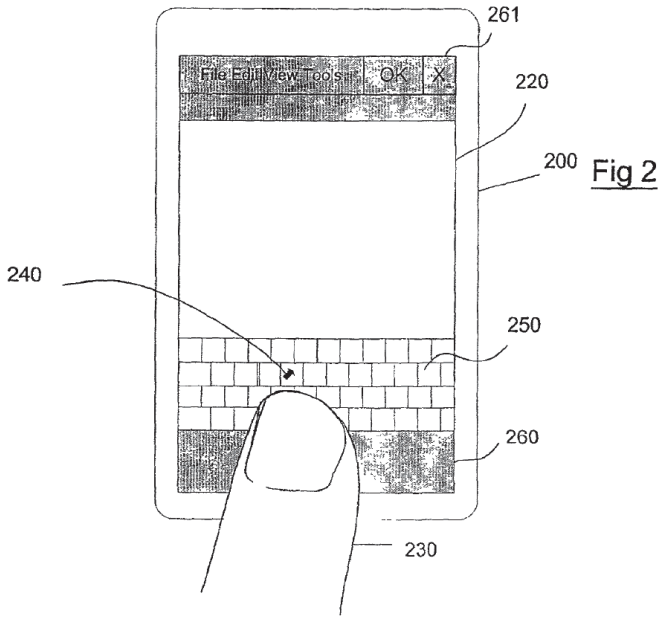
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig 2 (Mouton at FIG. 2) Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Bast and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Bast discloses rectangular housing 1 that contains the components of a mobile phone, such as a large screen 2, a microphone 3, and a speaker 4. (Bast at [0003], [0010], FIG. 1.) The housing includes a front surface, a back surface, and four side surfaces. (Bast at [0003], [0010], FIG. 1.)  Figure 1

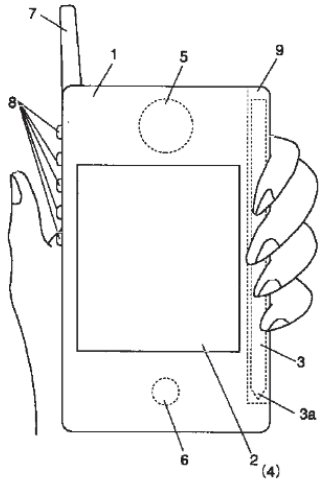
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Bast at FIG. 1) Similarly, Wedel discloses a mobile phone device including multiple components, such as a screen, a microphone, and a speaker. (Wedel at 2:1-11, FIG. 2.)  Fig. 2 (Wedel at FIG. 2) A POSITA would have understood that to be functional a mobile phone must include several components, such as a screen, a microphone, and a speaker, and that they would be included in the housing as Bast and Wedel teach. (Bast at [0003], [0010], FIG. 1; Wedel at 2:1-11, FIG. 2.) Because Mouton discloses a housing for a mobile phone, (Mouton at abstract, [0001], FIG. 2), a POSITA would have understood that the necessary components would be included within the housing. A POSITA would have been motivated to configure a mobile phone to include multiple necessary components. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Bast and Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to make phone calls, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Bast and/or Wedel into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (integrating multiple necessary components in a mobile phone housing as taught by Bast and Wedel) according to known methods to yield predictable results (a mobile phone that includes the necessary

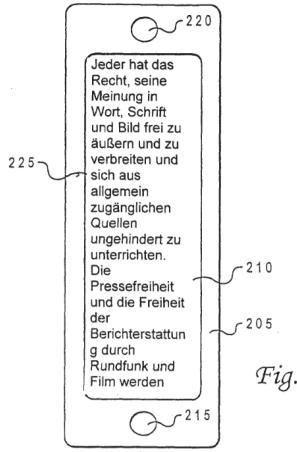
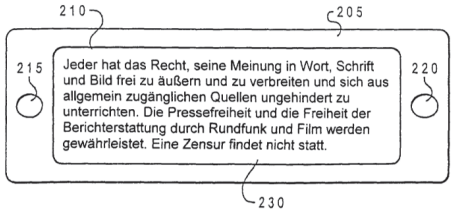
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	components to function); (B) use of a known technique (integrating multiple necessary components in a mobile phone housing as taught by Bast and Wedel) to improve similar devices in the same way (a mobile phone that includes the necessary components to function); (C) applying a known technique (integrating multiple necessary components in a mobile phone housing as taught by Bast and Wedel) to a known device ready for improvement to yield predictable results (a mobile phone that includes the necessary components to function); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast and Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "For ergonomic reasons, particularly related to the distance between the user's mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular." (Bast at [0003].) "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "According to the invention, the tilt of the housing is detected by accelerometers. These electronic sensors are now widely used in automobiles, particularly for the triggering of airbags®. They are sufficiently small so as to have no direct impact on the volume of the device in which they are integrated and are no more sensitive to drops than any electronic component, which enables them to endure the conventional mechanical constraints of consumer electronics. They can also be placed automatically on a printed circuit board and soldered automatically. They therefore do not adversely

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	affect the mass-production of products that integrate them. Additionally, they do not pollute." (Bast at [0015].) "The terminal illustrated in Figure 6 includes two accelerometers 9a and 9b, disposed perpendicularly to one another, in a plane parallel to a horizontal surface 10 when the terminal housing 1 is held vertically. An accelerometer 9 conventionally supplies signals representative of the coordinates, in a plane, of a mass moving in this plane as a function of the forces of gravity and acceleration exerted on the accelerometer. The accelerometer 9a enables the central processing unit to determine the rolling of the terminal, i.e., its pivoting movements perpendicular to the axis of the accelerometer 9a, while the accelerometer 9b makes it possible to measure the pitch, i.e., the pivoting movements perpendicular to the axis of the accelerometer 9b. Because the two accelerometers 9a and 9b are orthogonal, they enable the central processing unit 7 to determine the movements of the housing in three dimensions, accounting for both gravity and acceleration. The central processing unit 7 can thus determine the orientation of the housing and, consequently, that of the screen 2 in space." (Bast at [0016].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].) *See also* Bast at [0012], [0019]-[0023], Figs. 6, 8-9. "However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. . . . A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:1-11.)
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user."

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
and the mouth of a user and	A POSITA would have understood the length of Mouton's device would correspond to the distance between the ear and mouth of the user because the device is a mobile telephone, and such dimensions would have been obvious to allow the user to hold an end of the device containing a speaker against their ear and an end of the device containing a microphone near their mouth. (Mouton at abstract, [0001], FIG. 2.) *See also infra* [9g].  (Mouton at FIG. 2) Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.) "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

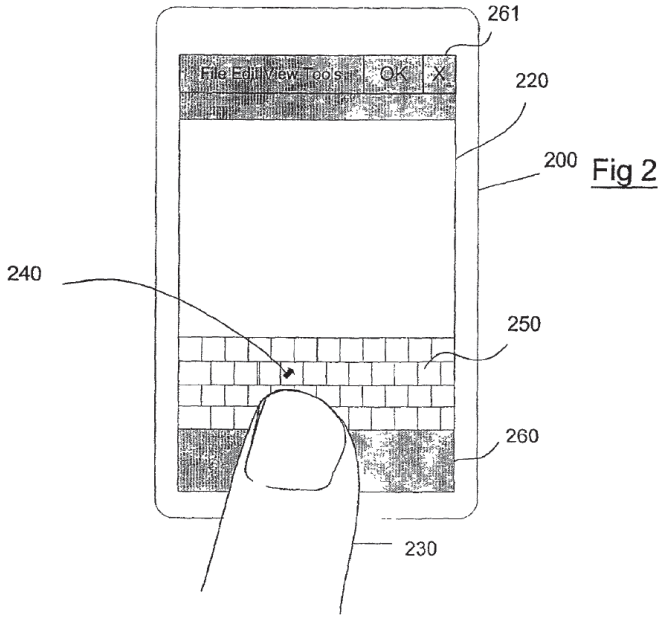
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Mouton such that the length of the front surface of the mobile phone, and correspondingly the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta, [0003].) A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be

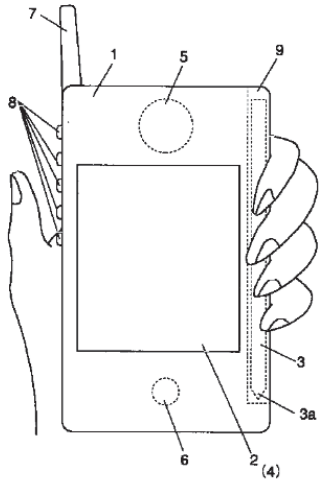
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (the mobile phone of Mouton with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

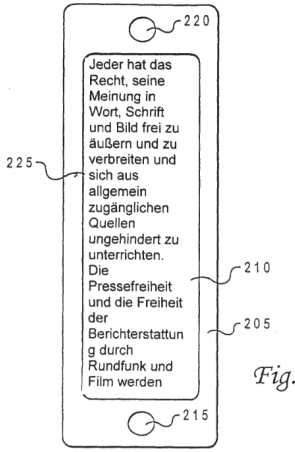
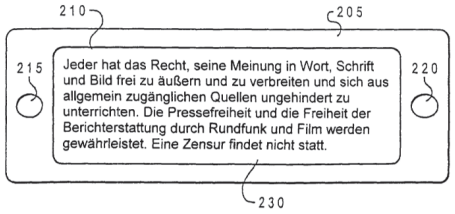
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)
[1c] wherein the width of the front surface is substantially shorter than the length and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length." For example, Mouton discloses a mobile phone, including its front surface, where the width of front surface is shorter than the length. (Mouton at abstract, [0001], FIG. 2.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig 2 (Mouton at FIG. 2) Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Yamaguchi and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi, discloses a mobile phone that is 100-150mm in length and 60-75mm in width. (Yamaguchi at [0009].) Yamaguchi explains that this mobile phone sizing improves portability and operability because it allows a user to store the phone in a pocket of clothing, hold it one hand, and operate the device with ease. (Yamaguchi at [0015], FIG. 1.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) For example, Dutta teaches that the ideal size for a mobile phone is determined by the typical ear-to-mouth distance of a user. (Dutta at [0003].) And Dutta further explains the result of this design motivation and consideration is that mobile phones themselves are "long and narrow," with "one edge length significantly larger than the other edge length." (Dutta at [0004], [0006], [0008], [0017], FIGS. 2A-2B.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone as disclosed by Mouton such that the width of the front surface is shorter than the length. Each of Yamaguchi and Dutta teaches configuring a mobile phone such that the width of the front surface is shorter than the length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	produced by the speaker during a phone call. As taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) Similarly, as explained by Dutta, the ideal size of a mobile phone is based on the distance between a user's ear and mouth, which naturally results in phones becoming long and narrow such that the length is longer than the width of the device. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Yamaguchi and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Dutta into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Yamaguchi and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Yamaguchi and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone such that the width to length dimensions are as taught by Yamaguchi and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been

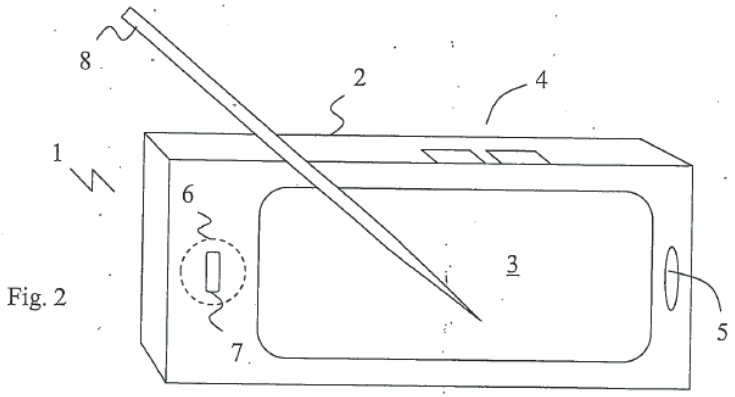
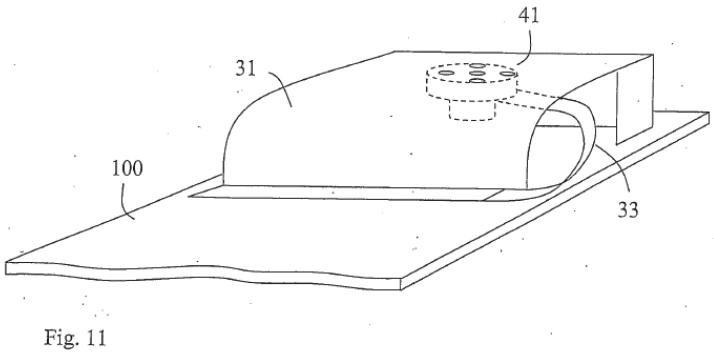
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A further object of the present invention is to provide an improved method of displaying data on a handheld device, in which one edge length of the display is significantly larger than the other edge length." (Dutta at [0008].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) *See also infra* claim [7].
[1d] wherein the housing has a thin thickness; and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the housing has a thin thickness." For example, Mouton explains that there is an "increasing focus on compactness of electronic devices," leading to them "becoming smaller and smaller." (Mouton at [0003].) A POSITA would have understood that to achieve a more compact device, thickness of the device would be minimized. Additional exemplary citations include:

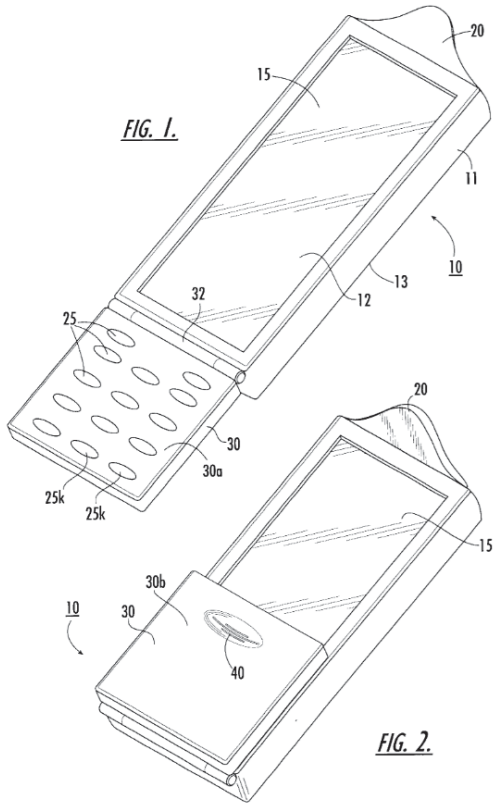
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Due to increasing focus on compactness of electronic devices, however, the displays, especially in portable electronic devices, are becoming smaller and smaller. Popular electronic devices with a smaller display area include electronic organizers, PDA's (personal digital assistants), and graphical display-based telephones. Also available today are communicators that facilitate various types of communication such as voice, faxes, SMS (Short Messaging Services) messages, e-mail, and Internet-related applications. These products can likewise only contain a small display area. Often such devices do not use a full keyboard or a mouse, rather the display screens of these devices are touch sensitive to allow data input. A wide variety of gesture-based and other user interface techniques have been used and proposed to facilitate data entry through the touch screen." (Mouton at [0003].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Wedel, Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Wedel, Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like. For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must have been thin. As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].) Dutta similarly teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires that the device is thin so that a user's hands can wrap around its edges. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the housing has a thinness as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, Yamaguchi, and Dutta) that would

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the

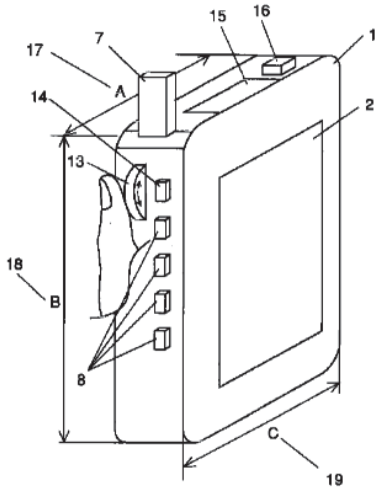
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:  Fig. 2 (Wedel at FIG. 2)  Fig. 11 (Wedel at FIG. 11) "The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular

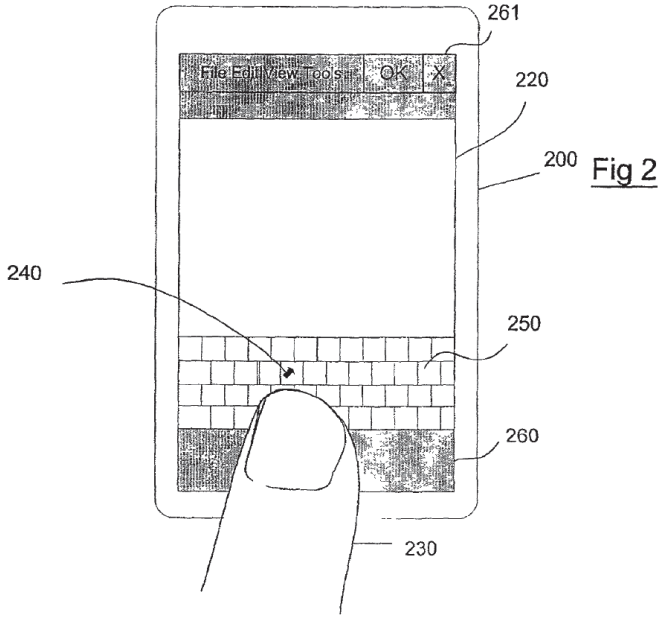
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore, a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized" wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.) "The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.) "Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and "rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].) "According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].) "Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図6】  "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) *See also infra* claim [8].
[1e] a display unit integrated within the front surface of said housing	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit integrated within the front

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
wherein said display unit practically covers the entire front surface of said housing;	surface of said housing wherein said display unit practically covers the entire front surface of said housing." For example, Mouton discloses a touch screen display that is integrated into the front surface of the housing and covers the majority of the front surface of the housing. (Mouton at [0001], [0003], [0009], [0011], [0021], [0024]-[0027], FIG. 2.)  Fig 2 (Mouton at FIG. 2) Additional exemplary citations include: "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].)

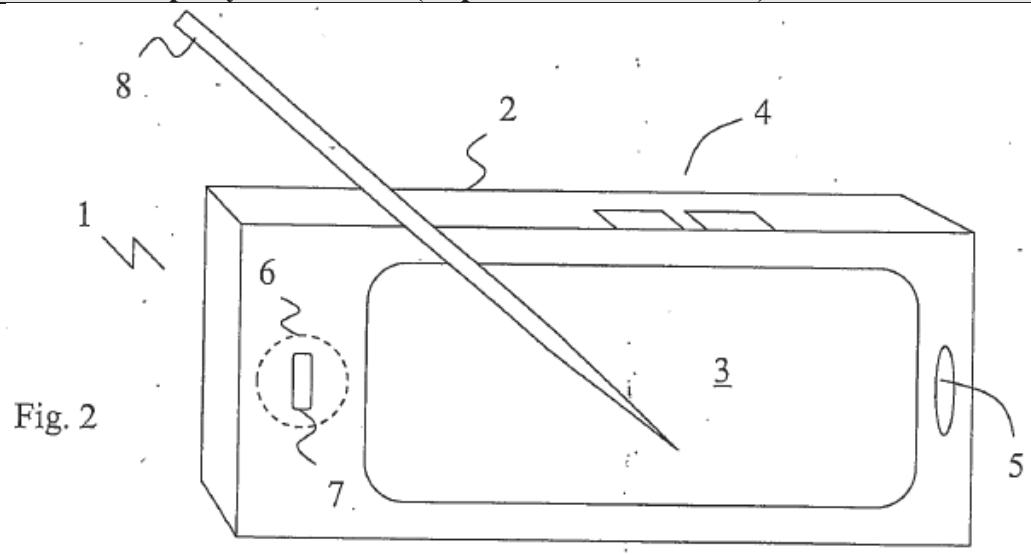
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Due to increasing focus on compactness of electronic devices, however, the displays, especially in portable electronic devices, are becoming smaller and smaller. Popular electronic devices with a smaller display area include electronic organizers, PDA's (personal digital assistants), and graphical display-based telephones. Also available today are communicators that facilitate various types of communication such as voice, faxes, SMS (Short Messaging Services) messages, e-mail, and Internet-related applications. These products can likewise only contain a small display area. Often such devices do not use a full keyboard or a mouse, rather the display screens of these devices are touch sensitive to allow data input. A wide variety of gesture-based and other user interface techniques have been used and proposed to facilitate data entry through the touch screen." (Mouton at [0003].) "This invention is intended to mitigate the drawbacks of the prior art by providing an interface for such devices that does not require a stylus, but rather allows input to be effected through small active screen elements using a finger alone." (Mouton at [0009].) "Large tactile display systems in which a cursor is displayed displaced from the point of contact with a finger are known, for instance U.S. Pat. No. 5,808,605 describes a computer system in which a virtual pointing device is created by detecting a entire hand placed on the touchscreen. Input commands are effected by moving parts of the hand. U.S. Pat. No. 4,812,833 describes a touch panel input device that includes a sensor for detecting that an operators finger has approached towards a touch input key and displaying a cursor for indicating this key." (Mouton at [0011].) "As is well known, touchpad input devices are small, touch-sensitive devices that can be used as a pointing device to replace a mouse, trackball or other cursor locator/input device in mouse-driven or other personal computers. The touchpad typically includes a small touch-sensitive screen up to 3" by 5" in size and produces X, Y location coordinates representative of the location of the touching device (finger or inanimate object such as stylus) on its surface. The computer 110 interprets these X,Y coordinates to locate the cursor on the computer display. The user controls the computer cursor location by moving their finger across the sensor surface. Touch pad 100 is transparent and physically overlies the display device 120." (Mouton at [0021].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 3 is a schematic diagram that shows the geometrical relationship between cursor 240 and zones on contact 270 between and finger and touch screen at an initial location D0 and locations of first and second finger taps D1 and D2 respectively." (Mouton at [0024].) "It will be appreciated that with this displacement between the point of contact that the position of cursor 240, there is a zone—denoted 260 in FIG.2—at the bottom of the touchpad into which the cursor cannot be moved. This zone can either be used to display nonactive elements, such as a date and time, or the device can be arranged so that the touchpad is slightly larger in this dimension than the underlying display surface. A similar zone 261 exists at the top of the screen where detection of the point of contact of a finger is unnecessary." (Mouton at [0025].) "FIG. 4 shows in section an embodiment in which touchpad 100 and display screen 120 are laterally displaced one from another to create zones 260 and 261." (Mouton at [0026].) "FIG. 5 is a flow diagram showing an operating process operated by the graphical user interface software that controls display 220 in this embodiment. In applications to PDA this would be incorporated in the operating system of the device. The process starts at step 300 when a finger 230 touches the screen. Detection of the finger in contact with the screen for greater than a threshold time—for instance 0.3 s—causes cursor 240 to be displayed on the screen. This time threshold is designed to filter accidental touches. A user can then cause the cursor to move on the screen by moving their finger." (Mouton at [0027].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Wedel and Gupta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Wedel discloses a mobile phone device with a touch screen display. (Wedel at 1:30-2:14, FIG. 2.) Wedel explains that "[t]he size of a keypad 4 and a display 3 basically sets the limit of how small terminal 1 can be." (Wedel at 1:31-2:1.) Thus, to allow for a larger display while maintaining a small terminal, Wedel proposes removing all physical keys from the front surface of the mobile phone, such that the display may cover more of the front surface of the phone. (Wedel at 2:8-10, FIG. 2.) As another example, Gupta discloses a "full-length touchscreen display." (Gupta at [0015], [0017], [0020], [0023]-[0025], [0030], [0035], [0041], [0042], [0051], FIGS. 2-4, 8.) Additionally, Gupta explains that while the device remains small, the screen should be large enough for "practical information viewing." (Gupta at [0003], [0004], [0020],[0025], [0026], [0049].) A POSITA thus would have understood that the screen would cover the entire front surface of the device, such that it could be as large as possible. A POSITA would have been motivated to configure a mobile phone such that the display unit covers a large portion of the housing. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel and Gupta. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display while maintaining a small device size, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel and/or Gupta into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) according to known methods to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); (B) use of a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to improve similar devices in the same way (allowing more space for a larger touch display while maintaining a small device size); (C) applying a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel and Gupta) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "A combined speaker and antenna arrangement for a communication terminal, comprising a support structure (100) carrying a first antenna element (101), and a second antenna element (31) arranged at a predetermined distance from said first antenna element. Said second antenna element is a conductive first portion (31) of a sheet of flexible film, and an elongated second portion (32) of said flexible film, carrying a conductive lead extends from adjacent to said first portion to a speaker (41) connected to an outer end of said elongated second portion. The second, elongated, portion is bent such that said speaker is positioned between said film and said support structure, adjacent to an aperture in said first portion." (Wedel at abstract.) "In order to benefit from the capabilities of the transmission system, the future generation of phones will have a large display in order to perform multimedia input and output, and the picture quality will be of high importance. Still, the keypad or keyboard must be large enough to allow people to press one key at a time." (Wedel at 1:26-29.) "Figure 1 discloses a typical example of a state of the art mobile phone 1, carried by a housing or chassis 2. The size of a keypad 4 and a display 3 basically sets the limit of how small the terminal 1 can be. However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3. Figs 1 and 3 show two typical examples of state of the art communication terminals 1, whereas the skilled persons will realise that combinations of the two are also well known as well as other designs, such as a so called clamshell type terminal." (Wedel at 1:30-2:14.) "In the state of the art communication terminal a terminal output 7 is mounted on the front of the terminal above the display with the speaker 6 immediately behind the output 7, as shown in Figs 1 and

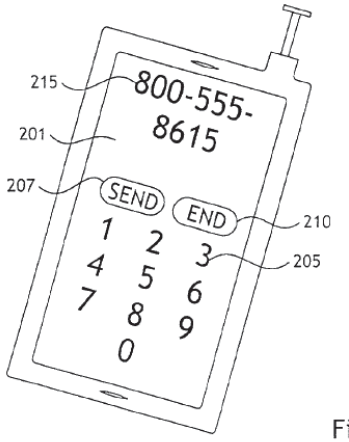
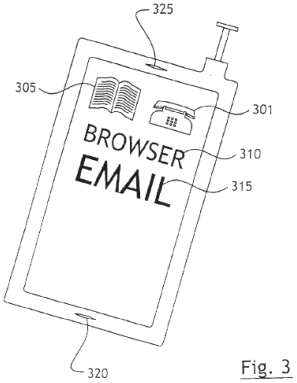
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	2. This means that even with a smallest available speaker used today, with a diameter of about 13 mm, the terminal would be approximately this much longer in its longitudinal extension than what would have been the case if only the display 3 and/or keypad 4 had defined the length of the terminal 1. The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:15-25.) "First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated. Furthermore, even though the antenna cavity 21 has been partly occupied by the speaker, experimental laboratory tests on this design have surprisingly shown that the presence of the speaker will not result in reduced antenna performance if tuned properly. The use of hot bar soldering will not lead to bulging solder pads. Which also contributes to saving space." (Wedel at 13:5-13.) Wedel discloses the following at FIG. 2:

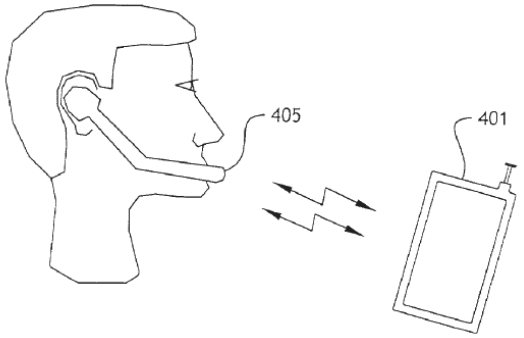
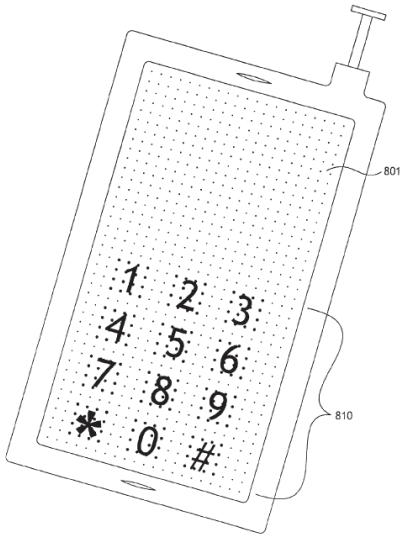
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2.) "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].) "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "FIG. 8 shows a tactile response display screen of the present invention." (Gupta at [0015].)

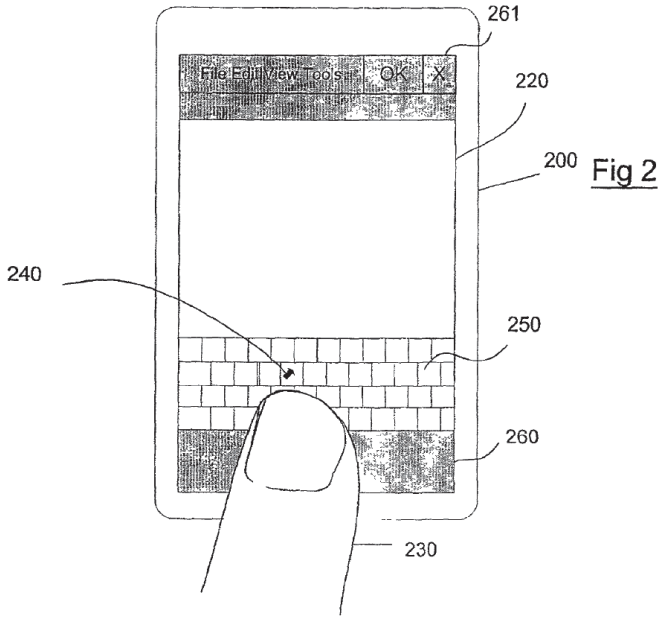
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered, the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].) "In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "The touch sensor may also be a film layer of the tactile surface itself, or may include touch sensitive elements interspersed adjacent to the tactile dot elements So that neither the touch sensor nor the tactile display elements overlay the other. Other touch screens embodiments use grids of interruptible light beams, capacitive discharge sensors, and conductive grids sensing a circuit made across nearby nodes, all of which are considered herein to be structures (circuits and components) equivalent to each other." (Gupta at [0024].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "FIG. 4 illustrates an alternate embodiment of the present invention that uses a wireless headset (405) to communicate with the telephone (401) of the present invention. In order to reduce the size and weight of the telephone (401) and also to give more room for the display, this embodiment does not

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	have a built-in speaker and microphone. Instead, the wireless headset (405) performs the same task as a built-in speaker and microphone." (Gupta at [0030].) "The telephone is controlled by a controller (510) that is coupled to the transmitter (501), receiver (505), and the touchscreen display (515) of the present invention. The controller (510), in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use other types of controllers such as microprocessors, application specific integrated circuits (ASIC), or other such controllers." (Gupta at [0035].) "As illustrated in FIG. 8, the display is comprised of a matrix of individually addressable dot or tactile elements. The elements are arranged in an evenly spaced grid covering the entire display. In an alternate embodiment, the tactile portion of the display is only on part of the display, such as the lower half, in order to provide a 'telephone keypad' area when in that particular mode. In the preferred embodiment, the elements are spaced less than 0.10 inch apart in order to allow the sensation of a continuous line." (Gupta at [0041].) "Each tactile element is switchable between an inactive position in which the dot is flush with the surrounding surface and an active position in which the dot is raised above the surrounding surface. The mechanism to provide this may be of any type including: electromechanical, electromagnetic, and switchable dimpled plastic film. In the preferred embodiment, the tactile display is transparent in order to permit the conventional liquid crystal display to be seen below the raised surface." (Gupta at [0042].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].)

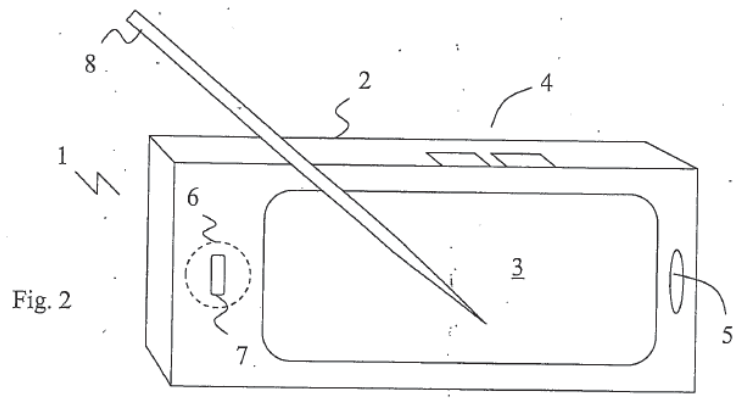
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta discloses the following at FIGS. 2-4 and 8:  Fig. 2 (Gupta at FIG. 2)  Fig. 3 (Gupta at FIG. 3)

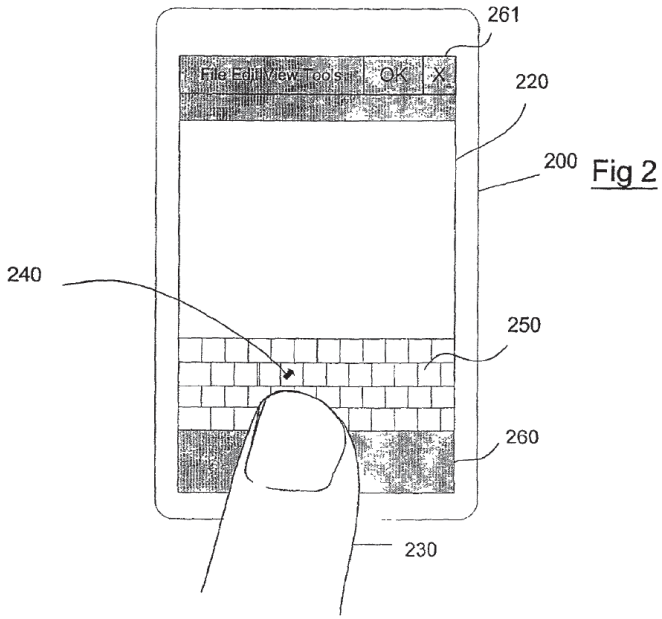
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1f] wherein said mobile phone device does not include a physical key on the front surface, and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said mobile phone device does not include a physical key on the front surface." For example, Mouton discloses a mobile phone that does not include a physical key on the front surface. (Mouton at abstract, [0001], FIG. 2.) Mouton teaches that data can be input via a touchscreen. (Mouton at [0001], [0009], [0021], [0022], [0027], [0028].)  Fig 2 (Mouton at FIG. 2) Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.) "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) "This invention is intended to mitigate the drawbacks of the prior art by providing an interface for such devices that does not require a stylus, but rather allows input to be effected through small active screen elements using a finger alone." (Mouton at [0009].) "As is well known, touchpad input devices are small, touch-sensitive devices that can be used as a pointing device to replace a mouse, trackball or other cursor locator/input device in mouse-driven or other personal computers. The touchpad typically includes a small touch-sensitive screen up to 3" by 5" in size and produces X, Y location coordinates representative of the location of the touching device (finger or inanimate object such as stylus) on its surface. The computer 110 interprets these X,Y coordinates to locate the cursor on the computer display. The user controls the computer cursor location by moving their finger across the sensor surface. Touch pad 100 is transparent and physically overlies the display device 120." (Mouton at [0021].) "One example of a device with this general structure is the personal digital assistant 200 shown in FIG. 2. PDA 200 comprises a touch sensitive display 220, incorporating touchpad 100 and display 120. A user interface is displayed on display 220 in order to allow a user to effect input operations according to the position of a cursor 240 in relation to a displayed image having active elements that are in general smaller than the finger, such as the images of the keys of a keyboard illustrated at 250. Such active elements may of course also include icons, scroll bars, dates on a calendar, characters in a document or the like." (Mouton at [0022].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 5 is a flow diagram showing an operating process operated by the graphical user interface software that controls display 220 in this embodiment. In applications to PDA this would be incorporated in the operating system of the device. The process starts at step 300 when a finger 230 touches the screen. Detection of the finger in contact with the screen for greater than a threshold time—for instance 0.3 s—causes cursor 240 to be displayed on the screen. This time threshold is designed to filter accidental touches. A user can then cause the cursor to move on the screen by moving their finger." (Mouton at [0027].) "Once the user has positioned cursor 240 in a desired location—denoted S in FIG. 3 and 4, overlying for instance a chosen key in keyboard 250, a chosen icon or other active display element, the user taps the display twice in relatively quick succession at that location. The first finger tap 310 serves to fix the position of the cursor and the second finger tap 320 serves to confirm the position of the cursor as the point of effect desired by the user." (Mouton at [0028].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.) A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Mouton to be an example of (A) combining

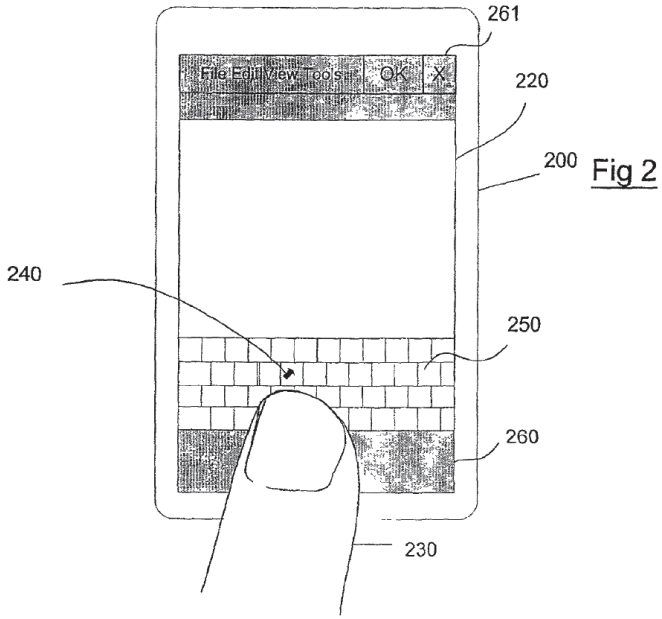
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:  Fig. 2

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Wedel at FIG. 2)
[1g] wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing." For example, Mouton depicts a mobile device with no components extending from the housing. (Mouton at FIG. 2.) Mouton explains that the mobile phone device uses the touch screen and stylus for input and output. (Mouton at [0001], [0009], [0021], [0022], [0027], [0028].)  Fig 2 (Mouton at FIG. 2) Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.) "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) "This invention is intended to mitigate the drawbacks of the prior art by providing an interface for such devices that does not require a stylus, but rather allows input to be effected through small active screen elements using a finger alone." (Mouton at [0009].) "As is well known, touchpad input devices are small, touch-sensitive devices that can be used as a pointing device to replace a mouse, trackball or other cursor locator/input device in mouse-driven or other personal computers. The touchpad typically includes a small touch-sensitive screen up to 3" by 5" in size and produces X, Y location coordinates representative of the location of the touching device (finger or inanimate object such as stylus) on its surface. The computer 110 interprets these X,Y coordinates to locate the cursor on the computer display. The user controls the computer cursor location by moving their finger across the sensor surface. Touch pad 100 is transparent and physically overlies the display device 120." (Mouton at [0021].) "One example of a device with this general structure is the personal digital assistant 200 shown in FIG. 2. PDA 200 comprises a touch sensitive display 220, incorporating touchpad 100 and display 120. A user interface is displayed on display 220 in order to allow a user to effect input operations according to the position of a cursor 240 in relation to a displayed image having active elements that are in general smaller than the finger, such as the images of the keys of a keyboard illustrated at 250. Such

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	active elements may of course also include icons, scroll bars, dates on a calendar, characters in a document or the like." (Mouton at [0022].) "FIG. 5 is a flow diagram showing an operating process operated by the graphical user interface software that controls display 220 in this embodiment. In applications to PDA this would be incorporated in the operating system of the device. The process starts at step 300 when a finger 230 touches the screen. Detection of the finger in contact with the screen for greater than a threshold time—for instance 0.3 s—causes cursor 240 to be displayed on the screen. This time threshold is designed to filter accidental touches. A user can then cause the cursor to move on the screen by moving their finger." (Mouton at [0027].) "Once the user has positioned cursor 240 in a desired location—denoted S in FIG. 3 and 4, overlying for instance a chosen key in keyboard 250, a chosen icon or other active display element, the user taps the display twice in relatively quick succession at that location. The first finger tap 310 serves to fix the position of the cursor and the second finger tap 320 serves to confirm the position of the cursor as the point of effect desired by the user." (Mouton at [0028].)

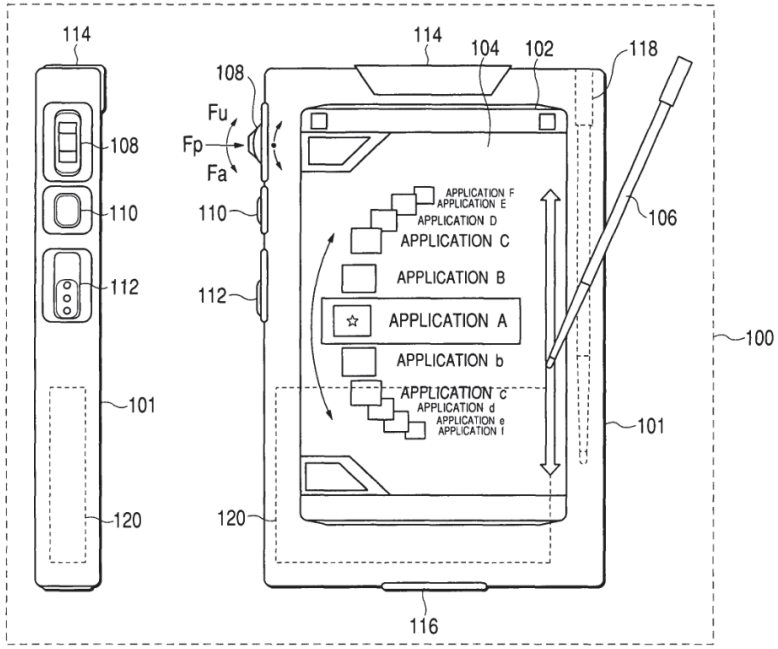
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2pre] The device of claim 1,	Claim 2 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 2 are anticipated and/or obvious for the same reasons set out in claim 1. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[2a] wherein said practically rectangular shape has rounded corners.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners."

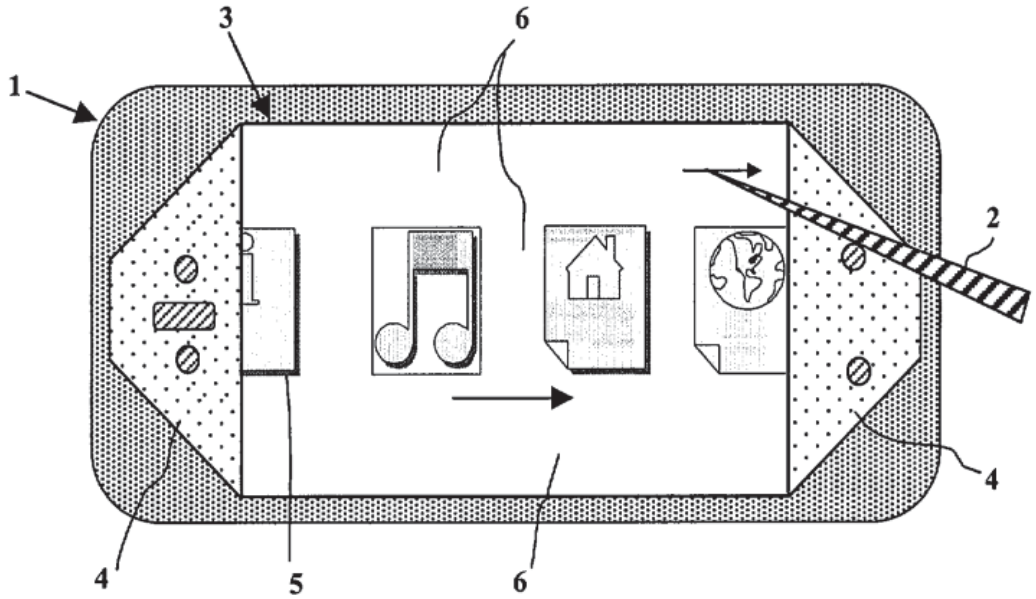
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Mouton discloses a housing wherein the corners have rounded edges. (Mouton at FIG. 2.)  Fig 2 (Mouton at FIG. 2)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3pre] device of claim 1	Claim 3 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 3 are anticipated and/or obvious for the same reasons set out in claim 1. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." For example, Mouton explains that the display unit may display various active elements such as icons. (Mouton at [0022], [0028].) A POSITA would have understood that at least some of the various icons would have corresponded to a plurality of applications because that was known in the art. Additional exemplary citations include: "One example of a device with this general structure is the personal digital assistant 200 shown in FIG. 2. PDA 200 comprises a touch sensitive display 220, incorporating touchpad 100 and display 120. A user interface is displayed on display 220 in order to allow a user to effect input operations according to the position of a cursor 240 in relation to a displayed image having active elements that are in general smaller than the finger, such as the images of the keys of a keyboard illustrated at 250. Such active elements may of course also include icons, scroll bars, dates on a calendar, characters in a document or the like." (Mouton at [0022].) "Once the user has positioned cursor 240 in a desired location—denoted S in FIG. 3 and 4, overlying for instance a chosen key in keyboard 250, a chosen icon or other active display element, the user taps the display twice in relatively quick succession at that location. The first finger tap 310 serves to fix the position of the cursor and the second finger tap 320 serves to confirm the position of the cursor as the point of effect desired by the user." (Mouton at [0028].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Bast, Nakano, and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. Each of Bast, Nakano, and Benoit explain that applications may be displayed as a plurality of icons to allow the user to see and select an application. A POSITA would have understood that representing applications as graphical icons would have supported Mouton's goal of developing an effective user interface, which displays selectable options as icons. (Mouton at [0001], [0022], [0028].) For example, Bast discloses an electronic display that shows a plurality of program and function icons. (Bast at [0010], FIG. 1.) The icons correspond to various applications that are programmed into the terminal. (*Id*.) Similarly, Nakano discloses that "menu items," represented as icons and corresponding to a plurality of programs may be displayed. (Nakano at 1:34-40, 16:39-54, 21:1-6, 21:48-53, 28:24-27, 36:37-40, 44:34-39, 45:54-61, 51:24-29, FIGS. 1, 10, 26A-26C, 53-56.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Likewise, Benoit discloses a mobile phone that can display a series of icons that correspond to programs. (Benoit at (cover page, 57), 2:9-12, FIGS. 1, 3.)

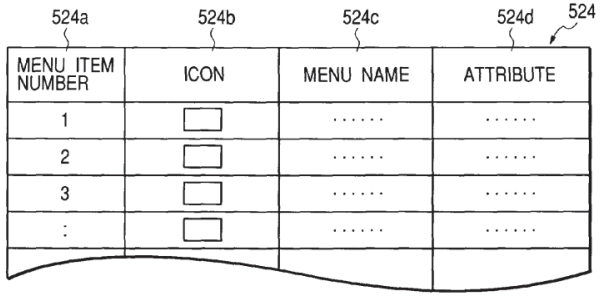
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone to display a plurality of icons corresponding to a plurality of applications on the display screen. Configuring a mobile phone to display a plurality of icons corresponding to a plurality of applications was routine and conventional to a POSITA, as shown by Bast, Nakano, and Benoit. A POSITA would have been motivated to configure a mobile phone in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Bast, Nakano, and/or Benoit's teachings into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (combining a mobile phone that displays a plurality of icons as disclosed by Mouton, with the technique of displaying a plurality of icons corresponding to the plurality of applications, as disclosed by Bast, Nakano, and Benoit) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (displaying a plurality of icons corresponding to a plurality of applications as taught by Bast, Nakano, and Benoit) to improve

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (displaying a plurality of icons corresponding to a plurality of applications as taught by Bast, Nakano, and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Nakano, and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "In the related art menu display by the launcher, icons representing application software programs and/or documents and their names are displayed in sets (the sets are hereinafter referred to as 'menu items'), arranged like tiles on a plane. The user selects any menu item by way of operation of a button such as a lever and across-hair key, or selection using a pointing device such as a stylus pen or a tracking pad." (Nakano at 1:34-40.) "In the menu display, a single menu item or a plurality of menu items are displayed. A menu item has an icon 130 and a menu name 132 as shown in FIG. 2D for example, and an icon and a menu name are handled as a set, or a menu panel 134. A menu item in a predetermined position B4 is a candidate for selection, which shows that the menu is in the selection state by way of a different display form of the menu panel 134 (the display form is hereinafter referred to as the 'selection display'). To be more specific, the area surrounding the icon 132 and the menu name 132 corresponding to the ground of the menu panel 134) is filled in with a color different from that of the menu panel 134 in the non-selection state. While in this embodiment, the menu panel 134 is a rectangle where the horizontal direction in the screen is the longitudinal direction, any other shape may be used. The menu panel 134 may display only the icon 130 or the menu name 132." (Nakano at 16:39-54.) "The menu screen information 520 stores various ii required for screen display of a launcher shown in FIG. 2, for example image information on various icons and their display position coordinates. The menu screen information 520 is set per menu display mode. Which mode of menu display is to be used is stored as the display mode 521." (Nakano at 21:1-6.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 10 shows an example of the menu item information 524. As shown in FIG. 10, the menu item information 524 stores, per menu item number 524a, the icon 524b of the icon 130, the menu name 524c of the menu name 132, and the attribute 524d of the menu item (for example distinction between an application, a folder and a file)" (Nakano at 21:48-53.) "The 'menu display entity' comprises an icon specifying an application and a menu name. In the following description, the menu name of each menu display entity is used to identify the menu entity." (Nakano at 28:24-27.) "FIG. 42 shows the data structure of the menu display entity data. As shown in FIG. 42, the menu display entity data comprises menu numbers, icons, and menu names keyed to a plurality of menu display entities." (Nakano at 36:37-40.) "Referring to FIG. 53A, on the launcher screen are displayed, as menu items, for example, application programs related to Mail, Browser, Address book, Schedule, Memo pad, File viewer, Accessory, System, and Setting, together with icons. In the storage section 622 are stored application programs (application software) related to theses [sic] menu items." (Nakano at 44:34-39.) "To the left of the window display section 641 are arranged icons 640 representing the menu items in the launcher screen (Mail, Browser, Address book, Schedule. Memo pad, File viewer. Accessory, and System) in the vertical direction, and are displayed the upward and downward scroll buttons 635 and 636. Tapping on the upward or downward scroll button 635 or 636 moves a cursor 37 (not shown in FIG. 54) between the icons 640." (Nakano at 45:54-61.) "In FIG. 55, the screen displays menu items as a plurality of items, for example, Schedule, Browse, Address book, and Schedule, as well as icons corresponding to the menu items to the left of these menu items. For these icons, various display control mentioned above will be performed as well as handling of items." (Nakano at 51:24-29.) Nakano discloses the following at FIGS. 10, 26A-26C, 53-56:

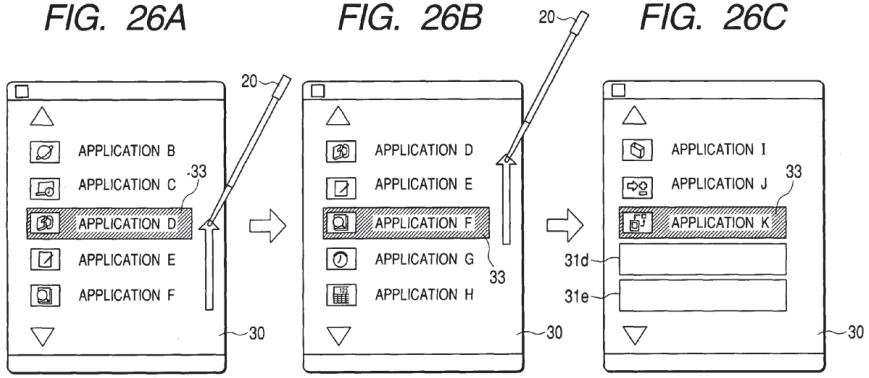
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations

FIG. 10

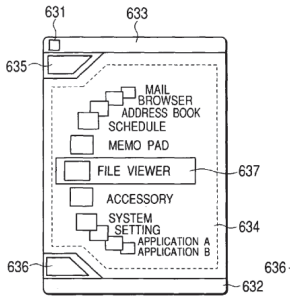
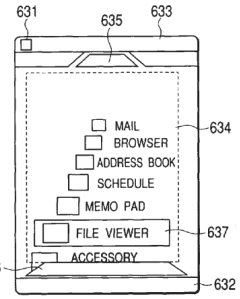
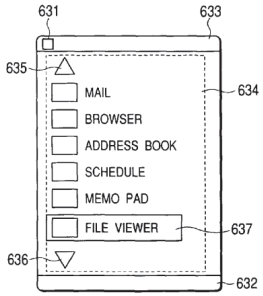


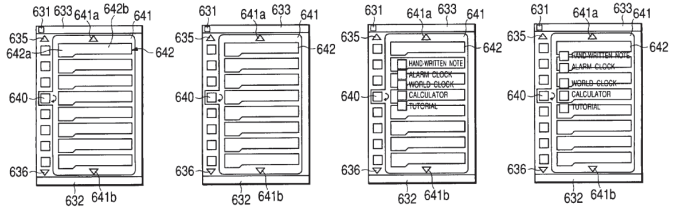
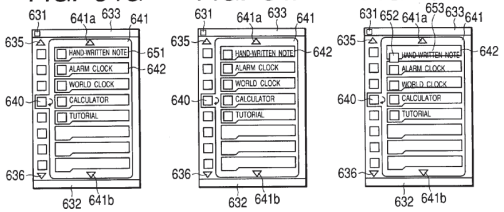
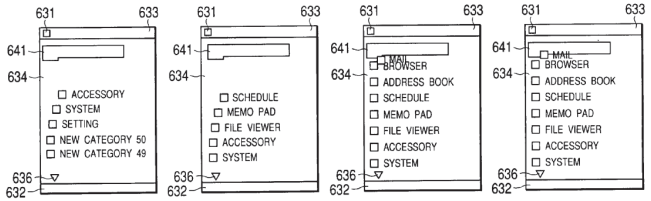
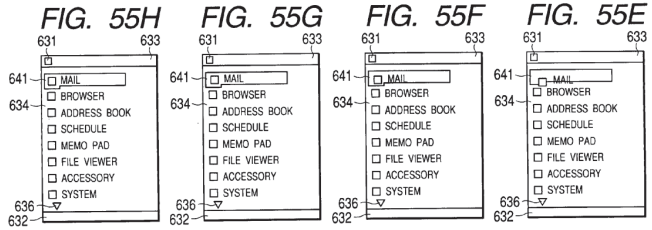
(Nakano at FIG. 10)

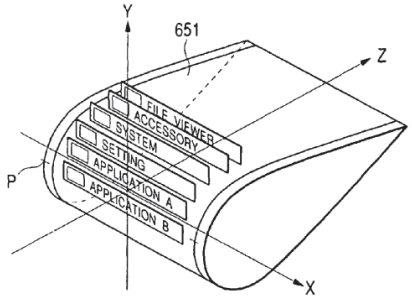
FIG. 26A FIG. 26B FIG. 26C

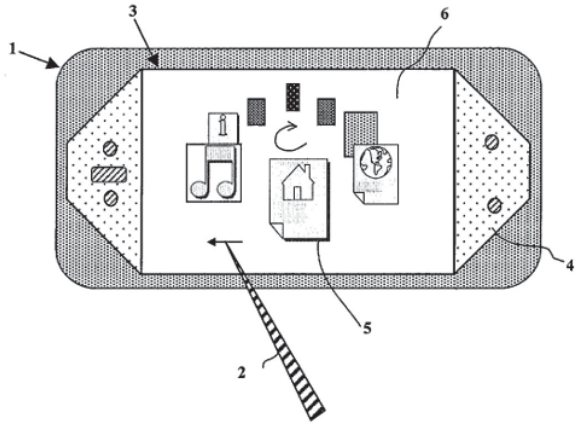


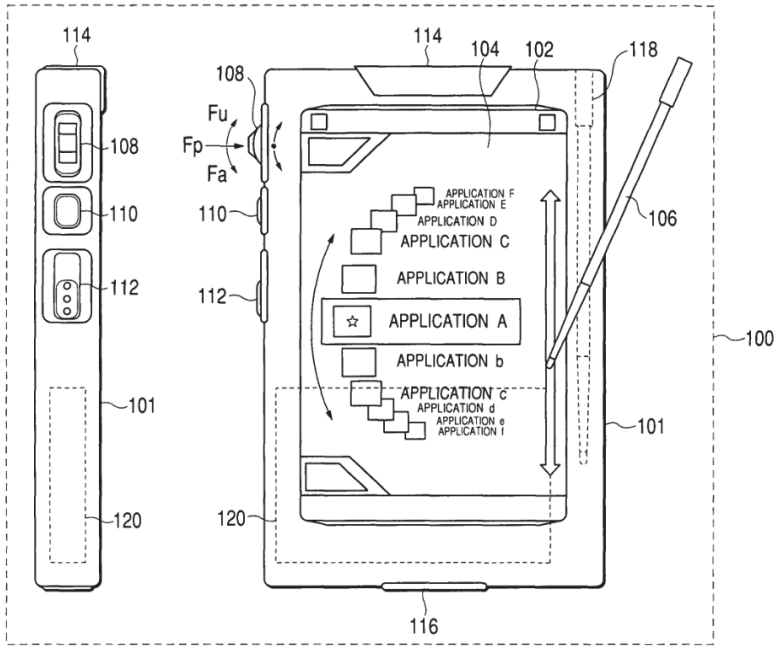
(Nakano at FIGS. 26A-C)

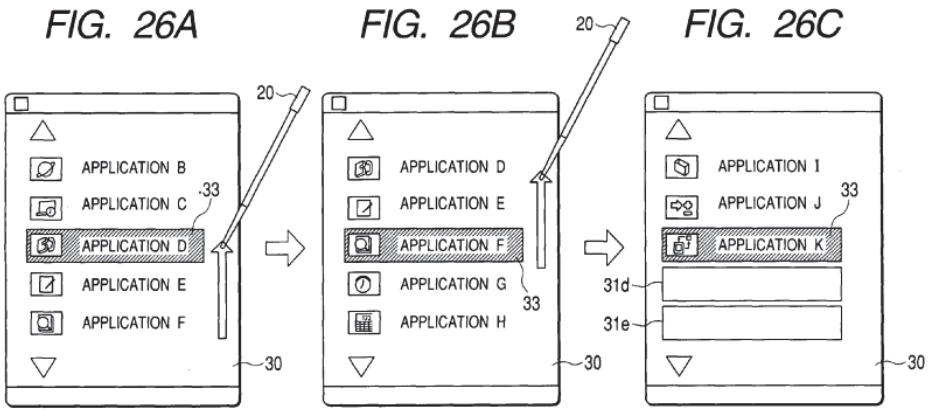
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 53A  FIG. 53B  FIG. 53C  (Nakano at FIGS. 53A-C)

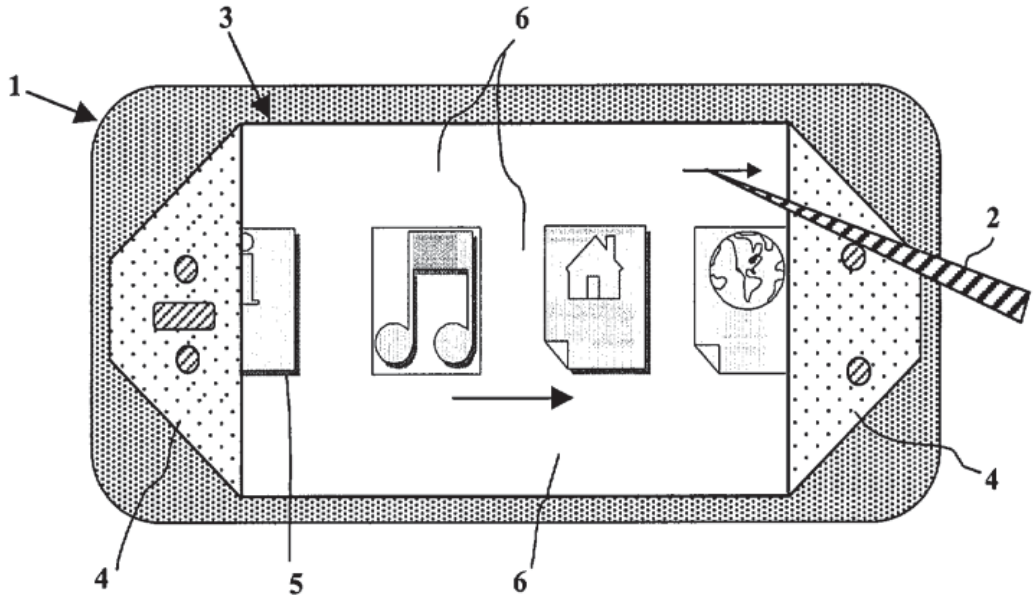
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 54A FIG. 54B FIG. 54C FIG. 54D  FIG. 54G FIG. 54F FIG. 54E  (Nakano at FIGS. 54A-G)
	FIG. 55A FIG. 55B FIG. 55C FIG. 55D  FIG. 55H FIG. 55G FIG. 55F FIG. 55E  (Nakano at FIGS. 55A-H)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 56  (Nakano at Fig. 56) "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (cover page, 57).) "The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon." (Benoit at 2:9-12.) Benoit discloses the following at FIG. 3:

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIGURE 3 (Benoit at FIG. 3)
[3b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." It would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Nakano and/or Benoit to display a plurality of other applications upon a user action on the display unit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

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	For example, Nakano discloses a mobile phone that includes a touch panel 104. (Nakano at 2:49-51, FIG. 1.) Nakano teaches a method of improving the control of a menu display by using said touch panel. (*Id*.) The touch panel is integrated into the display of the portable device disclosed by Nakano, which may be a mobile phone. (Nakano at 7:20-39.) Nakano teaches using a drag operation to control the display of various entities shown on the display. (Nakano 7:40-52.) The drag operation taught by Nakano may comprise drawing a finger across the display panel or using a stylus to do the same. (Nakano at 7:57-8:16). Nakano teaches that programming a device, display, and touch panel in this way allows for improved control of display entities that are shown on the display. (Nakano at 8:50-54). The display entities disclosed by Nakano may correspond to programs, also known as applications, that can be activated and executed by the device. (Nakano at 8:65-9:6.) *FIG. 1* 

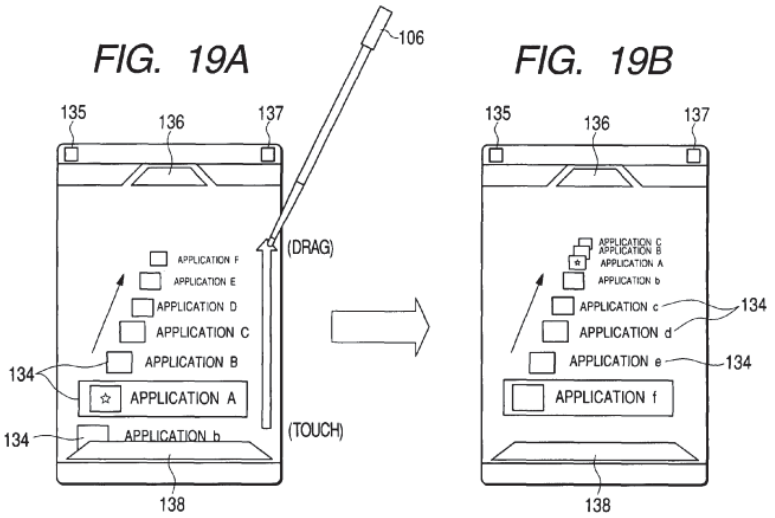
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Nakano at FIG. 1) Thus, Nakano teaches programming a device, such as a mobile phone, so that is operative to allow a user to slide a finger or stylus pen across a menu screen, displaying a plurality of application icons in the form of menu items. (Nakano at 15:66-16:10). A dragging operation, also known as a sliding operation, allows a user to move the menu items displayed in various directions across the screen. (Nakano at 25:40-47, FIGS. 19A-19B.) As shown in FIGS. 26A-C, menu items, also known as application icons, that are not originally shown on the display may be displayed based on a dragging or sliding input from a user. (Nakano at 28:36-29:10, FIGS. 26A-C.)  (Nakano at FIGS. 26A-26C.) As another example, Benoit teaches a display used in a mobile phone that can display a series of icons that correspond to programs and respond to a sweeping input to display a plurality of additional icons. (Benoit at (cover page, 57).) Benoit further teaches that it is desirable to display large icons corresponding to applications, making them easily distinguishable. (Benoit at 2:17-18.) And the dexterity needed to control the display of application icons is reduced because the control input can be made across the entire screen, including the area where the application icons are shown. (*Id.*)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit. Configuring a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (combining a display unit, as disclosed by Mouton, with the ability to display of a plurality of additional application icons in response to a

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	sweeping action into the mobile phone, which is operative to display a plurality of application icons, as disclosed by Nakano and Benoit) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:49-51.) "The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano 7:40-52.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a "tap-in" and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a "tap-out". The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	the stylus pen is called a "tap". According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16). "According to the invention, the following advantage is obtained. Information display entities are arranged on a virtual face. Scroll display is allowed by moving a virtual camera whose line of sight faces the virtual face, thus more readily allowing scroll control in a virtual space." (Nakano at 8:50-54). "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection." (Nakano at 15:66-16:10).

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In FIG. 19A, a menu item in the middle of the menu is in the selection state. Menu items preceding and following the item are three-dimensionally represented in one-point perspective in the upward direction in the screen. Dragging with the stylus pen 106 in the upward direction so as to slide the menu display in the upward direction causes the menu panel 134 to move in the upward direction along the one-point perspective, for example, as shown in FIG. 19B." (Nakano at 25:40-47.) "In FIG. 26A, the menu display area 31 a displays "Application B", the menu display area 31 b displays "Application C", the menu display area 31 c displays "Application D", the menu display area 31 d displays "Application E", and the menu display area 31 e displays "Application F", respectively. In the selection candidate display area 32, that is, in the menu display area 31 c, the focus 33 is overlaid on Application D. The Application D is a candidate for selection. In the menu screen 30, dragging the stylus pen 20 in the upward direction scrolls through the menu display entities in the menu screen 30 as shown in FIG. 26B. In FIG. 26B, the menu display area 31 a displays "Application D", the menu display area 31 b displays "Application E", the menu display area 31 c displays "Application F", the menu display area 31 d displays "Application G", and the menu display area 31 e displays "Application H", respectively. The menu display entities on the screen are scrolled though in the upward direction by two rows. On the menu display entity displayed in the selection candidate display area 32, that is, on Application F, is overlaid the focus 33. The Application F is a candidate for selection. Dragging with the stylus pen 20 refers to an operation (including standstill state) of sliding the stylus pen 20 on the LCD panel 11 with the tip of the stylus pen 20 in contact with the LCD panel 11. In FIG. 26B, further dragging in the upward direction further scrolls through the menu entities on the screen in the upward direction. As shown in FIG. 26C, when the lowermost menu display entity (Application K in the figure) reaches the selection candidate display area 32, the scroll comes to a halt. In FIG. 26C, the menu display area 31 a displays "Application I", the menu display area 31 b displays "Application J", and the menu display area 31 c displays "Application K", respectively. On the menu display entity displayed in the selection candidate display area 32, that is, on Application K, is overlaid the focus 33. The Application K is a candidate for selection. While a drag is made in the upward direction in FIGS. 26A through 26C, the same applies to a drag in the downward direction. That is, as shown in FIG. 27A, dragging in the downward direction scrolls through the menu display entities in the downward direction. As shown in FIG. 27B, when the uppermost menu display entity (Application A in the figure) reaches the selection candidate display

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	area 32, that is, the menu display area 31 c, the scroll comes to a halt. While the drag operation is made in the rightmost area of the menu screen 30 for clarity in FIGS. 26A through 26C and FIGS. 27A and 27B, the drag operation is allowed across the menu screen 30 as shown in FIG. 31 in practice." (Nakano at 28:36-29:10.) Nakano discloses the following at FIGS. 19A-B:  "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (cover page, 57).)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In addition, the use of a touch screen generates another serious problem. That is, because the icons and drop-down menus are generally fixed, the user always uses their finger or a stylus to point at the same small areas of the touch screen. This leads, therefore, to local damage, decalibration, and premature wear of the touch screen. The object of this invention is to ameliorate the disadvantages of the aforementioned systems and to propose a human-machine interface with a touch screen in which navigation is simplified. Another object of the invention is to limit the premature decalibration of touch screens. The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon. Preferably, the control area is extended so as to distribute the touch points and prevent the premature wear of the touch screen over the defined areas. The entire surface of the touch screen not covering an icon can be expected to constitute the control area. Thus, the control is no longer localized in a limiting manner. Unlike the prior art, the scrolling of icons allows these icons to be shown at a large size such that they are easily distinguishable. With such a method according to the invention, the fact of having an extended control area prevents the constant use of certain small areas of the screen. According to an advantageous characteristic of the invention, the touch command for scrolling the series of icons comprises a touch followed by a directional movement. The scrolling speed and direction are defined by the point of contact and the projection into the scrolling direction of a vector obtained as a result of the directional movement. The point of contact can be anywhere over the entire extended control area. The icons can be shown independently of each other, whether attached or embedded in a scrolling banner, and representing, for example, a landscape.

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	Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen. These icons can be scrolled to show the icon representing the application intended to be launched in the foreground in the center of the screen. According to a preferred embodiment of the invention, the icons scroll along a virtual circle inscribed in a plane perpendicular to the plane of the screen. Scrolling then makes it possible to show each icon on the screen successively, with the other icons remaining in the background. In this case, it is possible to envisage that only the icon shown on the touch screen is capable of launching an application. It is also possible to envisage that all the icons remain permanently visible on the touch screen during scrolling. As such, all the icons may be active. According to an advantageous embodiment of the invention, the scrolling of a series of icons may exhibit inertia as a function of the scrolling speed. Consequently, when a user lifts their finger or stylus from the touch screen, the scrolling continues for a few short moments based on the movement made by that user to carry out the scrolling. According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 2:1-3:24.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
[4pre] The device of claim 3	Claim 4 depends from claim 3. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 3 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 3 to show the additional limitations of claim 4 are anticipated and/or obvious for the same reasons set out in claim 3.

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 3." *See supra* claim [3].
[4a] wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit." For example, Mouton explains that an icon may be selected by positioning a cursor over an icon and tapping the icon twice to select the icon. (Mouton at [0028].) A POSITA would have understood that such an interaction would open an application corresponding to the icon, as was known in the art. Additional exemplary citations include: "One example of a device with this general structure is the personal digital assistant 200 shown in FIG. 2. PDA 200 comprises a touch sensitive display 220, incorporating touchpad 100 and display 120. A user interface is displayed on display 220 in order to allow a user to effect input operations according to the position of a cursor 240 in relation to a displayed image having active elements that are in general smaller than the finger, such as the images of the keys of a keyboard illustrated at 250. Such active elements may of course also include icons, scroll bars, dates on a calendar, characters in a document or the like." (Mouton at [0022].) "Once the user has positioned cursor 240 in a desired location—denoted S in FIG. 3 and 4, overlying for instance a chosen key in keyboard 250, a chosen icon or other active display element, the user taps the display twice in relatively quick succession at that location. The first finger tap 310 serves to fix the position of the cursor and the second finger tap 320 serves to confirm the position of the cursor as the point of effect desired by the user." (Mouton at [0028].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Nakano and/or Benoit. For example, a POSITA would find the combination

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Nakano discloses that a tap operation (a predefined interaction) may be used to select a display entity, such as menu item corresponding to an application. (Nakano at 9:49-57.) In response, a program corresponding to said menu item or display entity may be activated. (Nakano at 9:58-62.) Accordingly, a tap operation may activate an application program corresponding to a selected information display entity, such as an application icon. (Nakano at 9:63-67.) Nakano further discloses that tapping a stylus pen on a menu display entity shown on the display of the device may activate an application program corresponding to that menu display entity. (Nakano at 34:26-30.) As another example, Benoit teaches displaying application icons that launch when a brief contact is made with said icon. (Benoit at 3:5-8.) Thus, the brief contact is a predefined interaction that opens that corresponding application when input by the user. (*See id*.) A POSITA would have recognized that Benoit taught the method of opening an application icon in response to a user providing a predefined interaction with said icon. A POSITA would have been motivated to configure a mobile phone such that an application is opened upon a user providing a predefined interaction with an icon, such as a tap. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (combining display unit operative to open an application icons in response to a predefined interaction provided by the user into the mobile phone architecture disclosed by Mouton, which is operative to select icons with a predefined interaction) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to open an application icon upon

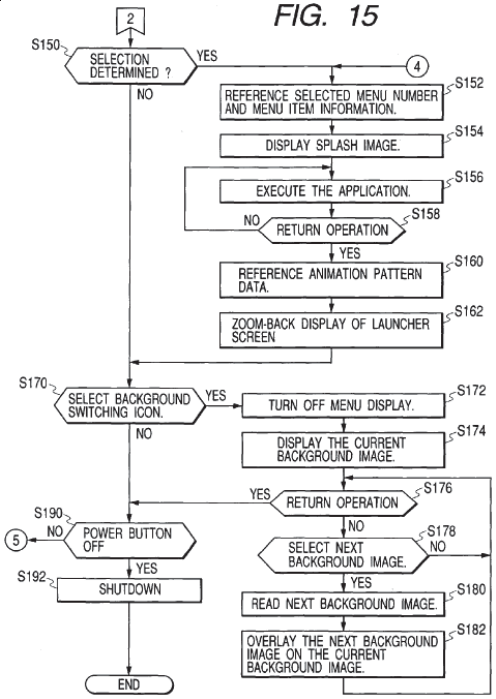
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	detecting a predefined user input directed at an application icon as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to open an application in response to user providing a predefined interaction with an icon corresponding to said application as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "The PDA can execute a plurality of application software programs (also referred to as simply 'applications') by way of arithmetic operation by a built-in CPU. Application software includes schedule software, address book software, memo pad software, word processing software, calculator software, electronic mail software, web browser software, music playback software, graphics viewer software, and clock display software. Operation of selection and execution of application software is controlled by the application management program called 'launcher'. With application software programs and/or documents registered in advance, the application software programs and/or documents are displayed on a menu by the launcher, and directly started via simple input operation." (Nakano at 1:20-33.) "However, in a scroll operation and selection of a menu display entity, at least two operations are required. The scroll operation on a touchpanel is the same as the mouse operation, for example tapping operation, on an ordinary PC." (Nakano at 1:52-55.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a 'tap-in' and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a 'tap-out'. The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a 'tap'. According to this invention, a drag operation is available across a

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity).” (Nakano at 7:57-8:16.) “The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means.” (Nakano at 8:65-9:6.) “The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means.” (Nakano at 9:13-26.) “According to the invention, a tap operation may be used, on top of a drag operation, to select a desired information display entity. A method for selecting an information display entity may be switched as appropriate, such as using a drag operation in case a desired information display entity is not displayed in the predetermined display area, and a tap operation in case one is displayed. In any case, it is

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	possible to readily select a desired information display entity thus enhancing its operability." (Nakano at 9:49-57.) "In case determination is made by the second determination means, the activation means may activate a program corresponding to an information display entity determined as a candidate for selection by the second determination means, if any." (Nakano at 9:58-62.) "According to the invention, a tap operation may be used to activate an application program corresponding to a selected information display entity. That is, a single tap operation directly activates a desired application thus enhancing its operability." (Nakano at 9:63-67.) "The processor 20 performs arithmetic operation in accordance with programs to make centralized control of the PDA 100 as well as execute a launcher or various application programs for the PDA 100." (Nakano at 18:31-35.) "The control program 502 executes a so-caller 'launcher' to work as utility software to help activate the application program 510. The control program 502 comprises processing concerning menu display shown in FIG. 2 and includes a menu item selector 22 and a menu display controller 24 in a processor 20." (Nakano at 20:55-60.) "FIGS. 13 through 15 are flowcharts illustrating the flow of processing from selection of an item to activation of an application in this embodiment." (Nakano at 22:59-61.) "In case the stylus pen is released from the touch panel 104, a so-called tap-out operation is made (YES in step S118), execution proceeds to activation of an application described later. In case a tap input is made with the stylus pen 106 (YES in step S120), the menu item selector 22 determines whether any menu panel 134 includes the position coordinates which are tapped on referring to the menu panel position information 523. In case any menu panel 134 is tapped on (YES in step S122), the menu item selector 22 changes the selected menu number 531 to the menu number of the menu panel 134 (step S124). Execution then proceeds to activation of an application described later." (Nakano at 23:18-26.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 15 is a flowchart specifically illustrating the flow of processing from determination of a selected item to activation of an application program and the flow of screen switchover. As shown in FIG. 15, in case determination of a selected item is input by way of a push on the side controller 108 or a tap using the stylus pen 106 (YES in step S150), the processor 20 references the menu item information 524 in accordance with the selected menu number 531 (step S152) to retrieve the corresponding splash image data 536 and displays the data on the screen (step S154). After that, the processor 20 loads and activates the application (step S156)." (Nakano at 24:34-44.) "While the desired menu panel 134 is selected on the screen and the selected menu panel 134 is determined then an application is activated in this example, the application may be automatically activated when the desired menu panel 134 has moved to the display position P0 and selected on the screen. To be more specific, a step of comparing the specified menu number 532 with the selected menu number 531 is added before step S142 in FIG. 14. In case the specified menu number 532 is the same as the selected menu number 531, a step of checking the attribute of a registered menu item by referencing the menu item information 524 and a step of proceeding to step S152 (FIG. 15) in case the attribute is an applications are executed." (Nakano at 25:1-13.) "Next, the method for activating an application program corresponding to the menu display entity will be described. The application program corresponding to the menu display entity is activated by way of the operation input using (1) the stylus pen 20 or (2) the side controller 14. When the application is activated, display on the screen 30 is terminated and the screen of the activated application appears on the LCD panel 11." (Nakano at 34:9-16.) "Activation of an application program corresponding to each menu display entity by way of the stylus pen 20 is made by way of (1) tap or (2) drag." (Nakano at 34:20-22.) "Tapping the stylus pen 20 on any of the menu display entities displayed in the menu screen 30, or to be more specific, the menu display area 31, the application program corresponding to the menu display entity displayed in the tapped position is activated." (Nakano at 34:26-30.)

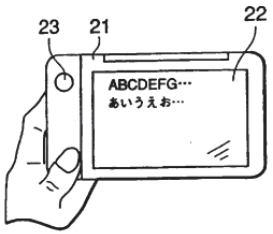
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"After that, when the stylus pen 20 which has been in contact with the LCD panel 11 is released from the LCD panel 11 (hereinafter referred to as 'tap-out' as appropriate), an application program corresponding to Application Dawaiting activation is activated." (Nakano at 34:52-56.) "A drag is available as a method for selecting a desired menu display entity as well as a tap. In case a desired menu display entity is not displayed in the menu screen 30, a drag is used, and in case it is displayed, a tap is used, in a selective way. In any case, it is possible to readily select a desired menu display entity thus enhancing its operability." (Nakano at 34:65-35:3.) "The application activation controller 320 calls the application program from the storage section 400 based on application activation condition data 426 and executes the application program. Also, in response with a tap by way of the stylus pen 20 or a 'push' on the side controller 14, the application activation controller 320 calls the application program from the storage section 400 and executes the application program." (Nakano at 36:5-12.) "In case the input determination section 311 has determined that operation is a tap (step S14: YES), the input determination section 311 determines whether the indicated position by the stylus pen 20 is included in which menu display area 31 (step S15). In case the input determination section 311 has determined that whether the indicated position is included in any menu display area 31 (step S15: YES), the Application activation controller 320 identifies the menu display area 31 which includes the indicated position and calls the application program 411 corresponding to the menu display entity displayed in the identified area and execute the application program (step S16)." (Nakano at 37:50-62.) "While an application program corresponding to a menu display entity which shifted to the activation wait state is activated by halting a drag and performing a tap-out after a predetermined period in that state in the embodiments, an application program corresponding to a menu display entity which is a candidate for selection at the point of tap-out may be activated." (Nakano at 41:55-61.) Nakano discloses the following at FIG. 15:

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 15  (Nakano at FIG. 15) "Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen." (Benoit at 3:5-8.) "Scrolling is carried out according to a method illustrated in the diagram in figure 2. When a user contacts the touch screen 3 by means of the control stylus 2, they use the stylus for pointing in step 7 in accordance with figure 2. If the stylus points at an icon in step 8, the operating system launches an application, in step 9, related to the pointed-at icon." (Benoit at 4:21-5:2.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A third embodiment of the series of icons is illustrated in figure 4, showing a continuous banner 14 representing a given landscape. This banner may be a series of icons adjoined to one another or a series of distinct icons embedded in specific locations on the banner. Under these conditions, the control area 6 may include the entire surface of the touch screen 3. However, it is necessary to distinguish between a scroll command and an application launch command if the stylus points at an icon. An application launch command is characterized by a brief touch of the stylus on the icon. By contrast, a scroll command is characterized by a long pointing comprising a touch followed by a lateral displacement on any contact area over the entire surface of the touch screen. In this particular example, the icons can be represented by the active areas 15 and 16." (Benoit at 5:17-6:3.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5pre] The device of claim 1	Claim 5 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 5 are anticipated and/or obvious for the same reasons set out in claim 1. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[5a] wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." For example, Mouton discloses a keyboard that may be used to input text. (Mouton at [0022], [0028].) A POSITA would have understood that text entered by the keyboard may be displayed in either portrait or landscape mode, as was known in the art.

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "One example of a device with this general structure is the personal digital assistant 200 shown in FIG. 2. PDA 200 comprises a touch sensitive display 220, incorporating touchpad 100 and display 120. A user interface is displayed on display 220 in order to allow a user to effect input operations according to the position of a cursor 240 in relation to a displayed image having active elements that are in general smaller than the finger, such as the images of the keys of a keyboard illustrated at 250. Such active elements may of course also include icons, scroll bars, dates on a calendar, characters in a document or the like." (Mouton at [0022].) "Once the user has positioned cursor 240 in a desired location—denoted S in FIG. 3 and 4, overlying for instance a chosen key in keyboard 250, a chosen icon or other active display element, the user taps the display twice in relatively quick succession at that location. The first finger tap 310 serves to fix the position of the cursor and the second finger tap 320 serves to confirm the position of the cursor as the point of effect desired by the user." (Mouton at [0028].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Kobayashi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. As another example, Kobayashi discloses a similar device to that disclosed by Mouton and provides relevant teachings. Kobayashi teaches that is beneficial to have display which is operative to automatically adjust to the orientation it is being held in by the user. (Kobayashi at 2:5-23; see also *id*. at 19:25-20:4, FIGS. 4A, 4B.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Fig.4a  Fig.4b  "In this manner, the display screen on the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:25-20:4.) A POSITA would have been motivated to configure a mobile phone to display text in landscape direction and in portrait direction on said display unit when the device is used, respectively, in

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	landscape position and in portrait position. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Kobayashi. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily read text regardless of phone orientation, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Kobayashi into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (aligning the display orientation to the phone orientation, as taught by Kobayashi) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (reorienting the display based on device orientation as taught by Kobayashi) to improve similar devices in the same way (a mobile phone that allows a user to easily review text); (C) applying a known technique (reorienting the display based on device orientation as taught by Kobayashi) to a known device ready for improvement to yield predictable results (a mobile phone); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Kobayashi) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "The orientation at which data is displayed on portable terminal device is altered by detecting where the device is being held by a user. Pressure sensors or photo cells along two edges of the device may be used to alter the orientation by 90°. The orientation of data on the display may also be altered according to which function is being used or by operating a switch. Alternatively the device may have a plurality of displays at different orientations which may be used according to the way in which the terminal is being used. The portable terminal device may be a selective call receiver or a mobile telephone." (Kobayashi at Abstract.) "in view of the above-mentioned problems, in a preferred embodiment the present invention enhances an operability by controlling the direction of screen display on the display in accordance with whether or not the user's fingers and palm come into contact with a pressure sensor or a photo-detection sensor on any surface of a portable terminal device body." (Kobayashi at 13:14-19.) "When the mobile information terminal 31 is longitudinally used and held, the pressure sensors 33 and 34 are disposed on both the side surfaces of the mobile information terminal 31. The user's fingers and

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	palm ca-ne into contact with the pressure sensor 33 and/or the pressure sensor 34, whereby the direction of screen display on the display 32 is controlled. That is, when the user uses and holds the mobile information terminal 31 laterally as shown in Figs. 8a and 8b, the user's fingers and palm 10 do not c-cm into contact with the pressure sensors 33 and 34. Thus, the screen is displayed along the long side on the display 32. On the other hand, when the user uses and holds the mobile information terminal 31 longitudinally as shown in Figs. 9a and 9b, the user's fingers and palm come into contact with the pressure sensors 33 and/or 15 34. Thus, the screen is displayed along the short side on the display 32. In this way, the direction of display can be automatically changed in accordance with the direction in which the user views the display." (Kobayashi at 18:2-19.) "The direction of screen display on the display 32 is controlled by the controller 36 in accordance with whether or not the signal from. the pressure sensors 33 and 34 is detected. That is, when the user's fingers and palm do not cane into contact with the pressure sensors 33 and 34, the signal is not outputted from the pressure sensors 33 and 34. Thus, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm come into contact with the pressure sensors 33 and 34, the signal is outputted from the pressure sensors 33 and 34. When the signal is inputted from the pressure sensors 33 and/or 34, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the short side. The direction of screen display can be controlled in accordance with, for example, whether a binary signal has me value or the other value, instead of whether or not the signal is detected. When the telephone function is used, the telephone number to be called is inputted from the input section 35. The telephone number to be called inputted from, the input section 35 is translated/received from an antenna 42 through the controller 36 and a radio section 41. When the voice is transmitted/received, an audio amplifier 40, a receiver 38 and a microphone 39 are used as the input/output unit. When the data other than the voice is transmitted/received, the input section 35 and the display 32 are used. 2 5 In this manner, the display screen m the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:2-20:4.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The direction of screen display on the display 52 is controlled by the controller 56 in accordance with whether or not the signal from the photo-detection sensor 54 is detected. That is, when the user's fingers and palm are not put on the photo-detection sensor 54, the signal is not outputted from the photo-detection sensor 54. Thus, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm are put on the photo-detection sensor 54, the signal is outputted from the photo-detection sensor 54. When the signal is inputted from the photo-detection sensor 54, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the short side." (Kobayashi at 22:14-25.) "Moreover, the direction of screen display in the display can be 26 controlled in accordance with whether or not the user's finger and palm came into contact with the pressure sensor or the photo-detection sensor on any surface of the portable terminal device body. Thus, the direction of display screen on the display can automatically controlled in response to how the user holds the portable terminal device, without needing any user's operation. The operability can be thus enhanced." (Kobayashi at 25:27-26:6.) *See also* Kobayashi at Figs. 6, 7. Further, to the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Jambhekar, Wedel, and/or Pensjo. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

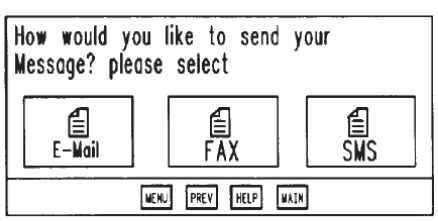


FIG.8A

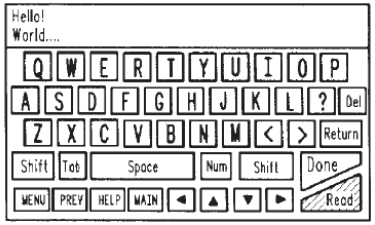


FIG.8B

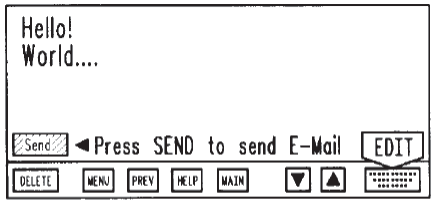


FIG.8C

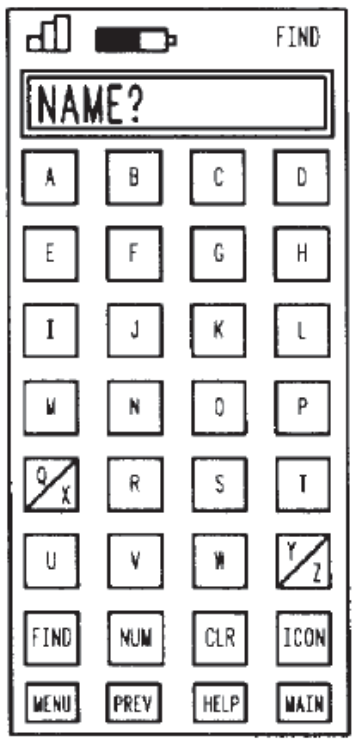


FIG.8D

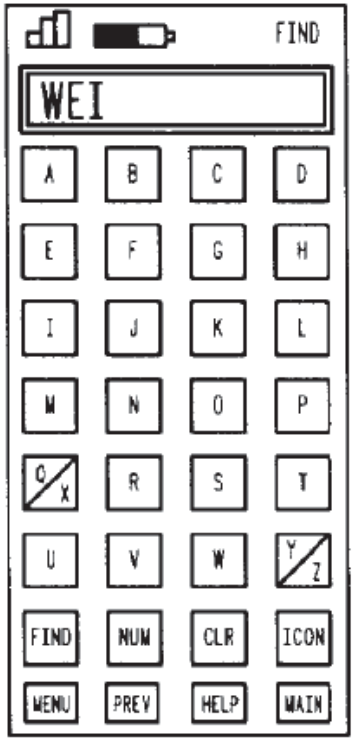


FIG.8E

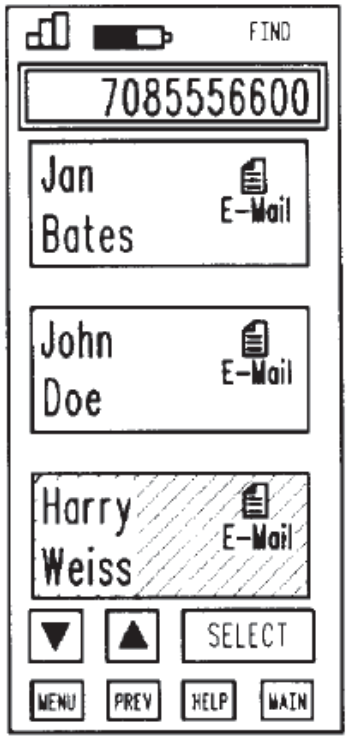
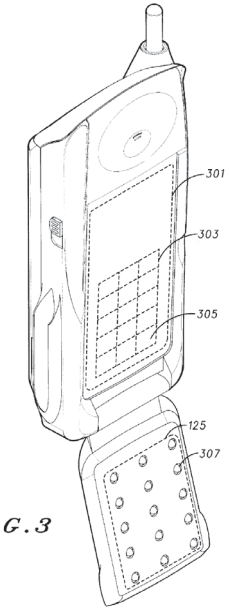
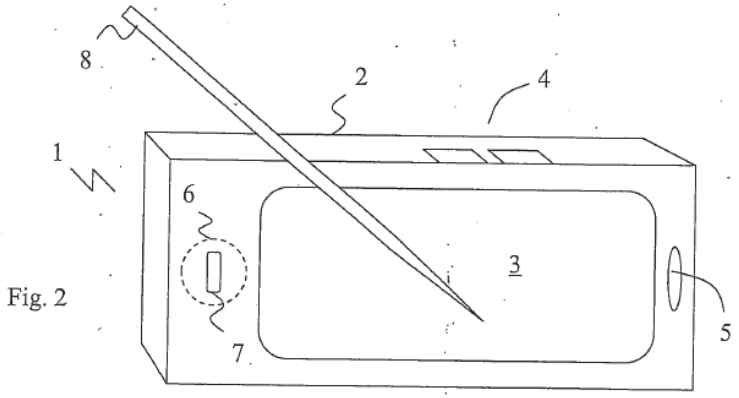


FIG.8F

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Similarly, Wedel discloses that a virtual keypad can be displayed on a touch screen to enable data input, which a POSITA would have understood includes inputting text. (Wedel at 2:6-11, FIG. 2.) Likewise, Pensjo discloses a virtual keyboard that can be used "for input of alphanumeric characters." (Pensjo at [0005], [0009], [0014].) A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Jambhekar, Wedel, and Pensjo. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar, Wedel, and/or Pensjo into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar, Wedel, and Pensjo) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.)

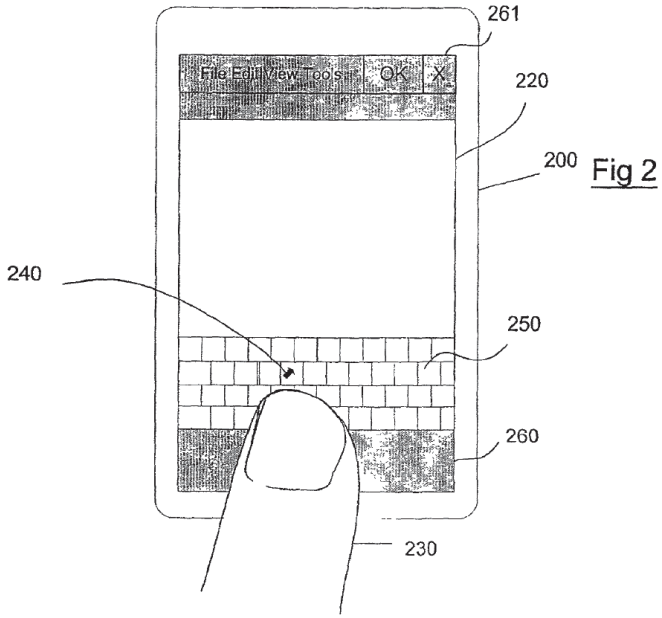
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.) "Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 3 (Jambhekar at FIG. 3) "Several of the functions of the keypad 4 have been included on a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:6-11.) Wedel discloses the following at FIG. 2:

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2) "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, Mouton depicts a device where the width is less than the length. (Mouton at FIG. 2.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig 2 (Mouton at FIG. 2) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Rydbeck and/or Yamaguchi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Rydbeck discloses a mobile phone wherein the length is 8-10 inches and the width is less than about 4 inches. (Rydbeck at 4:39-43.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Yamaguchi discloses a mobile phone 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) A POSITA would have found it obvious to configure the mobile phone as disclosed by Mouton with width and length dimensions as claimed. Each of Rydbeck and Yamaguchi teaches configuring a mobile phone such that the width of the device is about half of its length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone with similar dimensions to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound produced by the speaker during a phone call. For example, as taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck and Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Rydbeck and/or Yamaguchi into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Rydbeck and Yamaguchi) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Rydbeck and Yamaguchi) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone with a width to length ratio as taught by Rydbeck and Yamaguchi) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck and Yamaguchi) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention.

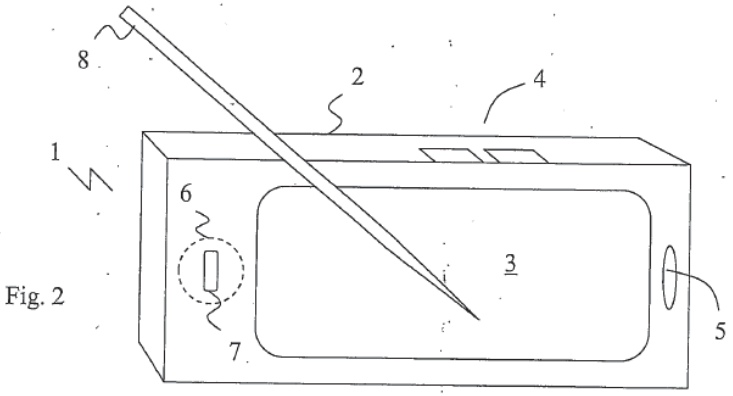
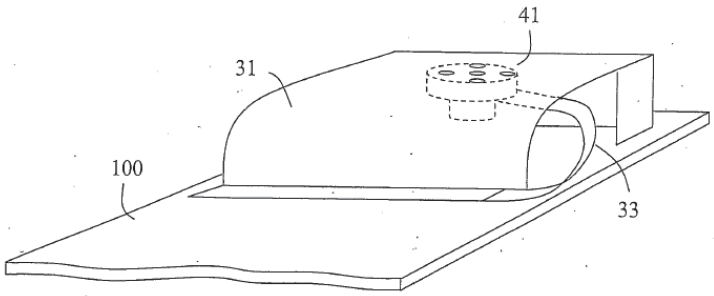
Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:39-43.) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, Mouton explains that there is an "increasing focus on compactness of electronic devices," leading to them "becoming smaller and smaller." (Mouton at [0003].) A POSITA would have understood that to achieve a more compact device, thickness of the device would be minimized. Additional exemplary citations include: "Due to increasing focus on compactness of electronic devices, however, the displays, especially in portable electronic devices, are becoming smaller and smaller. Popular electronic devices with a smaller display area include electronic organizers, PDA's (personal digital assistants), and graphical display-based telephones. Also available today are communicators that facilitate various types of communication such as voice, faxes, SMS (Short Messaging Services) messages, e-mail, and Internet-related applications. These products can likewise only contain a small display area. Often such devices do not use a full keyboard or a mouse, rather the display screens of these devices are touch sensitive to allow data input. A wide variety of gesture-based and other user interface techniques have been used and proposed to facilitate data entry through the touch screen." (Mouton at [0003].)

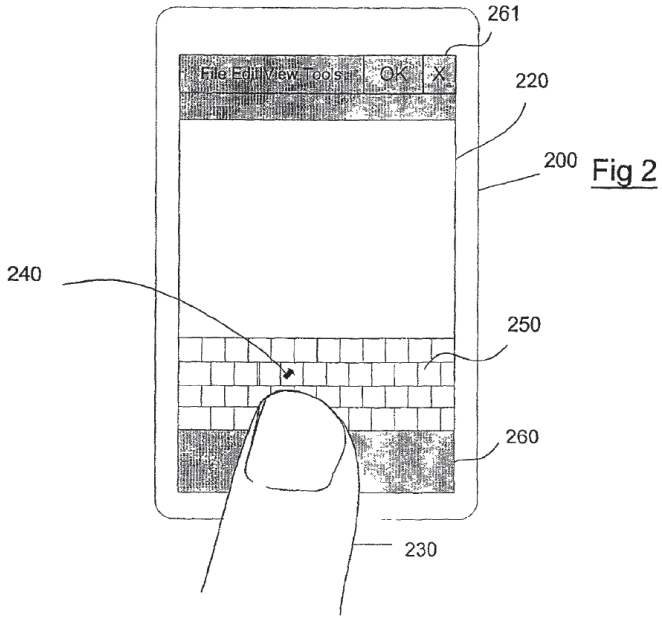
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Yamaguchi and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi discloses a mobile phone that is 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) Thus, the mobile phone disclosed by Yamaguchi has a thickness that is 20 percent of its width. Further, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) A POSITA would have found it obvious to configure the mobile phone as disclosed by Mouton with width and thickness dimensions as claimed. Yamaguchi teaches configuring a mobile phone such that the thickness of the device is 20 percent of its width, which improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and provides a display that is as large as possible. Wedel simultaneously teaches that there is demand for ever smaller, lighter phones. A POSITA would thus have been motivated to configure a mobile phone with a thickness to width ratio less than Yamaguchi's to gain market advantage. (Wedel at 1:14-21, 3:19-21.)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve user experience and market demand as suggested by Wedel. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Wedel into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as suggested by Yamaguchi and Wedel) according to known methods to yield predictable results (improving the portability and marketability of a mobile phone); (B) use of a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and/or Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:  Fig. 2 (Wedel at FIG. 2)  Fig. 11

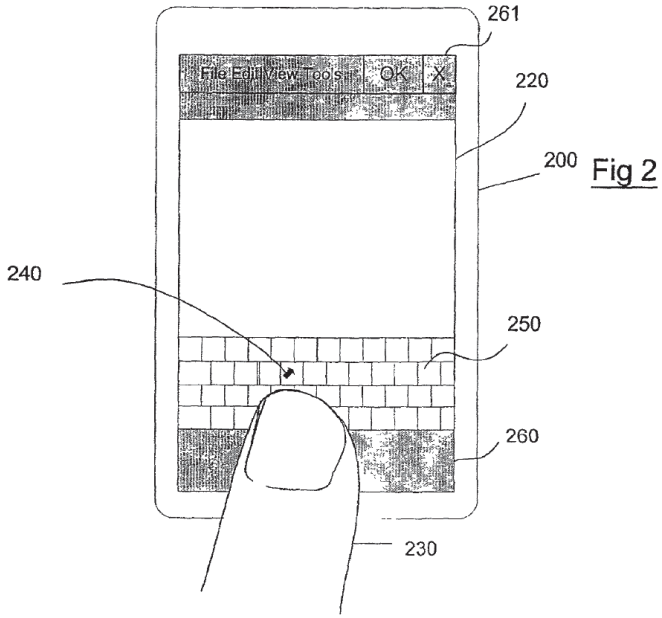
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Wedel at FIG. 11)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone." For example, Mouton discloses an electronic device, which may be a personal digital assistant or a mobile telephone, which is a mobile phone device. (Mouton at abstract, [0001], [0003], [0004], [0015], [0034], claim 1, FIG. 2.)  Fig 2 (Mouton at FIG. 2)

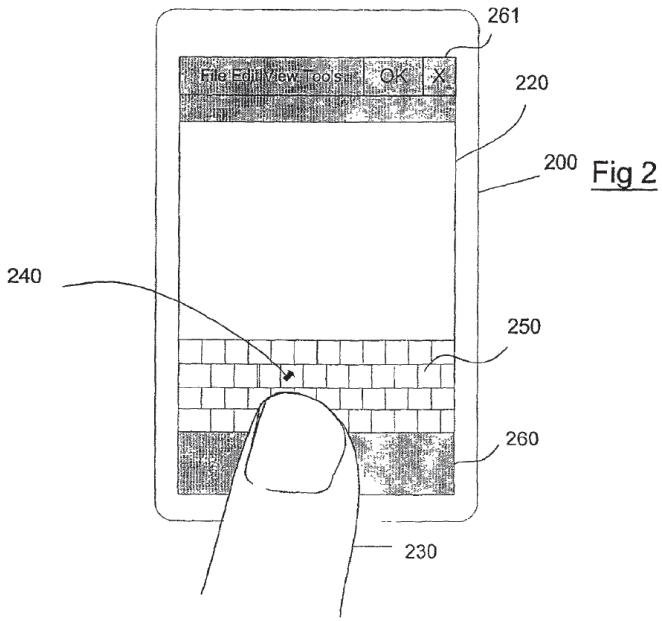
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.) "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) "Due to increasing focus on compactness of electronic devices, however, the displays, especially in portable electronic devices, are becoming smaller and smaller. Popular electronic devices with a smaller display area include electronic organizers, PDA's (personal digital assistants), and graphical display-based telephones. Also available today are communicators that facilitate various types of communication such as voice, faxes, SMS (Short Messaging Services) messages, e-mail, and Internet-related applications. These products can likewise only contain a small display area. Often such devices do not use a full keyboard or a mouse, rather the display screens of these devices are touch sensitive to allow data input. A wide variety of gesture-based and other user interface techniques have been used and proposed to facilitate data entry through the touch screen." (Mouton at [0003].) "For instance, U.S. Pat. No. 5,745,116 describes a user interface for a mobile telephone in which a user performs a manual selection or a gesture selection of a screen object on a screen using a pointing device. After a manual selection, such as a single tap, the electronic device automatically presents a temporary directional palette having palette buttons that explicitly state functions of the electronic device. Each palette button has a unique compass direction relative to the original tap area. By making a second tap on a desired palette button, a novice user learns available functions of the electronic device and their corresponding directional gestures. Alternately, the user may perform a gesture

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	selection of both a screen object and a function, such as making a double tap or drawing a line in the appropriate direction, before the directional palette appears on the screen." (Mouton at [0004].) "A personal digital assistant embodying the invention will now be described, by way of non-limiting example, with reference to the accompanying diagrammatic drawings, in which:" (Mouton at [0015].) "Whilst the invention is particularly useful in portable, handheld devices, it will be understood that technique may be applied to any kind of device, whether portable or not, that includes a tactile display, for instance printers, photocopiers, fax machines as well as industrial machinery." (Mouton at [0034].) "Apparatus having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user, wherein the input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at Claim 1.)
[9a] a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces,	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra* claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").

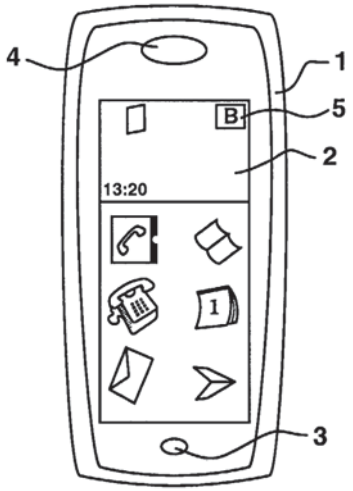
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9c] wherein the width of the front surface of the mobile phone is significantly shorter than the length, and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").
[9d] wherein said body has a thin thickness	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").
[9e] a touch sensitive display unit	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, Mouton discloses a touch screen display. (Mouton at [0001], [0009], [0021], [0024]-[0027], FIG. 2.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig 2 (Mouton at FIG. 2) Additional exemplary citations include: "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) "This invention is intended to mitigate the draw backs of the prior art by providing an interface for such devices that does not require a stylus, but rather allows input to be effected through small active screen elements using a finger alone." (Mouton at [0009].) "As is well known, touchpad input devices are small, touch-sensitive devices that can be used as a pointing device to replace a mouse, trackball or other cursor locator/input device in mouse-driven or other personal computers. The touchpad typically includes a small touch-sensitive screen up to 3" by

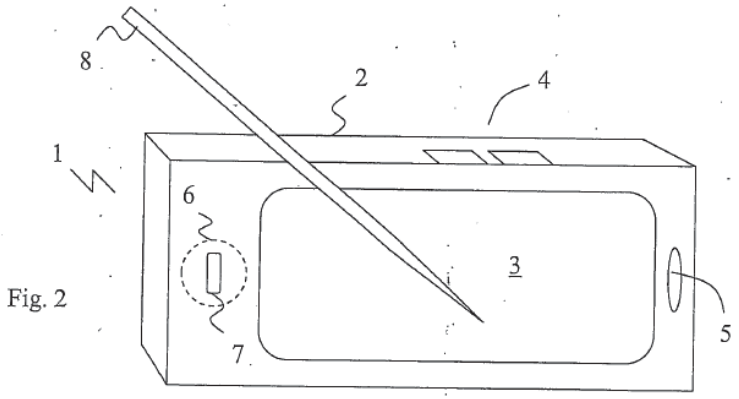
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	5" in size and produces X, Y location coordinates representative of the location of the touching device (finger or inanimate object such as stylus) on its surface. The computer 110 interprets these X,Y coordinates to locate the cursor on the computer display. The user controls the computer cursor location by moving their finger across the sensor surface. Touch pad 100 is transparent and physically overlies the display device 120." (Mouton at [0021].) "FIG. 3 is a schematic diagram that shows the geometrical relationship between cursor 240 and zones on contact 270 between and finger and touch screen at an initial location D0 and locations of first and second finger taps D1 and D2 respectively." (Mouton at [0024].) "It will be appreciated that with this displacement between the point of contact that the position of cursor 240, there is a zone—denoted 260 in FIG.2—at the bottom of the touchpad into which the cursor cannot be moved. This zone can either be used to display nonactive elements, such as a date and time, or the device can be arranged so that the touchpad is slightly larger in this dimension than the underlying display surface. A similar zone 261 exists at the top of the screen where detection of the point of contact of a finger is unnecessary." (Mouton at [0025].) "FIG. 4 shows in section an embodiment in which touchpad 100 and display screen 120 are laterally displaced one from another to create zones 260 and 261." (Mouton at [0026].) "FIG. 5 is a flow diagram showing an operating process operated by the graphical user interface software that controls display 220 in this embodiment. In applications to PDA this would be incorporated in the operating system of the device. The process starts at step 300 when a finger 230 touches the screen. Detection of the finger in contact with the screen for greater than a threshold time-for instance 0.3 s—causes cursor 240 to be displayed on the screen. This time threshold is designed to filter accidental touches. A user can then cause the cursor to move on the screen by moving their finger." (Mouton at [0027].)
[9f] a virtual keyboard to enter text; and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text."

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Mouton discloses a virtual keyboard that may be used to input text. (Mouton at [0022], [0028], FIG. 2.)  Fig 2 (Mouton at FIG. 2) Additional exemplary citations include: "One example of a device with this general structure is the personal digital assistant 200 shown in FIG. 2. PDA 200 comprises a touch sensitive display 220, incorporating touchpad 100 and display 120. A user interface is displayed on display 220 in order to allow a user to effect input operations according to the position of a cursor 240 in relation to a displayed image having active elements that are in general smaller than the finger, such as the images of the keys of a keyboard illustrated at 250. Such active elements may of course also include icons, scroll bars, dates on a calendar, characters in a document or the like." (Mouton at [0022].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Once the user has positioned cursor 240 in a desired location-denoted S in FIG. 3 and 4, overlying for instance a chosen key in keyboard 250, a chosen icon or other active display element, the user taps the display twice in relatively quick succession at that location. The first finger tap 310 serves to fix the position of the cursor and the second finger tap 320 serves to confirm the position of the cursor as the point of effect desired by the user." (Mouton at [0028].)
[9g] a microphone and a speaker	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, a POSITA would have understood that Mouton's device would have inherently included a microphone and a speaker because it is intended for use as a "mobile phone." (Mouton at abstract, [0001].) A POSITA would have understood a mobile phone to necessarily include a microphone and speaker for placing phone calls. Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.) "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Mouton combined with Bast, Wedel, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Bast discloses that the housing includes a microphone 3 and a speaker 4 located at the bottom and top of the front surface of the housing, respectively. (Bast at [0010], FIG. 1)  Figure 1 (Bast at FIG. 1)

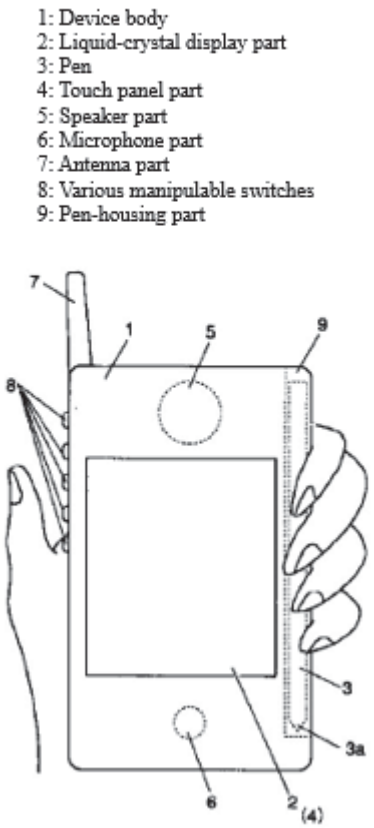
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Wedel discloses that the terminal 1 includes "a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1." (Wedel at 2:1-11, FIG. 2.) Additionally, Yamaguchi discloses a "mobile-communication-information terminal device" including a "speaker part 5" and a "microphone part 6." (Yamaguchi at claim 1, [0003], [0005], [0011], [0017], FIG. 1.) Additionally, Dutta discloses a mobile phone including a microphone and a speaker. (Dutta at [0018], FIGS. 2A-B.) A POSITA would have been motivated to configure a mobile phone to include a microphone and a speaker. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Bast, Wedel, Yamaguchi, and Dutta. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to make phone calls, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Bast, Wedel, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (including a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and Dutta) according to known methods to yield predictable results (a mobile phone that allows a place calls using the microphone and speaker); (B) use of a known technique (allowing a user to make calls using a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and Dutta) to improve similar devices in the same way (a mobile phone that allows a user to make phone calls); (C) applying a known technique (allowing a user to place calls using a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Wedel, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2,

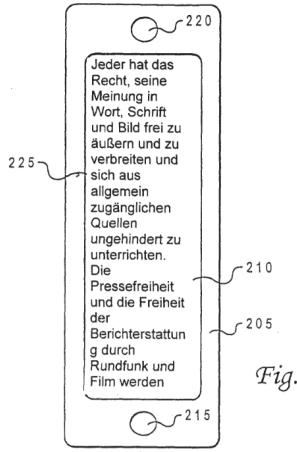
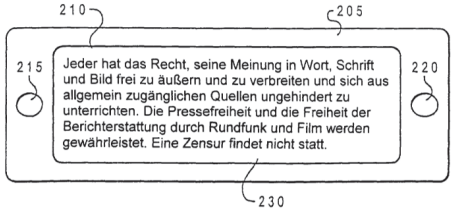
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. . . . A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:1-11.) Wedel discloses the following at FIG. 2:  Fig. 2 (Wedel at FIG. 2)

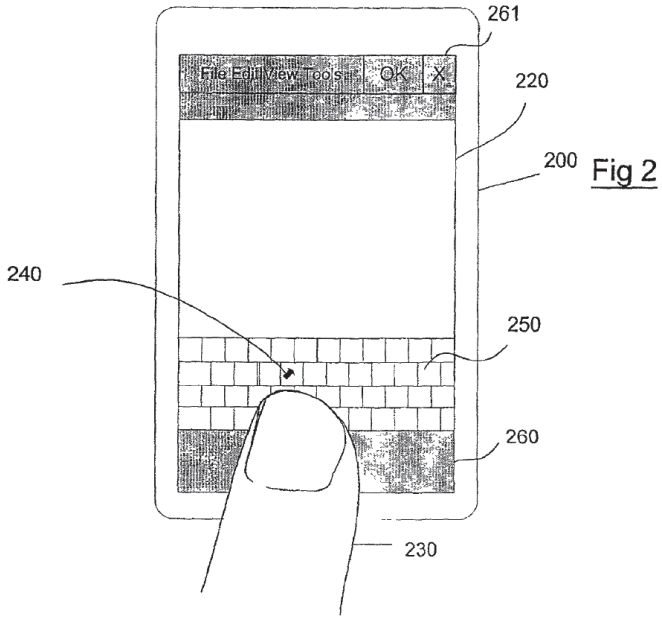
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, the device being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body." (Yamaguchi at claim 1.) "FIG. 7 is a front view of a mobile-communication-information terminal device according to the existing art. In the mobile-communication-information terminal device according to the existing art, as shown in FIG. 7, a liquid-crystal display part 2, which outputs and displays text, graphics data, and wireless status, is provided on a front-surface portion of a device body 1; a touch panel part 4, by which data inputs are made by touching with a pen tip, is disposed on a front surface of the liquid-crystal display part 2; a pen-housing part 9 for housing a pen 3 is located on a lower portion of the liquid-crystal display part 2; and an antenna part 7 is located on a rear surface of the liquid-crystal display part 2 and near a side-surface portion thereof. Moreover, various manipulable switches 8 are provided on the same surface as the liquid-crystal display part 2 and at locations centered on the liquid-crystal display part 2 in a left-right direction, and a speaker part 5, which outputs audio, and a microphone part 6, by which audio is inputted, are disposed on the same surface as the liquid-crystal display part 2 and centered on the liquid-crystal display part 2 in the left-right direction. In addition, although not shown in the drawings, a card-housing part for a memory card having a data storage function and, adjacent thereto, a card EJECT button having an EJECT function are provided on a lower portion of the device body 1, and the device body 1 has a shape having overall horizontally elongated dimensional ratios." (Yamaguchi at [0003].) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "EMBODIMENTS OF THE INVENTION The invention according to claim 1 of the present invention is a mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, and the device being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body; thus, the invention has the effects that, if pen input is not required, then various manipulations can be performed with the one hand holding the device body, and audio input/output can be performed without adjusting one's grip on the device body, thereby improving ease of manipulation." (Yamaguchi at [0011].) "As shown in FIG. 1 and FIG. 2, the mobile-communication-information terminal device is constituted by: a liquid-crystal display part 2, which is disposed on a front-surface portion of a device body 1 and outputs and displays text and graphics data; a touch panel part 4, which is disposed on a front-surface portion of the liquid-crystal display part 2 and by which inputs can be made by touching with a tip 3a of a pen 3; a speaker part 5, which outputs audio and is disposed at an upper portion of the liquid-crystal display part 2 and on the same surface as the liquid-crystal display part 2; a microphone part 6, into which audio is inputted and which is disposed at a lower portion of the liquid-crystal display part 2

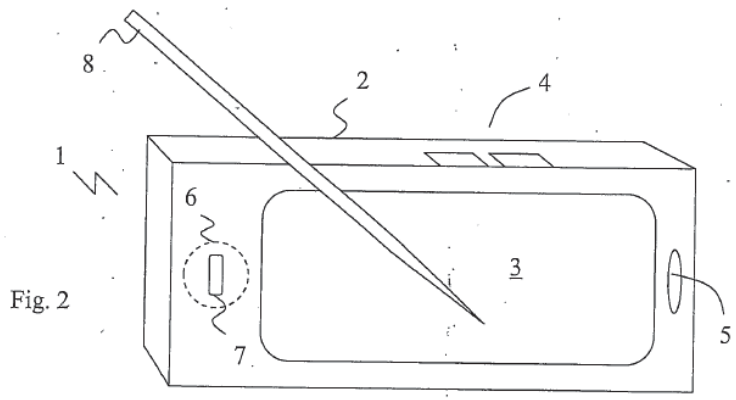
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	and on the same surface as the liquid-crystal display part 2; an antenna part 7 and various manipulable switch parts 8, which are disposed on a same-side surface portion of the device body 1; a pen-housing part 9, which is disposed on a side-surface portion of the device body 1 opposite the aforementioned; and the like; furthermore, the various manipulable switch parts 8 are disposed at locations such that they can be manipulated by the thumb of one hand holding the device body 1." (Yamaguchi at [0017].) Yamaguchi discloses the following at FIG. 1:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Yamaguchi at FIG. 1.) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Dutta discloses the following at FIGS. 2A-B:  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B)
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9i] wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text, and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f]. For example, Mouton discloses a mobile phone that does not include a physical key on the front surface. (Mouton at FIG. 2.) Mouton also teaches that the touch screen includes a virtual keyboard and selectable icons. (Mouton at [0022], [0028].)  Fig 2 (Mouton at FIG. 2) Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"One example of a device with this general structure is the personal digital assistant 200 shown in FIG. 2. PDA 200 comprises a touch sensitive display 220, incorporating touchpad 100 and display 120. A user interface is displayed on display 220 in order to allow a user to effect input operations according to the position of a cursor 240 in relation to a displayed image having active elements that are in general smaller than the finger, such as the images of the keys of a keyboard illustrated at 250. Such active elements may of course also include icons, scroll bars, dates on a calendar, characters in a document or the like." (Mouton at [0022].) "Once the user has positioned cursor 240 in a desired location-denoted S in FIG. 3 and 4, overlying for instance a chosen key in keyboard 250, a chosen icon or other active display element, the user taps the display twice in relatively quick succession at that location. The first finger tap 310 serves to fix the position of the cursor and the second finger tap 320 serves to confirm the position of the cursor as the point of effect desired by the user." (Mouton at [0028].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.) A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Mouton to be an example of (A) combining

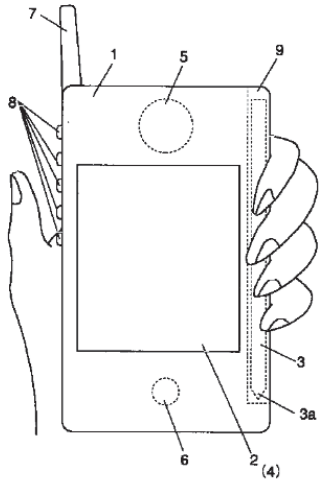
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:  Fig. 2

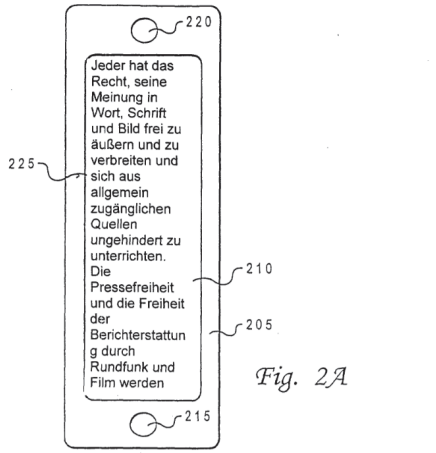
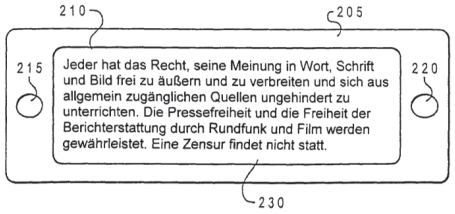
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Wedel at FIG. 2)
[9j] wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[10a] wherein the distance between said microphone and said speaker corresponds to the	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user."

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
distance between the ear and the mouth of a user	For example, a POSITA would have understood that Mouton's device would have inherently included a microphone located near the bottom of the housing and a speaker located near the top of the housing because it is intended for use as a "mobile phone." (Mouton at abstract, [0001].) *See also supra* claim [9g]. A POSITA would have understood a mobile phone to necessarily include a microphone and speaker for placing phone calls, and would have also understood that the speaker should be located near the user's ear and the microphone should be located near the user's mouth. Accordingly, the mobile phone disclosed by Mouton should be understood to be sized accordingly to these design goals: making the speaker and microphone of the device line, each located at an end of the device, correspond to the ear and mouth of a user. Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.) "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the distance between the ear and mouth of a user corresponds to the distance between the ear and the mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Mouton such that the distance between the microphone and speaker of the device corresponds to the distance between a user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance. A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (the mobile phone of Mouton with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[12a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].
[12b] wherein upon providing a sweeping action on said display	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping

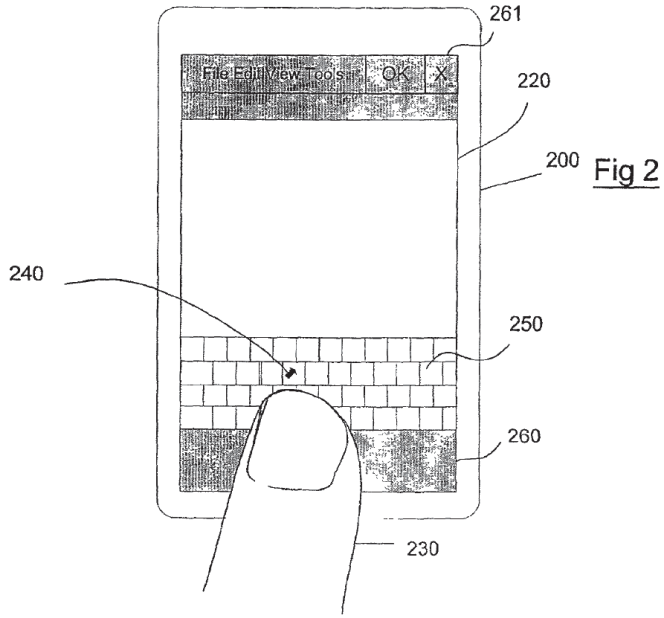
Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendants incorporate all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].
[13a] wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

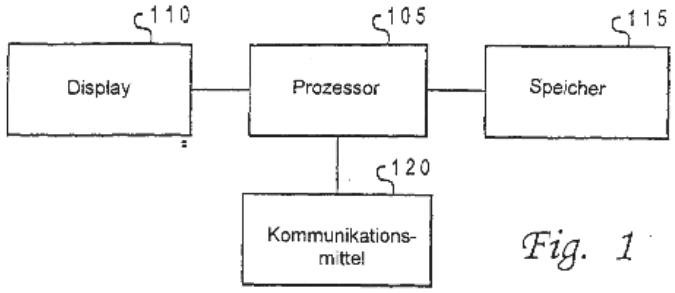
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Mouton discloses an electronic device, which may be a personal digital assistant or a mobile telephone, which is a mobile phone device. (Mouton at abstract, [0001], [0003], [0004], [0015], [0034], claim 1, FIG. 2.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig 2 (Mouton at FIG. 2) Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) "Due to increasing focus on compactness of electronic devices, however, the displays, especially in portable electronic devices, are becoming smaller and smaller. Popular electronic devices with a smaller display area include electronic organizers, PDA's (personal digital assistants), and graphical display-based telephones. Also available today are communicators that facilitate various types of communication such as voice, faxes, SMS (Short Messaging Services) messages, e-mail, and Internet-related applications. These products can likewise only contain a small display area. Often such devices do not use a full keyboard or a mouse, rather the display screens of these devices are touch sensitive to allow data input. A wide variety of gesture-based and other user interface techniques have been used and proposed to facilitate data entry through the touch screen." (Mouton at [0003].) "For instance, U.S. Pat. No. 5,745,116 describes a user interface for a mobile telephone in which a user performs a manual selection or a gesture selection of a screen object on a screen using a pointing device. After a manual selection, such as a single tap, the electronic device automatically presents a temporary directional palette having palette buttons that explicitly state functions of the electronic device. Each palette button has a unique compass direction relative to the original tap area. By making a second tap on a desired palette button, a novice user learns available functions of the electronic device and their corresponding directional gestures. Alternately, the user may perform a gesture selection of both a screen object and a function, such as making a double tap or drawing a line in the appropriate direction, before the directional palette appears on the screen." (Mouton at [0004].) "A personal digital assistant embodying the invention will now be described, by way of non-limiting example, with reference to the accompanying diagrammatic drawings, in which:" (Mouton at [0015].) "Whilst the invention is particularly useful in portable, handheld devices, it will be understood that technique may be applied to any kind of device, whether portable or not, that includes a tactile display, for instance printers, photocopiers, fax machines as well as industrial machinery." (Mouton at [0034].)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Apparatus having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user, wherein the input operations comprise at least a first finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at Claim 1.)
[15a] a body having a practically rectangular shape;	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].
[15b] a processor; and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor." For example, a POSITA would have understood that Mouton's device would have inherently included a processor because it is intended for use as a "mobile phone." (Mouton at abstract, [0001].) Mouton explains, for example, that its device includes a "controller," (Mouton at [0020]), which a POSITA would have understood to be a processor. Additional exemplary citations include: "Apparatus, such as personal digital assistants, mobile phones or mobile computers, is described having a touch sensitive display and circuitry responsive to the display to move a cursor according to movement of a finger thereon and effect input operations according to the position of a cursor in relation to a displayed image, the position of the cursor on the displayed image being displaced by a short distance from the point of contact of the finger with the display so that the position of the cursor when an input operation is effected is visible to the user. The input operations comprise at least a first

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	finger tap serving to define the position of the cursor and a second finger tap serving to confirm the position of the cursor as the point of effect desired by the user." (Mouton at abstract.) "The present invention relates to user interfaces for electronic devices, particularly but not exclusively, personal digital assistants, mobile phones or mobile computers, that have small display screens and that employ touch sensing as a means of data input." (Mouton at [0001].) "FIG. 1 shows in schematic form an electronic device according to an embodiment of the invention. A touchpad input device 100 for instance of the resistive type sold under the TouchTek4 brand by MicroTouch Systems, Inc. provides input via a suitable controller (not shown) to a computing device 110 that requires input. Computer 110 is connected to a display device 120, of any suitable type such as an LCD display." (Mouton at [0020].) To the extent Keyless argues that Mouton does not disclose or render obvious this limitation, it would have been obvious in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of Mouton combined with Dutta and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Dutta discloses a mobile phone that includes a processor 105 capable of writing data to a display 110. (Dutta at [0015], FIG. 1) In addition, the processor can read and write data to memory and communicate with a wireless network. (*Id*.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 1 (Dutta at FIG. 1) As another example, Benoit discloses a communication tool including a "data processing unit," or "central processing unit," which is a processor. (Benoit at 1:6-7, 3:22-24, claim 10.) A POSITA would have been motivated to configure a mobile phone to include a processor. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Dutta and Benoit. A POSITA would have been motivated to include a processor to allow the phone to execute instructions, improving operation for the user. Thus, a POSITA would have considered the combination of the teachings of Dutta and/or Benoit into the mobile phone architecture disclosed by Mouton to be an example of (A) combining prior art elements (including a processor in a mobile phone as taught by Dutta and Benoit) according to known methods to yield predictable results (proving computing and/or processing capability); (B) use of a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to improve similar devices in the same way (providing computing and/or processing capability); (C) applying a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to a known device ready for improvement to yield predictable results (providing computing and/or processing capability); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Dutta and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Mouton to arrive at the claimed invention. Additional exemplary citations include:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "The present invention relates to a method for navigating a computer program by means of a touch screen. It has a particularly interesting application in a personal digital assistant (PDA) for launching an application or even for general navigation within a program or between multiple programs. However, the invention has a broader scope because it can be applied to any communication tool comprising a touch screen and a data processing unit. In current communication tools, such as microcomputers, there is an operating system capable of managing all the programs present in the computer. In general, the human-machine interface of such an operating system presents a set of active areas." (Benoit at 1:3-10.) "According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 3:22-24.) "A communication tool equipped with a touch screen and a central processing unit for carrying out a method according to any one of the preceding claims." (Benoit at claim 10.)
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
integrated within said device;	device." *See supra* claim [1e] (discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of Mouton, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].
[15e] wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit").A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15.

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[17a] wherein upon providing a predefined interaction with an icon, the corresponding	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a]

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
application is opened on the screen.	(discussing limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[18a] wherein said device does not include a physical key on the front surface of the device.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface")

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15.

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body.	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15. Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait	Mouton, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra*

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	claim [5a] (discussing limitation "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position").

Appendix C4

Exhibit C4
Invalidity of Asserted Claims of the '144 Patent
in view of Nakano

United States Patent No. 8,375,334 to Nakano ("Nakano"), filed on May 9, 2003, and granted on February 12, 2013, qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under pre-AIA 35 U.S.C. § 102(e) and/or AIA 35 U.S.C. § 102(a)(1) and (a)(2).[1] Nakano anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends Nakano does not disclose one or more limitations of the claims, it would have been obvious to combine Nakano with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of Nakano and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- European Patent Application Publication No. 1336949 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C1.
- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C6.

- United Kingdom Patent Application Publication No. 2331204 to Kobayashi ("Kobayashi"), filed on November 5, 1998, and published on May 12, 1999, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

- European Patent Application Publication No. 1229428 to Pensjo ("Pensjo"), filed on February 2, 2001, and published on July 8, 2002, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C2.

- United States Patent No. 5,848,356 to Jambhekar et al. ("Jambhekar"), filed on October 2, 1995, and granted on December 8, 1998, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to Nakano, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

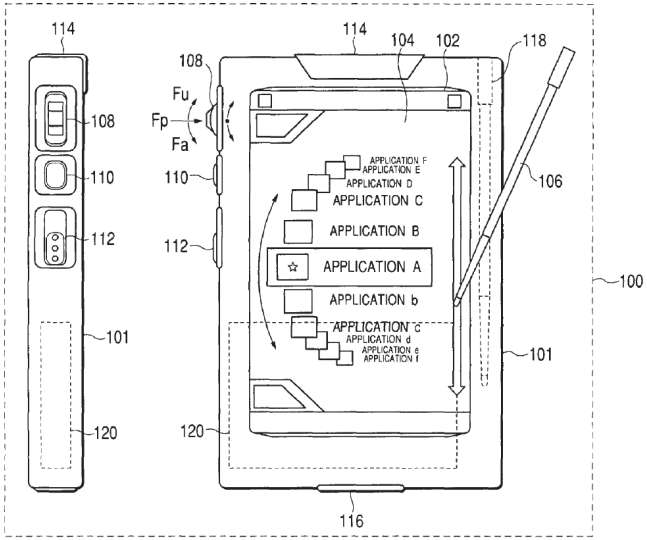
To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserves the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Nakano discloses "portable information terminals" including a "menu display." (Nakano at 1:8-12, 1:16-19, 2:45-51, 6:63-7:15, 7:20-52, 8:17-49, 8:65-9:6, 9:14-26, 9:42-48, 10:1-4, 10:11-22, 13:57-58, 27:26-28, 42:18-21, 42:30-42, 50:36-41, FIGS. 1, 24A-B, 51.) Nakano explains that the "portable information terminal" may be a PDA, but that the invention may also be applied to devices such as a "cell phone." (Nakano at 14:57-61, 27:26-28, 42:11-13.)

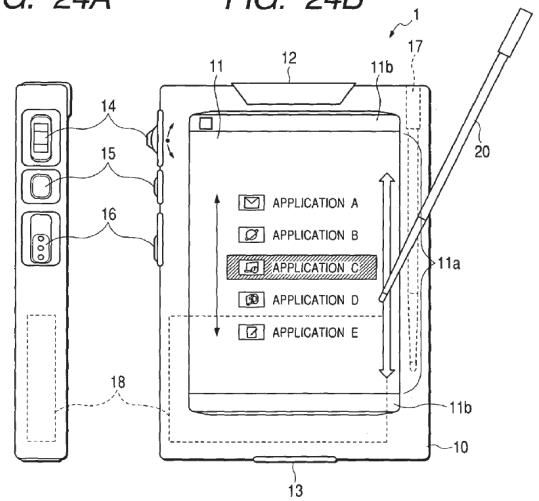
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include: "The present invention relates to a display control device for performing display control of menu display, portable information terminal, and display control information and a display control method for allowing a computer to perform display control of menu display." (Nakano at 1:8-12.) "As an example of portable information terminal which allows the user to carry along various personal information as digital information, a so-called Personal Digital Assistant (PDA) equipped with a touch panel is known." (Nakano at 1:16-19.) "The invention has been accomplished in order to solve the aforementioned problems and aims at providing easy-to-use menu display which allows easy understanding of arrangement of menu items used for a portable information terminal.

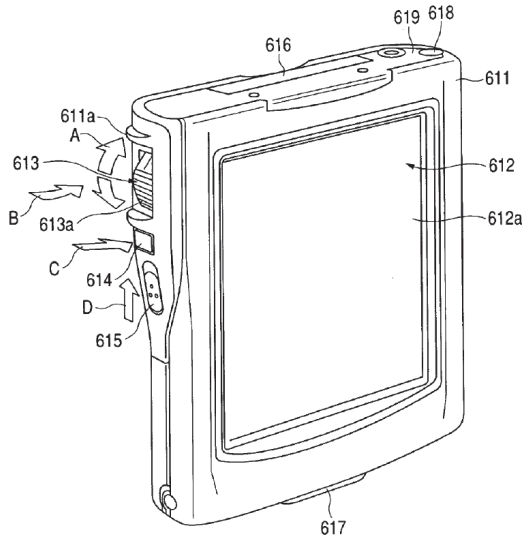
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:45-51.) "The invention provides a display control method for a portable information terminal which displays a plurality of information display entities in a vertical line on the display section, characterized in that the display control method comprises: a size setting step of setting the size of an information display entity so that the size of the information display entity to be displayed will be gradually scaled down in accordance with the distance between the information display entity and a predetermined display position of the display; an interval setting step of setting the display interval of information display entities to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; a transparency setting step of setting the transparency of an information display entity to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; and a scroll step of scrolling through the plurality of information display entities based on the setting in the size setting step, the interval setting step, and the transparency setting step." (Nakano at 6:63-7:15.) "The invention provides a portable information terminal (for example a PDA 1 in FIG. 24) comprising a display section (for example an LCD panel 11 in FIG. 14) integral with a touch panel, the portable information terminal displaying, in whole or in part, the information display entities arranged in a predetermined order in a predetermined display area (for example a main display area 11a in FIG. 24) of the display, characterized in that the portable information terminal further comprises: setting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection (for example a menu display area in FIG. 25) in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano at 7:20-52.) "The invention provides a portable information terminal comprising a display integral with a touch panel, the portable information terminal displaying, in whole or in part, a virtual face (for example a menu display entity group 40) where a plurality of information display entities are arranged in a predetermined display area of the display, characterized in that the portable information terminal further comprises: set ting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities by moving at least either the virtual camera and the virtual face in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, a virtual face where a plurality of information display entities are arranged as seen from a virtual camera in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities by moving the virtual camera in case a drag operation is made; and a first determination step of determining the information display entity displayed in the position of a candidate for selection as a candidate for selection" (Nakano at 8:17-49.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:14-26.) "The invention provides a portable information terminal characterized by further comprising second determination means (for example a menu display controller 310 in FIG. 18) for determining as a candidate for selection the information display entity displayed in the tap position instead of an information display entity determined as a candidate for selection by the first determination means." (Nakano at 9:42-48.) "The scroll means of the portable information terminal device may gradually accelerate the scroll display in case the drag velocity of the drag operation exceeds a predetermined velocity." (Nakano at 10:1-4.) "The invention provides a portable information terminal characterized by further comprising: target scroll amount setting means for setting a target scroll amount in accordance with the operation amount of the drag operation; and target scroll amount change means for changing the target scroll amount determined by the target scroll amount setting means in accordance with the operation amount of the drag operation; characterized in that the scroll means controls the scroll display velocity in accordance with the remaining scroll amount as a difference between the target scroll amount changed by the target amount change means and the current scroll amount." (Nakano at 10:11-22.) "FIG. 51 is a perspective view of an example of personal information terminal device of the invention;" (Nakano at 13:57-58.)

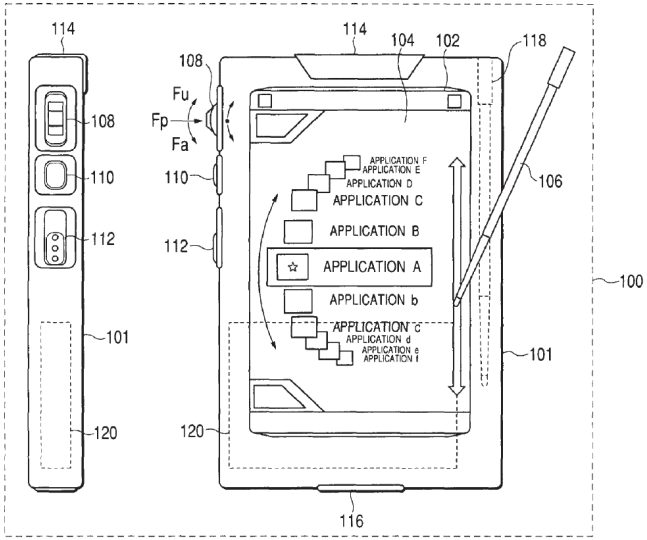
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Application of the invention is not limited to this example. The invention may be applied to other electronic devices and information terminal devices which provides menu display, such as a portable game device, a multifunctional cellphone, a laptop PC, and a set-top box." (Nakano at 14:57-61.) "The following descriptions assumes a portable information terminal (hereinafter referred to as the PDA) as an example, although the invention may be applied elsewhere." (Nakano at 27:26-28.) "While the invention is applied to a PDA in the embodiments, the invention may be applied to other personal information terminals such as a cell phone." (Nakano at 42:11-13.) "A portable information terminal equipped with a touch panel according to the invention features the enhanced operability of menu display and provides the user with a feel of operability specific to the touch panel." (Nakano at 42:18-21.) "Referring to FIG. 51, the portable information terminal (PDA) shown is of a size the user can hold in his/her hand. ON the front face of an armored case 611 is arranged a liquid crystal panel 612 comprising a touch panel 612a across its entire surface. (The touch pane 612a is arranged for example on the surface of the liquid crystal panel 612.) The armored case 611 comprises, as mentioned later, a control switch (hereinafter referred to as the side controller) 613, an escape switch 614, a power on/off switch (hereinafter referred to as the power switch) 615, an insertion slot 616 where an external memory medium is inserted, an external connection terminal 617 used to perform communications of various data, and a storage unit 619 for storing a touch pen (stylus pen) 618. As shown in FIG. 51, the side controller 613, the escape switch 614, and the power switch 615 are arranged in an array on the lateral face of the armored case 611. In the example shown, the side controller 613, the escape switch 614, and the power switch 615 are arranged in order from the top of the figure. The side controller 613 is arranged at the position where the thumb of the left hand of the user is most likely to be positioned when the user holds the armored case 611 with his/her left hand so that the liquid crystal panel 614 will face the front." (Nakano at 42:30-52.) "Arrangement of items or a camera in a virtual space, or shooting with a virtual camera may be executed by way of calculation processing by the CPU and memory in a portable information terminal,

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	or may be calculated on other device and only the resulting image data may be displayed on the portable information terminal." (Nakano at 50:36-41.) Nakano discloses the following at FIGS. 24A-B and 51: FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51)
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, Nakano discloses a rectangular-shaped housing that may be applied to a mobile phone. (Nakano at 14:57-61, 27:26-28, 27:32-34, 42:11-13, FIGS. 1, 24A-B, 51.) The housing includes components of a mobile phone, such as a display, a memory, and a control unit. (Nakano at 15:1-7, 15:26-42.) The housing includes a front surface, a back surface, and four side surfaces. (Nakano at 14:65-67, 27:29-31, FIGS. 1, 24A-B, 51.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

FIG. 1



(Nakano at FIG. 1)

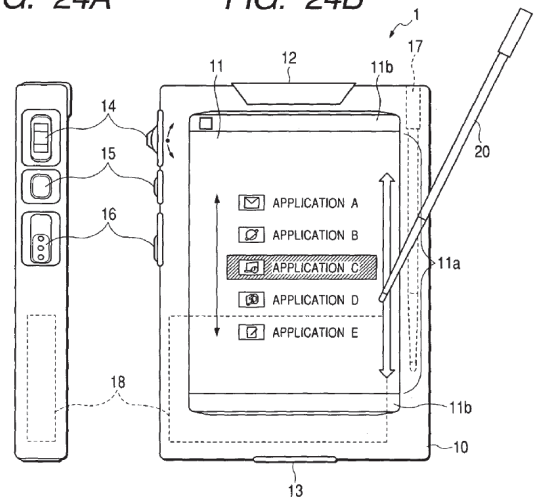
Additional exemplary citations include:

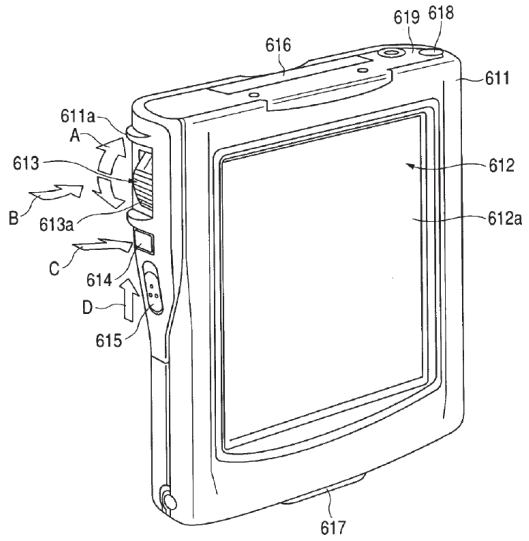
"Application of the invention is not limited to this example. The invention may be applied to other electronic devices and information terminal devices which provides menu display, such as a portable game device, a multifunctional cellphone, a laptop PC, and a set-top box." (Nakano at 14:57-61.)

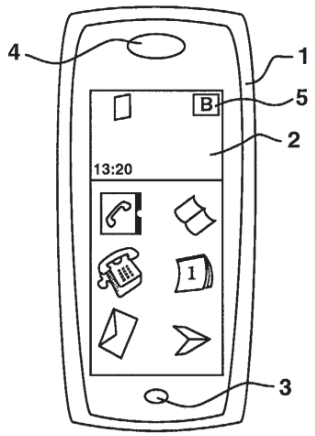
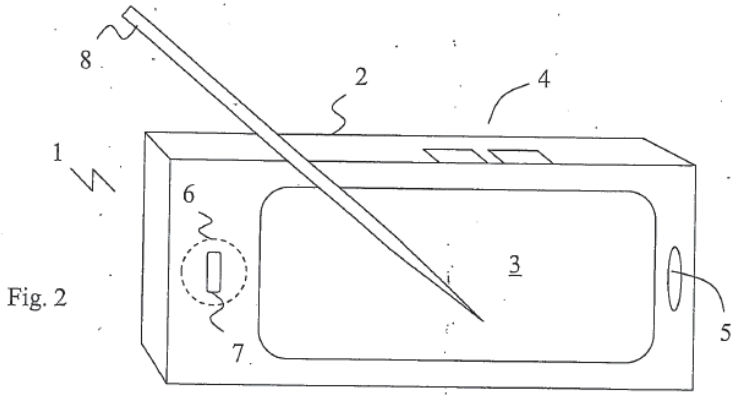
"As shown in FIG. 1. A PDA 100 comprises an LCD (Liquid Crystal Display) 102, a touch panel 104, a stylus pen 106, a side controller 105, an ESC (escape) button 110, a power button 112, a compact memory flash card slot 114, an interface connector 116, a stylus pen storage unit 118, a control unit 120, and a built-in power unit (not shown). These components are installed in an enclosure 101." (Nakano at 15:1-7.)

"The compact memory flash card slot 114 is an extension slot conforming to the standard for a compact flash memory card using a flash memory. The interface connector 116 is an extension slot to

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	connect to an external device Such as a digital camera, a PC, a cell phone, and a cradle for input/output of information. Standards for the compact memory flash card slot 114 and the interface connector 116 may be set as appropriate. The control unit 120 controls the functions of the PDA 100 and is implemented by way of hardware such as a CPU (Central Processing Unit), a RAM, a ROM, an ASIC (Application Specific Integrated Circuit) and Software such as various programs and data. The LCD 102, touch panel 104, side controller 108, escape button 110, compact memory flash card slot 114 and interface connector 116 are connected to the control unit to allow signal communications and centrally controlled." (Nakano at 15:26-42.) "The following descriptions assumes a portable information terminal (hereinafter referred to as the PDA) as an example, although the invention may be applied elsewhere. FIG. 24 is an external view of a PDA1 of this embodiment. FIG. 24A shows the side view and FIG. 24B shows the front view, respectively. According to FIG. 24, the PDA1 comprises an enclosure 10 in the shape of an approximate rectangular parallelepiped and a stylus pen 20." (Nakano at 27:26-34.) "While the invention is applied to a PDA in the embodiments, the invention may be applied to other personal information terminals such as a cell phone." (Nakano at 42:11-13.) Nakano discloses the following at FIGS. 24A-B and 51:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

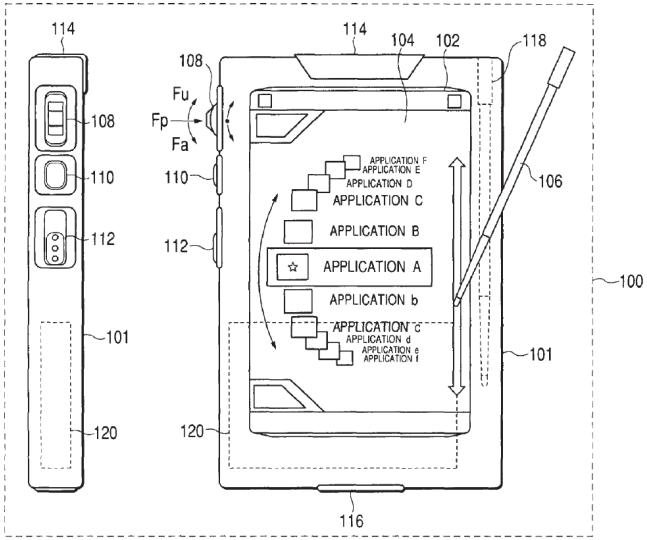
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Bast and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Bast discloses rectangular housing 1 that contains the components of a mobile phone, such as a large screen 2, a microphone 3, and a speaker 4. (Bast at [0003], [0010], FIG. 1.) The housing includes a front surface, a back surface, and four side surfaces. (Bast at [0003], [0010], FIG. 1.)

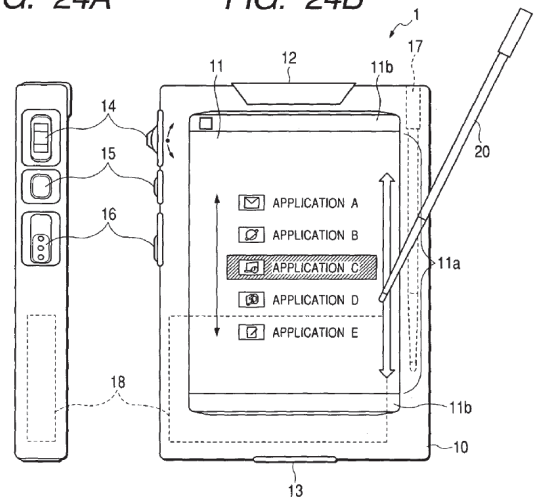
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Figure 1 (Bast at FIG. 1) Similarly, Wedel discloses a mobile phone device including multiple components, such as a screen, a microphone, and a speaker. (Wedel at 2:1-11, FIG. 2.)  Fig. 2 (Wedel at FIG. 2)

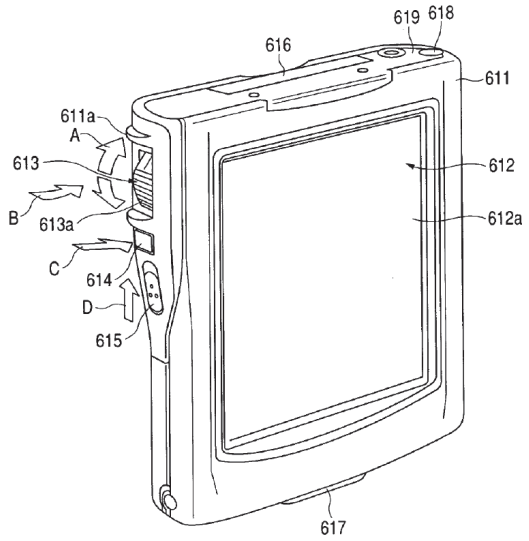
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have understood that to be functional a mobile phone must include several components, such as a screen, a microphone, and a speaker, and that they would be included in the housing as Bast and Wedel teach. (Bast at [0003], [0010], FIG. 1; Wedel at 2:1-11, FIG. 2.) Because Nakano discloses a housing for a mobile phone, (Nakano at 14:57-61, 27:26-28, 42:11-13, FIGS. 1, 24A-B, 51.), a POSITA would have understood that the necessary components would be included within the housing. A POSITA would have been motivated to configure a mobile phone to include multiple necessary components. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Bast and Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to make phone calls, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Bast and/or Wedel into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (integrating multiple necessary components in a mobile phone housing as taught by Bast and Wedel) according to known methods to yield predictable results (a mobile phone that includes the necessary components to function); (B) use of a known technique (integrating multiple necessary components in a mobile phone housing as taught by Bast and Wedel) to improve similar devices in the same way (a mobile phone that includes the necessary components to function); (C) applying a known technique (integrating multiple necessary components in a mobile phone housing as taught by Bast and Wedel) to a known device ready for improvement to yield predictable results (a mobile phone that includes the necessary components to function); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast and Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: “For ergonomic reasons, particularly related to the distance between the user’s mouth and ear, the phone retains a substantially rectangular shape, and the screen uses all the available space. Thus, screens, which were generally square, are increasingly becoming more rectangular.” (Bast at [0003].)

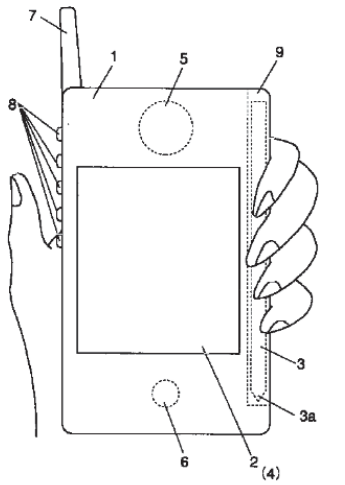
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "According to the invention, the tilt of the housing is detected by accelerometers. These electronic sensors are now widely used in automobiles, particularly for the triggering of airbags®. They are sufficiently small so as to have no direct impact on the volume of the device in which they are integrated and are no more sensitive to drops than any electronic component, which enables them to endure the conventional mechanical constraints of consumer electronics. They can also be placed automatically on a printed circuit board and soldered automatically. They therefore do not adversely affect the mass-production of products that integrate them. Additionally, they do not pollute." (Bast at [0015].) "The terminal illustrated in Figure 6 includes two accelerometers 9a and 9b, disposed perpendicularly to one another, in a plane parallel to a horizontal surface 10 when the terminal housing 1 is held vertically. An accelerometer 9 conventionally supplies signals representative of the coordinates, in a plane, of a mass moving in this plane as a function of the forces of gravity and acceleration exerted on the accelerometer. The accelerometer 9a enables the central processing unit to determine the rolling of the terminal, i.e., its pivoting movements perpendicular to the axis of the accelerometer 9a, while the accelerometer 9b makes it possible to measure the pitch, i.e., the pivoting movements perpendicular to the axis of the accelerometer 9b. Because the two accelerometers 9a and 9b are orthogonal, they enable the central processing unit 7 to determine the movements of the housing in three dimensions, accounting for both gravity and acceleration. The central processing unit 7 can thus determine the orientation of the housing and, consequently, that of the screen 2 in space." (Bast at [0016].)

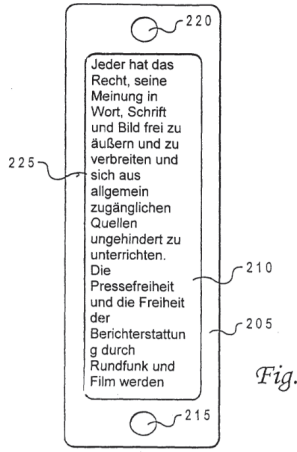
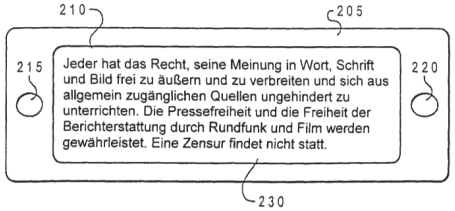
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].) *See also* Bast at [0012], [0019]-[0023], Figs. 6, 8-9. "However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. . . . A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:1-11.)
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." A POSITA would have understood the length of Nakano's device would correspond to the distance between the ear and mouth of the user because the device may be a mobile telephone, and such dimensions would have been obvious to allow the user to hold an end of the device containing a speaker against their ear and an end of the device containing a microphone near their mouth (Nakano at 14:57-61, 27:26-28, 42:11-13, FIGS. 1, 24A-B, 51.) *See also infra* [9g].

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include: "Application of the invention is not limited to this example. The invention may be applied to other electronic devices and information terminal devices which provides menu display, such as a portable game device, a multifunctional cellphone, a laptop PC, and a set-top box." (Nakano at 14:57-61.) "The following descriptions assumes a portable information terminal (hereinafter referred to as the PDA) as an example, although the invention may be applied elsewhere." (Nakano at 27:26-28.) "While the invention is applied to a PDA in the embodiments, the invention may be applied to other personal information terminals such as a cell phone." (Nakano at 42:11-13.) Nakano discloses the following at FIGS. 24A-B and 51:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

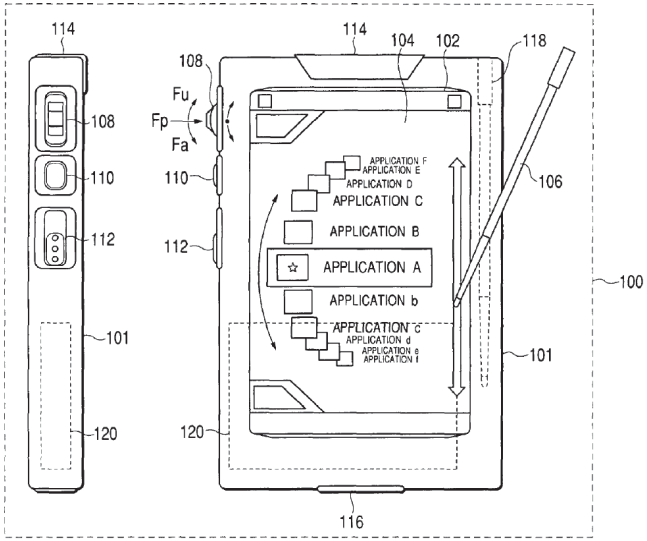
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1) 【図１】 1 装置本体 2 液晶表示部 3 ペン 4 タッチパネル部 5 スピーカー部 6 マイク部 7 アンテナ部 8 各種操作スイッチ 9 ペン収納部 

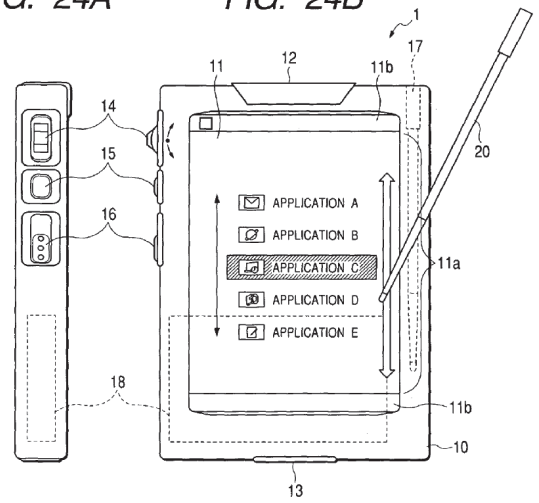
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Nakano such that the length of the front surface of the mobile phone, and correspondingly the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth.

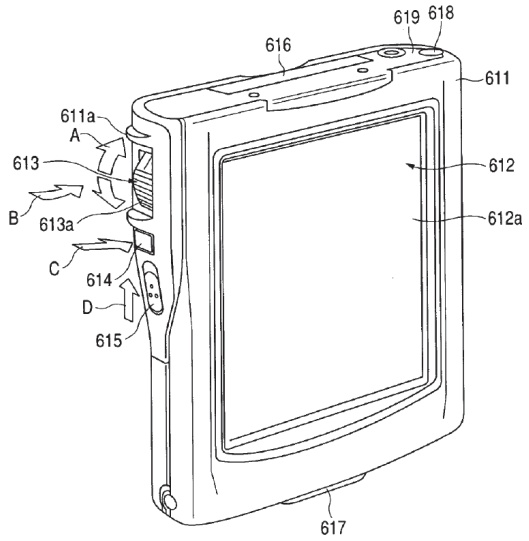
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta, [0003].) A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (the mobile phone of Nakano with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user

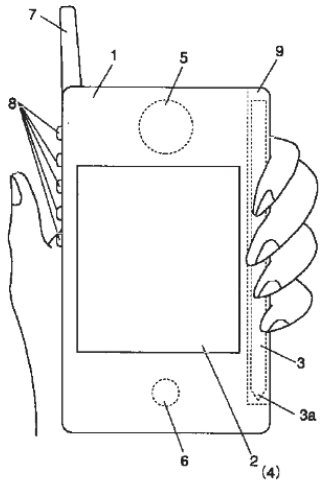
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) "A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to

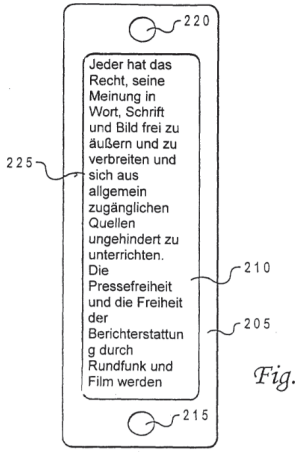
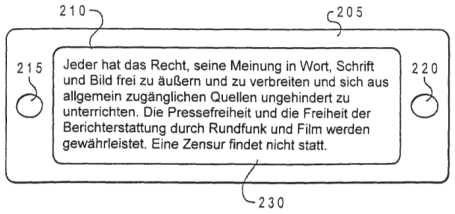
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1c] wherein the width of the front surface is substantially shorter than the length and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length." For example, Nakano discloses a mobile phone, including its front surface, where the width is shorter than the length. (Nakano at FIGS. 1, 24A-B, 51.) FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include: Nakano discloses the following at FIGS. 24A-B and 51:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Yamaguchi and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi, discloses a mobile phone that is 100-150mm in length and 60-75mm in width. (Yamaguchi at [0009].) Yamaguchi explains that this mobile phone sizing improves portability

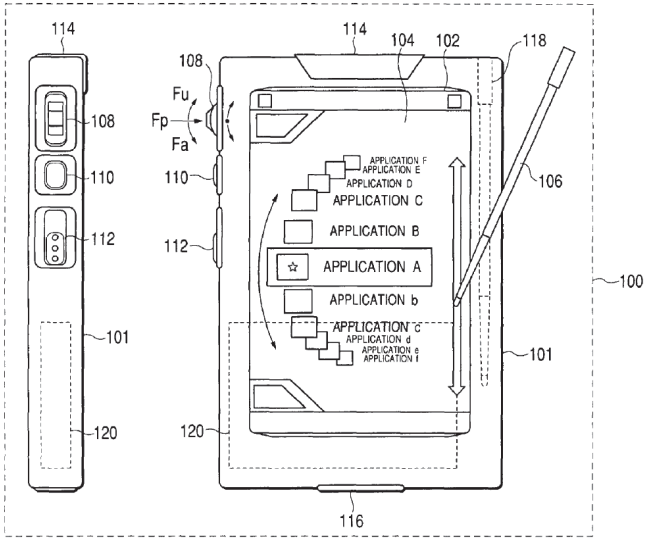
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	and operability because it allows a user to store the phone in a pocket of clothing, hold it one hand, and operate the device with ease. (Yamaguchi at [0015], FIG. 1.) 【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) For example, Dutta teaches that the ideal size for a mobile phone is determined by the typical ear-to-mouth distance of a user. (Dutta at [0003].) And Dutta further explains the result of this design motivation and consideration is that mobile phones themselves are "long and narrow," with "one edge length significantly larger than the other edge length." (Dutta at [0004], [0006], [0008], [0017], FIGS. 2A-2B.)

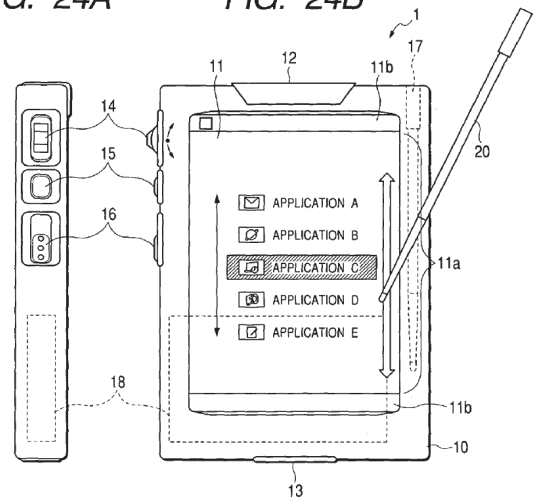
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone as disclosed by Nakano such that the width of the front surface is shorter than the length. Each of Yamaguchi and Dutta teaches configuring a mobile phone such that the width of the front surface is shorter than the length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound

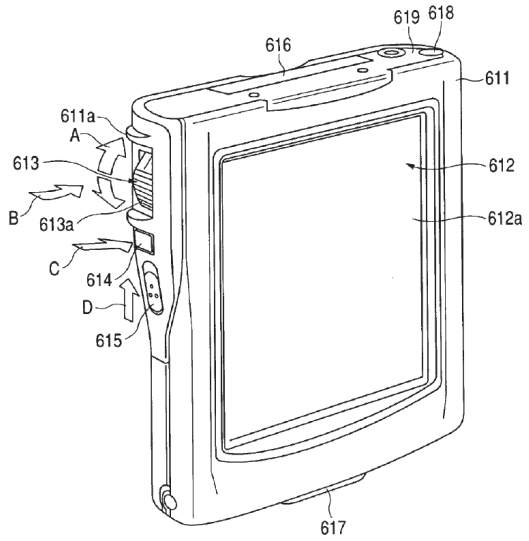
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	produced by the speaker during a phone call. As taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) Similarly, as explained by Dutta, the ideal size of a mobile phone is based on the distance between a user's ear and mouth, which naturally results in phones becoming long and narrow such that the length is longer than the width of the device. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Yamaguchi and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Dutta into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Yamaguchi and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Yamaguchi and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone such that the width to length dimensions are as taught by Yamaguchi and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A further object of the present invention is to provide an improved method of displaying data on a handheld device, in which one edge length of the display is significantly larger than the other edge length." (Dutta at [0008].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) *See also infra* claim [7].
[1d] wherein the housing has a thin thickness; and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the housing has a thin thickness." For example, Nakano depicts a housing of a device with a thickness less than the height or the width. (Nakano at FIGS. 1, 24A, 51.)

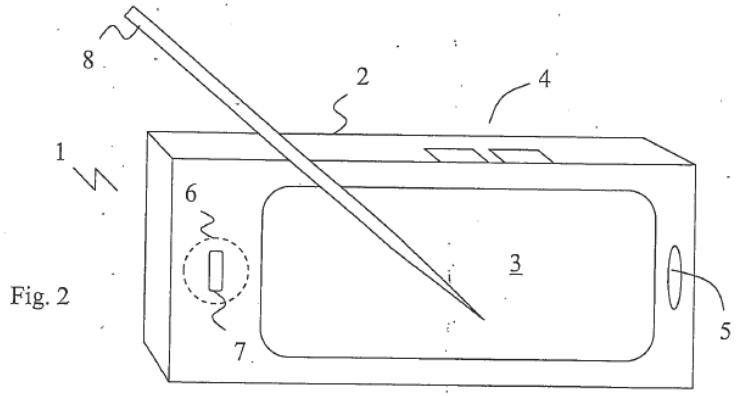
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include: Nakano discloses the following at FIGS. 24A-B and 51:

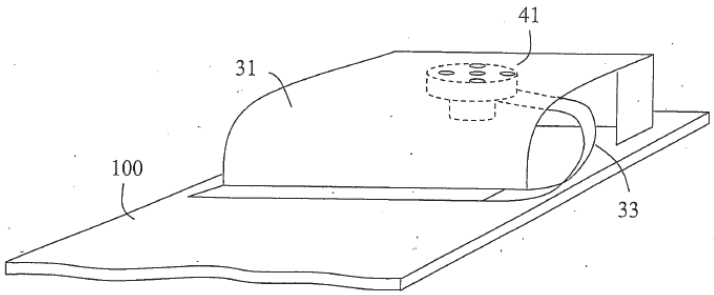
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

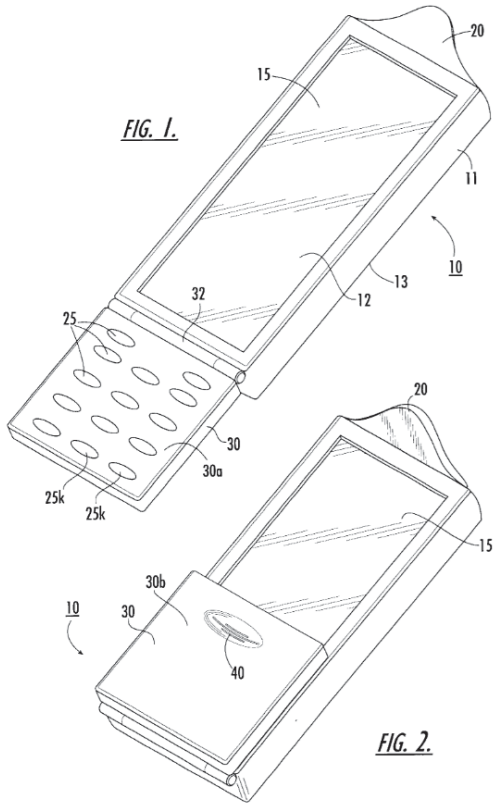
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Wedel, Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, each of Wedel, Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like. For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must have been thin. As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].) Dutta similarly teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires that the device is thin so that a user's hands can wrap around its edges. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	by Nakano to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the housing has a thinness as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.)

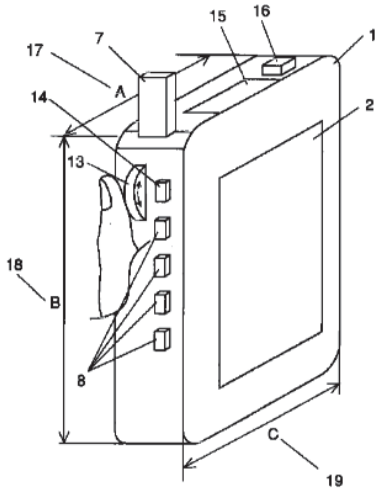
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:  Fig. 2 (Wedel at FIG. 2)

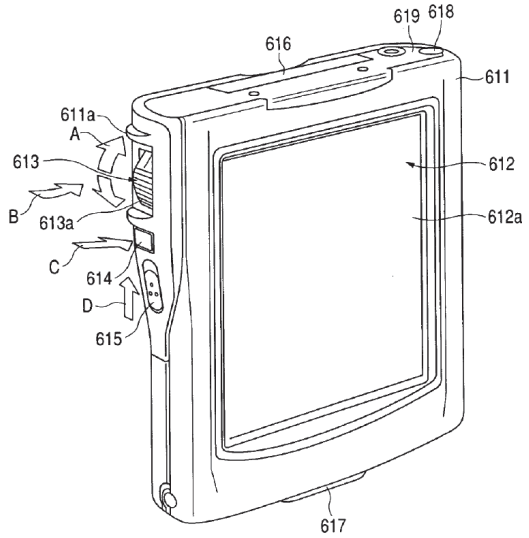
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 11 (Wedel at FIG. 11) "The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore, a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized" wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.) "The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.) "Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and "rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:  FIG. 1. FIG. 2.

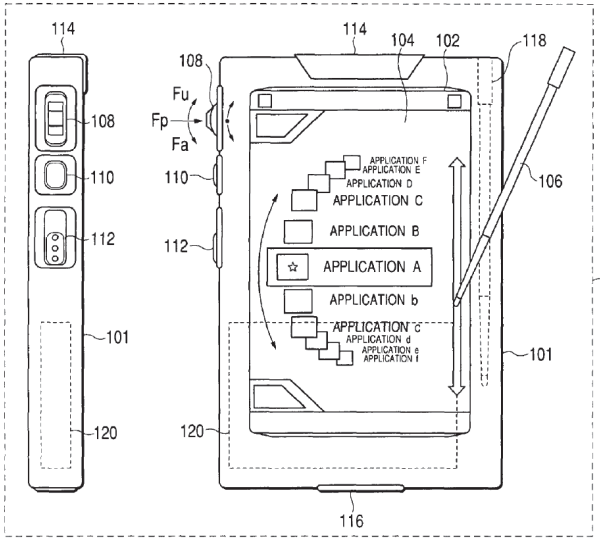
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].) "According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].)

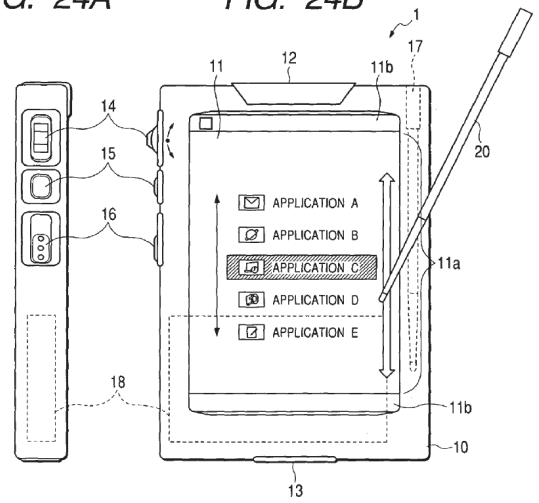
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].) "(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the

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	dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6: 【図6】  "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].)

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	See also infra claim [8].
[1e] a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing;	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing." For example, Nakano discloses "a liquid crystal panel 612 comprising a touch panel 612a across its entire surface" integrated within the front surface of the housing. (Nakano at 42:30-42, FIGS. 1, 24A-B, 51.) The liquid crystal panel covers the majority of the front surface of the housing. (Nakano at FIGS. 1, 24A-B, 51.) *FIG. 51*  (Nakano at FIG. 51)

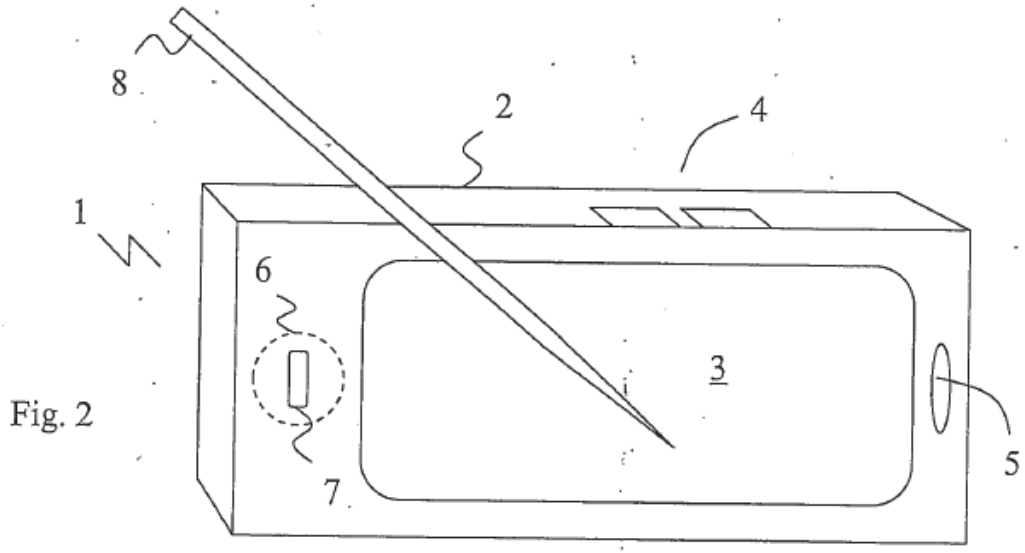
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "The LCD 102 is an image display device which can display various information such as a text and an image. The LCD 102 may be another display unit such as an ELD (Electronic Luminescent Display) or DDF (Plasma Display Panel). On the top of the LCD 102 is provided the touch panel 104, which the user can touch with the stylus pen 106 to perform various operation and input." (Nakano at 15:8-14.) "The operation input section 5 is implemented for example by a button, a lever, a mouse, a track pad, or a keyboard (including a soft keyboard), and accept various operation inputs from the user and outputs an operation input signal to the processor 20. In the example of FIG. 1, the operation input section 5 comprises a touch panel 104, a slide controller 108 and an escape button 110." (Nakano at 18:17-23.) "The LCD panel 11 comprises an LCD display panel integral with a transparent touch panel overlaid on the LCD display panel. The LCD panel 11 provides a display screen such as a menu screen 30 described later on the LCD display panel in accordance with a display control signal from the control unit 18. The LCD panel 11 also detects the position on the transparent touch panel indicated (pressed) by the stylus pen 20, and outputs as an operation signal the detected position signal to the control unit 18." (Nakano at 27:43-51.) "Referring to FIG. 51, the portable information terminal (PDA) shown is of a size the user can hold in his/her hand. ON the front face of an armored case 611 is arranged a liquid crystal panel 612 comprising a touch panel 612a across its entire surface. (The touch pane 612a is arranged for example on the surface of the liquid crystal panel 612.) The armored case 611 comprises, as mentioned later, a control switch (hereinafter referred to as the side controller) 613, an escape switch 614, a power on/off switch (hereinafter referred to as the power switch) 615, an insertion slot 616 where an external memory medium is inserted, an external connection terminal 617 used to perform communications of various data, and a storage unit 619 for storing a touch pen (stylus pen) 618." (Nakano at 42:30-42.) Additional exemplary citations include: Nakano discloses the following at FIGS. 1 and 24A-B:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1)

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	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Wedel and Gupta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel discloses a mobile phone device with a touch screen display. (Wedel at 1:30-2:14, FIG. 2.) Wedel explains that "[t]he size of a keypad 4 and a display 3 basically sets the limit of how small terminal 1 can be." (Wedel at 1:31-2:1.) Thus, to allow for a larger display while maintaining a small terminal, Wedel proposes removing all physical keys from the front surface of the mobile phone, such that the display may cover more of the front surface of the phone. (Wedel at 2:8-10, FIG. 2.)

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	As another example, Gupta discloses a "full-length touchscreen display." (Gupta at [0015], [0017], [0020], [0023]-[0025], [0030], [0035], [0041], [0042], [0051], FIGS. 2-4, 8.) Additionally, Gupta explains that while the device remains small, the screen should be large enough for "practical information viewing." (Gupta at [0003], [0004], [0020],[0025], [0026], [0049].) A POSITA thus would have understood that the screen would cover the entire front surface of the device, such that it could be as large as possible. A POSITA would have been motivated to configure a mobile phone such that the display unit covers a large portion of the housing. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel and Gupta. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display while maintaining a small device size, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel and/or Gupta into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) according to known methods to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); (B) use of a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to improve similar devices in the same way (allowing more space for a larger touch display while maintaining a small device size); (C) applying a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel and Gupta) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "A combined speaker and antenna arrangement for a communication terminal, comprising a support structure (100) carrying a first antenna element (101), and a second antenna element (31) arranged at a predetermined distance from said first antenna element. Said second antenna element is a conductive first portion (31) of a sheet of flexible film, and an elongated second portion (32) of said flexible film,

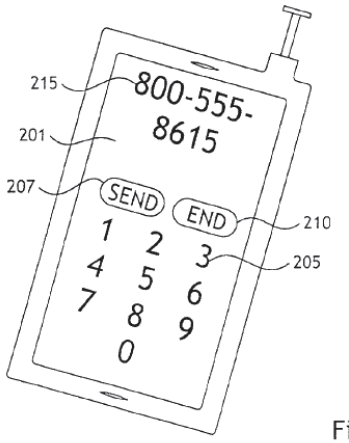
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	carrying a conductive lead extends from adjacent to said first portion to a speaker (41) connected to an outer end of said elongated second portion. The second, elongated, portion is bent such that said speaker is positioned between said film and said support structure, adjacent to an aperture in said first portion." (Wedel at abstract.) "In order to benefit from the capabilities of the transmission system, the future generation of phones will have a large display in order to perform multimedia input and output, and the picture quality will be of high importance. Still, the keypad or keyboard must be large enough to allow people to press one key at a time." (Wedel at 1:26-29.) "Figure 1 discloses a typical example of a state of the art mobile phone 1, carried by a housing or chassis 2. The size of a keypad 4 and a display 3 basically sets the limit of how small the terminal 1 can be. However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3. Figs 1 and 3 show two typical examples of state of the art communication terminals 1, whereas the skilled persons will realise that combinations of the two are also well known as well as other designs, such as a so called clamshell type terminal." (Wedel at 1:30-2:14.) "In the state of the art communication terminal a terminal output 7 is mounted on the front of the terminal above the display with the speaker 6 immediately behind the output 7, as shown in Figs 1 and 2. This means that even with a smallest available speaker used today, with a diameter of about 13 mm, the terminal would be approximately this much longer in its longitudinal extension than what would have been the case if only the display 3 and/or keypad 4 had defined the length of the terminal 1. The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore

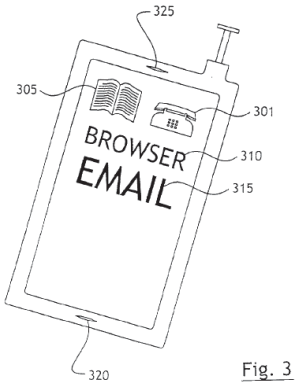
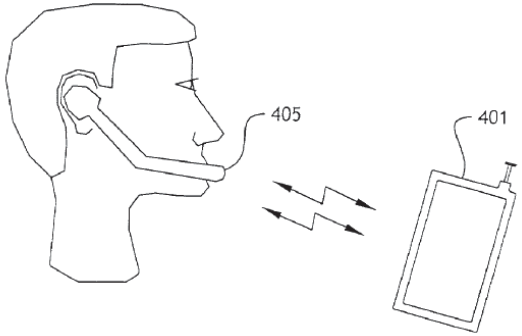
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:15-25.) "First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated. Furthermore, even though the antenna cavity 21 has been partly occupied by the speaker, experimental laboratory tests on this design have surprisingly shown that the presence of the speaker will not result in reduced antenna performance if tuned properly. The use of hot bar soldering will not lead to bulging solder pads. Which also contributes to saving space." (Wedel at 13:5-13.) Wedel discloses the following at FIG. 2:  Fig. 2 (Wedel at FIG. 2.) "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple

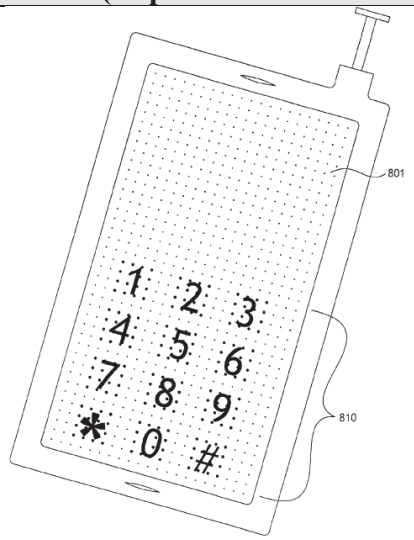
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].) "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "FIG. 8 shows a tactile response display screen of the present invention." (Gupta at [0015].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered,

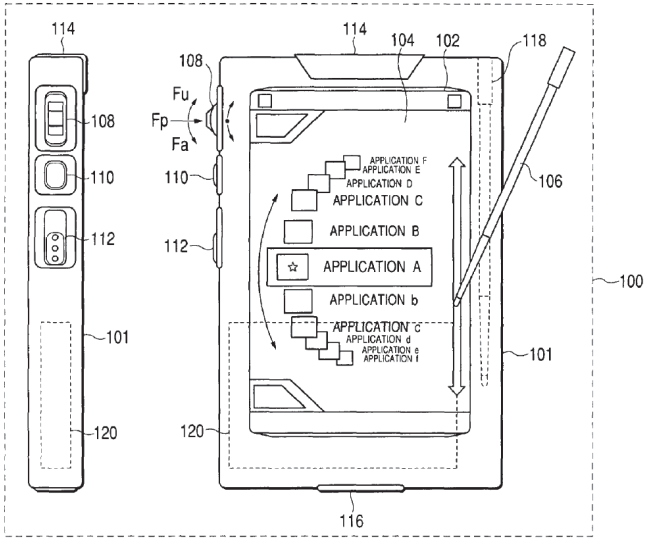
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].) "In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].) "The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "The touch sensor may also be a film layer of the tactile surface itself, or may include touch sensitive elements interspersed adjacent to the tactile dot elements So that neither the touch sensor nor the tactile display elements overlay the other. Other touch screens embodiments use grids of interruptible light beams, capacitive discharge sensors, and conductive grids sensing a circuit made across nearby nodes, all of which are considered herein to be structures (circuits and components) equivalent to each other." (Gupta at [0024].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "FIG. 4 illustrates an alternate embodiment of the present invention that uses a wireless headset (405) to communicate with the telephone (401) of the present invention. In order to reduce the size and weight of the telephone (401) and also to give more room for the display, this embodiment does not have a built-in speaker and microphone. Instead, the wireless headset (405) performs the same task as a built-in speaker and microphone." (Gupta at [0030].) "The telephone is controlled by a controller (510) that is coupled to the transmitter (501), receiver (505), and the touchscreen display (515) of the present invention. The controller (510), in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use other types of controllers such as microprocessors, application specific integrated circuits (ASIC), or other such controllers." (Gupta at [0035].) "As illustrated in FIG. 8, the display is comprised of a matrix of individually addressable dot or tactile elements. The elements are arranged in an evenly spaced grid covering the entire display. In an alternate embodiment, the tactile portion of the display is only on part of the display, such as the lower half, in order to provide a 'telephone keypad' area when in that particular mode. In the preferred embodiment, the elements are spaced less than 0.10 inch apart in order to allow the sensation of a continuous line." (Gupta at [0041].) "Each tactile element is switchable between an inactive position in which the dot is flush with the surrounding surface and an active position in which the dot is raised above the surrounding surface. The mechanism to provide this may be of any type including: electromechanical, electromagnetic, and switchable dimpled plastic film. In the preferred embodiment, the tactile display is transparent in order

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	to permit the conventional liquid crystal display to be seen below the raised surface." (Gupta at [0042].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].) Gupta discloses the following at FIGS. 2-4 and 8:  Fig. 2 (Gupta at FIG. 2)

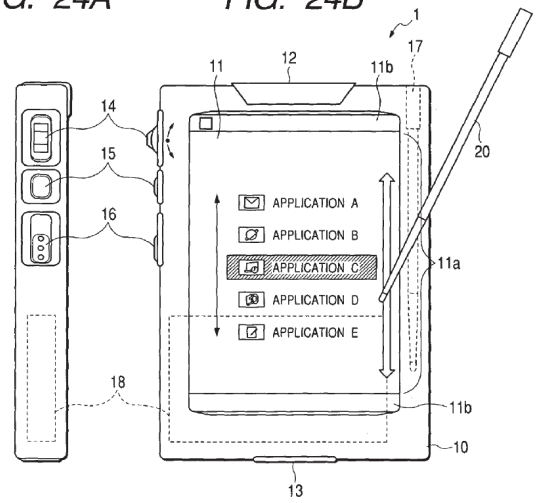
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3)  Fig. 4 (Gupta at FIG. 4)

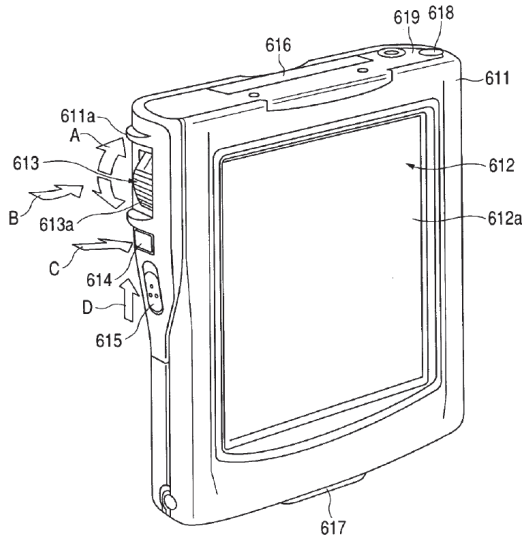
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8)
[1f] wherein said mobile phone device does not include a physical key on the front surface, and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said mobile phone device does not include a physical key on the front surface." For example, Nakano discloses a mobile phone that does not include a physical key on the front surface. (Nakano at FIGS. 1, 24A-B, 51.) Nakano teaches that data can be input, for example, via a "touch panel." (Nakano at 2:52-3:18, 15:8-14, 15:55-16:11, 18:17-23, FIG. 1.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include: "In order to solve the problems, the invention provides a display control device for performing display control, the display control device comprising: virtual space setting means for setting a virtual space (for example a menu display controller 24 in FIG. 5); virtual face setting means (for example the menu display controller 24 in FIG. 5) for setting a virtual face (for example a travel locus Lif4 in FIG. 4, a virtual entity 160a in FIG. 21) in a predetermined plane in the virtual space; display entity arrangement means (for example a display position setting section 240, a menu arrangement section 241 in FIG. 5) for arranging a plurality of plane-shaped information display entities parallel with each other (for example a menu panel 134 in FIG. 2) at least in a column so that the planes will differ from the predetermined plane; camera setting means (for example a camera setting section 245 in FIG. 5) for setting a virtual camera whose line of sight is oriented to face the virtual face; input means (for example a touch panel 104, a stylus pen 106, a side controller 108 in FIG. 1, a scroll-up icon 136, a scroll-down icon 138 in FIG. 2, an operation input section 10, a menu item selector 22 in FIG. 5) for

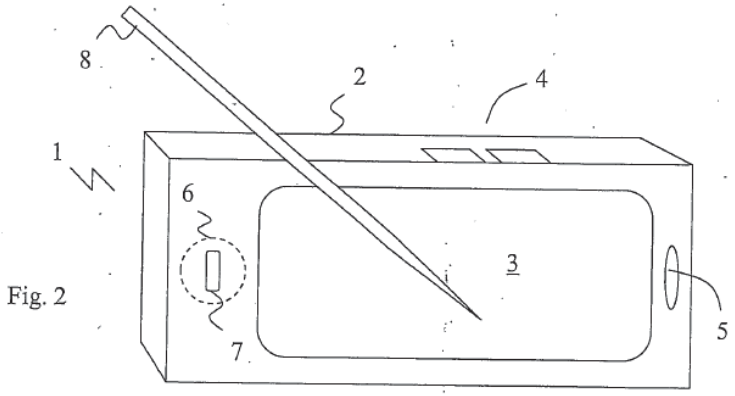
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	inputting a scroll direction; movement means (for example a menu movement controller 24 in FIG. 5) for moving one or both of the virtual face and the virtual camera by way of the input means; and control means (for example a menu arrangement section 241 in FIG. 5) for controlling the arrangement of the plurality of information entities on the virtual face so that a plane orthogonal to the line of sight of the virtual camera will be parallel with the planes of the plurality of information display entities in accordance with the movement by the movement means; characterized in that the display control device performs information display by displaying, in whole or in part, the information display entities seen from the virtual camera among the plurality of information display entities." (Nakano at 2:52-3:18.) "The LCD 102 is an image display device which can display various information such as a text and an image. The LCD 102 may be another display unit such as an ELD (Electronic Luminescent Display) or DDF (Plasma Display Panel). On the top of the LCD 102 is provided the touch panel 104, which the user can touch with the stylus pen 106 to perform various operation and input." (Nakano at 15:8-14.) "The second method is an input with the touch panel 104 and the stylus pen 106. In the display screen are displayed a scroll-up icon 136 and a scroll-down icon 138. When the user touches the touch panel 106 with the stylus pen 106 with an intention to touch an icon, menu items in the selection state are deselected. Then, in accordance with the number of time the lever is tilted or duration the lever is tilted, the user can place the menu under moving display in the upward or downward direction (upward/downward direction on the display screen). The user then taps (patting on the touch panel 104 with the stylus pen 106). The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection." (Nakano at 15:55-16:11.)

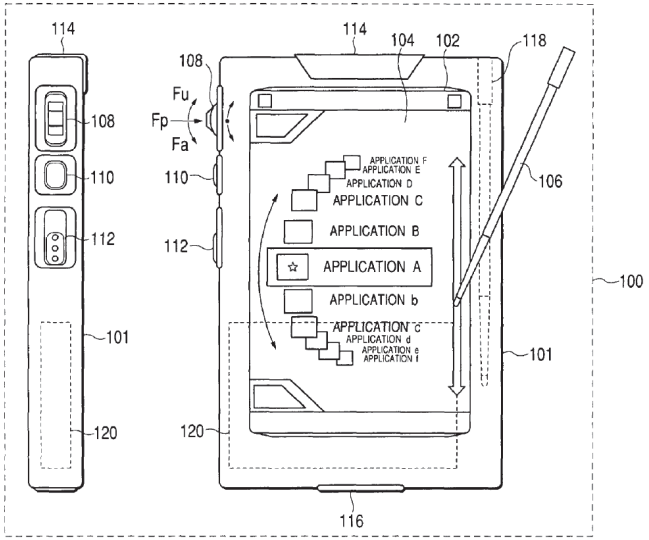
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The operation input section 5 is implemented for example by a button, a lever, a mouse, a track pad, or a keyboard (including a soft keyboard), and accept various operation inputs from the user and outputs an operation input signal to the processor 20. In the example of FIG. 1, the operation input section 5 comprises a touch panel 104, a slide controller 108 and an escape button 110." (Nakano at 18:17-23.) "The input section 99 is a functional block for the user of the PDA1 to input various operation instructions. To be more specific, the input section 99 comprises a touch panel of the LCD panel 11 in FIG. 24, a side controller 14, an escape key 15, and a power key 16. In case these components are operated, the input section 99 outputs an operation signal corresponding to the operation to the processor 300. For example, the input section 99 outputs an operation signal indicating the coordinate values of the touch panel indicated (pressed) with the tip of the stylus pen 20, 'upward/downward direction' of the side controller 14, or a 'push' to the processor 300." (Nakano at 35:22-32.) "The input determination section 311 determines the presence/absence of an operation input from the input section 100 and determines the type of an operation corresponding to an operation input, if any. For example, the input determination section 311 determines whether the operation input is received from the LCD panel 11 (touch panel) or the side controller 14." (Nakano at 35:53-59.) "Then the PDA1 awaits an operation input from the input 40 section 100. In case any operation input is made from the input section 100 (step S12: YES), the input determination section 311 determines whether the operation is from the LCD panel 11 or from the side controller 14 (step S13). As a result, in case the input determination section 311 has determined that the operation is from the LCD panel 11 (step S13: YES), the input determination section 311 determines whether the operation is a tap or a drag (step S14)." (Nakano at 37:40-49.) Nakano discloses the following at FIGS. 24A-B and 51:

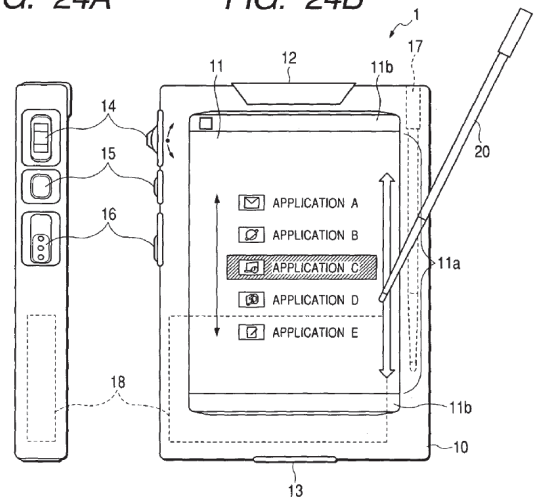
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

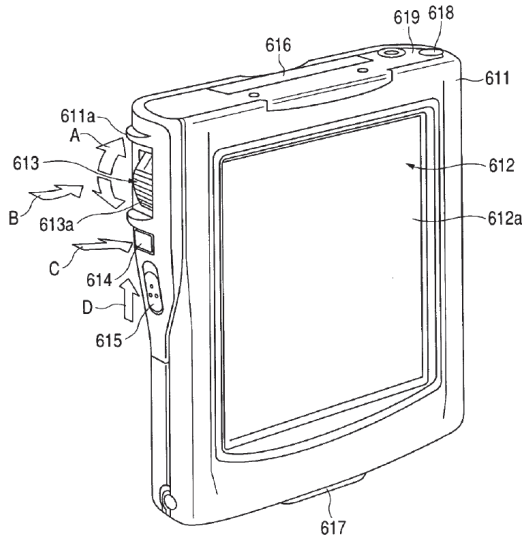
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2)
[1g] wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing." For example, Nakano depicts a mobile device without components extending out from the housing. (Nakano at FIGS. 1, 24A-B, 51.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include:

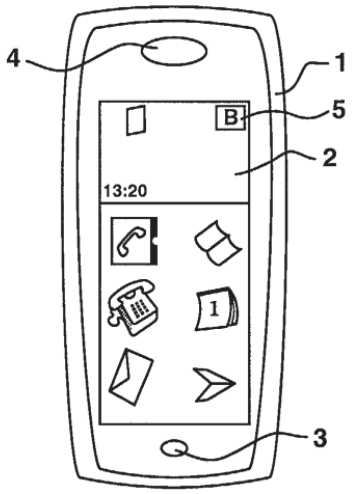
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

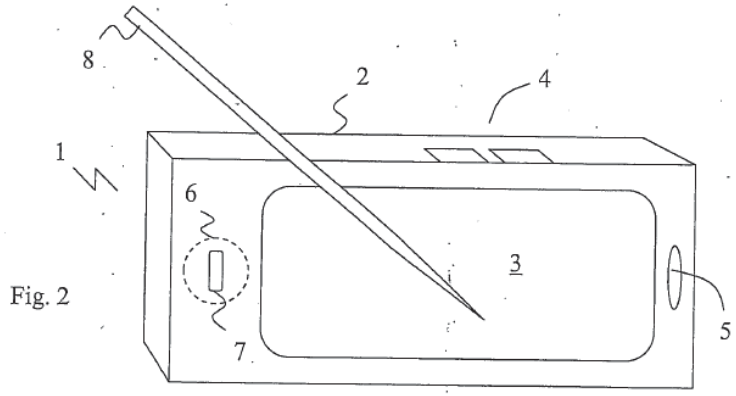
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51) To the extent Keyless contends that this element is not disclosed, a POSITA would have found it obvious in light of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Bast, Pensjo, Wedel, Dutta, and/or Gupta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. For example, a POSITA would have found the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would have found that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would have been motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

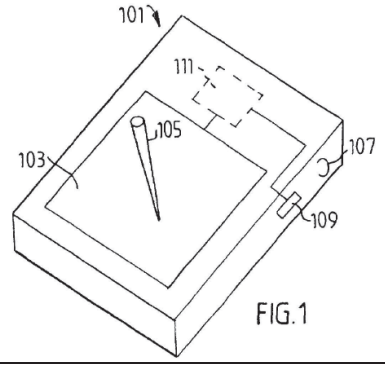
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Bast discloses a mobile phone that does not include components extended out from its housing. (Bast at FIG. 1.) Bast explains that the mobile phone device uses the touch screen and stylus for input and output, so there would be no need for any physical keyboard or buttons. (Bast at [0010], [0012], [0024].) As another example, Pensjo discloses a similar mobile phone that does not include components extended out from its housing. (Pensjo at FIGS. 1 and 3-5.) Pensjo's mobile phone uses a stylus and a virtual keyboard to enable user input, so there is no need to make any components (e.g., physical keyboard) extend out from the phone housing. (Pensjo at [0010], [0012], [0024].) As another example, Wedel discloses a similar mobile phone that does not include components extended out from its housing. (Wedel at FIG. 2.) Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) Without any component extended out from its housing, Wedel's mobile phone is made more portable and easier to fit in a pocket. As another example, Dutta discloses a similar mobile phone that does not include components extended out from its housing. (Dutta at FIGS. 2A and 2B.) Dutta teaches that there was a continuing effort to reduce the mobile phones' sizes in order to make them more portable. (Dutta at [0002].) Particularly, Dutta teaches that the mobile phones were commonly designed to have a long, narrow shape. (Dutta at [0004].) To that end, it is useful not to let the phone's components extend out from its housing. As another example, Gupta discloses a "buttonless" mobile phone that does not require any physical button for enabling input. (Gupta at Title, Abstract, [0009], [0019].) Gupta recognizes the need to reduce the size of mobile phones while providing a display that is large enough for practical information viewing and easy data input. (Gupta at [0004].) To that end, Gupta uses a "full length" touchscreen display to replace the traditional fixed keypad. (Gupta at [0017], FIGS. 2 and 3.)

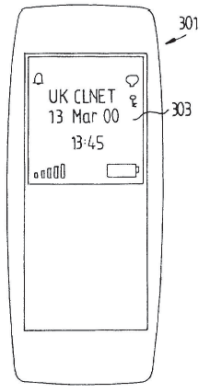
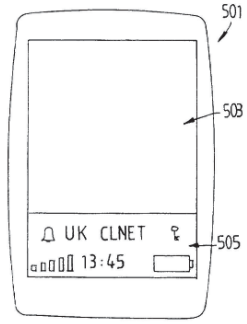
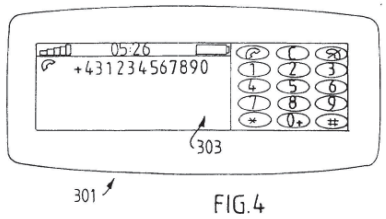
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone to ensure no component extended out from the phone's housing, so as to make the phone east to fit into a pocket and to avoid unintended input to the device. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Bast, Pensjo, Wedel, Dutta, and Gupta. A POSITA would have been motivated to design a phone accordingly in order to improve user experience and satisfaction. Thus, a POSITA would have considered the combination of the teachings of Bast, Pensjo, Wedel, Dutta, and/or Gupta into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (the fully integrated mobile phone design as taught by Bast, Pensjo, Wedel, Dutta, and Gupta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (excluding components extended from a phone housing, as taught by Bast, Pensjo, Wedel, Dutta, and Gupta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (excluding components extended from a phone housing, as taught by Bast, Pensjo, Wedel, Dutta, Gupta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Pensjo, Wedel, Dutta, and Gupta) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"To enable the user to discretionally toggle from one display to the other, as is considered to be more suitable at a given time, the mobile terminal can be equipped with a toggle button. This button can be a conventional button disposed on the housing or a virtual toggle button 5, accessible to the user and permanently displayed, in the form of an icon on the touch screen 2 (Figures 1 to 3). An equivalent function is accessible by means of a menu." (Bast at [0012].) "Calibration essentially consists of determining the vertical position of the device. This calibration can be carried out automatically or manually. In one preferred embodiment, the robustness of the system is increased by combining the two calibration modes." (Bast at [0018].) "A small mechanical switch (not shown) disposed at the base of the housing 1 enables the orientation of the terminal to be manually calibrated. When the user places the terminal vertically on a table or any other horizontal surface 10, the switch closes and the central processing unit 7 considers the corresponding position to be the vertical position." (Bast at [0020].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].) Bast discloses the following at FIG. 1:

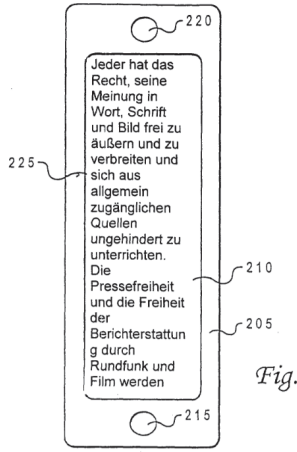
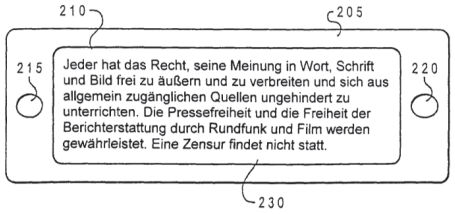
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Figure 1 "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:3-11.) Wedel discloses the following at FIG. 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 "Fig. 1 illustrates a view of a portable device 101 comprising a touch sensitive screen display 103 used for input of operational commands and/or data. The device 101 further includes a pen 105 as a pointing tool for touching specific areas of the screen display 103 in a predefined manner. When not in use, the pen can be placed in a pen holder 107 of the portable device. The pen holder is in this example placed on the side of the device and comprises a ring for receiving the pen. The pen holder may of course be designed and placed in many different ways within the scope of the invention, such as a recess together with some kind of a spring-like element. The device 101 further comprises a mechanism 109 for detecting whether the pen is located in the holder or not, and an electronic control unit 111 connected to the pen detecting mechanism 109. The control unit 111 operates to control circuits, not shown, for displaying various patterns, pictures and/or information on the screen display 103." (Pensjo at [0008].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a "portrait" format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a "landscape" format including a numeric keyboard." (Pensjo at [0011].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Finally, Fig. 5 is a view of an exemplary electronic device 501, comprising a touch screen 503, where the device has changed from a sleeping mode into an active mode in response to the pen being removed from the pen holder, not shown. The user may be alerted of the change into the active mode by illuminating, e.g., the lower part 505 of the screen 503." (Pensjo at [0012].) "According to one aspect of the invention, the device is in a first passive mode, or sleep mode, when the pen is present in the pen holder 107. In this state, the touch functionality of the screen is preferably not activated such that data or commands cannot be entered by mistake, e.g., when the device is located in a pocket or a suitcase. The screen may in this mode display various information, such as phone numbers, e-mails, reminder alerts etc. When the device switches from the first mode to a second active mode after the pen has been removed from the pen holder 107, the screen appearance changes into a layout designed for input of commands and/or data and also the touch functionality of the screen is activated." (Pensjo at [0013].) Pensjo discloses the following at FIGS. 1 and 3-5:  FIG.1

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.3  FIG.5  FIG.4 "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is

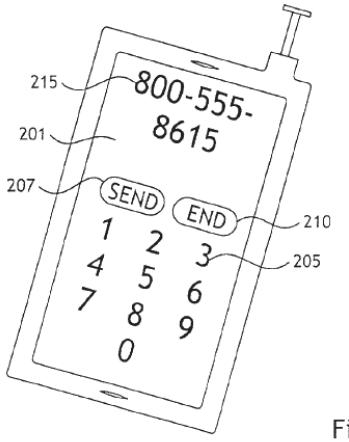
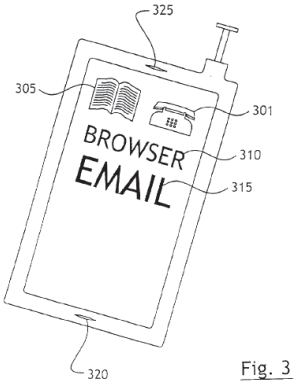
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].) "The difference between these two figures consists in the representation of data 225 and 230 on the display 210. In Fig. 2A, the data 225 are depicted such that the text is read in portrait format of the display 210, as is usual in current mobile phone models. It is clear that reading is problematic in this format of the display." (Dutta at [0019].) "However, in Fig. 2B, the representation of the data 230 has been rotated by 90 degrees so that they are shown on the display 210 in landscape format. In this case the data 23 are significantly easier to read." (Dutta at [0020].) Dutta discloses the following at FIGS. 2A and 2B:

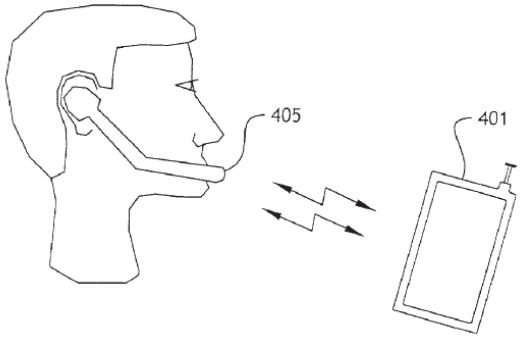
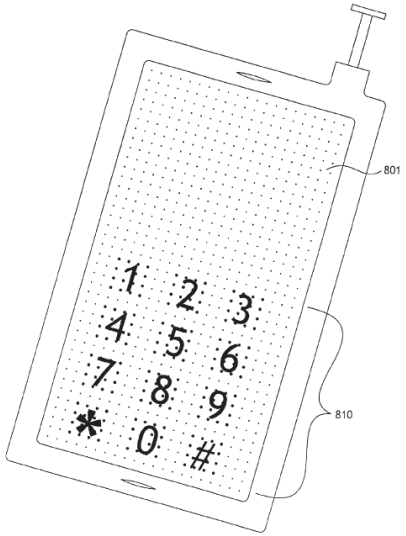
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* "The functions of personal digital assistants and cellular telephones are merging. Devices are emerging that not only can hold addresses and phone numbers but can also communicate over the Internet through a wireless connection. This gives the user the ability to send e-mail, download stock quotes, look-up directions for travel as well as make telephone calls." (Gupta at [0002].) "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at Abstract.) "A touch-screen display is comprised of icons that represent numbers. The icons are used to enter a number in response to a contact, on the display, over a particular icon to be entered. A controller controls the transmitter, the receiver, and the touch-screen display. The controller controls the operation of the communications device and comprises an apparatus that generates the icons representing numbers for display on the touch-screen display. The controller also comprises an apparatus that generates an accumulated telephone number in response to the particular icons contacted on the touch-screen display." (Gupta at [0008].) "FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].)

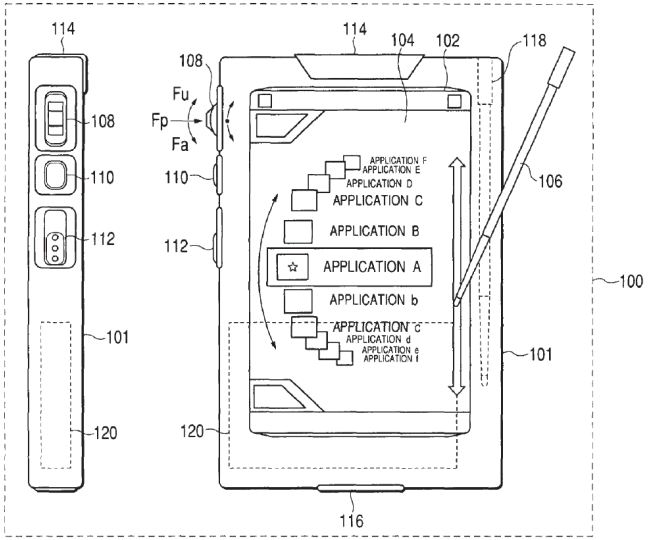
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an "END" key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In the preferred embodiment, the user receives an aural feedback whenever a "key" is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each "key". The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the

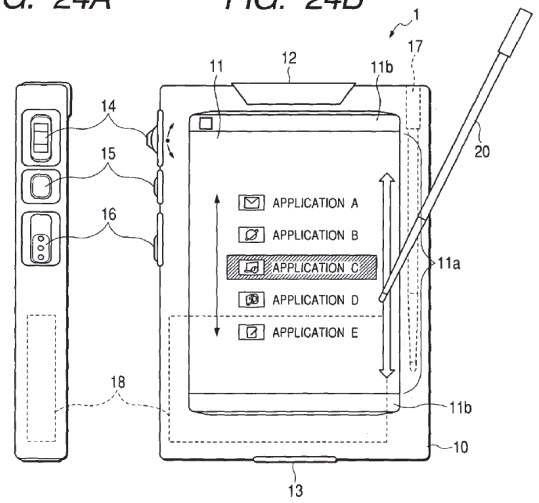
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "The process of the present invention is illustrated in FIG. 6. This process begins with the controller generating the icons indicating the different modes of the communication device (step 601). The controller then displays these icons on the touchscreen display. The user touches the telephone icon to put the communication device into the telephone mode (step 610). The controller reads the contact on the touchscreen display and, knowing the coordinates of the telephone mode icon on the display, puts the device into the telephone mode (step 615). Once in the telephone mode, the controller generates the number icons and causes the touchscreen display to display them in a keypad-style format (step 620). The controller also generates the other telephone keys, such as "send", "end", and the telephone number display and displays them in the proper format on the touchscreen display." (Gupta at [0037].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].) Gupta discloses the following at FIGS. 2-4, and 8:

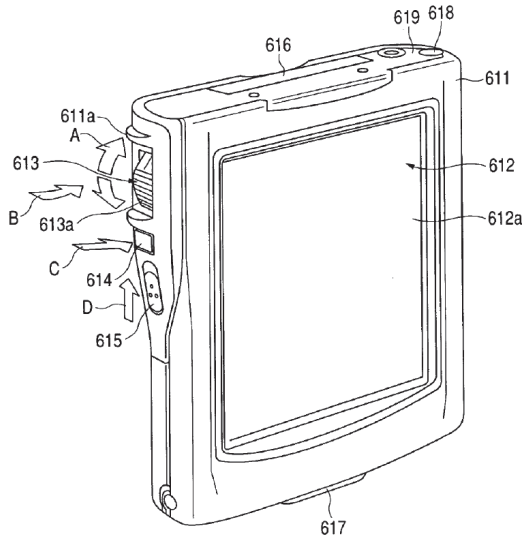
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Gupta at FIG. 2)  Fig. 3 (Gupta at FIG. 3)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

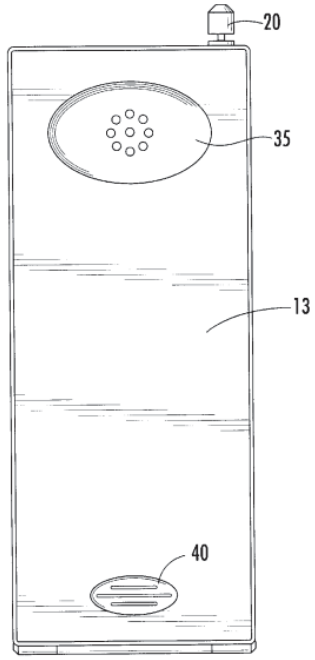
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2pre] The device of claim 1,	Claim 2 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 2 are anticipated and/or obvious for the same reasons set out in claim 1. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[2a] wherein said practically rectangular shape has rounded corners.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." For example, Nakano discloses a housing wherein the corners have slightly rounded edges. (Nakano at FIGS. 1, 24A-B, 51.)

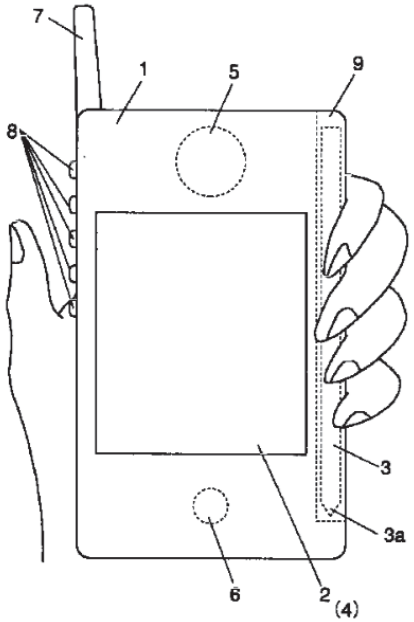
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include:

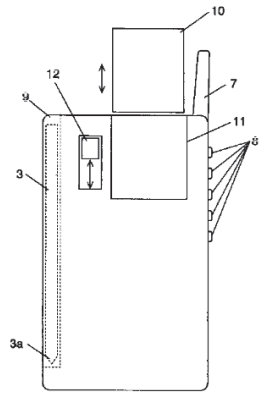
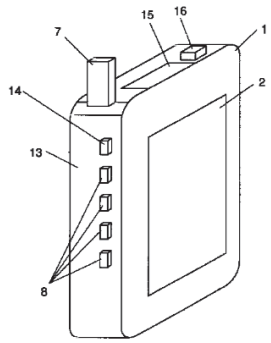
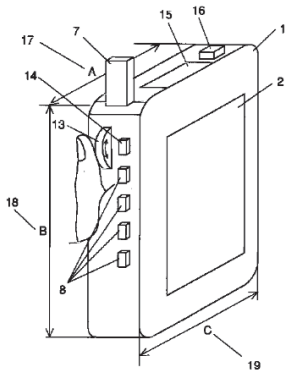
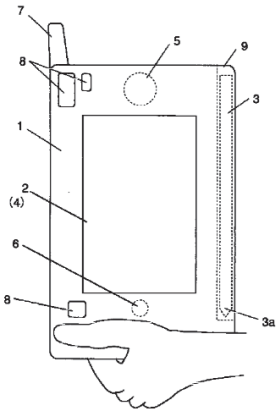
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

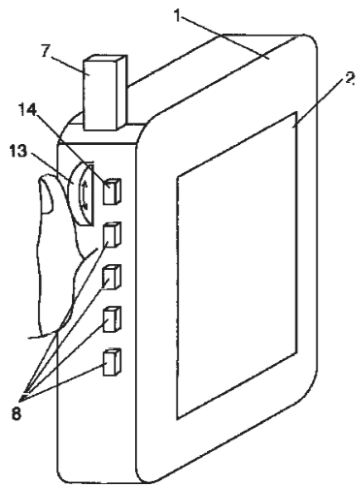
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

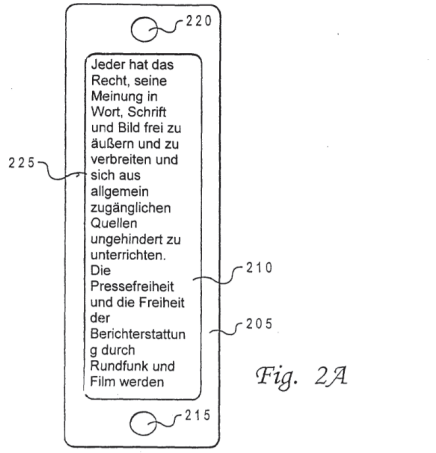
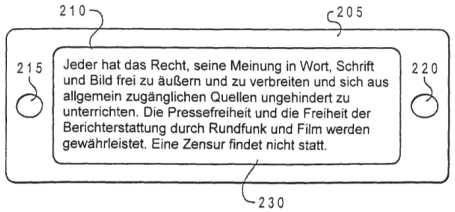
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck discloses a mobile phone housing that is generally rectangular and includes rounded corners. (Rydbeck at FIG. 3.) As another example, Yamaguchi discloses a mobile phone device having a rectangular housing with rounded corners. (Yamaguchi at FIGS. 1, 3-7). As a further example, Dutta discloses a mobile phone having a rectangular housing with rounded corners. (Dutta at FIGS. 2A-2B.) A POSITA would have been motivated to configure a mobile phone such that the housing has rounded corners to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to round the corners in order to improve user experience and make the design more ergonomical. Thus, a POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (a housing with rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the user experience and ergonomics of a mobile phone); (B) use of a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and ergonomics); (C) applying a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device ergonomics); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: Rydbeck discloses the following at FIG. 3:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 3. Yamaguchi discloses the following at FIG. 1:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体 2 液晶表示部 3 ペン 4 タッチパネル部 5 スピーカー部 6 マイク部 7 アンテナ部 8 各種操作スイッチ 9 ペン収納部  Yamaguchi discloses the following at FIGS. 3 and 5-7:

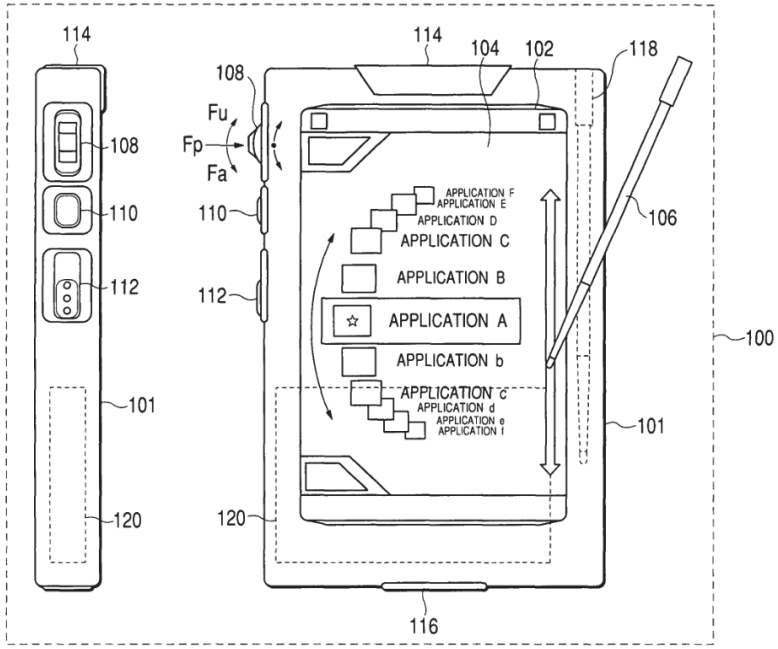
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図３】  【図５】  【図６】  【図７】  Yamaguchi discloses the following at FIG. 4:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図4】  Dutta discloses the following at FIGS. 2A-2B:

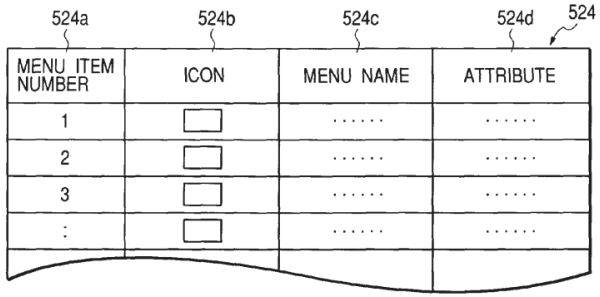
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B*

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3pre] device of claim 1	Claim 3 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 3 are anticipated and/or obvious for the same reasons set out in claim 1. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[3a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." For example, Nakano discloses that "menu items," represented as icons and corresponding to a plurality of programs may be displayed. (Nakano at 1:34-40, 16:39-54, 21:1-6, 21:48-53, 28:24-27, 36:37-40, 44:34-39, 45:54-61, 51:24-29, FIGS. 1, 10, 26A-26C, 53-56.)

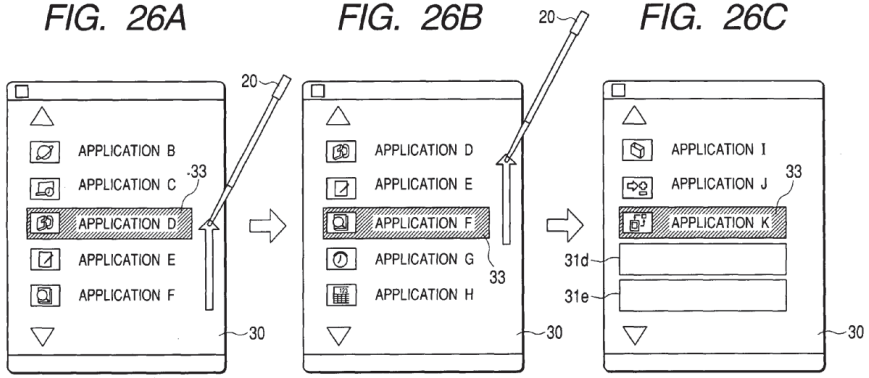
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include: "In the related art menu display by the launcher, icons representing application software programs and/or documents and their names are displayed in sets (the sets are hereinafter referred to as 'menu items'), arranged like tiles on a plane. The user selects any menu item by way of operation of a button such as a lever and across-hair key, or selection using a pointing device such as a stylus pen or a tracking pad." (Nakano at 1:34-40.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In the menu display, a single menu item or a plurality of menu items are displayed. A menu item has an icon 130 and a menu name 132 as shown in FIG. 2D for example, and an icon and a menu name are handled as a set, or a menu panel 134. A menu item in a predetermined position B4 is a candidate for selection, which shows that the menu is in the selection state by way of a different display form of the menu panel 134 (the display form is hereinafter referred to as the 'selection display'). To be more specific, the area surrounding the icon 132 and the menu name 132 corresponding to the ground of the menu panel 134) is filled in with a color different from that of the menu panel 134 in the non-selection state. While in this embodiment, the menu panel 134 is a rectangle where the horizontal direction in the screen is the longitudinal direction, any other shape may be used. The menu panel 134 may display only the icon 130 or the menu name 132." (Nakano at 16:39-54.) "The menu screen information 520 stores various ii required for screen display of a launcher shown in FIG. 2, for example image information on various icons and their display position coordinates. The menu screen information 520 is set per menu display mode. Which mode of menu display is to be used is stored as the display mode 521." (Nakano at 21:1-6.) "FIG. 10 shows an example of the menu item information 524. As shown in FIG. 10, the menu item information 524 stores, per menu item number 524a, the icon 524b of the icon 130, the menu name 524c of the menu name 132, and the attribute 524d of the menu item (for example distinction between an application, a folder and a file)" (Nakano at 21:48-53.) "The 'menu display entity' comprises an icon specifying an application and a menu name. In the following description, the menu name of each menu display entity is used to identify the menu entity." (Nakano at 28:24-27.) "FIG. 42 shows the data structure of the menu display entity data. As shown in FIG. 42, the menu display entity data comprises menu numbers, icons, and menu names keyed to a plurality of menu display entities." (Nakano at 36:37-40.) "Referring to FIG. 53A, on the launcher screen are displayed, as menu items, for example, application programs related to Mail, Browser, Address book, Schedule, Memo pad, File viewer, Accessory,

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	System, and Setting, together with icons. In the storage section 622 are stored application programs (application software) related to theses [sic] menu items." (Nakano at 44:34-39.) "To the left of the window display section 641 are arranged icons 640 representing the menu items in the launcher screen (Mail, Browser, Address book, Schedule. Memo pad, File viewer. Accessory, and System) in the vertical direction, and are displayed the upward and downward scroll buttons 635 and 636. Tapping on the upward or downward scroll button 635 or 636 moves a cursor 37 (not shown in FIG. 54) between the icons 640." (Nakano at 45:54-61.) "In FIG. 55, the screen displays menu items as a plurality of items, for example, Schedule, Browse, Address book, and Schedule, as well as icons corresponding to the menu items to the left of these menu items. For these icons, various display control mentioned above will be performed as well as handling of items." (Nakano at 51:24-29.) Nakano discloses the following at FIGS. 10, 26A-26C, 53-56: FIG. 10  (Nakano at FIG. 10)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations

FIG. 26A FIG. 26B FIG. 26C



(Nakano at FIGS. 26A-C)

FIG. 53A FIG. 53B

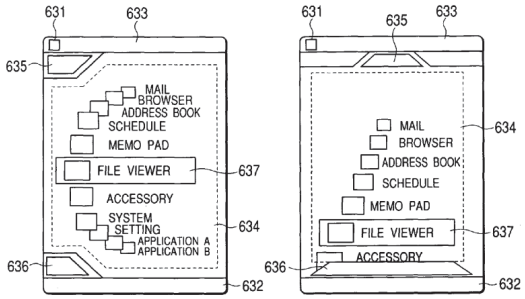
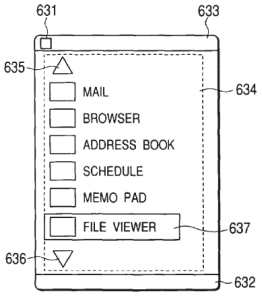
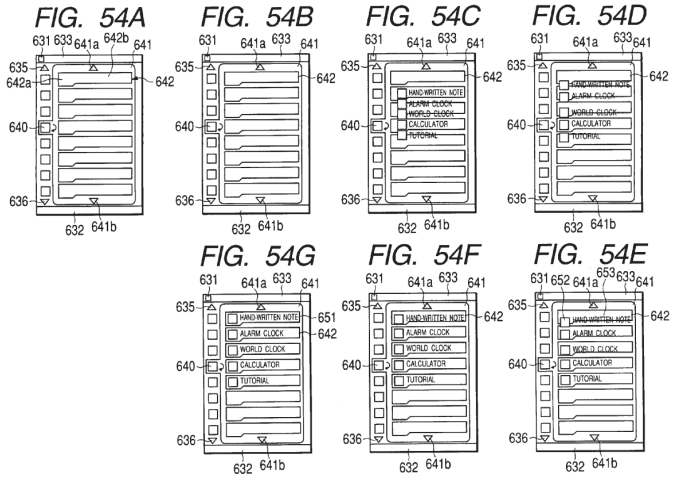
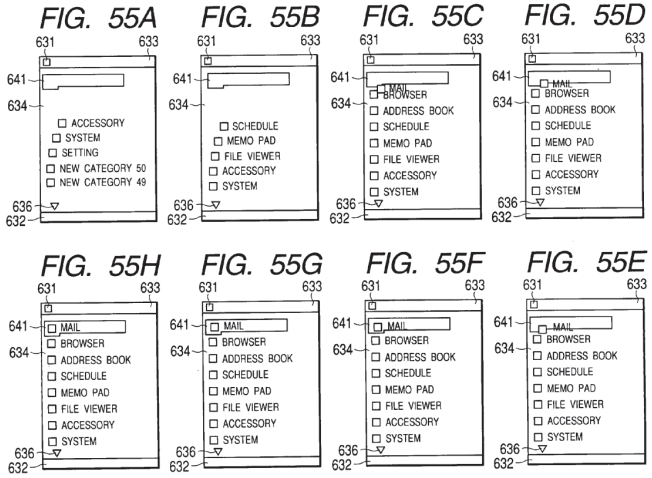
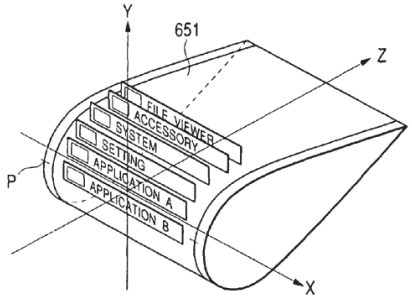
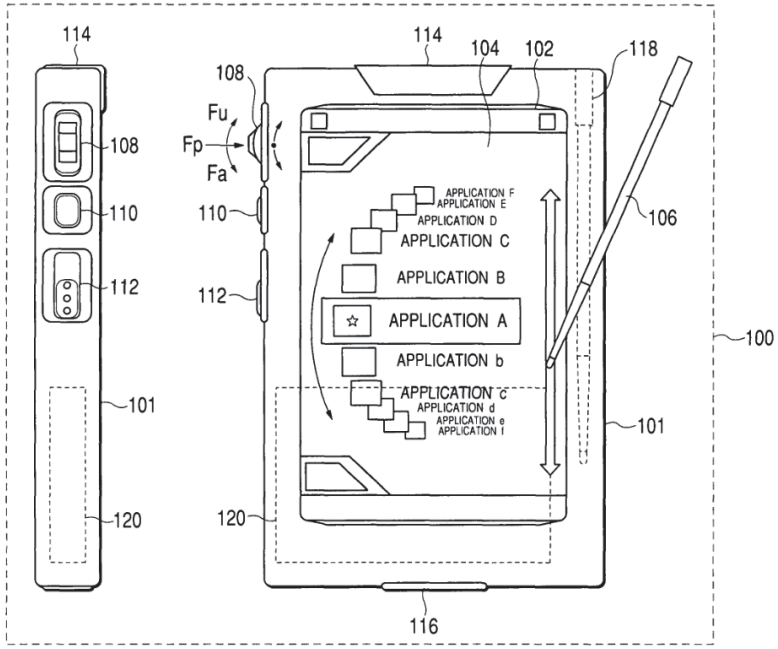


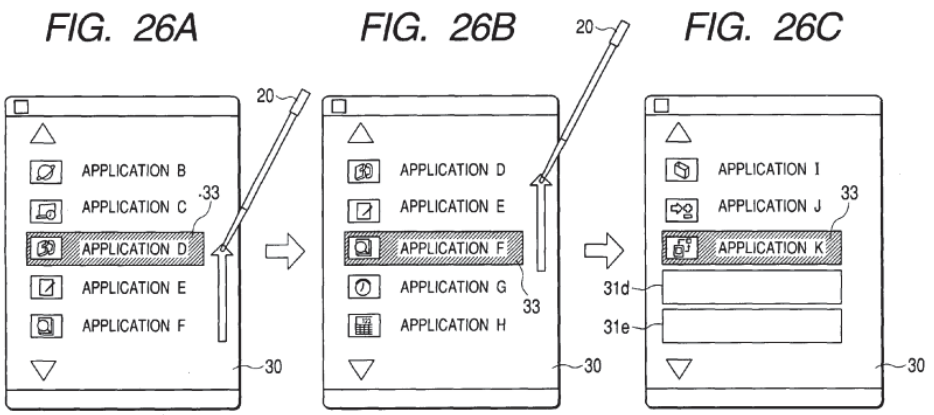
FIG. 53C



Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Nakano at FIGS. 53A-C)  (Nakano at FIGS. 54A-G)  (Nakano at FIGS. 55A-H)

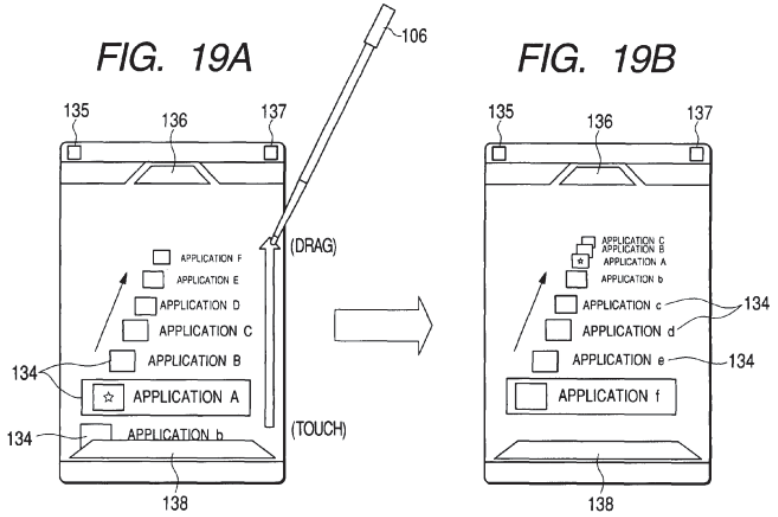
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 56  (Nakano at Fig. 56)
[3b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." For example, Nakano discloses a mobile phone that includes a touch panel 104. (Nakano at 2:49-51, FIG. 1.) Nakano teaches a method of improving the control of a menu display by using said touch panel. (*Id*.) The touch panel is integrated into the display of the portable device disclosed by Nakano, which may be a mobile phone. (Nakano at 7:20-39.) Nakano teaches using a drag operation to control the display of various entities shown on the display. (Nakano 7:40-52.) The drag operation taught by Nakano may comprise drawing a finger across the display panel or using a stylus to do the same. (Nakano at 7:57-8:16). Nakano teaches that programming a device, display, and touch panel in this way allows for improved control of display entities that are shown on the display. (Nakano at 8:50-54). The display entities disclosed by Nakano may correspond to programs, also known as applications, that can be activated and executed by the device. (Nakano at 8:65-9:6.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Thus, Nakano teaches programming a device, such as a mobile phone, so that is operative to allow a user to slide a finger or stylus pen across a menu screen, displaying a plurality of application icons in the form of menu items. (Nakano at 15:66-16:10). A dragging operation, also known as a sliding operation, allows a user to move the menu items displayed in various directions across the screen. (Nakano at 25:40-47, FIGS. 19A-19B.) As shown in FIGS. 26A-C, menu items, also known as application icons, that are not originally shown on the display may be displayed based on a dragging or sliding input from a user. (Nakano at 28:36-29:10, FIGS. 26A-C.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Nakano at FIGS. 26A-26C.) Additional exemplary citations include: "The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:49-51.) "The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano 7:40-52.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	referred to as a "tap-in" and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a "tap-out". The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a "tap". According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16). "According to the invention, the following advantage is obtained. Information display entities are arranged on a virtual face. Scroll display is allowed by moving a virtual camera whose line of sight faces the virtual face, thus more readily allowing scroll control in a virtual space." (Nakano at 8:50-54). "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection." (Nakano at 15:66-16:10). "In FIG. 19A, a menu item in the middle of the menu is in the selection state. Menu items preceding and following the item are three-dimensionally represented in one-point perspective in the upward direction in the screen. Dragging with the stylus pen 106 in the upward direction so as to slide the menu display in the upward direction causes the menu panel 134 to move in the upward direction along the one-point perspective, for example, as shown in FIG. 19B." (Nakano at 25:40-47.) "In FIG. 26A, the menu display area 31 a displays "Application B", the menu display area 31 b displays "Application C", the menu display area 31 c displays "Application D", the menu display area 31 d displays "Application E", and the menu display area 31 e displays "Application F", respectively. In the selection candidate display area 32, that is, in the menu display area 31 c, the focus 33 is overlaid on Application D. The Application D is a candidate for selection. In the menu screen 30, dragging the stylus pen 20 in the upward direction scrolls through the menu display entities in the menu screen 30 as shown in FIG. 26B. In FIG. 26B, the menu display area 31 a displays "Application D", the menu display area 31 b displays "Application E", the menu display area 31 c displays "Application F", the menu display area 31 d displays "Application G", and the menu display area 31 e displays "Application H", respectively. The menu display entities on the screen are scrolled though in the upward direction by two rows. On the menu display entity displayed in the selection candidate display area 32, that is, on Application F, is overlaid the focus 33. The Application F is a candidate for selection. Dragging with the stylus pen 20 refers to an operation (including standstill state) of sliding the stylus pen 20 on the LCD panel 11 with the tip of the stylus pen 20 in contact with the LCD panel 11. In FIG. 26B, further dragging in the upward direction further scrolls through the menu entities on the screen in the upward direction. As shown in FIG. 26C, when the lowermost menu display entity (Application K in the figure) reaches the selection candidate display area 32, the scroll comes to a halt. In FIG. 26C, the menu display area 31 a displays "Application I", the menu display area 31 b displays "Application J", and the menu display area 31 c displays "Application K", respectively. On the menu display entity displayed in the selection candidate display area 32, that is, on Application K, is overlaid the focus 33. The Application K is a candidate for selection.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	While a drag is made in the upward direction in FIGS. 26A through 26C, the same applies to a drag in the downward direction. That is, as shown in FIG. 27A, dragging in the downward direction scrolls through the menu display entities in the downward direction. As shown in FIG. 27B, when the uppermost menu display entity (Application A in the figure) reaches the selection candidate display area 32, that is, the menu display area 31 c, the scroll comes to a halt. While the drag operation is made in the rightmost area of the menu screen 30 for clarity in FIGS. 26A through 26C and FIGS. 27A and 27B, the drag operation is allowed across the menu screen 30 as shown in FIG. 31 in practice." (Nakano at 28:36-29:10.) Nakano discloses the following at FIGS. 19A-B:  (Nakano at FIGS. 19A-B)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
[4pre] The device of claim 3	Claim 4 depends from claim 3. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 3 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 3 to show the additional limitations of claim 4 are anticipated and/or obvious for the same reasons set out in claim 3. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 3." *See supra* claim [3].
[4a] wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit." For example, Nakano discloses that a tap operation (a predefined interaction) may be used to select a display entity, such as menu item corresponding to an application. (Nakano at 9:49-57.) In response, a program corresponding to said menu item or display entity may be activated. (Nakano at 9:58-62.) Accordingly, a tap operation may activate an application program corresponding to a selected information display entity, such as an application icon. (Nakano at 9:63-67.) Nakano further discloses that tapping a stylus pen on a menu display entity shown on the display of the device may activate an application program corresponding to that menu display entity. (Nakano at 34:26-30.) Additional exemplary citations include: "The PDA can execute a plurality of application software programs (also referred to as simply 'applications') by way of arithmetic operation by a built-in CPU. Application software includes schedule software, address book software, memo pad software, word processing software, calculator software, electronic mail software, web browser software, music playback software, graphics viewer software, and clock display software.

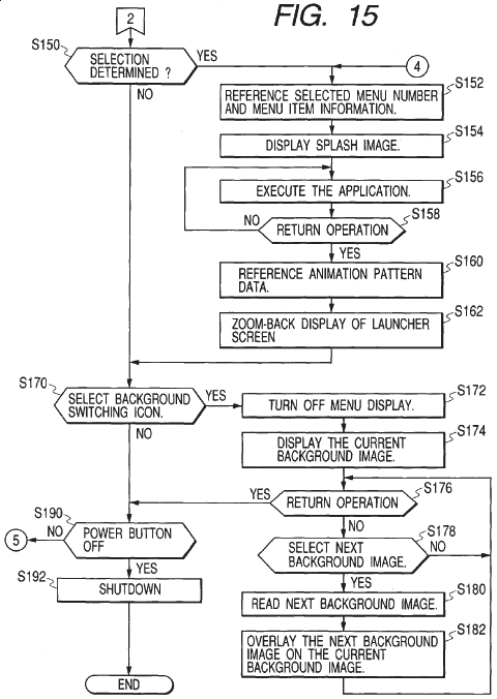
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Operation of selection and execution of application software is controlled by the application management program called 'launcher'. With application software programs and/or documents registered in advance, the application software programs and/or documents are displayed on a menu by the launcher, and directly started via simple input operation." (Nakano at 1:20-33.) "However, in a scroll operation and selection of a menu display entity, at least two operations are required. The scroll operation on a touchpanel is the same as the mouse operation, for example tapping operation, on an ordinary PC." (Nakano at 1:52-55.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a 'tap-in' and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a 'tap-out'. The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a 'tap'. According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:13-26.) "According to the invention, a tap operation may be used, on top of a drag operation, to select a desired information display entity. A method for selecting an information display entity may be switched as appropriate, such as using a drag operation in case a desired information display entity is not displayed in the predetermined display area, and a tap operation in case one is displayed. In any case, it is possible to readily select a desired information display entity thus enhancing its operability." (Nakano at 9:49-57.) "In case determination is made by the second determination means, the activation means may activate a program corresponding to an information display entity determined as a candidate for selection by the second determination means, if any." (Nakano at 9:58-62.) "According to the invention, a tap operation may be used to activate an application program corresponding to a selected information display entity. That is, a single tap operation directly activates a desired application thus enhancing its operability." (Nakano at 9:63-67.) "The processor 20 performs arithmetic operation in accordance with programs to make centralized control of the PDA 100 as well as execute a launcher or various application programs for the PDA 100." (Nakano at 18:31-35.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The control program 502 executes a so-caller 'launcher' to work as utility software to help activate the application program 510. The control program 502 comprises processing concerning menu display shown in FIG. 2 and includes a menu item selector 22 and a menu display controller 24 in a processor 20." (Nakano at 20:55-60.) "FIGS. 13 through 15 are flowcharts illustrating the flow of processing from selection of an item to activation of an application in this embodiment." (Nakano at 22:59-61.) "In case the stylus pen is released from the touch panel 104, a so-called tap-out operation is made (YES in step S118), execution proceeds to activation of an application described later. In case a tap input is made with the stylus pen 106 (YES in step S120), the menu item selector 22 determines whether any menu panel 134 includes the position coordinates which are tapped on referring to the menu panel position information 523. In case any menu panel 134 is tapped on (YES in step S122), the menu item selector 22 changes the selected menu number 531 to the menu number of the menu panel 134 (step S124). Execution then proceeds to activation of an application described later." (Nakano at 23:18-26.) "FIG. 15 is a flowchart specifically illustrating the flow of processing from determination of a selected item to activation of an application program and the flow of screen switchover. As shown in FIG. 15, in case determination of a selected item is input by way of a push on the side controller 108 or a tap using the stylus pen 106 (YES in step S150), the processor 20 references the menu item information 524 in accordance with the selected menu number 531 (step S152) to retrieve the corresponding splash image data 536 and displays the data on the screen (step S154). After that, the processor 20 loads and activates the application (step S156)." (Nakano at 24:34-44.) "While the desired menu panel 134 is selected on the screen and the selected menu panel 134 is determined then an application is activated in this example, the application may be automatically activated when the desired menu panel 134 has moved to the display position P0 and selected on the screen. To be more specific, a step of comparing the specified menu number 532 with the selected menu number 531 is added before step S142 in FIG. 14. In case the specified menu number 532 is the

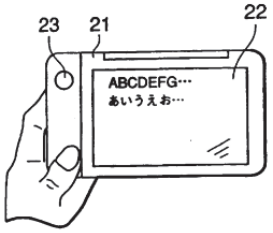
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	same as the selected menu number 531, a step of checking the attribute of a registered menu item by referencing the menu item information 524 and a step of proceeding to step S152 (FIG. 15) in case the attribute is an applications are executed." (Nakano at 25:1-13.) "Next, the method for activating an application program corresponding to the menu display entity will be described. The application program corresponding to the menu display entity is activated by way of the operation input using (1) the stylus pen 20 or (2) the side controller 14. When the application is activated, display on the screen 30 is terminated and the screen of the activated application appears on the LCD panel 11." (Nakano at 34:9-16.) "Activation of an application program corresponding to each menu display entity by way of the stylus pen 20 is made by way of (1) tap or (2) drag." (Nakano at 34:20-22.) "Tapping the stylus pen 20 on any of the menu display entities displayed in the menu screen 30, or to be more specific, the menu display area 31, the application program corresponding to the menu display entity displayed in the tapped position is activated." (Nakano at 34:26-30.) "After that, when the stylus pen 20 which has been in contact with the LCD panel 11 is released from the LCD panel 11 (hereinafter referred to as 'tap-out' as appropriate), an application program corresponding to Application Dawaiting activation is activated." (Nakano at 34:52-56.) "A drag is available as a method for selecting a desired menu display entity as well as a tap. In case a desired menu display entity is not displayed in the menu screen 30, a drag is used, and in case it is displayed, a tap is used, in a selective way. In any case, it is possible to readily select a desired menu display entity thus enhancing its operability." (Nakano at 34:65-35:3.) "The application activation controller 320 calls the application program from the storage section 400 based on application activation condition data 426 and executes the application program. Also, in response with a tap by way of the stylus pen 20 or a 'push' on the side controller 14, the application activation controller 320 calls the application program from the storage section 400 and executes the application program." (Nakano at 36:5-12.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In case the input determination section 311 has determined that operation is a tap (step S14: YES), the input determination section 311 determines whether the indicated position by the stylus pen 20 is included in which menu display area 31 (step S15). In case the input determination section 311 has determined that whether the indicated position is included in any menu display area 31 (step S15: YES), the Application activation controller 320 identifies the menu display area 31 which includes the indicated position and calls the application program 411 corresponding to the menu display entity displayed in the identified area and execute the application program (step S16)." (Nakano at 37:50-62.) "While an application program corresponding to a menu display entity which shifted to the activation wait state is activated by halting a drag and performing a tap-out after a predetermined period in that state in the embodiments, an application program corresponding to a menu display entity which is a candidate for selection at the point of tap-out may be activated." (Nakano at 41:55-61.) Nakano discloses the following at FIG. 15:

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 15  (Nakano at FIG. 15)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5pre] The device of claim 1	Claim 5 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 5 are anticipated and/or obvious for the same reasons set out in claim 1. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

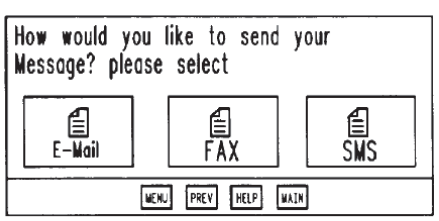
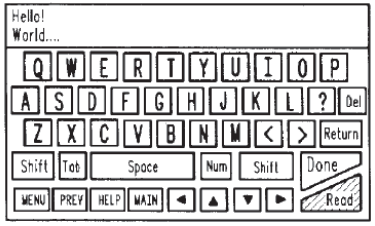
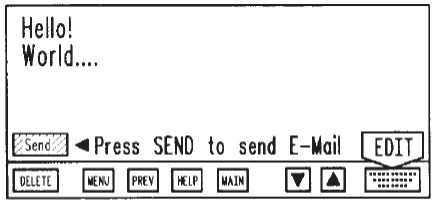
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[5a] wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." For example, Nakano discloses that a keyboard may be used to input text. (Nakano at 18:17-23.) A POSITA would have understood that text entered by the keyboard may be displayed in either portrait or landscape mode, as was known in the prior art. Additional exemplary citations include: "The operation input section 5 is implemented for example by a button, a lever, a mouse, a track pad, or a keyboard (including a soft keyboard), and accept various operation inputs from the user and outputs an operation input signal to the processor 20. In the example of FIG. 1, the operation input section 5 comprises a touch panel 104, a slide controller 108 and an escape button 110." (Nakano at 18:17-23.) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Kobayashi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Kobayashi discloses a similar device to that disclosed by Nakano and provides relevant teachings. Kobayashi teaches that is beneficial to have display which is operative to automatically adjust to the orientation it is being held in by the user. (Kobayashi at 2:5-23; see also *id*. at 19:25-20:4, FIGS. 4A, 4B.) Fig.4a  Fig.4b  "In this manner, the display screen on the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:25-20:4.) A POSITA would have been motivated to configure a mobile phone to display text in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Kobayashi. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily read text regardless of phone orientation, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Kobayashi into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (aligning the display orientation to the phone orientation, as taught by Kobayashi) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (reorienting the display based on device orientation as taught by Kobayashi) to improve similar devices in the same way (a mobile phone that allows a user to easily review text); (C) applying a known technique (reorienting the display based on device orientation as taught by Kobayashi) to a known device ready for improvement to yield predictable results (a mobile phone); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Kobayashi) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "The orientation at which data is displayed on portable terminal device is altered by detecting where the device is being held by a user. Pressure sensors or photo cells along two edges of the device may be used to alter the orientation by 90°. The orientation of data on the display may also be altered according to which function is being used or by operating a switch. Alternatively the device may have a plurality of displays at different orientations which may be used according to the way in which the terminal is being used. The portable terminal device may be a selective call receiver or a mobile telephone." (Kobayashi at Abstract.) "in view of the above-mentioned problems, in a preferred embodiment the present invention enhances an operability by controlling the direction of screen display on the display in accordance with whether

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	or not the user's fingers and palm come into contact with a pressure sensor or a photo-detection sensor on any surface of a portable terminal device body." (Kobayashi at 13:14-19.) "When the mobile information terminal 31 is longitudinally used and held, the pressure sensors 33 and 34 are disposed on both the side surfaces of the mobile information terminal 31. The user's fingers and palm ca-ne into contact with the pressure sensor 33 and/or the pressure sensor 34, whereby the direction of screen display on the display 32 is controlled. That is, when the user uses and holds the mobile information terminal 31 laterally as shown in Figs. 8a and 8b, the user's fingers and palm 10 do not c-cm into contact with the pressure sensors 33 and 34. Thus, the screen is displayed along the long side on the display 32. On the other hand, when the user uses and holds the mobile information terminal 31 longitudinally as shown in Figs. 9a and 9b, the user's fingers and palm come into contact with the pressure sensors 33 and/or 15 34. Thus, the screen is displayed along the short side on the display 32. In this way, the direction of display can be automatically changed in accordance with the direction in which the user views the display." (Kobayashi at 18:2-19.) "The direction of screen display on the display 32 is controlled by the controller 36 in accordance with whether or not the signal from. the pressure sensors 33 and 34 is detected. That is, when the user's fingers and palm do not cane into contact with the pressure sensors 33 and 34, the signal is not outputted from the pressure sensors 33 and 34. Thus, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm come into contact with the pressure sensors 33 and 34, the signal is outputted from the pressure sensors 33 and 34. When the signal is inputted from the pressure sensors 33 and/or 34, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the short side. The direction of screen display can be controlled in accordance with, for example, whether a binary signal has me value or the other value, instead of whether or not the signal is detected. When the telephone function is used, the telephone number to be called is inputted from the input section 35. The telephone number to be called inputted from, the input section 35 is translated/received from an antenna 42 through the controller 36 and a radio section 41. When the voice is transmitted/received, an audio amplifier 40, a receiver 38 and a microphone 39 are used as the input/output unit. When the data other than the voice is transmitted/received, the input section 35 and the display 32 are used. 2 5 In this manner, the display screen m the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:2-20:4.) "The direction of screen display on the display 52 is controlled by the controller 56 in accordance with whether or not the signal from the photo-detection sensor 54 is detected. That is, when the user's fingers and palm are not put on the photo-detection sensor 54, the signal is not outputted from the photo-detection sensor 54. Thus, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm are put on the photo-detection sensor 54, the signal is outputted from the photo-detection sensor 54. When the signal is inputted from the photo-detection sensor 54, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the short side." (Kobayashi at 22:14-25.) "Moreover, the direction of screen display in the display can be 26 controlled in accordance with whether or not the user's finger and palm came into contact with the pressure sensor or the photo-detection sensor on any surface of the portable terminal device body. Thus, the direction of display screen on the display can automatically controlled in response to how the user holds the portable terminal device, without needing any user's operation. The operability can be thus enhanced." (Kobayashi at 25:27-26:6.) *See also* Kobayashi at Figs. 6, 7. Further, to the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Jambhekar, Wedel, and/or Pensjo. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)  FIG.8A  FIG.8B  FIG.8C

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

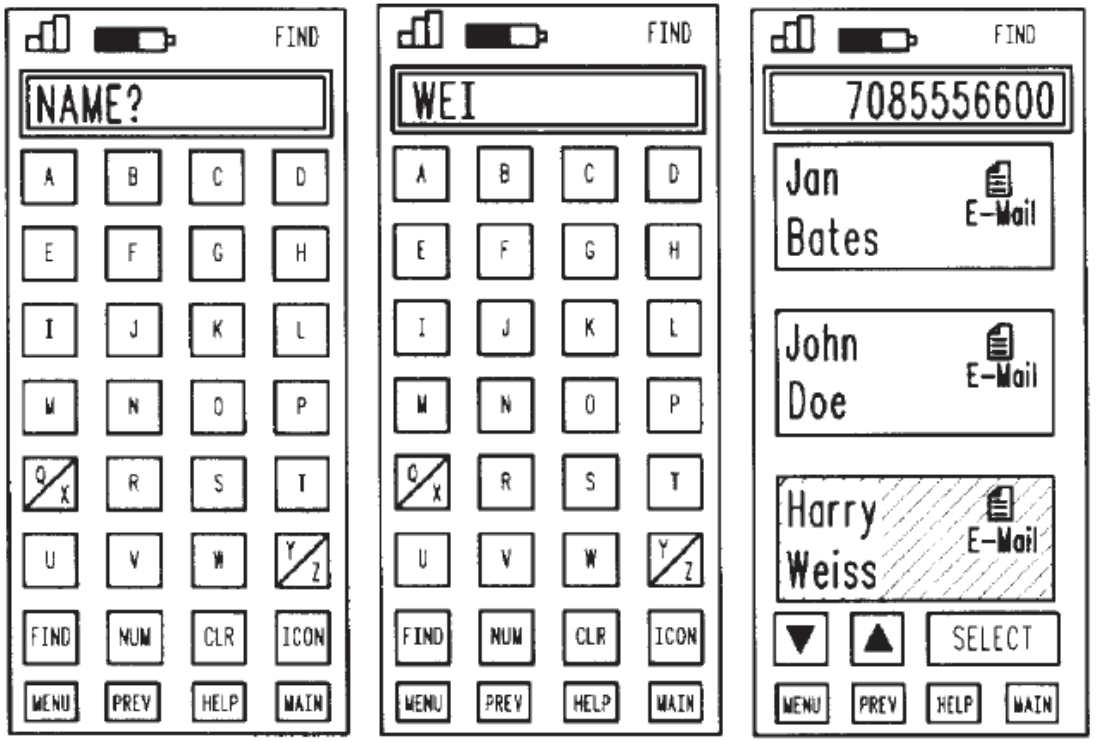


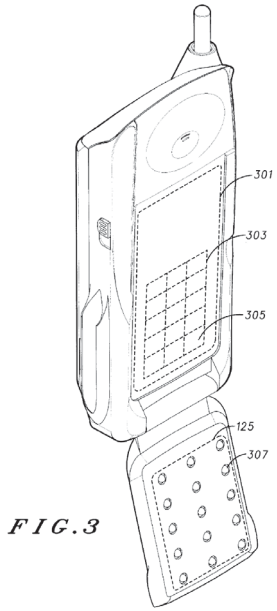
FIG.8D FIG.8E FIG.8F

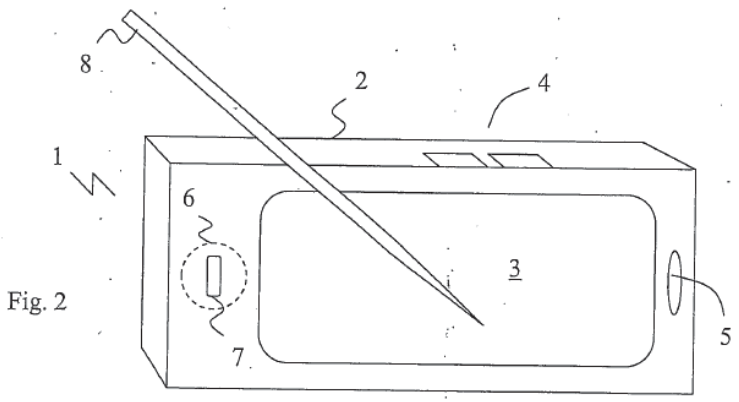
Similarly, Wedel discloses that a virtual keypad can be displayed on a touch screen to enable data input, which a POSITA would have understood includes inputting text. (Wedel at 2:6-11, FIG. 2.)

Likewise, Pensjo discloses a virtual keyboard that can be used "for input of alphanumeric characters." (Pensjo at [0005], [0009], [0014].)

A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text. Configuring a mobile phone in this way was routine and conventional to a

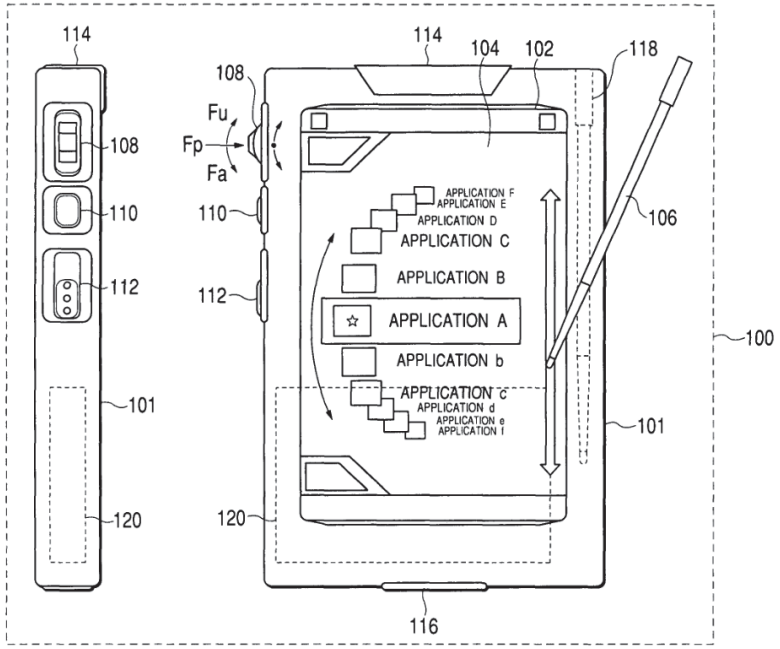
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	POSITA, as shown by Jambhekar, Wedel, and Pensjo. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar, Wedel, and/or Pensjo into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar, Wedel, and Pensjo) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.) "Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects

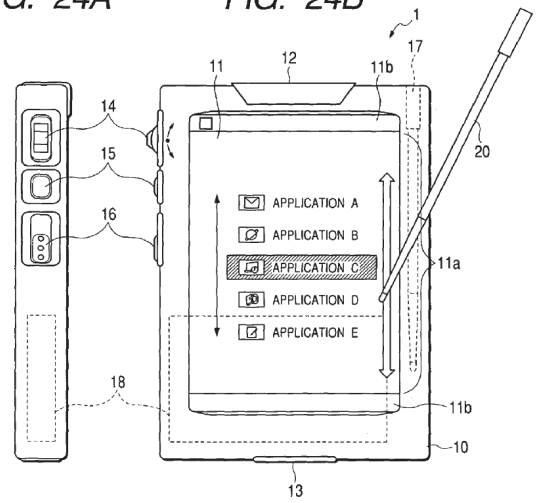
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:  FIG.3 (Jambhekar at FIG. 3) "Several of the functions of the keypad 4 have been included on a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:6-11.)

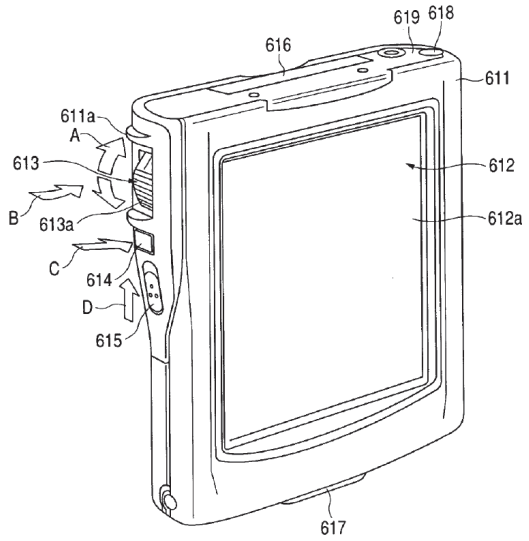
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Wedel discloses the following at FIG. 2:  Fig. 2 (Wedel at FIG. 2) "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].) "According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, Nakano depicts a device where the width is less than the length. (Nakano at FIGS. 1, 24A-B, 51.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include:

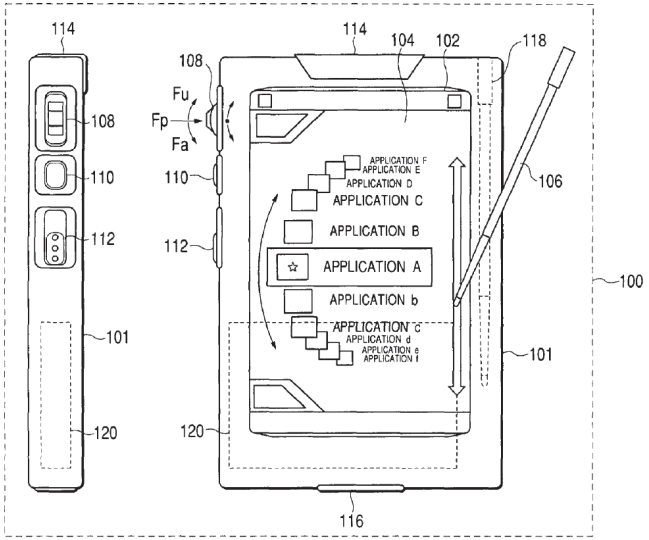
Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

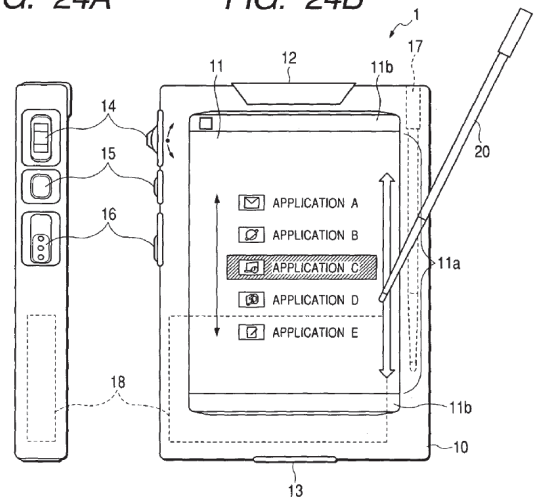
Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Rydbeck and/or Yamaguchi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

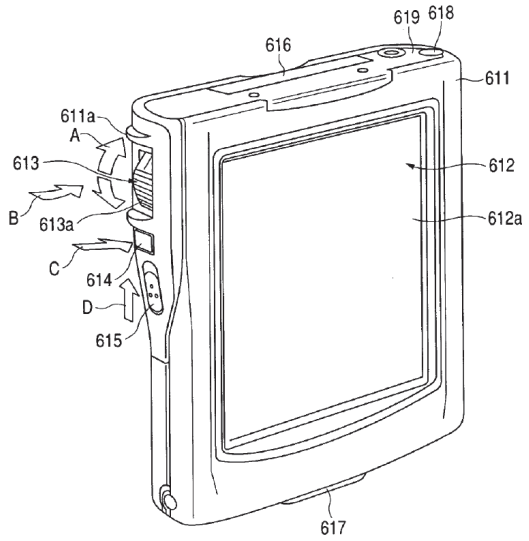
Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck discloses a mobile phone wherein the length is 8-10 inches and the width is less than about 4 inches. (Rydbeck at 4:39-43.) As another example, Yamaguchi discloses a mobile phone 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) A POSITA would have found it obvious to configure the mobile phone as disclosed by Nakano with width and length dimensions as claimed. Each of Rydbeck and Yamaguchi teaches configuring a mobile phone such that the width of the device is about half of its length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone with similar dimensions to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound produced by the speaker during a phone call. For example, as taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck and Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Rydbeck and/or Yamaguchi into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Rydbeck and Yamaguchi) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Rydbeck and Yamaguchi) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone with a width to length ratio as taught by Rydbeck and Yamaguchi) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck and Yamaguchi) that would

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:39-43.) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, Nakano depicts a device with a thickness less than the width. (Nakano at FIGS. 1, 24A, 51.)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include: Nakano discloses the following at FIGS. 24A-B and 51:

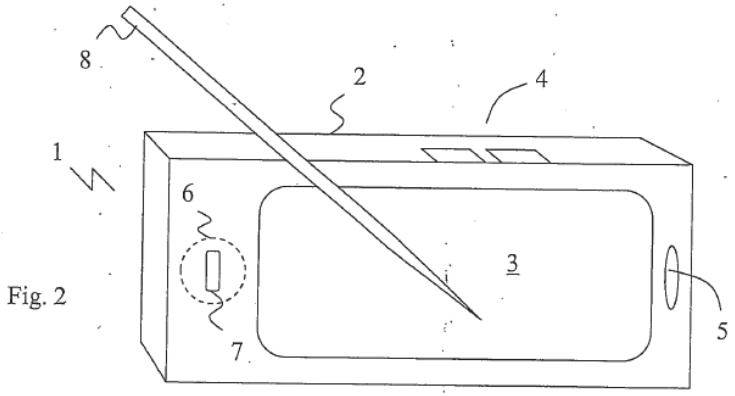
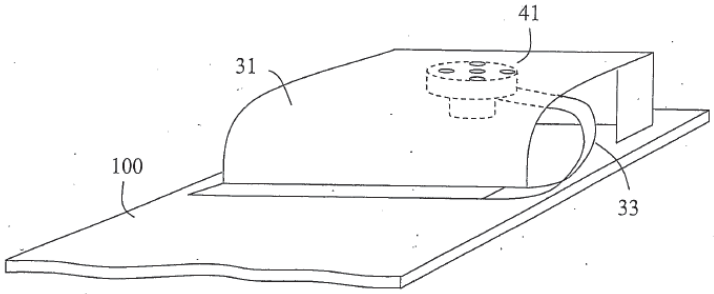
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

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	FIG. 51  (Nakano at FIG. 51) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Yamaguchi and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In

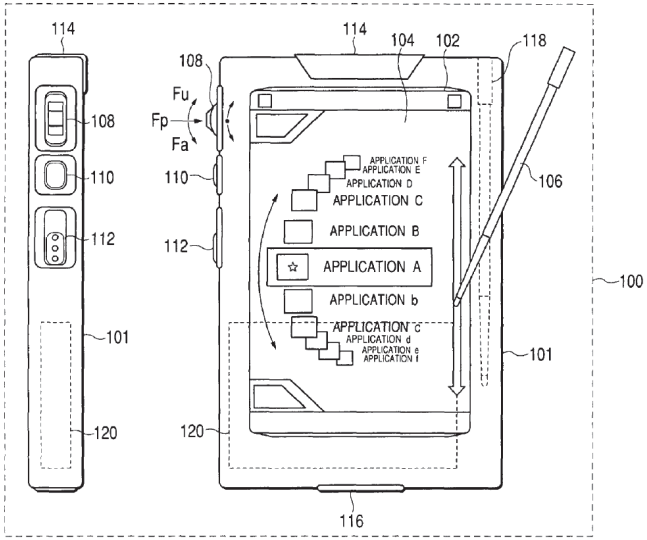
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	order to fit in a pocket, Yamaguchi discloses a mobile phone that is 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) Thus, the mobile phone disclosed by Yamaguchi has a thickness that is 20 percent of its width. Further, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) A POSITA would have found it obvious to configure the mobile phone as disclosed by Nakano with width and thickness dimensions as claimed. Yamaguchi teaches configuring a mobile phone such that the thickness of the device is 20 percent of its width, which improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and provides a display that is as large as possible. Wedel simultaneously teaches that there is demand for ever smaller, lighter phones. A POSITA would thus have been motivated to configure a mobile phone with a thickness to width ratio less than Yamaguchi's to gain market advantage. (Wedel at 1:14-21, 3:19-21.) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve user experience and market demand as suggested by Wedel. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Wedel into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as suggested by Yamaguchi and Wedel) according to known methods to yield predictable results (improving the portability and marketability of a mobile phone); (B) use of a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the

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	teachings of Yamaguchi and/or Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.)

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	". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:

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	 Fig. 2 (Wedel at FIG. 2)  Fig. 11 (Wedel at FIG. 11)

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[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone."

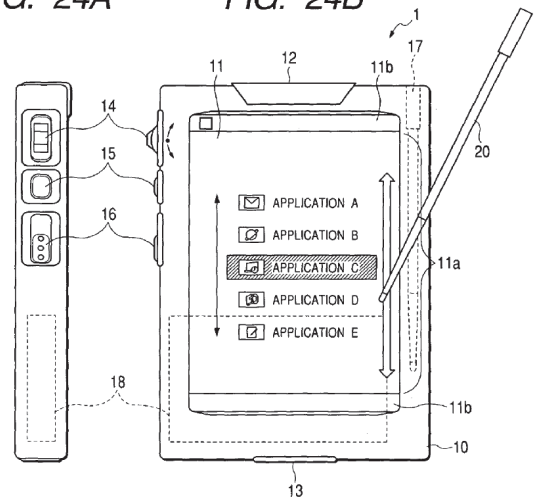
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Nakano discloses "portable information terminals" including a "menu display." (Nakano at 1:8-12, 1:16-19, 2:45-51, 6:63-7:15, 7:20-52, 8:17-49, 8:65-9:6, 9:14-26, 9:42-48, 10:1-4, 10:11-22, 13:57-58, 27:26-28, 42:18-21, 42:30-42, 50:36-41, FIGS. 1, 24A-B, 51.) Nakano explains that the "portable information terminal" may be a PDA, but that the invention may also be applied to devices such as a "cell phone." (Nakano at 14:57-61, 27:26-28, 42:11-13.) *FIG. 1*  (Nakano at FIG. 1) Additional exemplary citations include: "The present invention relates to a display control device for performing display control of menu display, portable information terminal, and display control information and a display control method for allowing a computer to perform display control of menu display." (Nakano at 1:8-12.)

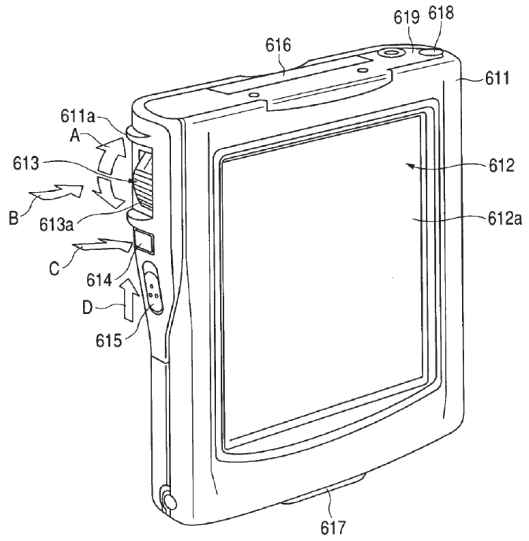
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	"As an example of portable information terminal which allows the user to carry along various personal information as digital information, a so-called Personal Digital Assistant (PDA) equipped with a touch panel is known." (Nakano at 1:16-19.) "The invention has been accomplished in order to solve the aforementioned problems and aims at providing easy-to-use menu display which allows easy understanding of arrangement of menu items used for a portable information terminal. The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:45-51.) "The invention provides a display control method for a portable information terminal which displays a plurality of information display entities in a vertical line on the display section, characterized in that the display control method comprises: a size setting step of setting the size of an information display entity so that the size of the information display entity to be displayed will be gradually scaled down in accordance with the distance between the information display entity and a predetermined display position of the display; an interval setting step of setting the display interval of information display entities to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; a transparency setting step of setting the transparency of an information display entity to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; and a scroll step of scrolling through the plurality of information display entities based on the setting in the size setting step, the interval setting step, and the transparency setting step." (Nakano at 6:63-7:15.) "The invention provides a portable information terminal (for example a PDA 1 in FIG. 24) comprising a display section (for example an LCD panel 11 in FIG. 14) integral with a touch panel, the portable information terminal displaying, in whole or in part, the information display entities arranged in a predetermined order in a predetermined display area (for example a main display area 11a in FIG. 24) of the display, characterized in that the portable information terminal further comprises: setting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection (for example a menu display area in FIG. 25) in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display

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	entities in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano at 7:20-52.) "The invention provides a portable information terminal comprising a display integral with a touch panel, the portable information terminal displaying, in whole or in part, a virtual face (for example a menu display entity group 40) where a plurality of information display entities are arranged in a predetermined display area of the display, characterized in that the portable information terminal further comprises: set ting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities by moving at least either the virtual camera and the virtual face in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, a virtual face where a plurality of information display entities are arranged as seen from a virtual camera in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through

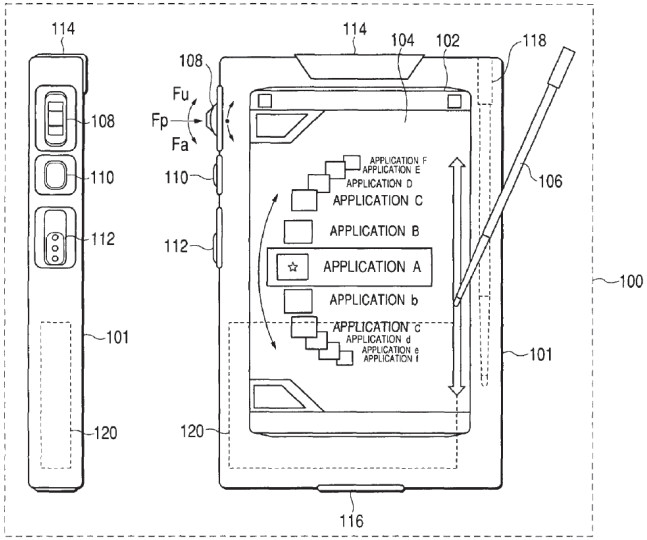
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	information display entities by moving the virtual camera in case a drag operation is made; and a first determination step of determining the information display entity displayed in the position of a candidate for selection as a candidate for selection" (Nakano at 8:17-49.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:14-26.) "The invention provides a portable information terminal characterized by further comprising second determination means (for example a menu display controller 310 in FIG. 18) for determining as a candidate for selection the information display entity displayed in the tap position instead of an information display entity determined as a candidate for selection by the first determination means." (Nakano at 9:42-48.) "The scroll means of the portable information terminal device may gradually accelerate the scroll display in case the drag velocity of the drag operation exceeds a predetermined velocity." (Nakano at 10:1-4.) "The invention provides a portable information terminal characterized by further comprising: target scroll amount setting means for setting a target scroll amount in accordance with the operation amount

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	of the drag operation; and target scroll amount change means for changing the target scroll amount determined by the target scroll amount setting means in accordance with the operation amount of the drag operation; characterized in that the scroll means controls the scroll display velocity in accordance with the remaining scroll amount as a difference between the target scroll amount changed by the target amount change means and the current scroll amount." (Nakano at 10:11-22.) "FIG. 51 is a perspective view of an example of personal information terminal device of the invention;" (Nakano at 13:57-58.) "Application of the invention is not limited to this example. The invention may be applied to other electronic devices and information terminal devices which provides menu display, such as a portable game device, a multifunctional cellphone, a laptop PC, and a set-top box." (Nakano at 14:57-61.) "The following descriptions assumes a portable information terminal (hereinafter referred to as the PDA) as an example, although the invention may be applied elsewhere." (Nakano at 27:26-28.) "While the invention is applied to a PDA in the embodiments, the invention may be applied to other personal information terminals such as a cell phone." (Nakano at 42:11-13.) "A portable information terminal equipped with a touch panel according to the invention features the enhanced operability of menu display and provides the user with a feel of operability specific to the touch panel." (Nakano at 42:18-21.) "Referring to FIG. 51, the portable information terminal (PDA) shown is of a size the user can hold in his/her hand. ON the front face of an armored case 611 is arranged a liquid crystal panel 612 comprising a touch panel 612a across its entire surface. (The touch pane 612a is arranged for example on the surface of the liquid crystal panel 612.) The armored case 611 comprises, as mentioned later, a control switch (hereinafter referred to as the side controller) 613, an escape switch 614, a power on/off switch (hereinafter referred to as the power switch) 615, an insertion slot 616 where an external memory medium is inserted, an external connection terminal 617 used to perform communications of various data, and a storage unit 619 for storing a touch pen (stylus pen) 618.

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	As shown in FIG. 51, the side controller 613, the escape switch 614, and the power switch 615 are arranged in an array on the lateral face of the armored case 611. In the example shown, the side controller 613, the escape switch 614, and the power switch 615 are arranged in order from the top of the figure. The side controller 613 is arranged at the position where the thumb of the left hand of the user is most likely to be positioned when the user holds the armored case 611 with his/her left hand so that the liquid crystal panel 614 will face the front." (Nakano at 42:30-52.) "Arrangement of items or a camera in a virtual space, or shooting with a virtual camera may be executed by way of calculation processing by the CPU and memory in a portable information terminal, or may be calculated on other device and only the resulting image data may be displayed on the portable information terminal." (Nakano at 50:36-41.) Nakano discloses the following at FIGS. 24A-B and 51: FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51)
[9a] a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces,	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra*

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the ear and the mouth of a user and	claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").
[9c] wherein the width of the front surface of the mobile phone is significantly shorter than the length, and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").
[9d] wherein said body has a thin thickness	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").
[9e] a touch sensitive display unit	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, Nakano discloses a touch panel. (Nakano at 1:16-19, 2:49-3:18, 7:20-52, 7:57-8:49, 9:14-26, 15:1-7, 15:34-42, 15:55-16:10, 18:17-23, 18:36-40, 22:62-67, 23:14-17, 27:43-51, 35:22-32, 35:53-59, 42:18-21, 42:30-42, 43:51-60, 44:5-13, FIGS. 1, 24A-B, 51.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include: "As an example of portable information terminal which allows the user to carry along various personal information as digital information, a so-called Personal Digital Assistant (PDA) equipped with a touch panel is known." (Nakano at 1:16-19.) "The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel. In order to solve the problems, the invention provides a display control device for performing display control, the display control device comprising: virtual space setting means for setting a virtual space (for example a menu display controller 24 in FIG. 5); virtual face setting means (for example the menu display controller 24 in FIG. 5) for setting a virtual face (for example a travel locus Lif4 in FIG. 4, a virtual entity 160a in FIG. 21) in a predetermined plane in the virtual space; display entity arrangement

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	means (for example a display position setting section 240, a menu arrangement section 241 in FIG. 5) for arranging a plurality of plane-shaped information display entities parallel with each other (for example a menu panel 134 in FIG. 2) at least in a column so that the planes will differ from the predetermined plane; camera setting means (for example a camera setting section 245 in FIG. 5) for setting a virtual camera whose line of sight is oriented to face the virtual face; input means (for example a touch panel 104, a stylus pen 106, a side controller 108 in FIG. 1, a scroll-up icon 136, a scroll-down icon 138 in FIG. 2, an operation input section 10, a menu item selector 22 in FIG. 5) for inputting a scroll direction; movement means (for example a menu movement controller 24 in FIG. 5) for moving one or both of the virtual face and the virtual camera by way of the input means; and control means (for example a menu arrangement section 241 in FIG. 5) for controlling the arrangement of the plurality of information entities on the virtual face so that a plane orthogonal to the line of sight of the virtual camera will be parallel with the planes of the plurality of information display entities in accordance with the movement by the movement means; characterized in that the display control device performs information display by displaying, in whole or in part, the information display entities seen from the virtual camera among the plurality of information display entities." (Nakano at 2:49-3:18.) "The invention provides a portable information terminal (for example a PDA 1 in FIG. 24) comprising a display section (for example an LCD panel 11 in FIG. 14) integral with a touch panel, the portable information terminal displaying, in whole or in part, the information display entities arranged in a predetermined order in a predetermined display area (for example a main display area 11a in FIG. 24) of the display, characterized in that the portable information terminal further comprises: setting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection (for example a menu display area in FIG. 25) in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the

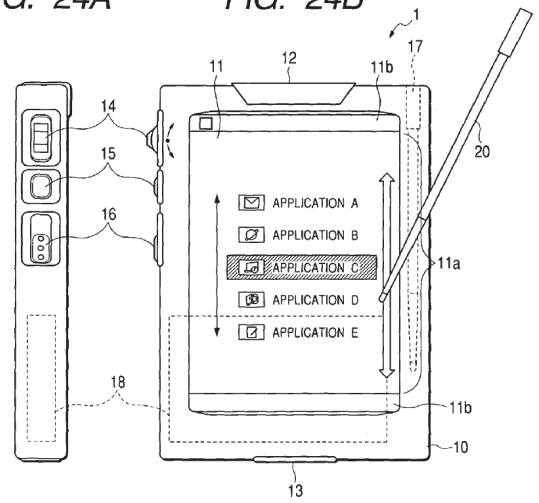
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	predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano at 7:20-52.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a 'tap-in' and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a 'tap-out'. The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus penis called a 'tap'. According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity). The invention provides a portable information terminal comprising a display integral with a touch panel, the portable information terminal displaying, in whole or in part, a virtual face (for example a menu display entity group 40) where a plurality of information display entities are arranged in a predetermined display area of the display, characterized in that the portable information terminal further comprises: setting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities by moving at

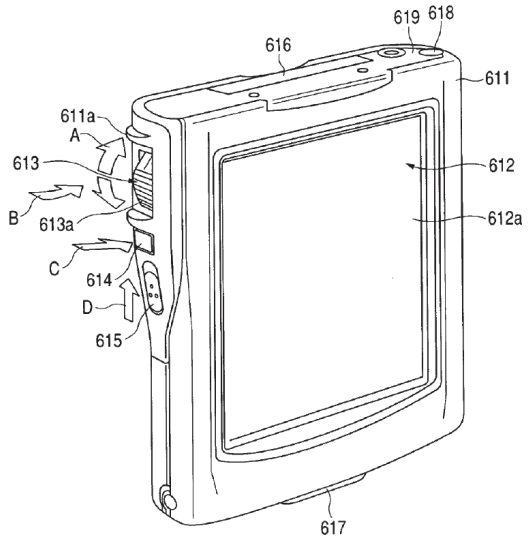
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	least either the virtual camera and the virtual face in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, a virtual face where a plurality of information display entities are arranged as seen from a virtual camera in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities by moving the virtual camera in case a drag operation is made; and a first determination step of determining the information display entity displayed in the position of a candidate for selection as a candidate for selection." (Nakano at 7:57-8:49.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:14-26.) "As shown in FIG. 1. A PDA 100 comprises an LCD (Liquid Crystal Display) 102, a touch panel 104, a stylus pen 106, a side controller 105, an ESC (escape) button 110, a power button 112, a compact memory flash card slot 114, an interface connector 116, a stylus pen storage unit 118, a control unit 120, and a built-in power unit (not shown). These components are installed in an enclosure 101." (Nakano at 15:1-7.) "The control unit 120 controls the functions of the PDA 100 and is implemented by way of hardware such as a CPU (Central Processing Unit), a RAM, a ROM, an ASIC (Application Specific Integrated

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Circuit) and software such as various programs and data. The LCD 102, touch panel 104, side controller 108, escape button 110, compact memory flash card slot 114 and interface connector 116 are connected to the control unit to allow signal communications and centrally controlled." (Nakano at 15:34-42.) "The second method is an input with the touch panel 104 and the stylus pen 106. In the display screen are displayed a scroll-up icon 136 and a scroll-down icon 138. When the user touches the touch panel 106 with the stylus pen 106 with an intention to touch an icon, menu items in the selection state are deselected. Then, in accordance with the number of time the lever is tilted or duration the lever is tilted, the user can place the menu under moving display in the upward or down ward direction (upward/downward direction on the display screen). The user then taps (patting on the touch panel 104 with the stylus pen 106). The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection." (Nakano at 15:55-16:10.) "The operation input section 5 is implemented for example by a button, a lever, a mouse, a track pad, or a keyboard (including a soft keyboard), and accept various operation inputs from the user and outputs an operation input signal to the processor 20. In the example of FIG. 1, the operation input section 5 comprises a touch panel 104, a slide controller 108 and an escape button 110." (Nakano at 18:17-23.) "The processor 20 is, for example, hardware such as a CPU, various IC memories, an ASIC, and a driver circuit and their control programs. In the example of FIG. 1, the processor 20 comprises a control unit 120, and a driver circuit of an LCD 102 or a touch panel 104 (not shown)." (Nakano at 18:36-40.)

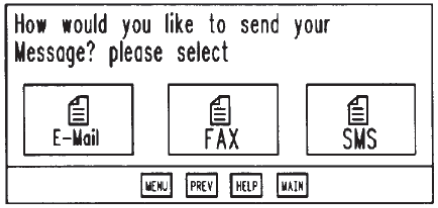
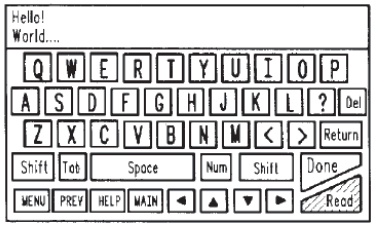
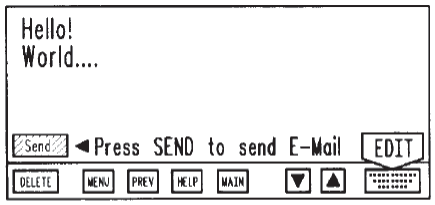
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 13 is a flowchart specifically illustrating the flow of selection of a menu item. As shown in FIG. 13, in case operation is input from the side controller 108 or touch panel 104 YES in step S102), a menu item selector 22 executes selection of a menu item and determines a specified menu number 532." (Nakano at 22:62-67.) "In case the stylus pen is released from the touch panel 104, a so-called tap-out operation is made (YES in step S118), execution proceeds to activation of an application described later." (Nakano at 23:14-17.) "The LCD panel 11 comprises an LCD display panel integral with a transparent touch panel overlaid on the LCD display panel. The LCD panel 11 provides a display screen such as a menu screen 30 described later on the LCD display panel in accordance with a display control signal from the control unit 18. The LCD panel 11 also detects the position on the transparent touch panel indicated (pressed) by the stylus pen 20, and outputs as an operation signal the detected position signal to the control unit 18." (Nakano at 27:43-51.) "The input section 99 is a functional block for the user of the PDA 1 to input various operation instructions. To be more specific, the input section 99 comprises a touch panel of the LCD panel 11 in FIG. 24, a side controller 14, an escape key 15, and a power key 16. In case these components are operated, the input section 99 outputs an operation signal corresponding to the operation to the processor 300. For example, the input section 99 outputs an operation signal indicating the coordinate values of the touch panel indicated (pressed) with the tip of the stylus pen 20, 'upward/downward direction' of the side controller 14, or a 'push' to the processor 300." (Nakano at 35:22-32.) "The input determination section 311 determines the presence/absence of an operation input from the input section 100 and determines the type of an operation corresponding to an operation input, if any. For example, the input determination section 311 determines whether the operation input is received from the LCD panel 11 (touch panel) or the side controller 14." (Nakano at 35:53-59.) "A portable information terminal equipped with a touch panel according to the invention features the enhanced operability of menu display and provides the user with a feel of operability specific to the touch panel." (Nakano at 42:18-21.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Referring to FIG. 51, the portable information terminal (PDA) shown is of a size the user can hold in his/her hand. ON the front face of an armored case 611 is arranged a liquid crystal panel 612 comprising a touch panel 612a across its entire surface. (The touch pane 612a is arranged for example on the surface of the liquid crystal panel 612.) The armored case 611 comprises, as mentioned later, a control switch (hereinafter referred to as the side controller) 613, an escape switch 614, a power on/off switch (hereinafter referred to as the power switch) 615, an insertion slot 616 where an external memory medium is inserted, an external connection terminal 617 used to perform communications of various data, and a storage unit 619 for storing a touch pen (stylus pen) 618." (Nakano at 42:30-42.) "When connected to a dedicated recharging unit (a so-called cradle unit) for example equipped with a communications function via the external connection terminal 617, the PDA shown can perform data communications with a personal computer. The LCD panel 612 is for example a color liquid crystal display unit and comprises a backlight as required. The touch panel 612a has a touch sensor for detecting the contact position (touch position) and the contact locus of the touch pen 618 which touched (tapped on) the touch panel 618a." (Nakano at 43:51-60.) "As shown in the figure, the side controller 613 is connected to the CPU 621 via a side controller operation detector 623 and the escape switch 614 is connected to the CPU 621 via an escape switch operation detector 624. The CPU 621 is further connected to the power switch 615 via a power switch operation detector 625. The CPU 621 is connected to the touch panel 612a via a touch panel operation detector 626. Also, the CPU 621 is connected to the crystal liquid panel 612 via a crystal panel driver 627." (Nakano at 44:5-13.) Nakano discloses the following at FIGS. 24A-B and 51:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51)
[9f] a virtual keyboard to enter text; and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text." For example, Nakano discloses that a keyboard may be used to input text. (Nakano at 18:17-23.) Additionally, Nakano discloses that data may be input through a touch panel. (Nakano at 2:52-3:18, 18:17-23.) A POSITA would have understood that text may be entered through a virtual or "soft" keyboard as disclosed by Nakano and well-known in the prior art. (Nakano at 18:17-23.) Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In order to solve the problems, the invention provides a display control device for performing display control, the display control device comprising: virtual space setting means for setting a virtual space (for example a menu display controller 24 in FIG. 5); virtual face setting means (for example the menu display controller 24 in FIG. 5) for setting a virtual face (for example a travel locus Lif4 in FIG. 4, a virtual entity 160a in FIG. 21) in a predetermined plane in the virtual space; display entity arrangement means (for example a display position setting section 240, a menu arrangement section 241 in FIG. 5) for arranging a plurality of plane-shaped information display entities parallel with each other (for example a menu panel 134 in FIG. 2) at least in a column so that the planes will differ from the predetermined plane; camera setting means (for example a camera setting section 245 in FIG. 5) for setting a virtual camera whose line of sight is oriented to face the virtual face; input means (for example a touch panel 104, a stylus pen 106, a side controller 108 in FIG. 1, a scroll-up icon 136, a scroll-down icon 138 in FIG. 2, an operation input section 10, a menu item selector 22 in FIG. 5) for inputting a scroll direction; movement means (for example a menu movement controller 24 in FIG. 5) for moving one or both of the virtual face and the virtual camera by way of the input means; and control means (for example a menu arrangement section 241 in FIG. 5) for controlling the arrangement of the plurality of information entities on the virtual face so that a plane orthogonal to the line of sight of the virtual camera will be parallel with the planes of the plurality of information display entities in accordance with the movement by the movement means; characterized in that the display control device performs information display by displaying, in whole or in part, the information display entities seen from the virtual camera among the plurality of information display entities." (Nakano at 2:52-3:18.) "The operation input section 5 is implemented for example by a button, a lever, a mouse, a track pad, or a keyboard (including a soft keyboard), and accept various operation inputs from the user and outputs an operation input signal to the processor 20. In the example of FIG. 1, the operation input section 5 comprises a touch panel 104, a slide controller 108 and an escape button 110." (Nakano at 18:17-23.) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Jambhekar, Wedel, and/or Pensjo. For example, a POSITA would find the

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)  FIG.8A  FIG.8B  FIG.8C

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

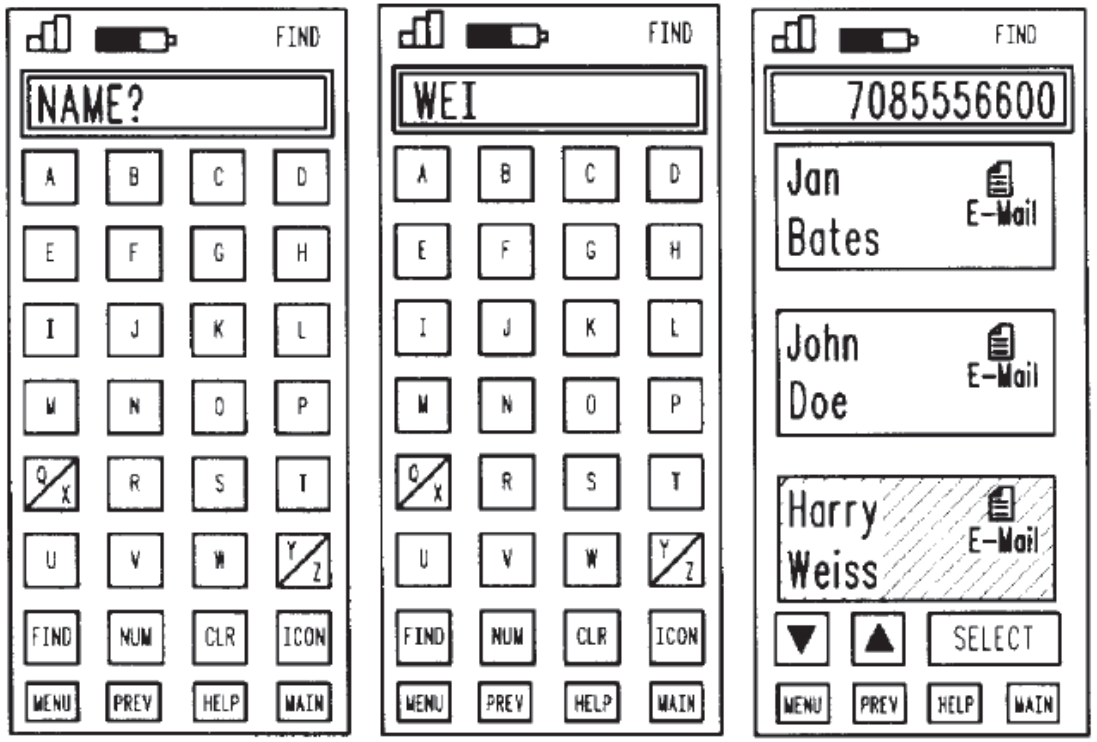


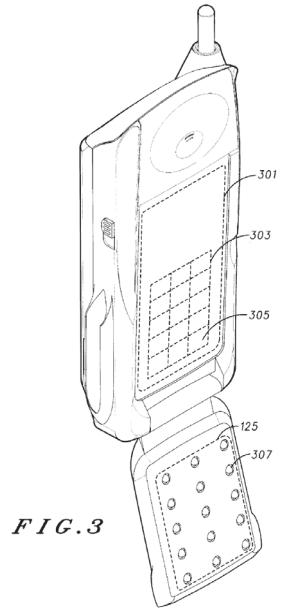
FIG.8D FIG.8E FIG.8F

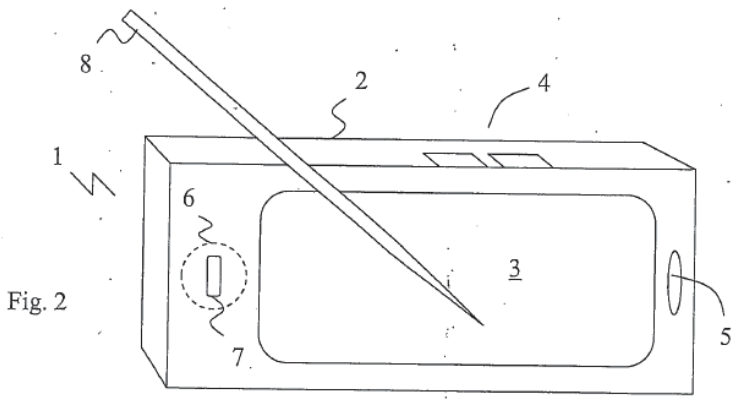
Similarly, Wedel discloses that a virtual keypad can be displayed on a touch screen to enable data input, which a POSITA would have understood includes inputting text. (Wedel at 2:6-11, FIG. 2.)

Likewise, Pensjo discloses a virtual keyboard that can be used "for input of alphanumeric characters." (Pensjo at [0005], [0009], [0014].)

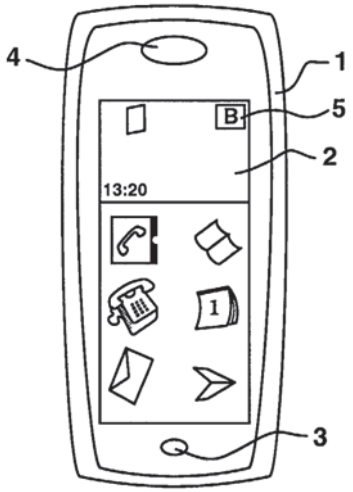
A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text. Configuring a mobile phone in this way was routine and conventional to a

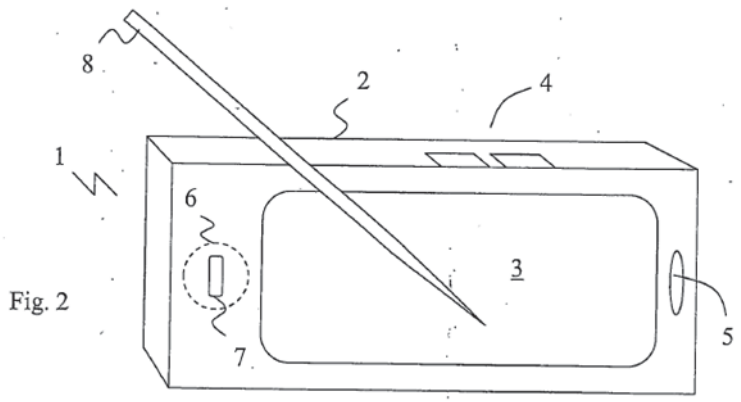
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	POSITA, as shown by Jambhekar, Wedel, and Pensjo. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar, Wedel, and/or Pensjo into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar, Wedel, and Pensjo) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.) "Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:  FIG.3 (Jambhekar at FIG. 3) "Several of the functions of the keypad 4 have been included on a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:6-11.)

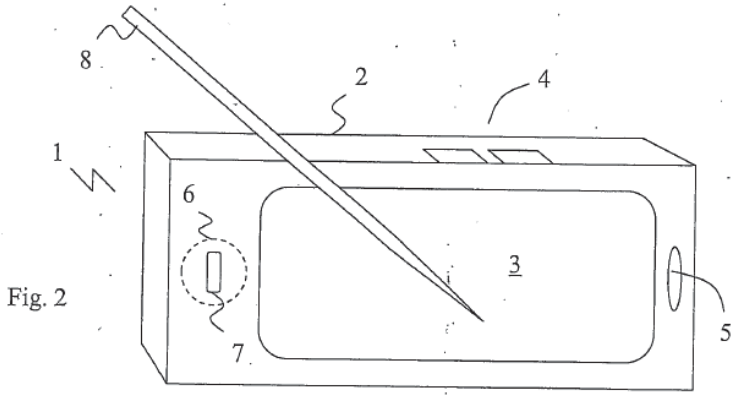
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Wedel discloses the following at FIG. 2:  Fig. 2 (Wedel at FIG. 2) "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].) "According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].)
[9g] a microphone and a speaker	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, a POSITA would have understood that Nakano's device would have inherently included a microphone and a speaker because it is intended for use as a "cell phone." (Nakano at 14:57-61, 42:11-13.) A POSITA would have understood a cell phone to necessarily include a microphone and speaker for placing phone calls. Additional exemplary citations include: "Application of the invention is not limited to this example. The invention may be applied to other electronic devices and information terminal devices which provides menu display, such as a portable game device, a multifunctional cellphone, a laptop PC, and a set-top box." (Nakano at 14:57-61.) "While the invention is applied to a PDA in the embodiments, the invention may be applied to other personal information terminals such as a cell phone." (Nakano at 42:11-13.) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Bast, Wedel, Yamaguchi, and/or Dutta. For example, a POSITA would find the

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Bast discloses that the housing includes a microphone 3 and a speaker 4 located at the bottom and top of the front surface of the housing, respectively. (Bast at [0010], FIG. 1)  Figure 1 (Bast at FIG. 1)

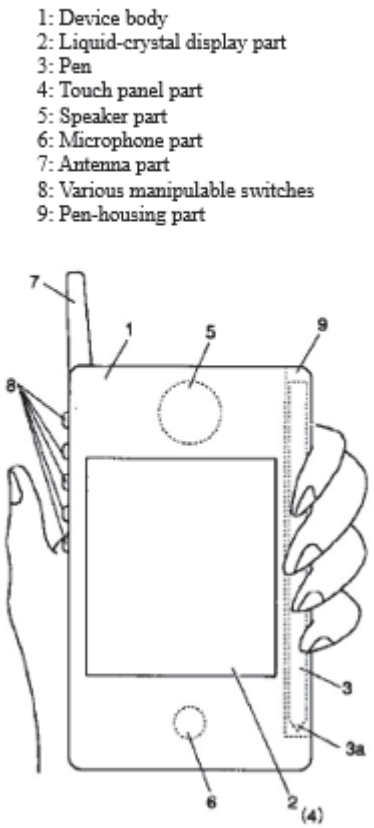
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Wedel discloses that the terminal 1 includes "a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1." (Wedel at 2:1-11, FIG. 2.)  Fig. 2 (Wedel at FIG. 2.) Additionally, Yamaguchi discloses a "mobile-communication-information terminal device" including a "speaker part 5" and a "microphone part 6." (Yamaguchi at claim 1, [0003], [0005], [0011], [0017], FIG. 1.) Additionally, Dutta discloses a mobile phone including a microphone and a speaker. (Dutta at [0018], FIGS. 2A-B.) A POSITA would have been motivated to configure a mobile phone to include a microphone and a speaker. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Bast, Wedel, Yamaguchi, and/or Dutta. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to make phone calls, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Bast, Wedel, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (including a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and/or Dutta) according to known methods to yield predictable results (a mobile phone that allows a place calls using the microphone and speaker); (B) use of a known technique

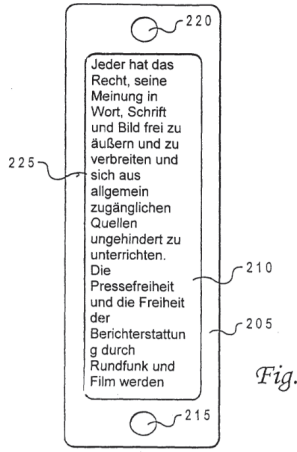
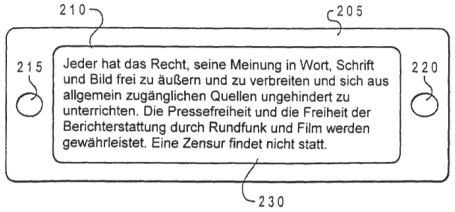
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	(allowing a user to make calls using a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and/or Dutta) to improve similar devices in the same way (a mobile phone that allows a user to make phone calls); (C) applying a known technique (allowing a user to place calls using a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and/or Dutta) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Wedel, Yamaguchi, and/or Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. . . . A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:1-11.) Wedel discloses the following at FIG. 2:

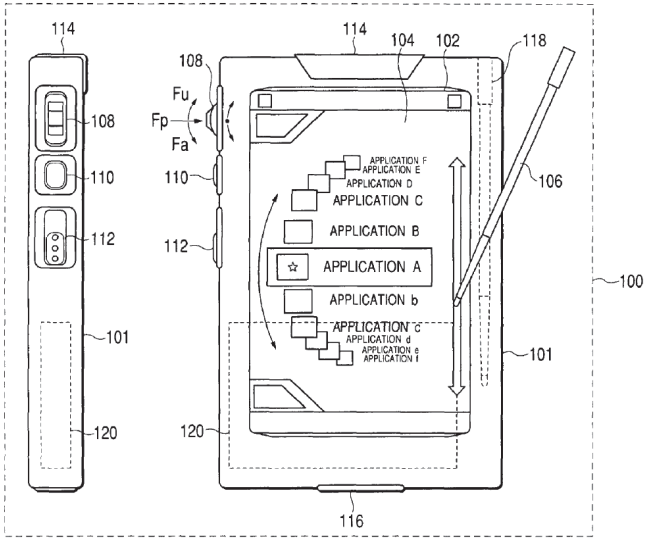
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2) "A mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, the device being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body." (Yamaguchi at claim 1.) "FIG. 7 is a front view of a mobile-communication-information terminal device according to the existing art. In the mobile-communication-information terminal device according to the existing art, as shown in FIG. 7, a liquid-crystal display part 2, which outputs and displays text, graphics data, and wireless status, is provided on a front-surface portion of a device body 1; a touch panel part 4, by which data inputs are made by touching with a pen tip, is disposed on a front surface of the liquid-crystal display part 2; a pen-housing part 9 for housing a pen 3 is located on a lower portion of the liquid-crystal display part 2; and an antenna part 7 is located on a rear surface of the liquid-crystal

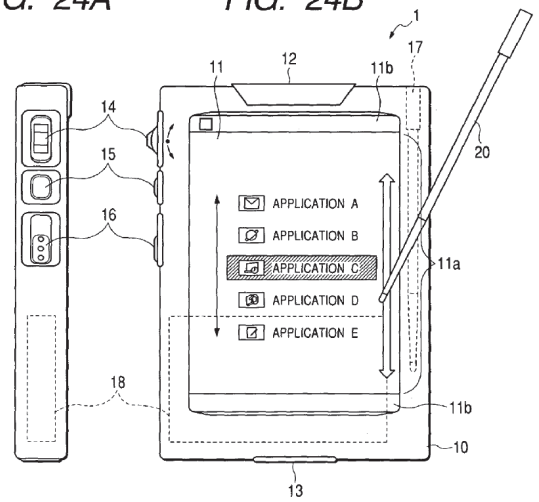
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	display part 2 and near a side-surface portion thereof. Moreover, various manipulable switches 8 are provided on the same surface as the liquid-crystal display part 2 and at locations centered on the liquid-crystal display part 2 in a left-right direction, and a speaker part 5, which outputs audio, and a microphone part 6, by which audio is inputted, are disposed on the same surface as the liquid-crystal display part 2 and centered on the liquid-crystal display part 2 in the left-right direction. In addition, although not shown in the drawings, a card-housing part for a memory card having a data storage function and, adjacent thereto, a card EJECT button having an EJECT function are provided on a lower portion of the device body 1, and the device body 1 has a shape having overall horizontally elongated dimensional ratios." (Yamaguchi at [0003].) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "EMBODIMENTS OF THE INVENTION The invention according to claim 1 of the present invention is a mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, and the device being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are

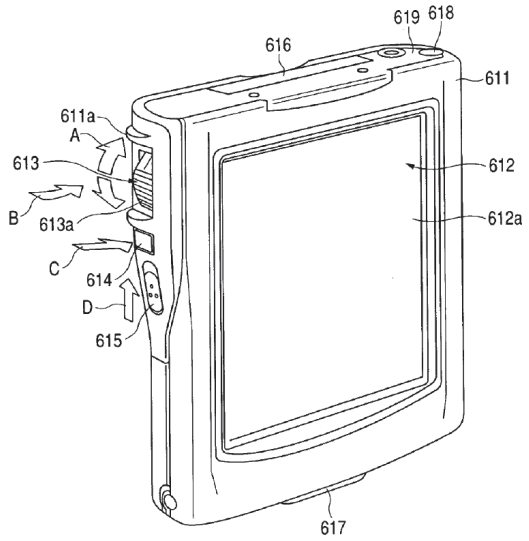
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body; thus, the invention has the effects that, if pen input is not required, then various manipulations can be performed with the one hand holding the device body, and audio input/output can be performed without adjusting one's grip on the device body, thereby improving ease of manipulation." (Yamaguchi at [0011].) "As shown in FIG. 1 and FIG. 2, the mobile-communication-information terminal device is constituted by: a liquid-crystal display part 2, which is disposed on a front-surface portion of a device body 1 and outputs and displays text and graphics data; a touch panel part 4, which is disposed on a front-surface portion of the liquid-crystal display part 2 and by which inputs can be made by touching with a tip 3a of a pen 3; a speaker part 5, which outputs audio and is disposed at an upper portion of the liquid-crystal display part 2 and on the same surface as the liquid-crystal display part 2; a microphone part 6, into which audio is inputted and which is disposed at a lower portion of the liquid-crystal display part 2 and on the same surface as the liquid-crystal display part 2; an antenna part 7 and various manipulable switch parts 8, which are disposed on a same-side surface portion of the device body 1; a pen-housing part 9, which is disposed on a side-surface portion of the device body 1 opposite the aforementioned; and the like; furthermore, the various manipulable switch parts 8 are disposed at locations such that they can be manipulated by the thumb of one hand holding the device body 1." (Yamaguchi at [0017].) Yamaguchi discloses the following at FIG. 1:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Yamaguchi at FIG. 1.) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)

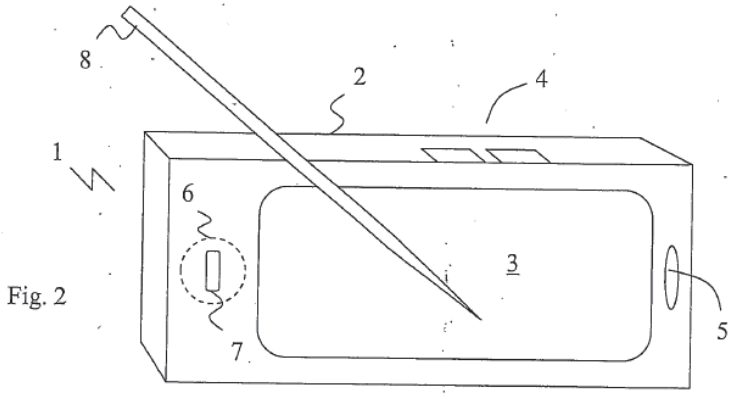
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Dutta discloses the following at FIGS. 2A-B:  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B.)
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9i] wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text, and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f]. For example, Nakano discloses a mobile phone that does not include a physical key on the front surface. (Nakano at FIGS. 1, 24A-B, 51.) Nakano teaches that data can be input via a "touch panel," a "side controller," and an "escape button" (located on the side of the device). (Nakano at 18:17-23, FIG. 1.) FIG. 1  (Nakano at FIG. 1) Additionally, Nakano explains that its device includes a "touch panel," a "slide controller," and an "escape button." (Nakano at 18:17-23.) Thus, Nakano discloses a device that does not include a physical keyboard but provides other means to input data.

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "The operation input section 5 is implemented for example by a button, a lever, a mouse, a track pad, or a keyboard (including a soft keyboard), and accept various operation inputs from the user and outputs an operation input signal to the processor 20. In the example of FIG. 1, the operation input section 5 comprises a touch panel 104, a slide controller 108 and an escape button 110." (Nakano at 18:17-23.) Nakano discloses the following at FIGS. 24A-B and 51: FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2) Further, to the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Jambhekar, Wedel, and/or Pensjo. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

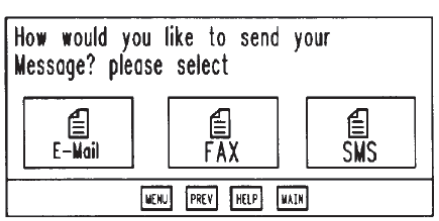


FIG.8A

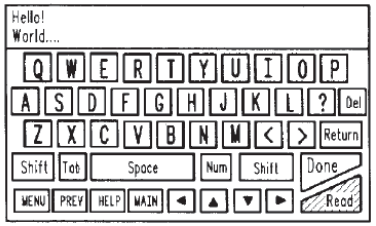


FIG.8B

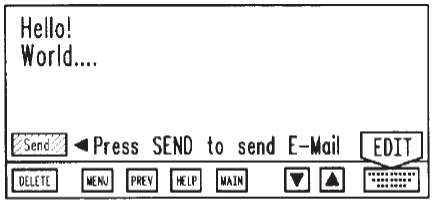


FIG.8C

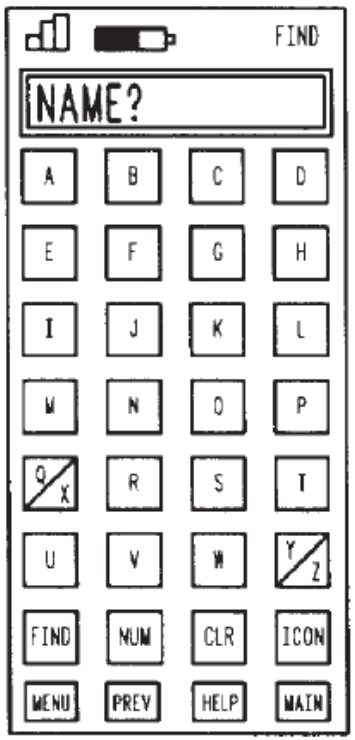


FIG.8D

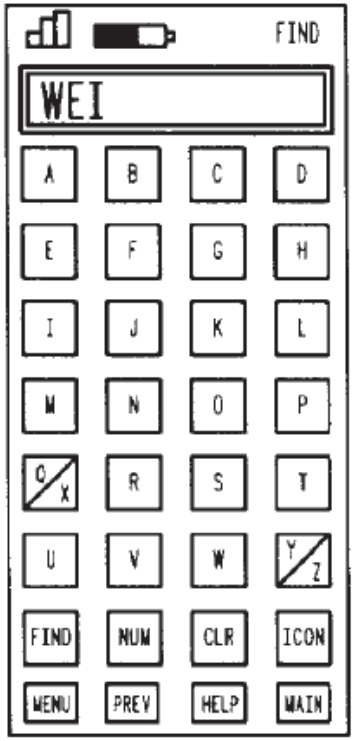


FIG.8E

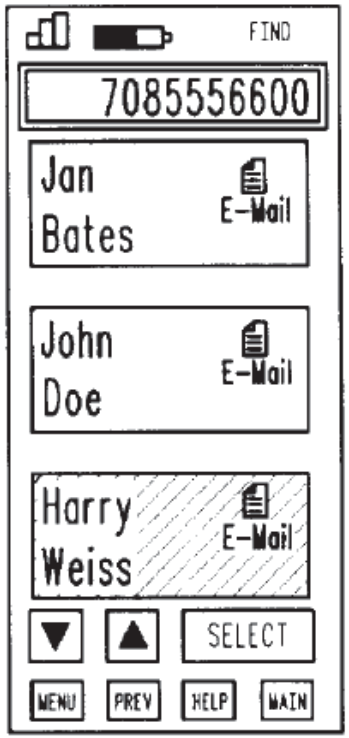
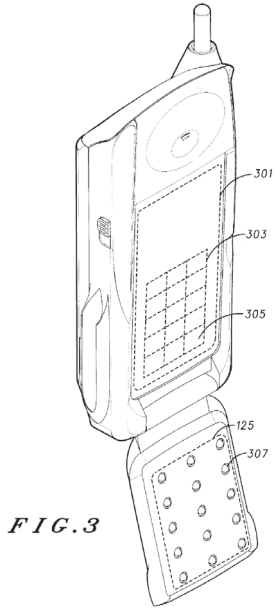
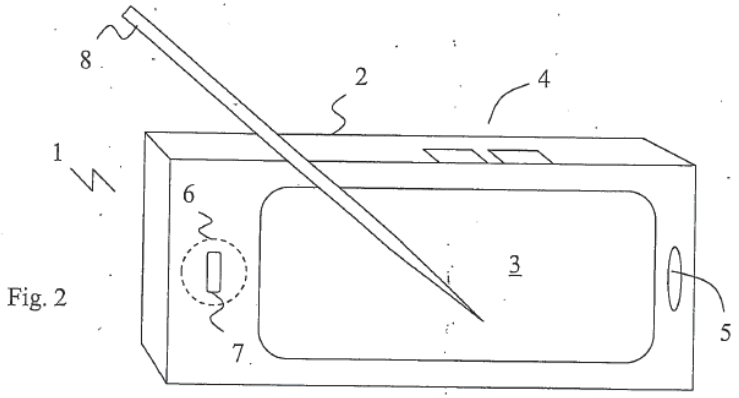


FIG.8F

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Similarly, Wedel discloses that a virtual keypad can be displayed on a touch screen to enable data input, which a POSITA would have understood includes inputting text. (Wedel at 2:6-11, FIG. 2.) Likewise, Pensjo discloses a virtual keyboard that can be used "for input of alphanumeric characters." (Pensjo at [0005], [0009], [0014].) A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Jambhekar, Wedel, and Pensjo. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar, Wedel, and/or Pensjo into the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard as taught by Jambhekar, Wedel, and Pensjo) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar, Wedel, and Pensjo) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.) "Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 3 (Jambhekar at FIG. 3) "Several of the functions of the keypad 4 have been included on a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:6-11.) Wedel discloses the following at FIG. 2:

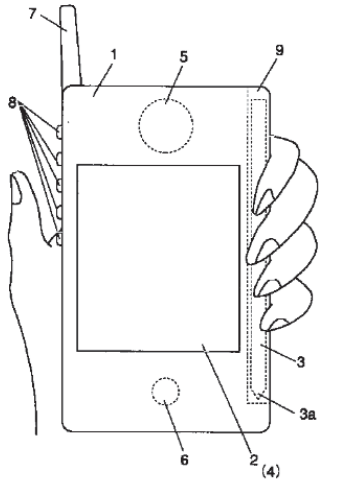
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2) "The pen detection mechanism can be used for switching between two different input modes. For example, removal of the pen from the pen holder may trigger the appearance of an alphabetic keyboard, which can be used for input of alphanumeric characters. Further, the change in appearance of the user interface may preferably depend on the applications used." (Pensjo at [0005].) "The flowchart of fig. 2 illustrates a method performed by the apparatus of Fig. 1 when operated by a user. Thus, when it is detected that the pen 105 is placed in the pen holder 107, the screen display 103 is in a first mode, see step 201, which is controlled by the control unit 111 in response to a signal received from the pen detecting mechanism 109. For example, the device may then be in a sleep mode, i.e., a passive state when the screen display 103 is not responsive to input by touching. However, the screen may in this mode be capable of displaying incoming calls or messages, calendar triggered reminders etc. When it is detected that the pen has been removed from the pen holder 107 in step 203, a signal indicating absence of the pen is received by the control unit 111 from the pen detecting mechanism 109, see step 205. The control unit 111 then controls the screen display 103 to change into a second mode, see step 207. This second mode may be an active state in which the screen display 103 is responsive to input by touching. The screen may in this mode display various input keys, buttons or symbols, such as an alphanumeric keyboard." (Pensjo at [0009].)

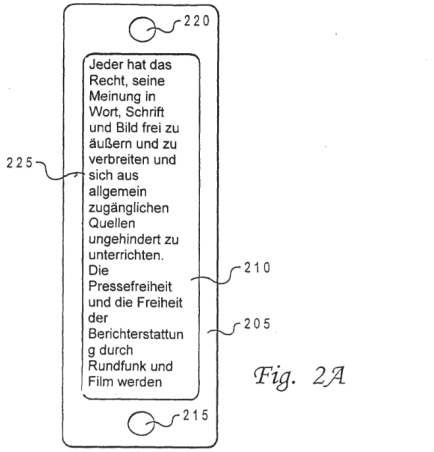
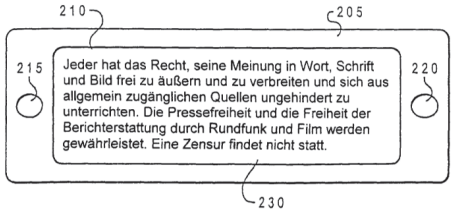
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"According to another aspect of the invention, the change of appearance or layout of the screen, as triggered by the pen detecting mechanism 109, may be different depending on the applications used by the device. Thus, for example, if a telephone application is used, removal of the pen may trigger the appearance of a display layout including a numeric keyboard for entering a telephone number. On the other hand, if an e-mail application is used, removal of the pen may instead trigger the appearance of an alphanumeric keyboard, which can be used for input of alphanumeric characters." (Pensjo at [0014].)
[9j] wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10a] wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user." For example, a POSITA would have understood that Nakano's device would have inherently included a microphone and a speaker because it is intended for use as a "cell phone." (Nakano at 14:57-61, 42:11-13.) *See also supra* claim [9g]. A POSITA would have understood a cell phone to necessarily include a microphone and speaker for placing phone calls, and would have also understood that the speaker should be located near the user's ear and the microphone should be located near the user's mouth. Accordingly, the cell phone disclosed by Nakano should be understood to be sized accordingly to these design goals: making the speaker and microphone of the device line, each located at an end of the device, correspond to the ear and mouth of a user. Additional exemplary citations include: "Application of the invention is not limited to this example. The invention may be applied to other electronic devices and information terminal devices which provides menu display, such as a portable game device, a multifunctional cellphone, a laptop PC, and a set-top box." (Nakano at 14:57-61.) "While the invention is applied to a PDA in the embodiments, the invention may be applied to other personal information terminals such as a cell phone." (Nakano at 42:11-13.) To the extent Keyless argues that Nakano does not disclose or render obvious this limitation, it would have been obvious in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of Nakano combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the distance between the ear and mouth of a user corresponds to the distance between the ear and the mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体 2 液晶表示部 3 ペン 4 タッチパネル部 5 スピーカー部 6 マイク部 7 アンテナ部 8 各種操作スイッチ 9 ペン収納部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Nakano such that the distance between the microphone and speaker of the device corresponds to the distance between a user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance. A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Nakano to be an example of (A) combining prior art elements (the mobile phone of Nakano with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Nakano to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[12a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].
[12b] wherein upon providing a sweeping action on said display	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping

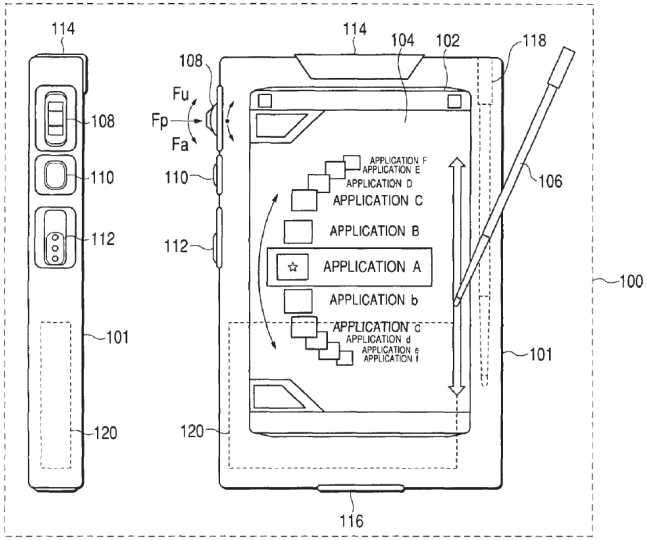
Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendants incorporate all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].
[13a] wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Nakano disclose a "portable information terminals" including a "menu display." (Nakano at 1:8-12, 1:16-19, 2:45-51, 6:63-7:15, 7:20-52, 8:17-49, 8:65-9:6, 9:14-26, 9:42-48, 10:1-4, 10:11-22, 13:57-58, 27:26-28, 42:18-21, 42:30-42, 50:36-41, FIGS. 1, 24A-B, 51.) Nakano explains that the "portable information terminal" may be a PDA, but that the invention may also be applied to devices such as a "cell phone." (Nakano at 14:57-61, 27:26-28, 42:11-13.)

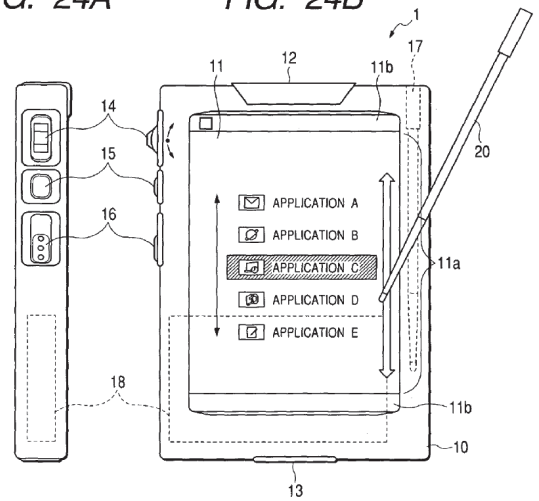
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Additional exemplary citations include: "The present invention relates to a display control device for performing display control of menu display, portable information terminal, and display control information and a display control method for allowing a computer to perform display control of menu display." (Nakano at 1:8-12.) "As an example of portable information terminal which allows the user to carry along various personal information as digital information, a so-called Personal Digital Assistant (PDA) equipped with a touch panel is known." (Nakano at 1:16-19.) "The invention has been accomplished in order to solve the aforementioned problems and aims at providing easy-to-use menu display which allows easy understanding of arrangement of menu items used for a portable information terminal.

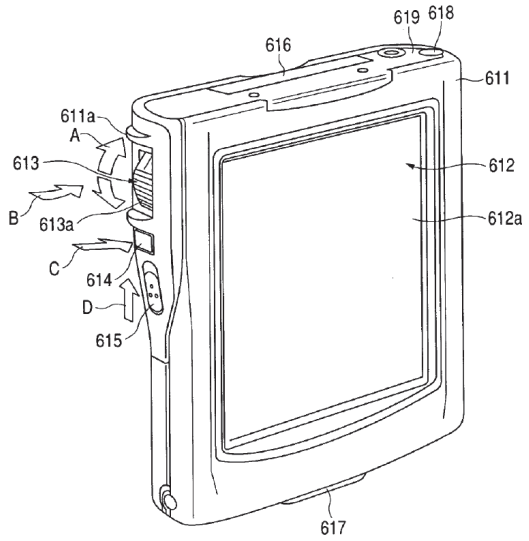
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:45-51.) "The invention provides a display control method for a portable information terminal which displays a plurality of information display entities in a vertical line on the display section, characterized in that the display control method comprises: a size setting step of setting the size of an information display entity so that the size of the information display entity to be displayed will be gradually scaled down in accordance with the distance between the information display entity and a predetermined display position of the display; an interval setting step of setting the display interval of information display entities to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; a transparency setting step of setting the transparency of an information display entity to be displayed in accordance with the distance between each of the information display entities and the predetermined display position; and a scroll step of scrolling through the plurality of information display entities based on the setting in the size setting step, the interval setting step, and the transparency setting step." (Nakano at 6:63-7:15.) "The invention provides a portable information terminal (for example a PDA 1 in FIG. 24) comprising a display section (for example an LCD panel 11 in FIG. 14) integral with a touch panel, the portable information terminal displaying, in whole or in part, the information display entities arranged in a predetermined order in a predetermined display area (for example a main display area 11a in FIG. 24) of the display, characterized in that the portable information terminal further comprises: setting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection (for example a menu display area in FIG. 25) in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano at 7:20-52.) "The invention provides a portable information terminal comprising a display integral with a touch panel, the portable information terminal displaying, in whole or in part, a virtual face (for example a menu display entity group 40) where a plurality of information display entities are arranged in a predetermined display area of the display, characterized in that the portable information terminal further comprises: set ting means (for example a menu display controller 310 in FIG. 41) for setting a position of a candidate for selection in the predetermined display area; scroll means (for example a scroll display controller 314 in FIG. 41) for scrolling through information display entities by moving at least either the virtual camera and the virtual face in case a drag operation is made; and first determination means (for example a menu display controller 310 in FIG. 41) for determining the information display entity displayed in the position of a candidate for selection as a candidate for selection; characterized in that a drag operation is available across the predetermined display area. The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, a virtual face where a plurality of information display entities are arranged as seen from a virtual camera in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities by moving the virtual camera in case a drag operation is made; and a first determination step of determining the information display entity displayed in the position of a candidate for selection as a candidate for selection" (Nakano at 8:17-49.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:14-26.) "The invention provides a portable information terminal characterized by further comprising second determination means (for example a menu display controller 310 in FIG. 18) for determining as a candidate for selection the information display entity displayed in the tap position instead of an information display entity determined as a candidate for selection by the first determination means." (Nakano at 9:42-48.) "The scroll means of the portable information terminal device may gradually accelerate the scroll display in case the drag velocity of the drag operation exceeds a predetermined velocity." (Nakano at 10:1-4.) "The invention provides a portable information terminal characterized by further comprising: target scroll amount setting means for setting a target scroll amount in accordance with the operation amount of the drag operation; and target scroll amount change means for changing the target scroll amount determined by the target scroll amount setting means in accordance with the operation amount of the drag operation; characterized in that the scroll means controls the scroll display velocity in accordance with the remaining scroll amount as a difference between the target scroll amount changed by the target amount change means and the current scroll amount." (Nakano at 10:11-22.) "FIG. 51 is a perspective view of an example of personal information terminal device of the invention;" (Nakano at 13:57-58.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Application of the invention is not limited to this example. The invention may be applied to other electronic devices and information terminal devices which provides menu display, such as a portable game device, a multifunctional cellphone, a laptop PC, and a set-top box." (Nakano at 14:57-61.) "The following descriptions assumes a portable information terminal (hereinafter referred to as the PDA) as an example, although the invention may be applied elsewhere." (Nakano at 27:26-28.) "While the invention is applied to a PDA in the embodiments, the invention may be applied to other personal information terminals such as a cell phone." (Nakano at 42:11-13.) "A portable information terminal equipped with a touch panel according to the invention features the enhanced operability of menu display and provides the user with a feel of operability specific to the touch panel." (Nakano at 42:18-21.) "Referring to FIG. 51, the portable information terminal (PDA) shown is of a size the user can hold in his/her hand. ON the front face of an armored case 611 is arranged a liquid crystal panel 612 comprising a touch panel 612a across its entire surface. (The touch pane 612a is arranged for example on the surface of the liquid crystal panel 612.) The armored case 611 comprises, as mentioned later, a control switch (hereinafter referred to as the side controller) 613, an escape switch 614, a power on/off switch (hereinafter referred to as the power switch) 615, an insertion slot 616 where an external memory medium is inserted, an external connection terminal 617 used to perform communications of various data, and a storage unit 619 for storing a touch pen (stylus pen) 618. As shown in FIG. 51, the side controller 613, the escape switch 614, and the power switch 615 are arranged in an array on the lateral face of the armored case 611. In the example shown, the side controller 613, the escape switch 614, and the power switch 615 are arranged in order from the top of the figure. The side controller 613 is arranged at the position where the thumb of the left hand of the user is most likely to be positioned when the user holds the armored case 611 with his/her left hand so that the liquid crystal panel 614 will face the front." (Nakano at 42:30-52.) "Arrangement of items or a camera in a virtual space, or shooting with a virtual camera may be executed by way of calculation processing by the CPU and memory in a portable information terminal,

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	or may be calculated on other device and only the resulting image data may be displayed on the portable information terminal." (Nakano at 50:36-41.) Nakano discloses the following at FIGS. 24A-B and 51: FIG. 24A FIG. 24B  (Nakano at FIGS. 24A-B)

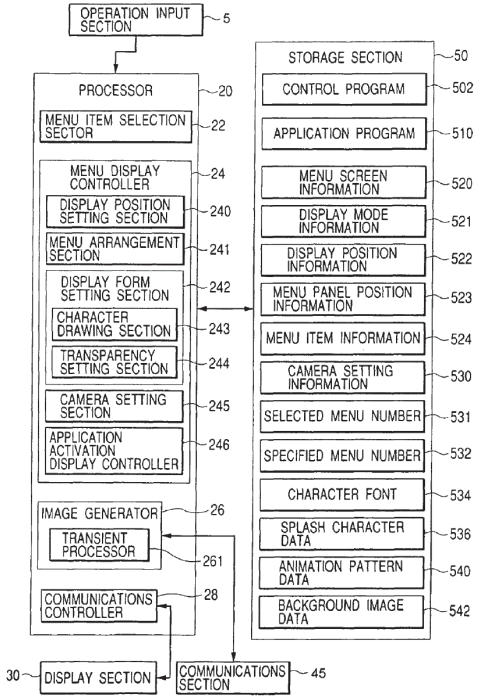
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 51  (Nakano at FIG. 51)
[15a] a body having a practically rectangular shape;	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].
[15b] a processor; and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor." For example, Nakano explains that its device includes a "processor." (Nakano at 18:11-46, 20:13-24, 20:50-60, 23:29-31, 24:37-44, 24:49-67, 35:17-44, 37:28-31, 37:63-38:2, 39:33-36, 40:32-43, FIGS. 5, 41.)

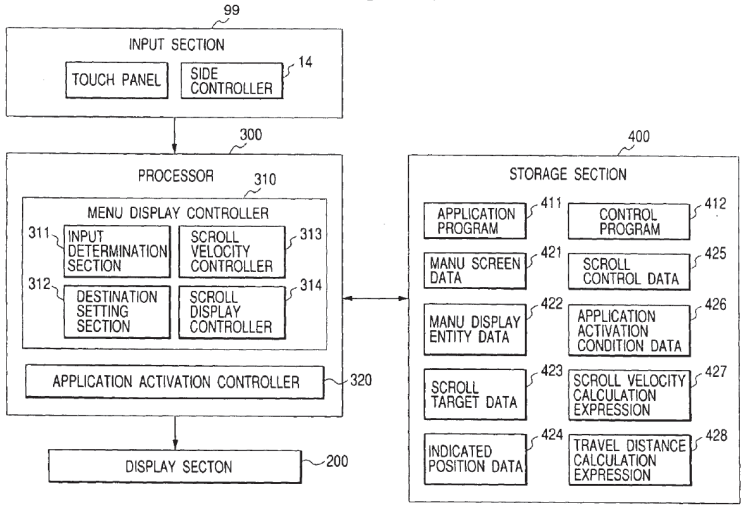
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "FIG. 5 is a functional block diagram showing an example of functional configuration in this embodiment. As shown in FIG. 5, the PDA 100 comprises an operation input section 10 a processor 20, a display section 30, a communications section 45, and a storage section 50. The operation input section 5 is implemented for example by a button, a lever, a mouse, a track pad, or a keyboard (including a soft keyboard), and accept various operation inputs from the user and outputs an operation input signal to the processor 20. In the example of FIG. 1, the operation input section 5 comprises a touch panel 104, a slide controller 108 and an escape button 110. The operation input section 10 is implemented for example by a button, a lever, a mouse, a track pad, or a keyboard (including a soft keyboard), and accept various operation inputs from the user and outputs an operation input signal to the processor 20. In the example of FIG. 1, the operation input section 10 comprises a touch panel 104, a side controller 108 and an escape button 110. The processor 20 performs arithmetic operation in accordance with programs to make centralized control of the PDA 100 as well as execute a launcher or various application programs for the PDA 100. The processor 20 is, for example, hardware such as a CPU, various IC memories, an ASIC, and a driver circuit and their control programs. In the example of FIG. 1, the processor 20 comprises a control unit 120, and a driver circuit of an LCD 102 or a touch panel 104 (not shown). The processor 20 comprises a menu item selector 22, a menu display controller 24, an image generator 26 for generating image data of the display screen and displays the data on the screen, and a communications controller 28 for establishing a connection with an external information storage medium and controlling data communications." (Nakano at 18:11-46.) "The image generator 26 is for example hardware such as a CPU, a DSP (Digital Signal Processor) and an IC memory, or image processing software. The image generator 26 generates image data to be

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	displayed on the LCD 102 based on the display position information or an instruction from the menu display controller 24. The image generator 26 comprises a transient processor 261. The transient processor 261 executes for example scaling, rotation, overlapping, and wiping of an image in switching between two separate images displayed on the screen. In this embodiment, overlap processing is executed." (Nakano at 20:13-24.) "In this embodiment, as programs, an OS (Operating System) or various driver programs and an image processing program used by the image processor (not shown) as well as a control program 502 and an application program 510 are stored. The control program 502 executes a so-caller 'launcher' to work as utility software to help activate the application program 510. The control program 502 comprises processing concerning menu display shown in FIG. 2 and includes a menu item selector 22 and a menu display controller 24 in a processor 20." (Nakano at 20:50-60.) "In case the specified menu number 532 has been changed (YES in step S130), the processor 20 performs moving display of the menu, or scrolls through the menu." (Nakano at 23:29-31.) "As shown in FIG. 15, in case determination of a selected item is input by way of a push on the side controller 108 or a tap using the stylus pen 106 (YES in step S150), the processor 20 references the menu item information 524 in accordance with the selected menu number 531 (step S152) to retrieve the corresponding splash image data 536 and displays the data on the screen (step S154). After that, the processor 20 loads and activates the application (step S156)." (Nakano at 24:37-44.) "In case the background switching icon 137 is selected (YES in step S170), the processor 20 turns off the menu display (step S172) and displays the current background image on the screen (step S174). Selection of next background image, for example an input in the upward/downward direction by way of the side controller 108 is made (NO in step S176 then YES in step S178), the processor 20 reads the next background image from the background image data 542 (step S180), then switches over the

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	display image by overlaying the next background image on the current background image in the transient processor 261 (step S182). In case a return operation is input (for example the escape button 100 is pressed) (YES in step S176), the processor 20 determines the displayed image as a background image. The processor 20 executes the above processing until the power button 112 is pressed (NO in step S190). When the power button is pressed, the processor 20 executes the shutdown operation and terminates the processing (step S192).” (Nakano at 24:49-67.) “FIG. 41 is a block diagram showing the functional configuration of a PDA1. As shown in FIG. 41, the PDA1 comprises an input section 99, a display section 200, a processor 300, and a storage section 400. The input section 99 is a functional block for the user of the PDA1 to input various operation instructions. To be more specific, the input section 99 comprises a touch panel of the LCD panel 11 in FIG. 24, a side controller 14, an escape key 15, and a power key 16. In case these components are operated, the input section 99 outputs an operation signal corresponding to the operation to the processor 300. For example, the input section 99 outputs an operation signal indicating the coordinate values of the touch panel indicated (pressed) with the tip of the stylus pen 20, ‘upward/downward direction’ of the side controller 14, or a ‘push’ to the processor 300. The display section 200 is a functional block for displaying the display screen in accordance with a display signal input from the processor 300 and to be more specific, corresponds to the LCD panel 11 in FIG. 24. The display section 200 displays the menu screen 30 in the main display area 11a formed on the LCD panel 11. The processor 300 is a functional block for performing centralized control of the components of the PDA1 and implementing the functions of the PDA1. The processor 300 corresponds to the control unit 18 in FIG. 24. The processor 300 comprises a menu display section 310 and an application activation controller 320.” (Nakano at 35:17-44.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIGS. 44 through 46 are flowcharts showing the operation of the PDA1. This operation is executed in accordance with the control program 412 stored by the processor 300 into the storage section 400." (Nakano at 37:28-31.) "Terminating the execution of the application program 411 (step S17. YES), the processor 300 executes step S12 and awaits the next operation input. In case the processor 300 has determined in step S15 that the indicated position by the stylus pen 20 is not included in any menu display area 31 (step S15: NO), the processor 300 executes step S12 and awaits the next operation input." (Nakano at 37:63-38:2.) "In case the processor 300 has determined that the continued standstill time is less than the activation wait reference time (step S34: NO), the processor 300 executes step S12 and awaits the next operation input." (Nakano at 39:33-36.) "When the repeat time Tr has elapsed (step S49:YES), the processor 300 executes step S45 and repeats the same processing. In case the input determination section 311 has determined that the hold-down operation is not continued (step S45:NO), the processor 300 executes step S12 and awaits the next operation input. While not shown in FIGS. 44 through 47, this processing terminates as follows. When power off of the PDA1 is instructed by the input section 100, the processor terminates the application under execution as well as terminates the display of the menu screen 30 then terminates this processing." (Nakano at 40:32-43.) Nakano discloses the following at FIGS. 5, 41:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 5  (Nakano at FIG. 5)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 41  (Nakano at FIG. 41)
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device;	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device." *See supra* claim [1e] (discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of Nakano, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15e] wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit").A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[17a] wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a] (discussing limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18a] wherein said device does not include a physical key on the front surface of the device.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface").

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
	rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15. Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Nakano, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position").

Appendix C5

Exhibit C5
Invalidity of Asserted Claims of the '144 Patent
in view of Gupta

United States Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed on July 25, 2001, and published on January 30, 2003, qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and/or AIA 35 U.S.C. § 102(a)(1) and (a)(2).[1] Gupta anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends Gupta does not disclose one or more limitations of the claims, it would have been obvious to combine Gupta with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of Gupta and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- European Patent Application Publication No. 1336949 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C1.
- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C6.

- United States Patent No. 8,375,334 to Nakano et. al ("Nakano"), filed on May 9, 2003, and granted on February 12, 2013, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C4.

- United Kingdom Patent Application Publication No. 2331204 to Kobayashi ("Kobayashi"), filed on November 5, 1998, and published on May 12, 1999, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

- French Patent Application Publication No. 2830093 to Benoit et al. ("Benoit"), filed on September 25, 2001, and published on March 28, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1).

- European Patent Application Publication No. 1229428 to Pensjo ("Pensjo"), filed on February 2, 2001, and published on July 8, 2002, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C2.

- United States Patent No. 5,848,356 to Jambhekar et al. ("Jambhekar"), filed on October 2, 1995, and granted on December 8, 1998, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to Gupta, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

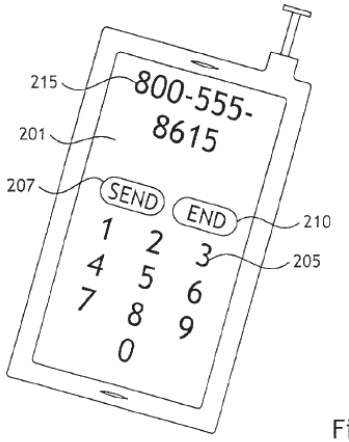
Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserves the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the

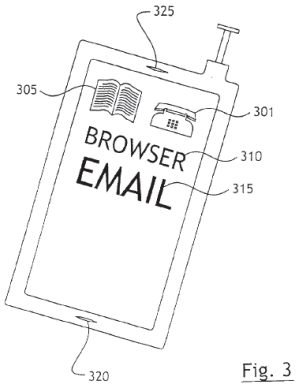
asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

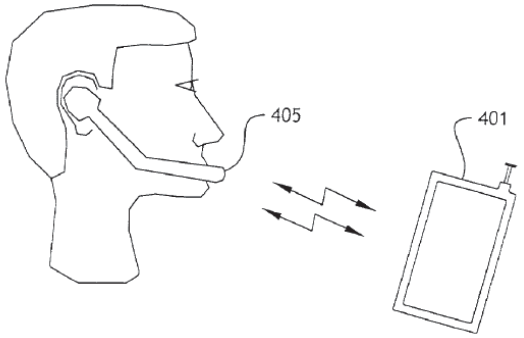
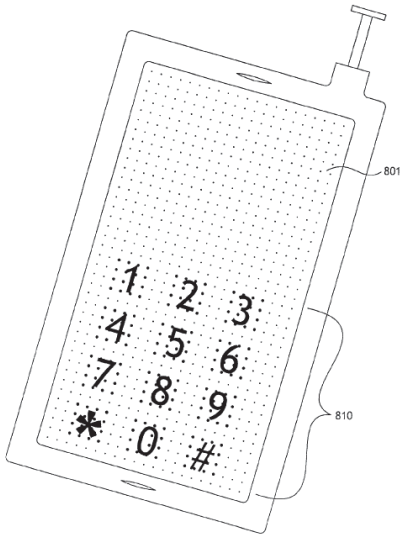
To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

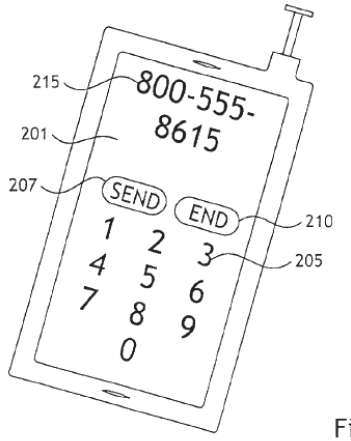
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Gupta discloses a "buttonless communication device" or "telephone," which is a mobile phone device. (Gupta at abstract, [0001], [0005], [0009], [0017], [0019], [0020], [0025], [0029], [0034], FIGS. 2-4, 8.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: "A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at abstract.) "The present invention relates generally to communications. More particularly, the present invention relates to telephone handsets." (Gupta at [0001].) "The present invention encompasses a communications device that transmits and receives communication signals. In the preferred embodiment, the communications device is a wireless radiotelephone for operation in a cellular system." (Gupta at [0005].) "FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].)

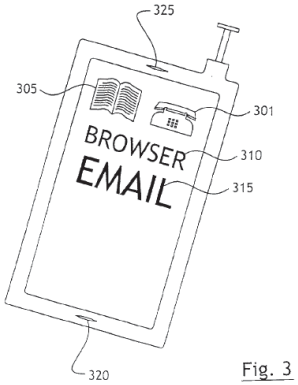
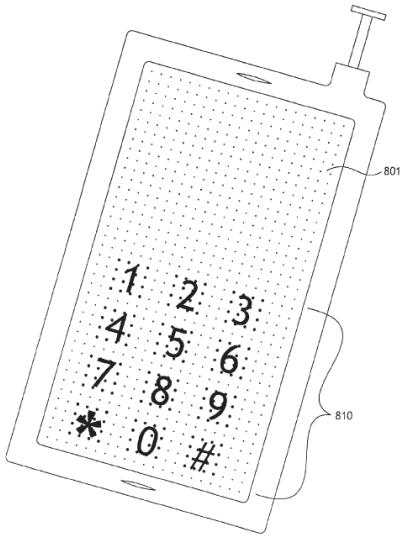
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].)

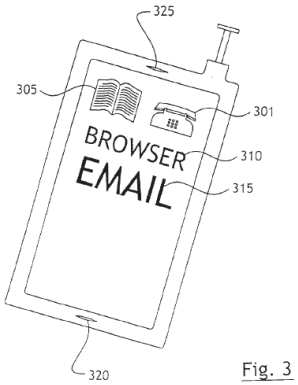
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320) built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].) "FIG. 5 illustrates a block diagram of the preferred embodiment of the present invention. The telephone is comprised of a transmitter (501) and receiver (505) that are coupled to an antenna (520). The antenna (520) receives the radiotelephone signals from the base station for the receiver (505) to demodulate into speech signals. The antenna (520) also transmits modulated signals from the transmitter (501) to the base station." (Gupta at [0034].) Gupta discloses the following at FIGS. 3, 4, and 8:  Fig. 3 (Gupta at FIG. 3)

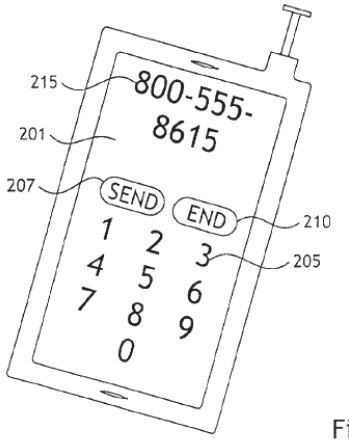
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

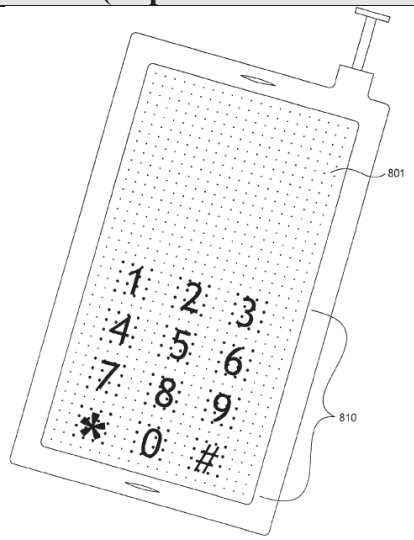
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, Gupta discloses a rectangular-shaped housing of a mobile phone. (Gupta at FIGS. 2-4, 8.) The housing includes components of a mobile phone, such as a receiver, a transmitter, a touchscreen display, a speaker, and a microphone. (Gupta at [0006], [0017], [0020], [0023], [0029], [0036].) The housing includes a front surface, a back surface, and four side surfaces. (Gupta at FIGS. 2-3, 8.)  Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: "The radiotelephone comprises a transmitter that converts electrical representations of sound signals into communication signals for transmission over a medium. A receiver receives communication signals that are converted into received electrical representations of sound signals." (Gupta at [0006].)

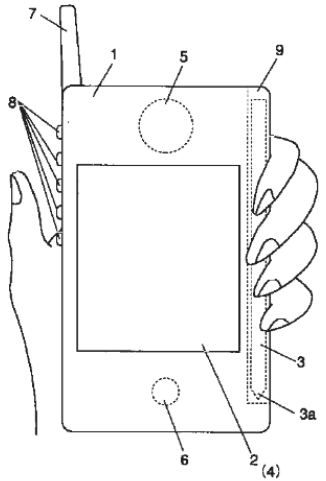
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320) built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].) "If the embodiment includes a microphone (520), it would be coupled to the transmitter (501) for modulation of the speech signal for transmission. Similarly, if the embodiment incorporated a speaker (525), it would be coupled to the receiver (505) for changing the demodulated signal received from the base station into an aural signal to be radiated by the speaker (525)." (Gupta at [0036].)

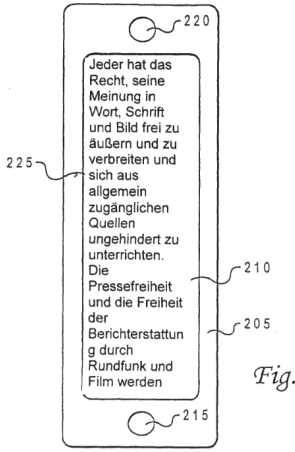
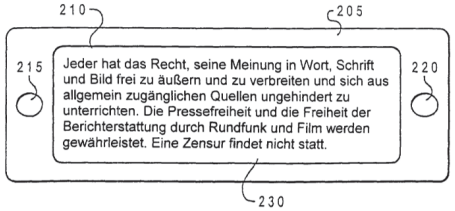
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta discloses the following at FIGS. 3 and 8:  Fig. 3 (Gupta at FIG. 3)  Fig. 8

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Gupta at FIG. 8)
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." A POSITA would have understood the length of Gupta's device would correspond to the distance between the ear and mouth of the user because the device may include a speaker at the top of the device to allow the user to hear conversations and a microphone at the bottom of the device to allow the user to speak to other parties. (Gupta at [0029].) Sizing a mobile phone based on the distance between a user's mouth and ear would have been obvious to allow the user to hold an end of the device containing the speaker against their ear and an end of the device containing the microphone near their mouth. (Gupta at FIGS. 2, 3, 9.)  (Gupta at FIG. 3) Additional exemplary citations include: "In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].) Gupta discloses the following at FIGS. 3 and 8:  Fig. 2 (Gupta at FIG. 2)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8) To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user.

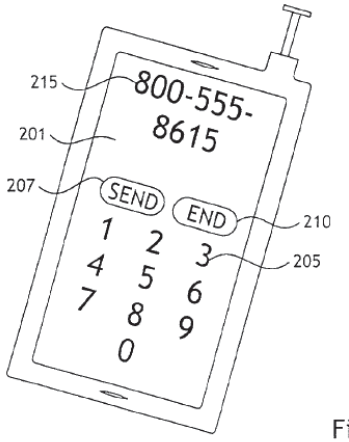
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1) 【図１】 1 装置本体 2 液晶表示部 3 ペン 4 タッチパネル部 5 スピーカー部 6 マイク部 7 アンテナ部 8 各種操作スイッチ 9 ペン収納部  (Yamaguchi at FIG. 1.)

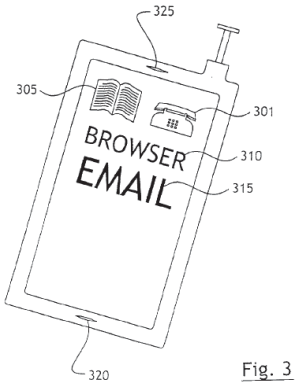
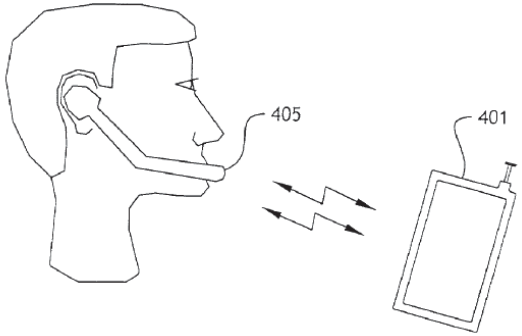
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Gupta such that the length of the front surface of the mobile phone, and correspondingly the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta, [0003].) A

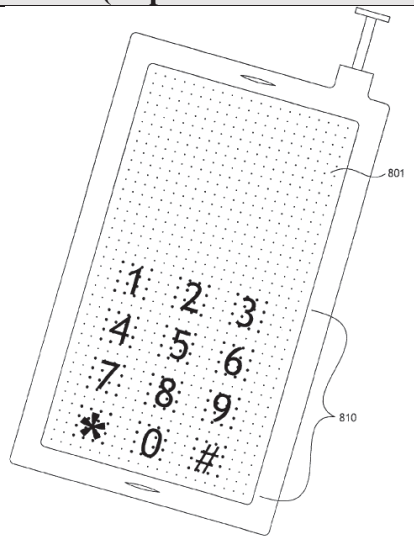
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (the mobile phone of Gupta with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.)

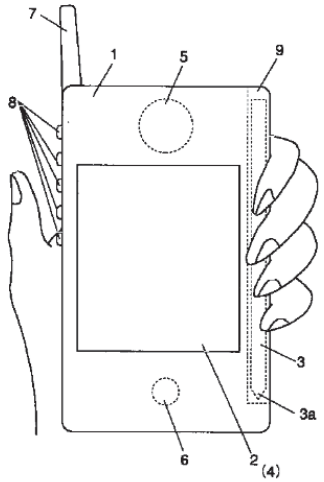
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) "A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].)

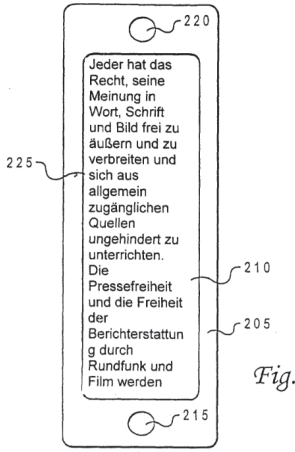
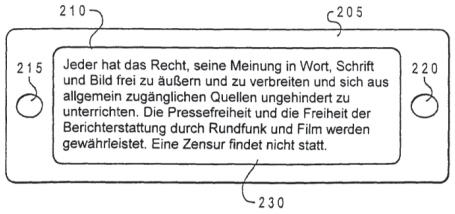
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)
[1c] wherein the width of the front surface is substantially shorter than the length and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length."

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Gupta discloses a mobile phone, including a front surface, where the width is shorter than the length. (Gupta at FIGS. 2-4, 8.)  Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: Gupta discloses the following at FIGS. 3, 4, and 8:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3)  Fig. 4 (Gupta at FIG. 4)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8) To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Yamaguchi and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi, discloses a mobile phone that is 100-150mm in length and 60-75mm in width. (Yamaguchi at [0009].) Yamaguchi explains that this mobile phone sizing improves portability and operability because it allows a user to store the phone in a pocket of clothing, hold it one hand, and operate the device with ease. (Yamaguchi at [0015], FIG. 1.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) For example, Dutta teaches that the ideal size for a mobile phone is determined by the typical ear-to-mouth distance of a user. (Dutta at [0003].) And Dutta further explains the result of this design motivation and consideration is that mobile phones themselves are "long and narrow," with "one edge length significantly larger than the other edge length." (Dutta at [0004], [0006], [0008], [0017], FIGS. 2A-2B.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone as disclosed by Gupta such that the width of the front surface is shorter than the length. Each of Yamaguchi and Dutta teaches configuring a mobile phone such that the width of the front surface is shorter than the length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	produced by the speaker during a phone call. As taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) Similarly, as explained by Dutta, the ideal size of a mobile phone is based on the distance between a user's ear and mouth, which naturally results in phones becoming long and narrow such that the length is longer than the width of the device. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone such that the width of the front surface is shorter than the length to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Yamaguchi and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Dutta into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Yamaguchi and Dutta according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Yamaguchi and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone such that the width to length dimensions are as taught by Yamaguchi and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include: "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been

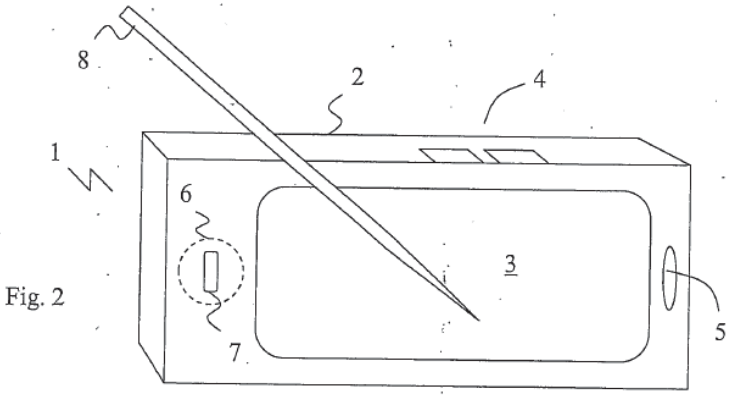
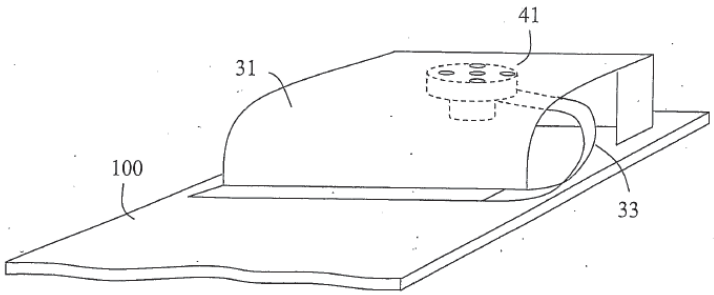
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A further object of the present invention is to provide an improved method of displaying data on a handheld device, in which one edge length of the display is significantly larger than the other edge length." (Dutta at [0008].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) *See also infra* claim [7].
[1d] wherein the housing has a thin thickness; and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the housing has a thin thickness." For example, Gupta explains that there is a need for "a small communications device." (Gupta at [0004].) A POSITA would have understood that to keep Gupta's telephone small, the thickness of the housing should be minimized. Additional exemplary citations include:

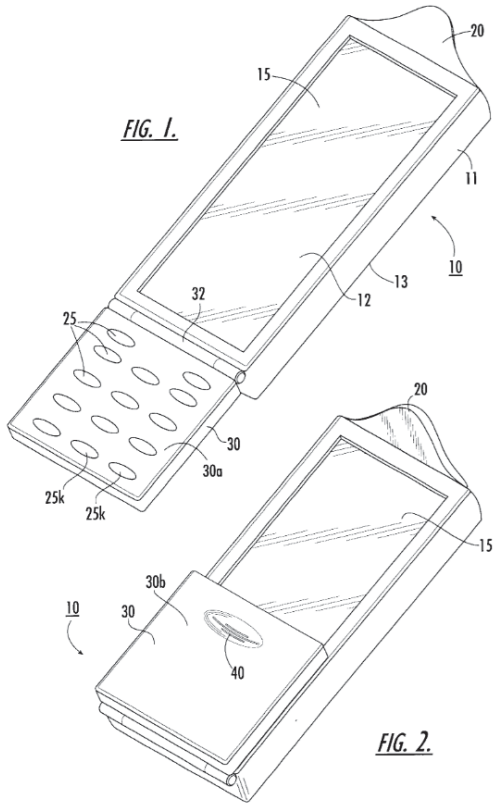
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or other wise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Wedel, Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Wedel, Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like. For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must have been thin. As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].) Dutta similarly teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires that the device is thin so that a user's hands can wrap around its edges. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the housing has a thinness as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.)

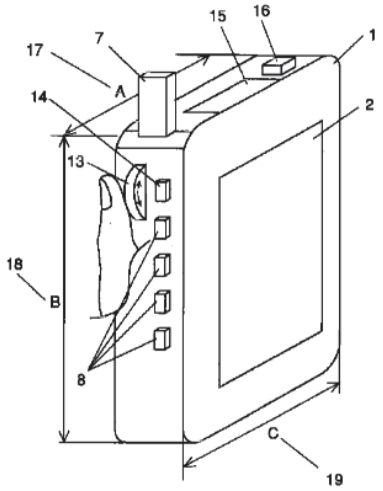
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Wedel discloses the following at FIGS. 2 and 11:  Fig. 2 (Wedel at FIG. 2)  Fig. 11 (Wedel at FIG. 11) "The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore, a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized"

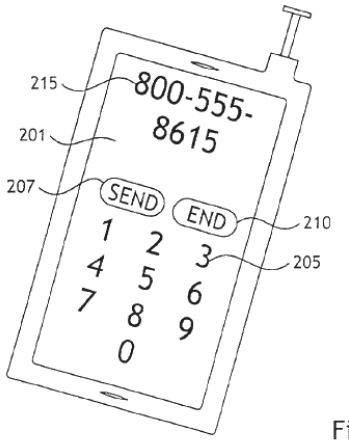
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.) "The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.) "Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and "rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].) "According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].) "Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6:

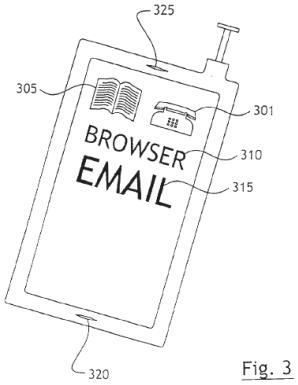
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図6】  "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) *See also infra* claim [8].
[1e] a display unit integrated within the front surface of said housing	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit integrated within the front

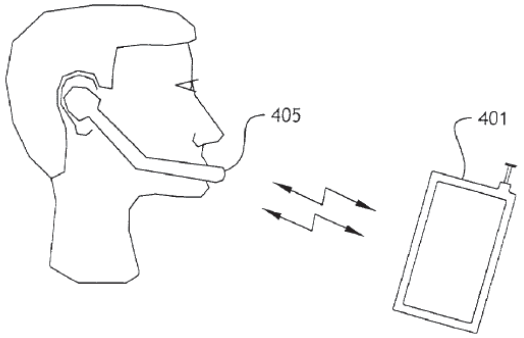
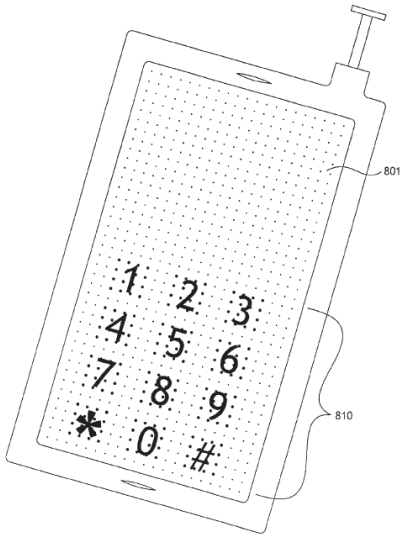
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
wherein said display unit practically covers the entire front surface of said housing;	surface of said housing wherein said display unit practically covers the entire front surface of said housing." For example, Gupta discloses a "full-length touchscreen display." (Gupta at [0015], [0017], [0020], [0023]-[0025], [0030], [0035], [0041], [0042], [0051], FIGS. 2-4, 8.) Additionally, Gupta explains that while the device remains small, the screen should be large enough for "practical information viewing." (Gupta at [0003], [0004], [0020],[0025], [0026], [0049].) A POSITA thus would have understood that the screen would cover the entire front surface of the device, such that it could be as large as possible.  Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].) "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or

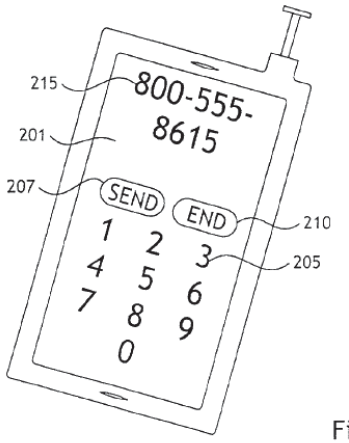
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "FIG. 8 shows a tactile response display screen of the present invention." (Gupta at [0015].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered, the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].) "The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "The touch sensor may also be a film layer of the tactile surface itself, or may include touch sensitive elements interspersed adjacent to the tactile dot elements So that neither the touch sensor nor the tactile display elements overlay the other. Other touch screens embodiments use grids of interruptible light beams, capacitive discharge sensors, and conductive grids sensing a circuit made across nearby nodes, all of which are considered herein to be structures (circuits and components) equivalent to each other." (Gupta at [0024].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the

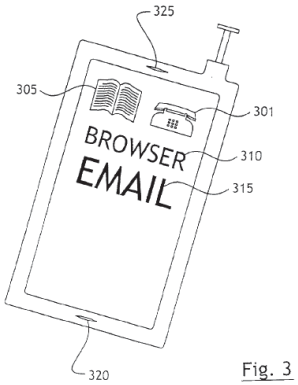
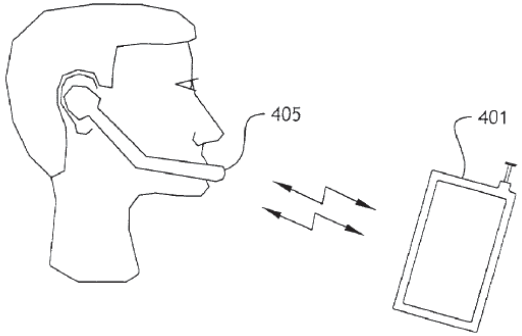
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "FIG. 4 illustrates an alternate embodiment of the present invention that uses a wireless headset (405) to communicate with the telephone (401) of the present invention. In order to reduce the size and weight of the telephone (401) and also to give more room for the display, this embodiment does not have a built-in speaker and microphone. Instead, the wireless headset (405) performs the same task as a built-in speaker and microphone." (Gupta at [0030].) "The telephone is controlled by a controller (510) that is coupled to the transmitter (501), receiver (505), and the touchscreen display (515) of the present invention. The controller (510), in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use other types of controllers such as microprocessors, application specific integrated circuits (ASIC), or other such controllers." (Gupta at [0035].) "As illustrated in FIG. 8, the display is comprised of a matrix of individually addressable dot or tactile elements. The elements are arranged in an evenly spaced grid covering the entire display. In an alternate embodiment, the tactile portion of the display is only on part of the display, such as the lower half, in order to provide a 'telephone keypad' area when in that particular mode. In the preferred embodiment, the elements are spaced less than 0.10 inch apart in order to allow the sensation of a continuous line." (Gupta at [0041].) "Each tactile element is switchable between an inactive position in which the dot is flush with the surrounding surface and an active position in which the dot is raised above the surrounding surface. The mechanism to provide this may be of any type including: electromechanical, electromagnetic, and switchable dimpled plastic film. In the preferred embodiment, the tactile display is transparent in order to permit the conventional liquid crystal display to be seen below the raised surface." (Gupta at [0042].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show

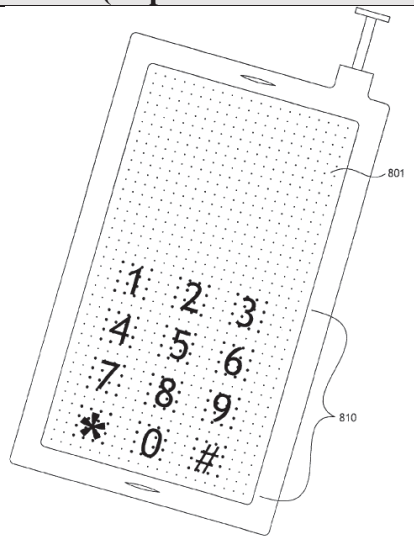
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].) Gupta discloses the following at FIGS. 3, 4, and 8:  Fig. 3 (Gupta at FIG. 3)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1f] wherein said mobile phone device does not include a physical key on the front surface, and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said mobile phone device does not include a physical key on the front surface." For example, Gupta discloses that its communications device is "buttonless." (Gupta at abstract, [0009], [0019], FIGS. 2-4, 8.) Gupta explains that rather than physical buttons or keys, its device allows input by contacting an area of the display screen. (Gupta at [0020].)  Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: "A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at abstract.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].) "FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) Gupta discloses the following at FIGS. 3, 4, and 8:

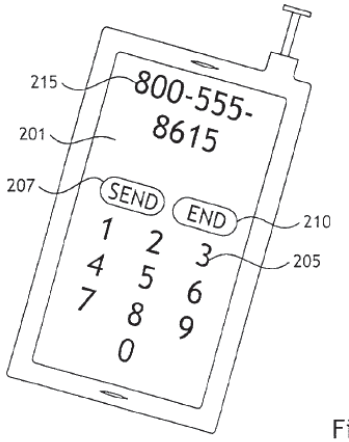
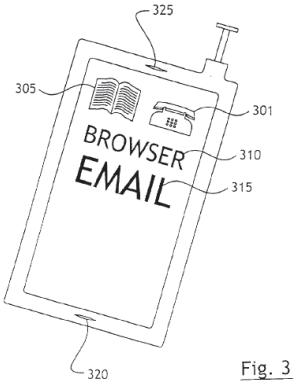
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3)  Fig. 4 (Gupta at FIG. 4)

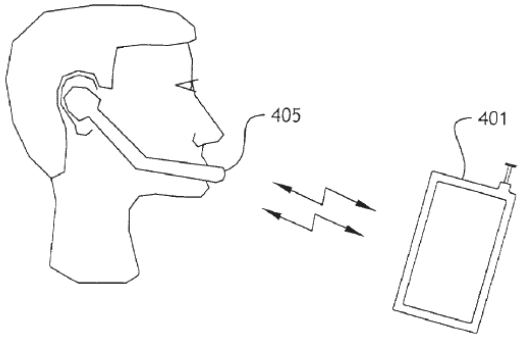
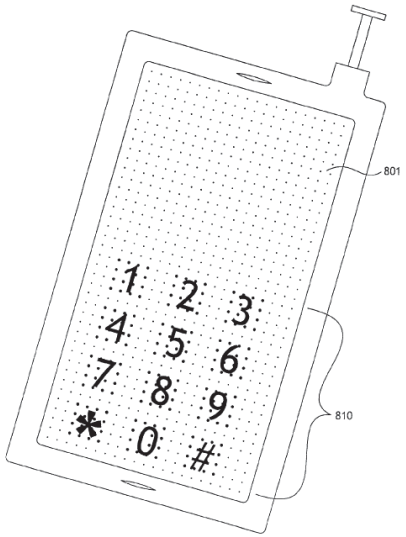
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8)
[1g] wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing." For example, Gupta discloses a "buttonless" mobile phone that does not require any physical button for enabling input. (Gupta at Title, Abstract, [0009], [0019].) Gupta recognizes the need to reduce the size of mobile phones while providing a display that is large enough for practical information viewing and easy data input. (Gupta at [0004].) To that end, Gupta uses a "full length" touchscreen display to replace the traditional fixed keypad. (Gupta at [0017], FIGS. 2 and 3.) Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at abstract.) "The functions of personal digital assistants and cellular telephones are merging. Devices are emerging that not only can hold addresses and phone numbers but can also communicate over the Internet through a wireless connection. This gives the user the ability to send e-mail, download stock quotes, look-up directions for travel as well as make telephone calls." (Gupta at [0002].) "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].) "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "A touch-screen display is comprised of icons that represent numbers. The icons are used to enter a number in response to a contact, on the display, over a particular icon to be entered. A controller controls the transmitter, the receiver, and the touch-screen display. The controller controls the operation of the communications device and comprises an apparatus that generates the icons representing numbers for display on the touch-screen display. The controller also comprises an apparatus that generates an accumulated telephone number in response to the particular icons contacted on the touch-screen display." (Gupta at [0008].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an "END" key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In the preferred embodiment, the user receives an aural feedback whenever a "key" is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each "key". The chosen

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "The process of the present invention is illustrated in FIG. 6. This process begins with the controller generating the icons indicating the different modes of the communication device (step 601). The controller then displays these icons on the touchscreen display. The user touches the telephone icon to put the communication device into the telephone mode (step 610). The controller reads the contact on the touchscreen display and, knowing the coordinates of the telephone mode icon on the display, puts the device into the telephone mode (step 615). Once in the telephone mode, the controller generates the number icons and causes the touchscreen display to display them in a keypad-style format (step 620). The controller also generates the other telephone keys, such as "send", "end", and the telephone number display and displays them in the proper format on the touchscreen display." (Gupta at [0037].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].) Gupta discloses the following at FIGS. 2-4, and 8:

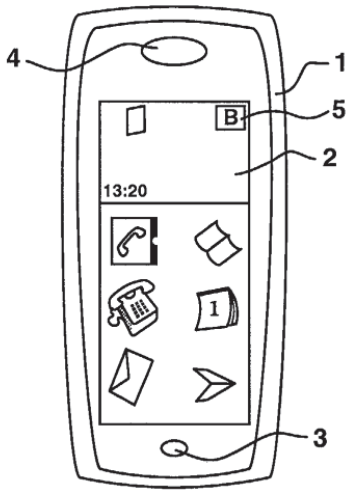
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Gupta at FIG. 2)  Fig. 3 (Gupta at FIG. 3)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Bast, Pensjo, Wedel, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Bast discloses a mobile phone that does not include components extended out from its housing. (Bast at FIG. 1.) Bast explains that the mobile phone device uses the touch screen and stylus for input and output, so there would be no need for any physical keyboard or buttons. (Bast at [0010], [0012], [0024].) As another example, Pensjo discloses a similar mobile phone that does not include components extended out from its housing. (Pensjo at FIGS. 1 and 3-5.) Pensjo's mobile phone uses a stylus and a virtual keyboard to enable user input, so there is no need to make any components (e.g., physical keyboard) extend out from the phone housing. (Pensjo at [0010], [0012], [0024].) For example, Wedel discloses a similar mobile phone that does not include components extended out from its housing. (Wedel at FIG. 2.). Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) Wedel thus discloses "a component which integrates [a] speaker and an antenna element." (Wedel at 1:22-25.) Wedel explains that by using a combined speaker and antenna component integrated within the housing of the mobile device "space savings" may be achieved. (Wedel at 8:44-55.) Because Gupta addresses the desirability of a smaller device, a POSITA would have found it obvious to integrate Wedel's combined speaker-antenna component into Gupta's device. (Gupta at [0004].)

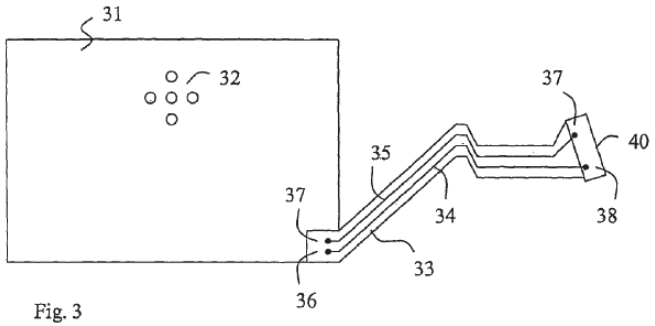
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Dutta discloses a similar mobile phone that does not include components extended out from its housing. (Dutta at FIGS. 2A and 2B.) Dutta teaches that there was a continuing effort to reduce the mobile phones' sizes in order to make them more portable. (Dutta at [0002].) Particularly, Dutta teaches that the mobile phones were commonly designed to have a long, narrow shape. (Dutta at [0004].) To that end, it is useful not to let the phone's components extend out from its housing. A POSITA would have been motivated to configure a mobile phone to ensure no component extended out from the phone's housing, so as to make the phone easy to fit into a pocket such as by using a combined speaker-antenna component integrated into the housing of the device. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Bast, Pensjo, Wedel, and Dutta. A POSITA would have been motivated to configure a phone accordingly in order to reduce the size of the device, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Bast, Pensjo, Wedel, and/or Dutta into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (integrating a combined speaker-antenna component into Gupta's mobile device as taught by Wedel and suggested by Bast, Pensjo, and Dutta) according to known methods to yield predictable results (reducing the size of the device); (B) use of a known technique (integrating a combined speaker-antenna component into the housing of a mobile device as taught by Wedel and suggested by Bast, Pensjo, and Dutta) to improve similar devices in the same way (reducing the size of the device); (C) applying a known technique (integrating a combined speaker-antenna component into the housing of a mobile device as taught by Wedel and suggested by Bast, Pensjo, and Dutta) to a known device ready for improvement to yield predictable results (reducing the size of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Pensjo, Wedel, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker

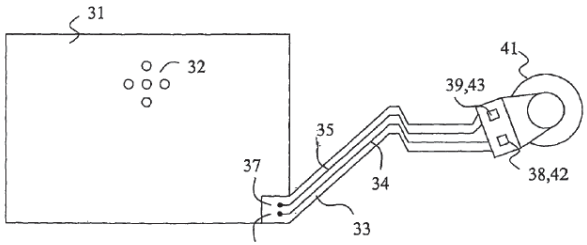
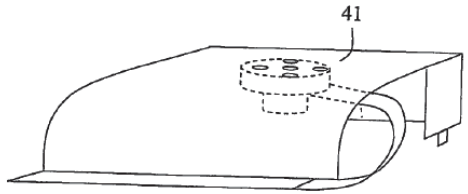
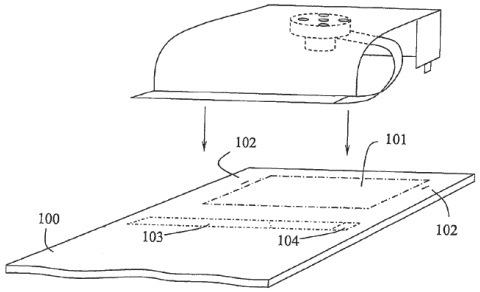
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "To enable the user to discretionally toggle from one display to the other, as is considered to be more suitable at a given time, the mobile terminal can be equipped with a toggle button. This button can be a conventional button disposed on the housing or a virtual toggle button 5, accessible to the user and permanently displayed, in the form of an icon on the touch screen 2 (Figures 1 to 3). An equivalent function is accessible by means of a menu." (Bast at [0012].) "Calibration essentially consists of determining the vertical position of the device. This calibration can be carried out automatically or manually. In one preferred embodiment, the robustness of the system is increased by combining the two calibration modes." (Bast at [0018].) "A small mechanical switch (not shown) disposed at the base of the housing 1 enables the orientation of the terminal to be manually calibrated. When the user places the terminal vertically on a table or any other horizontal surface 10, the switch closes and the central processing unit 7 considers the corresponding position to be the vertical position." (Bast at [0020].) "If the screen 2 is a touch screen, the housing's orientation detector can be associated with a virtual toggle button, thus enabling the user to change the current display mode." (Bast at [0024].) Bast discloses the following at FIG. 1:

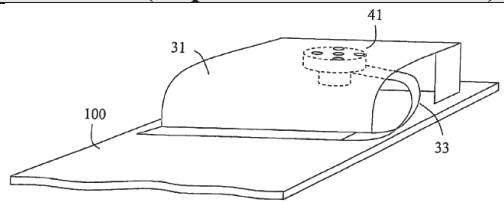
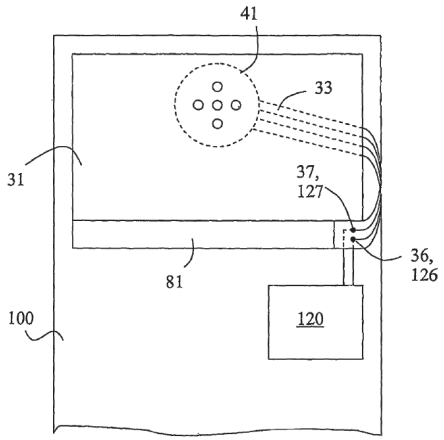
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Figure 1 "The present invention relates generally to a communication terminal comprising an antenna for wireless communication purposes, and a speaker for conveying audio information to a user of the communication terminal. More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:19-25.) "Yet another aspect of this object is to provide such a speaker arrangement integrated with an antenna element of the terminal, in a way that does not impede antenna performance. According to a first aspect of the present invention, this object is filled by an integrated speaker and antenna element carrier for a communication terminal, comprising a sheet of a flexible film having a conductive first portion forming an antenna element, and an elongated second portion carrying a conductive lead extending from adjacent to said first portion to a speaker connection pad at an outer end of said elongated second portion." (Wedel at 2:60-3:4.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"According to a second aspect of the present invention, the stated object is fulfilled by a combined speaker and antenna arrangement for a communication terminal, comprising a support structure carrying a first antenna element and a second antenna element arranged at a predetermined distance from said first antenna element, wherein said second antenna element is a conductive first portion of a sheet of flexible film, wherein an elongated second portion of said flexible film, carrying a conductive lead, extends from adjacent to said first portion to a speaker connected to an outer end of said elongated second portion." (Wedel at 3:28-38.) "According to a third aspect of the present invention, the stated object is fulfilled by a radio communication terminal, comprising a combined speaker and antenna arrangement as recited above." (Wedel at 4:7-10.) "FIG. 3 illustrates an integrated speaker and antenna element carrier according to an embodiment of the present invention;" (Wedel at 4:40-42.) "FIG. 5 illustrates an integrated speaker and antenna element carrier according to FIG. 3 with a speaker attached;" (Wedel at 4:45-46.) "The present description refers to communications terminals as a device in which to implement the speaker configuration according to the present invention. The communication terminal includes all mobile equipment devised for radio communication with a radio station, which radio station also may be a mobile terminal or e.g. a stationary base station. Consequently, the term 'communication terminal' includes mobile phones, pagers, communicators, electronic organisers, smart phones, PDA:S (Personal Digit Assistants), vehicle-mounted radio communication devices or the like, as well as portable laptop computers devised for wireless communication in for instance WLAN (Wireless Local Area Network). Furthermore, since the design and present invention is suitable for but not restricted to mobile use, the term 'communication terminal' should also be understood as to include any stationary device arranged for radio communication, such as for instance desk top computers, printers, fax machines and so on, devised to operate with radio communication with each other or some other radio station. Hence, although the structure and characteristics of the combined antenna and speaker design according to the invention is mainly described herein, by way of example, in the implementation in a mobile phone, this

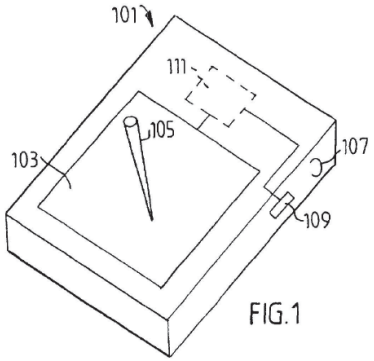
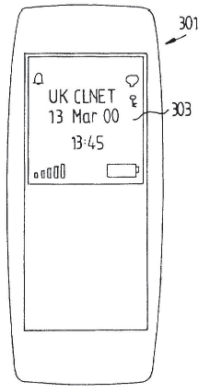
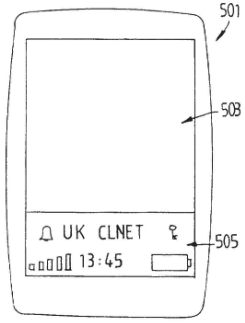
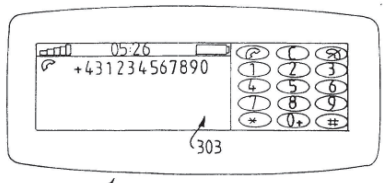
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	is not to be interpreted as excluding the implementation of the inventive design in other types of radio terminals, such as those listed above. Furthermore, it should be emphasised that the term 'comprising' or 'comprises' when used in this description and in the appended claims to indicate included features, elements or steps, is in no way to be interpreted as excluding the presence of other features, elements or steps than those expressed or stated." (Wedel at 4:64-5:27.) "FIG. 3 illustrates a basic device according to the invention, constituting a combined antenna element and speaker carrier. A sheet of flexible film in an electrically non-conductive material is provided. The material is preferably some form of polymer, e.g. a polyimide such as Kapton®. The film has a first portion 31 which preferably represents a major portion of the surface of the film. In the illustrated exemplary embodiment, first portion 31 is rectangular, but it may have alternative shapes dependent on the particular application. First portion 31 has a coating or layer of electrically conductive material. Such as copper, and first portion 31 represents an antenna element 31 for a radio antenna. In a preferred embodiment, first portion 31 is a single and continuous conductive area, usable as a ground plane for a radio antenna. Alternatively, the first portion 31 may be an active antenna element with a (not shown) structure defining resonance for suitable radio frequencies. This will be further described below." (Wedel at 5:28-45.) "FIG. 5 illustrates the device according to FIG. 3 when connected to speaker 41 of FIG. 4. Distal connection pad 38, which constitutes a speaker connection pad 38, is connected to speaker connector 42, whereas distal connection pad 39, which constitutes a speaker connection pad 39, is connected to speaker connector 43. The speaker 41 may also be mechanically fixed to outer end 40, e.g. by clamping on the outer end 40 of the film. FIG. 5 illustrates a combined speaker and antenna element 50, representing a single component with two distinctly different technical features. As will be described below, the combined device according to FIG. 5 provides a structure with several advantages, as will become clear. The following description defines the use of the present invention in a radio communication terminal, and particularly on the application of the present invention in a mobile phone. However, as previously outlined, the present invention is not restricted to this field, which is to be regarded as a suitable application." (Wedel at 6:27-44.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated. Furthermore, even though the antenna cavity 21 has been partly occupied by the speaker, experimental laboratory tests on this design have surprisingly shown that the presence of the speaker will not result in reduced antenna performance if tuned properly. The use of hot bar soldering will not lead to bulging Solder pads, which also contributes to saving space. Second, a single component having plural functions, i.e. providing an antenna element, leads to a speaker, and pads for connection both to the speaker and speaker control circuitry, provides a logistics advantage since fewer details are involved in the assembly. By the proposed design the amount of metal in the vicinity of the antenna is minimised, since no extra contacts or wires to the speaker are needed, and very little metal is included in the thin and narrow leads formed on the film. This means less negative impact on the performance of the antenna." (Wedel at 8:40-65.) Wedel discloses the following at FIGS. 3, 5, and 9-12:  Fig. 3 (Wedel at FIG. 3)

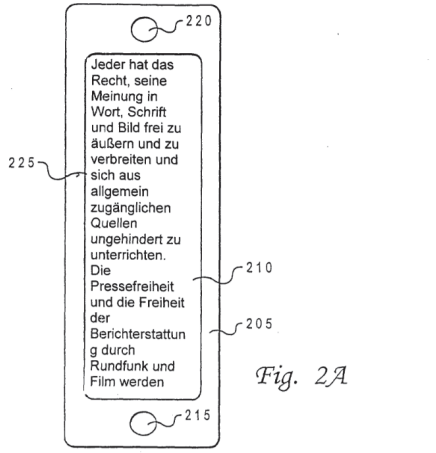
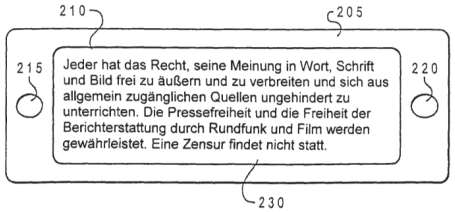
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 5 (Wedel at FIG. 5)  Fig. 9 (Wedel at FIG. 9)  Fig. 10 (Wedel at FIG. 10)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 11 (Wedel at FIG. 11)  Fig. 12 (Wedel at FIG. 12) "Fig. 1 illustrates a view of a portable device 101 comprising a touch sensitive screen display 103 used for input of operational commands and/or data. The device 101 further includes a pen 105 as a pointing tool for touching specific areas of the screen display 103 in a predefined manner. When not in use, the pen can be placed in a pen holder 107 of the portable device. The pen holder is in this example placed on the side of the device and comprises a ring for receiving the pen. The pen holder may of course be designed and placed in many different ways within the scope of the invention, such as a recess together with some kind of a spring-like element. The device 101 further comprises a mechanism 109 for detecting whether the pen is located in the holder or not, and an electronic control unit 111 connected

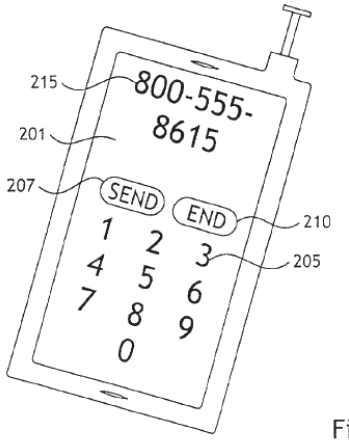
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	to the pen detecting mechanism 109. The control unit 111 operates to control circuits, not shown, for displaying various patterns, pictures and/or information on the screen display 103." (Pensjo at [0008].) "Fig. 3 is a view of an exemplary mobile telephone 301 comprising a touch screen display 303 being in a sleep mode due to the presence of a pen in a pen holder, not shown. the layout of the screen display 303 is in a "portrait" format." (Pensjo at [0010].) "Fig. 4 is a view of the mobile telephone 301 of Fig. 3 after the pen has been removed from the pen holder. In this example, the layout of the screen display 303 has been changed into a "landscape" format including a numeric keyboard." (Pensjo at [0011].) "Finally, Fig. 5 is a view of an exemplary electronic device 501, comprising a touch screen 503, where the device has changed from a sleeping mode into an active mode in response to the pen being removed from the pen holder, not shown. The user may be alerted of the change into the active mode by illuminating, e.g., the lower part 505 of the screen 503." (Pensjo at [0012].) "According to one aspect of the invention, the device is in a first passive mode, or sleep mode, when the pen is present in the pen holder 107. In this state, the touch functionality of the screen is preferably not activated such that data or commands cannot be entered by mistake, e.g., when the device is located in a pocket or a suitcase. The screen may in this mode display various information, such as phone numbers, e-mails, reminder alerts etc. When the device switches from the first mode to a second active mode after the pen has been removed from the pen holder 107, the screen appearance changes into a layout designed for input of commands and/or data and also the touch functionality of the screen is activated." (Pensjo at [0013].) Pensjo discloses the following at FIGS. 1 and 3-5:

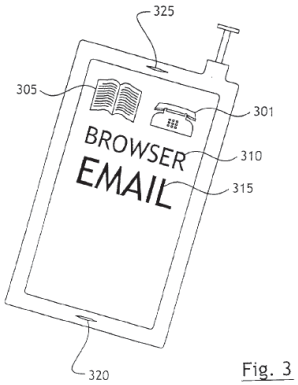
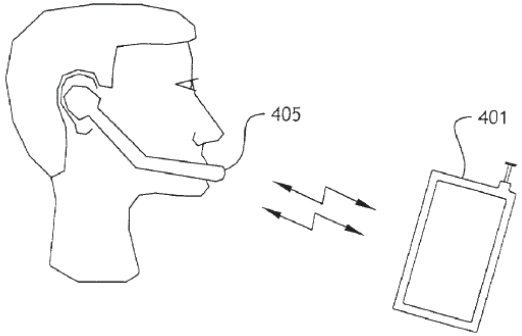
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG.1  FIG.3  FIG.5  FIG.4

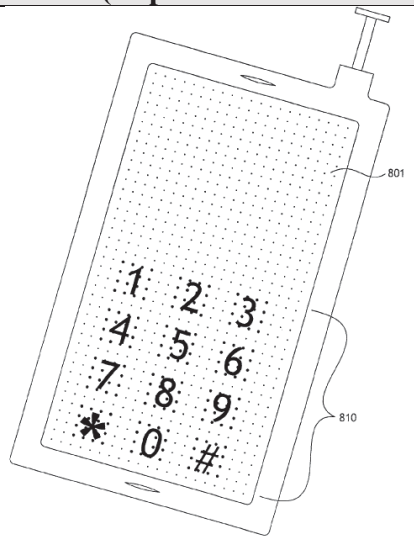
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].) "The difference between these two figures consists in the representation of data 225 and 230 on the display 210. In Fig. 2A, the data 225 are depicted such that the text is read in portrait format of the display 210, as is usual in current mobile phone models. It is clear that reading is problematic in this format of the display." (Dutta at [0019].) "However, in Fig. 2B, the representation of the data 230 has been rotated by 90 degrees so that they are shown on the display 210 in landscape format. In this case the data 23 are significantly easier to read." (Dutta at [0020].) Dutta discloses the following at FIGS. 2A and 2B:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B*

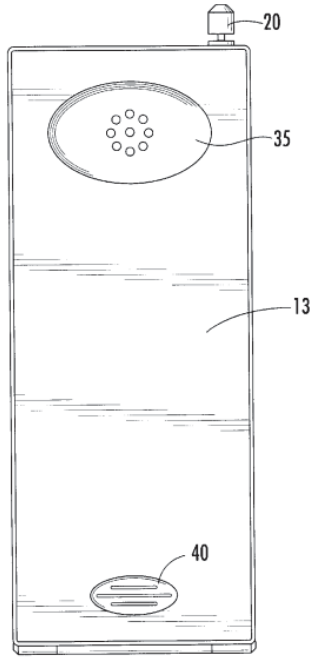
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2pre] The device of claim 1,	Claim 2 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 2 are anticipated and/or obvious for the same reasons set out in claim 1. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

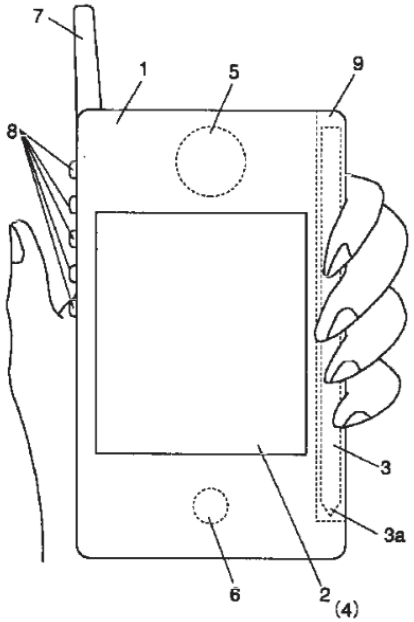
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[2a] wherein said practically rectangular shape has rounded corners.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." For example, Gupta discloses a housing wherein the corners have slightly rounded edges. (Gupta at FIGS. 2-4, 8.)  Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: Gupta discloses the following at FIGS. 3, 4, and 8:

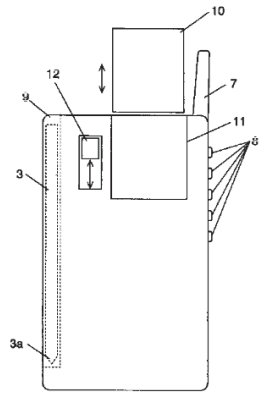
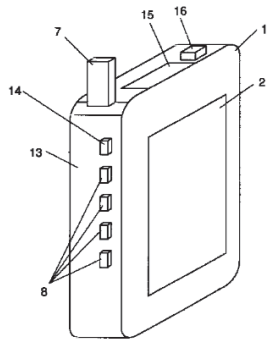
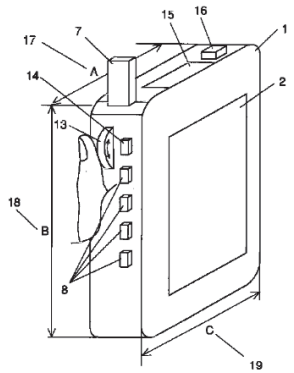
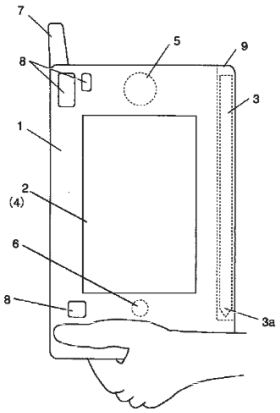
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3)  Fig. 4 (Gupta at FIG. 4)

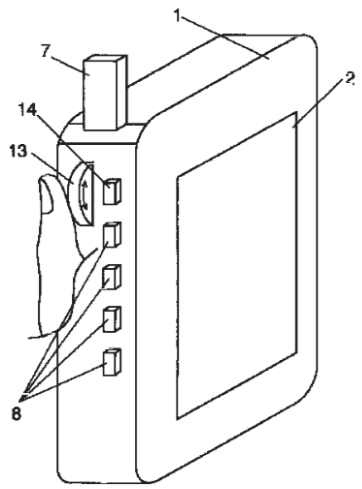
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8) To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Rydbeck discloses a mobile phone housing that is generally rectangular and includes rounded corners. (Rydbeck at FIG. 3.)

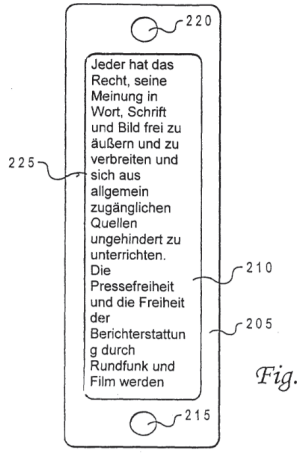
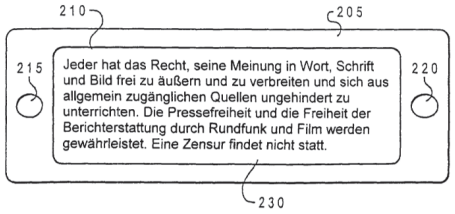
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Yamaguchi discloses a mobile phone device having a rectangular housing with rounded corners. (Yamaguchi at FIGS. 1, 3-7). As a further example, Dutta discloses a mobile phone having a rectangular housing with rounded corners. (Dutta at FIGS. 2A-2B.) A POSITA would have been motivated to configure a mobile phone such that the housing has rounded corners to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to round the corners in order to improve user experience and make the design more ergonomical. Thus, a POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (a housing with rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the user experience and ergonomics of a mobile phone); (B) use of a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and ergonomics); (C) applying a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device ergonomics); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include: Rydbeck discloses the following at FIG. 3:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 3. Yamaguchi discloses the following at FIG. 1:

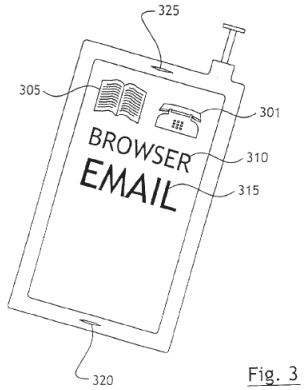
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体 2 液晶表示部 3 ペン 4 タッチパネル部 5 スピーカー部 6 マイク部 7 アンテナ部 8 各種操作スイッチ 9 ペン収納部  Yamaguchi discloses the following at FIGS. 3 and 5-7:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図３】  【図５】  【図６】  【図７】  Yamaguchi discloses the following at FIG. 4:

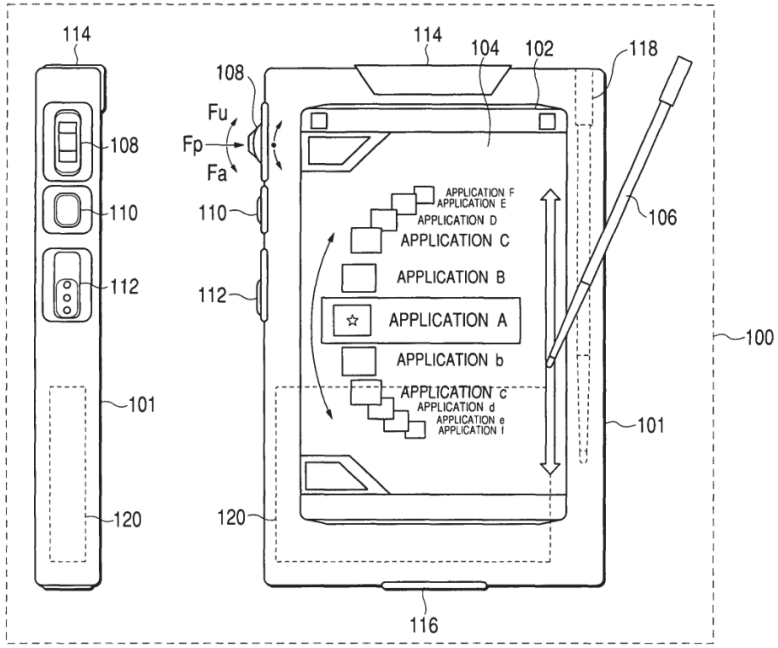
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図4】  Dutta discloses the following at FIGS. 2A-2B:

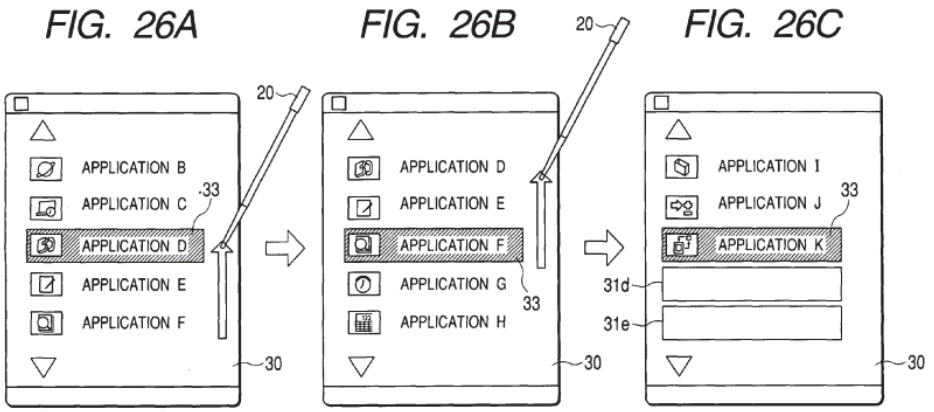
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B*

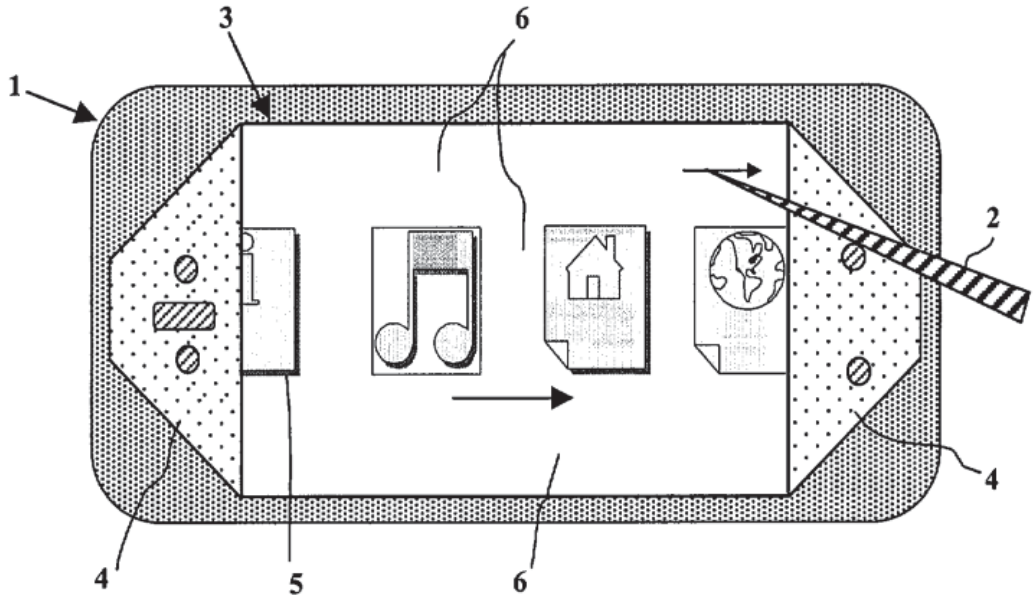
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3pre] device of claim 1	Claim 3 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 3 are anticipated and/or obvious for the same reasons set out in claim 1. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[3a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." For example, Gupta discloses that the display may show various icons corresponding to a plurality of applications, such as a "telephone mode icon," a "phone book icon," a "browser icon," and an "email icon." (Gupta at [0025], [0026], [0028], FIG. 3.)  (Gupta at FIG. 3) Additional exemplary citations include: "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "Also illustrated in FIG. 3 is the email icon (315) for accessing the email program of the telephone of the present invention. By touching the screen over this icon, the telephone runs the email program that allows the user to enter and send emails using the wireless telephone." (Gupta at [0028].)
[3b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." It would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Nakano and/or Benoit to display a plurality of other applications upon a user action on the display unit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Nakano discloses a mobile phone that includes a touch panel 104. (Nakano at 2:49-51, FIG. 1.) Nakano teaches a method of improving the control of a menu display by using said touch panel. (*Id.*) The touch panel is integrated into the display of the portable device disclosed by Nakano,

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	which may be a mobile phone. (Nakano at 7:20-39.) Nakano teaches using a drag operation to control the display of various entities shown on the display. (Nakano 7:40-52.) The drag operation taught by Nakano may comprise drawing a finger across the display panel or using a stylus to do the same. (Nakano at 7:57-8:16). Nakano teaches that programming a device, display, and touch panel in this way allows for improved control of display entities that are shown on the display. (Nakano at 8:50-54). The display entities disclosed by Nakano may correspond to programs, also known as applications, that can be activated and executed by the device. (Nakano at 8:65-9:6.) FIG. 1  (Nakano at FIG. 1)

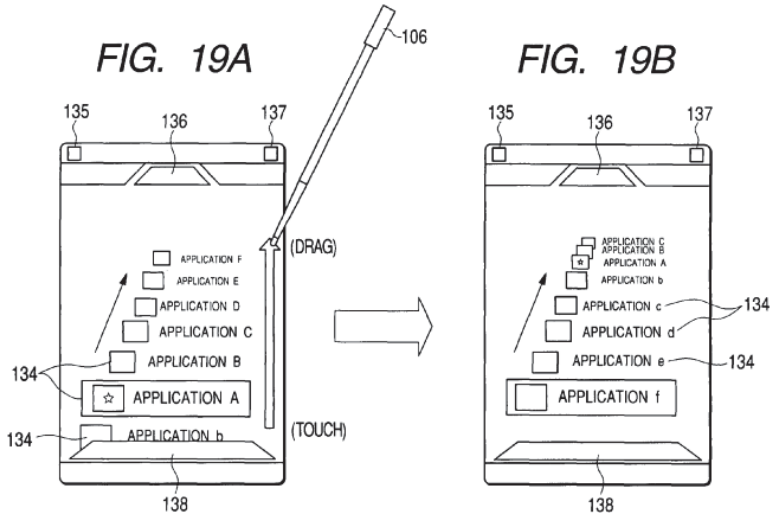
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Thus, Nakano teaches programming a device, such as a mobile phone, so that is operative to allow a user to slide a finger or stylus pen across a menu screen, displaying a plurality of application icons in the form of menu items. (Nakano at 15:66-16:10). A dragging operation, also known as a sliding operation, allows a user to move the menu items displayed in various directions across the screen. (Nakano at 25:40-47, FIGS. 19A-19B.) As shown in FIGS. 26A-C, menu items, also known as application icons, that are not originally shown on the display may be displayed based on a dragging or sliding input from a user. (Nakano at 28:36-29:10, FIGS. 26A-C.)  (Nakano at FIGS. 26A-26C.) As another example, Benoit teaches a display used in a mobile phone that can display a series of icons that correspond to programs and respond to a sweeping input to display a plurality of additional icons. (Benoit at (cover page, 57).) Benoit further teaches that it is desirable to display large icons corresponding to applications, making them easily distinguishable. (Benoit at 2:17-18.) And the dexterity needed to control the display of application icons is reduced because the control input can be made across the entire screen, including the area where the application icons are shown. (*Id*.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit. Configuring a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (combining a display unit, as disclosed by Gupta, with the ability to display of a plurality of additional application icons in response to a sweeping action into the mobile phone, which is operative to display a plurality of application icons, as disclosed by Nakano and Benoit) according to known methods to yield predictable results (improved

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include: "The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:49-51.) "The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano 7:40-52.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a "tap-in" and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a "tap-out". The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a "tap". According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity).” (Nakano at 7:57-8:16). “According to the invention, the following advantage is obtained. Information display entities are arranged on a virtual face. Scroll display is allowed by moving a virtual camera whose line of sight faces the virtual face, thus more readily allowing scroll control in a virtual space.” (Nakano at 8:50-54). “The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means.” (Nakano at 8:65-9:6.) “The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection.” (Nakano at 15:66-16:10).

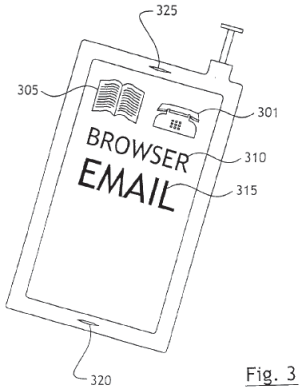
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In FIG. 19A, a menu item in the middle of the menu is in the selection state. Menu items preceding and following the item are three-dimensionally represented in one-point perspective in the upward direction in the screen. Dragging with the stylus pen 106 in the upward direction so as to slide the menu display in the upward direction causes the menu panel 134 to move in the upward direction along the one-point perspective, for example, as shown in FIG. 19B." (Nakano at 25:40-47.) "In FIG. 26A, the menu display area 31 a displays "Application B", the menu display area 31 b displays "Application C", the menu display area 31 c displays "Application D", the menu display area 31 d displays "Application E", and the menu display area 31 e displays "Application F", respectively. In the selection candidate display area 32, that is, in the menu display area 31 c, the focus 33 is overlaid on Application D. The Application D is a candidate for selection. In the menu screen 30, dragging the stylus pen 20 in the upward direction scrolls through the menu display entities in the menu screen 30 as shown in FIG. 26B. In FIG. 26B, the menu display area 31 a displays "Application D", the menu display area 31 b displays "Application E", the menu display area 31 c displays "Application F", the menu display area 31 d displays "Application G", and the menu display area 31 e displays "Application H", respectively. The menu display entities on the screen are scrolled though in the upward direction by two rows. On the menu display entity displayed in the selection candidate display area 32, that is, on Application F, is overlaid the focus 33. The Application F is a candidate for selection. Dragging with the stylus pen 20 refers to an operation (including standstill state) of sliding the stylus pen 20 on the LCD panel 11 with the tip of the stylus pen 20 in contact with the LCD panel 11. In FIG. 26B, further dragging in the upward direction further scrolls through the menu entities on the screen in the upward direction. As shown in FIG. 26C, when the lowermost menu display entity (Application K in the figure) reaches the selection candidate display area 32, the scroll comes to a halt. In FIG. 26C, the menu display area 31 a displays "Application I", the menu display area 31 b displays "Application J", and the menu display area 31 c displays "Application K", respectively. On the menu display entity displayed in the selection candidate display area 32, that is, on Application K, is overlaid the focus 33. The Application K is a candidate for selection. While a drag is made in the upward direction in FIGS. 26A through 26C, the same applies to a drag in the downward direction. That is, as shown in FIG. 27A, dragging in the downward direction scrolls through the menu display entities in the downward direction. As shown in FIG. 27B, when the uppermost menu display entity (Application A in the figure) reaches the selection candidate display area 32, that is, the menu display area 31 c, the scroll comes to a halt. While the drag operation is made

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	in the rightmost area of the menu screen 30 for clarity in FIGS. 26A through 26C and FIGS. 27A and 27B, the drag operation is allowed across the menu screen 30 as shown in FIG. 31 in practice." (Nakano at 28:36-29:10.) Nakano discloses the following at FIGS. 19A-B:  "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (cover page, 57).) "In addition, the use of a touch screen generates another serious problem. That is, because the icons and drop-down menus are generally fixed, the user always uses their finger or a stylus to point at the

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	same small areas of the touch screen. This leads, therefore, to local damage, decalibration, and premature wear of the touch screen. The object of this invention is to ameliorate the disadvantages of the aforementioned systems and to propose a human-machine interface with a touch screen in which navigation is simplified. Another object of the invention is to limit the premature decalibration of touch screens. The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon. Preferably, the control area is extended so as to distribute the touch points and prevent the premature wear of the touch screen over the defined areas. The entire surface of the touch screen not covering an icon can be expected to constitute the control area. Thus, the control is no longer localized in a limiting manner. Unlike the prior art, the scrolling of icons allows these icons to be shown at a large size such that they are easily distinguishable. With such a method according to the invention, the fact of having an extended control area prevents the constant use of certain small areas of the screen. According to an advantageous characteristic of the invention, the touch command for scrolling the series of icons comprises a touch followed by a directional movement. The scrolling speed and direction are defined by the point of contact and the projection into the scrolling direction of a vector obtained as a result of the directional movement. The point of contact can be anywhere over the entire extended control area. The icons can be shown independently of each other, whether attached or embedded in a scrolling banner, and representing, for example, a landscape.

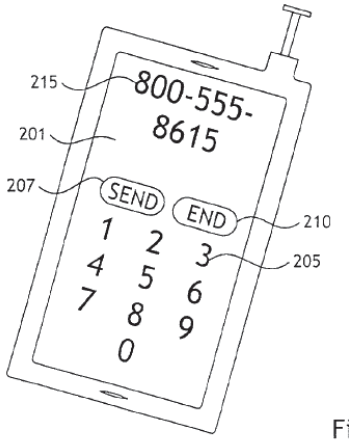
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen. These icons can be scrolled to show the icon representing the application intended to be launched in the foreground in the center of the screen. According to a preferred embodiment of the invention, the icons scroll along a virtual circle inscribed in a plane perpendicular to the plane of the screen. Scrolling then makes it possible to show each icon on the screen successively, with the other icons remaining in the background. In this case, it is possible to envisage that only the icon shown on the touch screen is capable of launching an application. It is also possible to envisage that all the icons remain permanently visible on the touch screen during scrolling. As such, all the icons may be active. According to an advantageous embodiment of the invention, the scrolling of a series of icons may exhibit inertia as a function of the scrolling speed. Consequently, when a user lifts their finger or stylus from the touch screen, the scrolling continues for a few short moments based on the movement made by that user to carry out the scrolling. According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 2:1-3:24.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
[4pre] The device of claim 3	Claim 4 depends from claim 3. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 3 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 3 to show the additional limitations of claim 4 are anticipated and/or obvious for the same reasons set out in claim 3. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

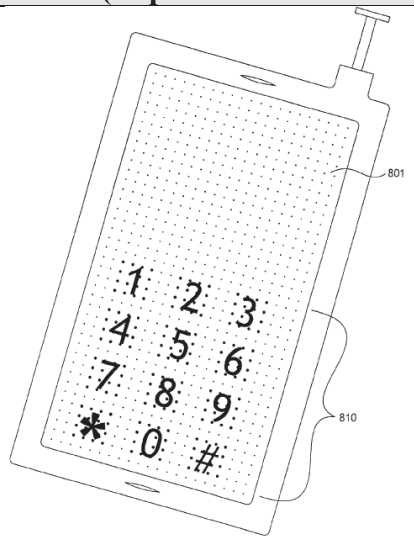
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 3." *See supra* claim [3].
[4a] wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit." For example, Gupta discloses that an application may be activated (opened) by touching the icon corresponding to the application, a predefined interaction. (Gupta at [0025], [0028], FIG. 3.)  Fig. 3 (Gupta at FIG. 3) Additional exemplary citations include: "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].)

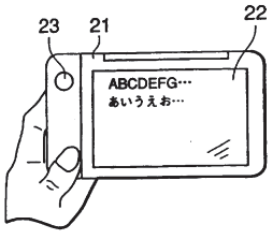
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Also illustrated in FIG. 3 is the email icon (315) for accessing the email program of the telephone of the present invention. By touching the screen over this icon, the telephone runs the email program that allows the user to enter and send emails using the wireless telephone." (Gupta at [0028].)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5pre] The device of claim 1	Claim 5 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 5 are anticipated and/or obvious for the same reasons set out in claim 1. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[5a] wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." For example, Gupta discloses that data may be entered using a virtual keyboard. (Gupta at [0020]-[0022], [0026], [0051], FIGS. 2, 8.) Gupta explains that the entered data may include "alphanumerical symbol[s]," or text. (Gupta at [0021].) Gupta further notes that the keyboard is not "fixed." (Gupta at [0026], [0051].) Accordingly, a POSITA would have understood that the keyboard, and the text entered by it, may be displayed in different places or orientations, such as in either portrait or landscape mode, as was known in the prior art.

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered, the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].) "In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].) Gupta discloses the following at FIG. 8:

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8) To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Kobayashi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. As another example, Kobayashi discloses a similar device to that disclosed by Gupta and provides relevant teachings. Kobayashi teaches that is beneficial to have display which is operative to automatically adjust to the orientation it is being held in by the user. (Kobayashi at 2:5-23; see also *id.* at 19:25-20:4, FIGS. 4A, 4B.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Fig.4a  Fig.4b  "In this manner, the display screen on the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:25-20:4.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone to display text in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Kobayashi. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily read text regardless of phone orientation, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Kobayashi into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (aligning the display orientation to the phone orientation, as taught by Kobayashi) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (reorienting the display based on device orientation as taught by Kobayashi) to improve similar devices in the same way (a mobile phone that allows a user to easily review text); (C) applying a known technique (reorienting the display based on device orientation as taught by Kobayashi) to a known device ready for improvement to yield predictable results (a mobile phone); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Kobayashi) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include: "The orientation at which data is displayed on portable terminal device is altered by detecting where the device is being held by a user. Pressure sensors or photo cells along two edges of the device may be used to alter the orientation by 90°. The orientation of data on the display may also be altered according to which function is being used or by operating a switch. Alternatively the device may have a plurality of displays at different orientations which may be used according to the way in which the terminal is being used. The portable terminal device may be a selective call receiver or a mobile telephone." (Kobayashi at Abstract.) "in view of the above-mentioned problems, in a preferred embodiment the present invention enhances an operability by controlling the direction of screen display on the display in accordance with whether or not the user's fingers and palm come into contact with a pressure sensor or a photo-detection sensor on any surface of a portable terminal device body." (Kobayashi at 13:14-19.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"When the mobile information terminal 31 is longitudinally used and held, the pressure sensors 33 and 34 are disposed on both the side surfaces of the mobile information terminal 31. The user's fingers and palm ca-ne into contact with the pressure sensor 33 and/or the pressure sensor 34, whereby the direction of screen display on the display 32 is controlled. That is, when the user uses and holds the mobile information terminal 31 laterally as shown in Figs. 8a and 8b, the user's fingers and palm 10 do not c-cm into contact with the pressure sensors 33 and 34. Thus, the screen is displayed along the long side on the display 32. On the other hand, when the user uses and holds the mobile information terminal 31 longitudinally as shown in Figs. 9a and 9b, the user's fingers and palm come into contact with the pressure sensors 33 and/or 15 34. Thus, the screen is displayed along the short side on the display 32. In this way, the direction of display can be automatically changed in accordance with the direction in which the user views the display." (Kobayashi at 18:2-19.) "The direction of screen display on the display 32 is controlled by the controller 36 in accordance with whether or not the signal from. the pressure sensors 33 and 34 is detected. That is, when the user's fingers and palm do not cane into contact with the pressure sensors 33 and 34, the signal is not outputted from the pressure sensors 33 and 34. Thus, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm come into contact with the pressure sensors 33 and 34, the signal is outputted from the pressure sensors 33 and 34. When the signal is inputted from the pressure sensors 33 and/or 34, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the short side. The direction of screen display can be controlled in accordance with, for example, whether a binary signal has me value or the other value, instead of whether or not the signal is detected. When the telephone function is used, the telephone number to be called is inputted from the input section 35. The telephone number to be called inputted from, the input section 35 is translated/received from an antenna 42 through the controller 36 and a radio section 41. When the voice is transmitted/received, an audio amplifier 40, a receiver 38 and a microphone 39 are used as the input/output unit. When the data other than the voice is transmitted/received, the input section 35 and the display 32 are used. 2 5 In this manner, the display screen m the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:2-20:4.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The direction of screen display on the display 52 is controlled by the controller 56 in accordance with whether or not the signal from the photo-detection sensor 54 is detected. That is, when the user's fingers and palm are not put on the photo-detection sensor 54, the signal is not outputted from the photo-detection sensor 54. Thus, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm are put on the photo-detection sensor 54, the signal is outputted from the photo-detection sensor 54. When the signal is inputted from the photo-detection sensor 54, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the short side." (Kobayashi at 22:14-25.) "Moreover, the direction of screen display in the display can be 26 controlled in accordance with whether or not the user's finger and palm came into contact with the pressure sensor or the photo-detection sensor on any surface of the portable terminal device body. Thus, the direction of display screen on the display can automatically controlled in response to how the user holds the portable terminal device, without needing any user's operation. The operability can be thus enhanced." (Kobayashi at 25:27-26:6.) *See also* Kobayashi at Figs. 6, 7. Further, to the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Jambhekar. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

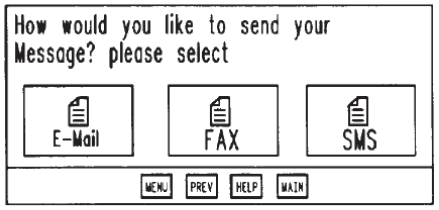


FIG.8A

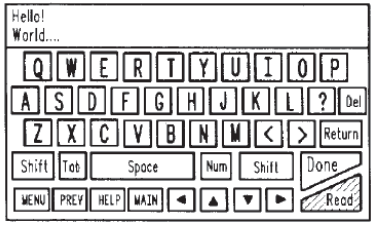


FIG.8B

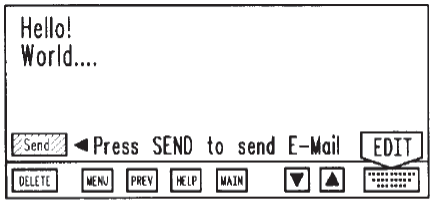


FIG.8C

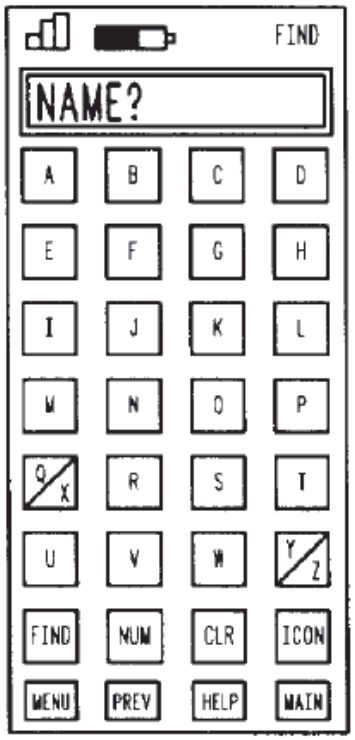


FIG.8D

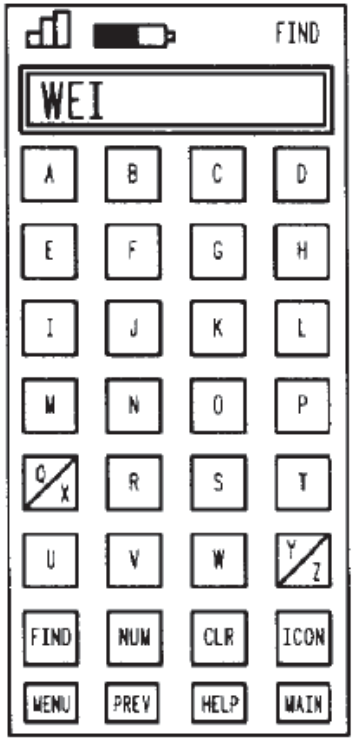


FIG.8E

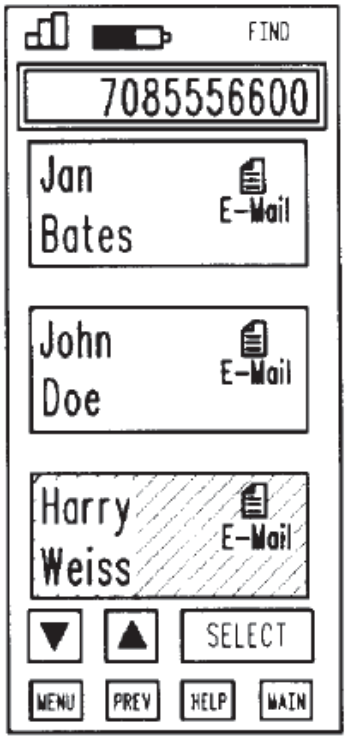
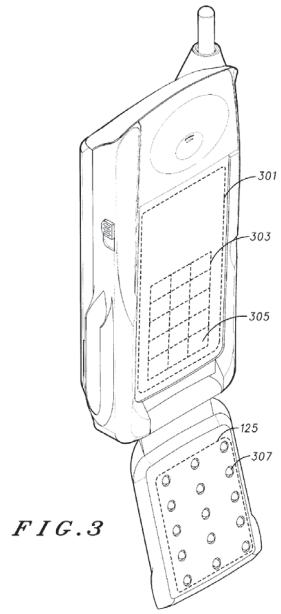
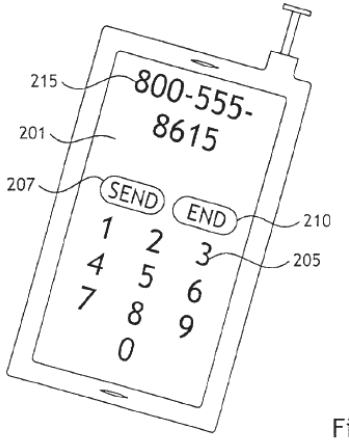
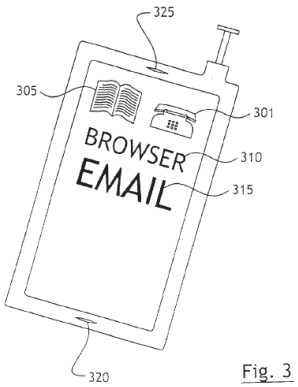
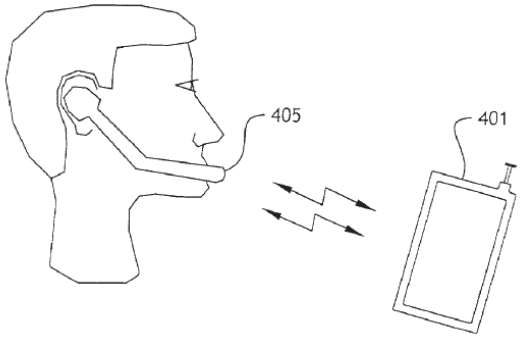


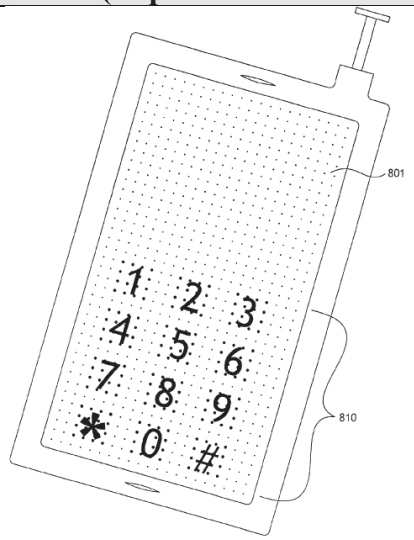
FIG.8F

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text in either portrait or landscape mode. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Jambhekar. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:  FIG.3 (Jambhekar at FIG. 3)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, Gupta depicts a device where the width is less than the length. (Gupta at FIGS. 2-4, 8.)  Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include:

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta discloses the following at FIGS. 3, 4, and 8:  Fig. 3 (Gupta at FIG. 3)  Fig. 4 (Gupta at FIG. 4)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8) To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Rydbeck and/or Yamaguchi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Rydbeck discloses a mobile phone wherein the length is 8-10 inches and the width is less than about 4 inches. (Rydbeck at 4:39-43.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Yamaguchi discloses a mobile phone 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) A POSITA would have found it obvious to configure the mobile phone as disclosed by Gupta with width and length dimensions as claimed. Each of Rydbeck and Yamaguchi teaches configuring a mobile phone such that the width of the device is about half of its length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone with similar dimensions to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound produced by the speaker during a phone call. For example, as taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck and Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Rydbeck and/or Yamaguchi into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Rydbeck and Yamaguchi according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Rydbeck and Yamaguchi) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone with a width to length ratio as taught by Rydbeck and Yamaguchi) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck and Yamaguchi) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention.

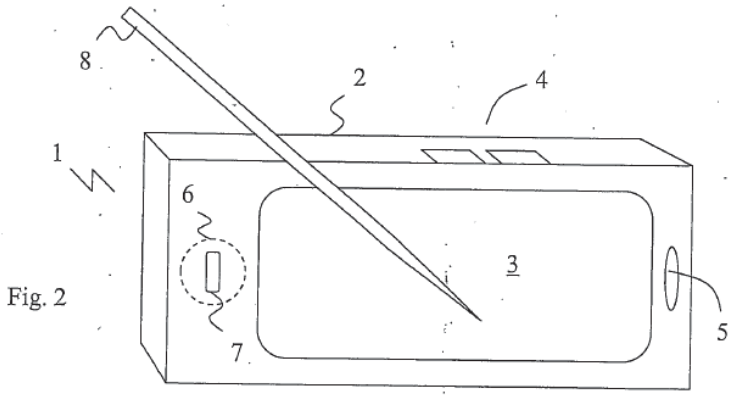
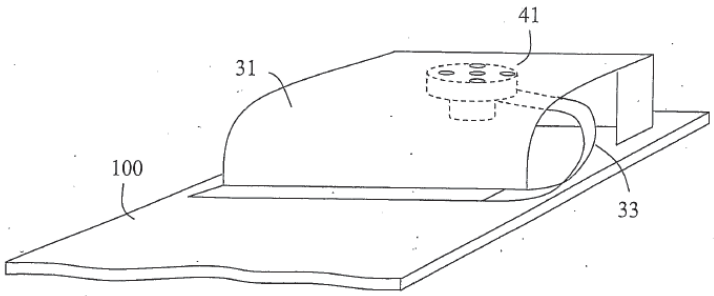
Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:39-43.) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].)

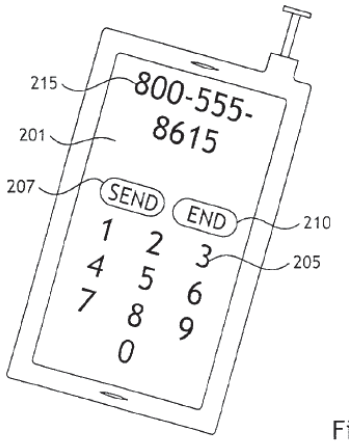
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, Gupta explains that there is a need for "a small communications device." (Gupta at [0004].) A POSITA would have understood that to keep Gupta's telephone small, the thickness of the housing should be minimized. Additional exemplary citations include: "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or other wise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Yamaguchi and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi discloses a mobile phone that is 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) Thus, the mobile phone disclosed by Yamaguchi has a thickness that is 20 percent of its width. Further, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) A POSITA would have found it obvious to configure the mobile phone as disclosed by Gupta with width and thickness dimensions as claimed. Yamaguchi teaches configuring a mobile phone such that the thickness of the device is 20 percent of its width, which improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and provides a display that is as large as possible. Wedel simultaneously teaches that there is demand for ever smaller, lighter phones. A POSITA would thus have been motivated to configure a mobile phone with a thickness to width ratio less than Yamaguchi's to gain market advantage. (Wedel at 1:14-21, 3:19-21.) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve user experience and market demand as suggested by Wedel. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Wedel

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as suggested by Yamaguchi and Wedel according to known methods to yield predictable results (improving the portability and marketability of a mobile phone); (B) use of a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and/or Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include: "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm,

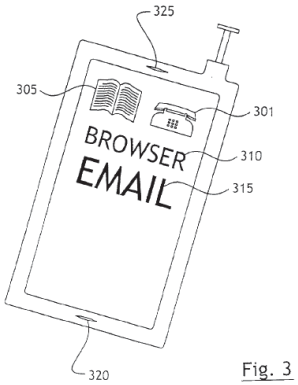
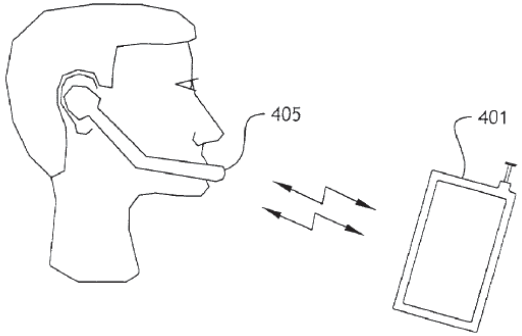
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the

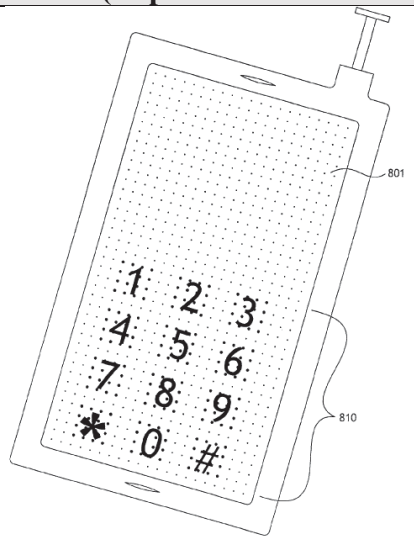
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:  Fig. 2 (Wedel at FIG. 2)  Fig. 11 (Wedel at FIG. 11)

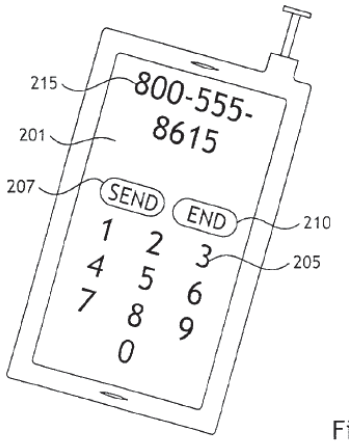
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone." For example, Gupta discloses a "buttonless communication device" or "telephone," which is a mobile phone. (Gupta at abstract, [0001], [0005], [0009], [0017], [0019], [0020], [0025], [0029], [0034], FIGS. 2-4, 8.)  Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: "A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at abstract.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention relates generally to communications. More particularly, the present invention relates to telephone handsets." (Gupta at [0001].) "The present invention encompasses a communications device that transmits and receives communication signals. In the preferred embodiment, the communications device is a wireless radiotelephone for operation in a cellular system." (Gupta at [0005].) "FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the

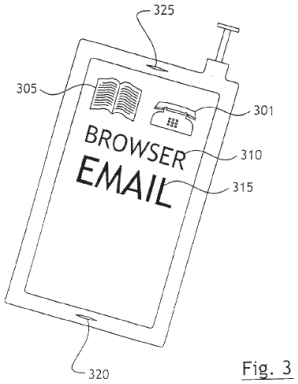
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320) built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].) "FIG. 5 illustrates a block diagram of the preferred embodiment of the present invention. The telephone is comprised of a transmitter (501) and receiver (505) that are coupled to an antenna (520). The antenna (520) receives the radiotelephone signals from the base station for the receiver (505) to demodulate into speech signals. The antenna (520) also transmits modulated signals from the transmitter (501) to the base station." (Gupta at [0034].) Gupta discloses the following at FIGS. 3, 4, and 8:

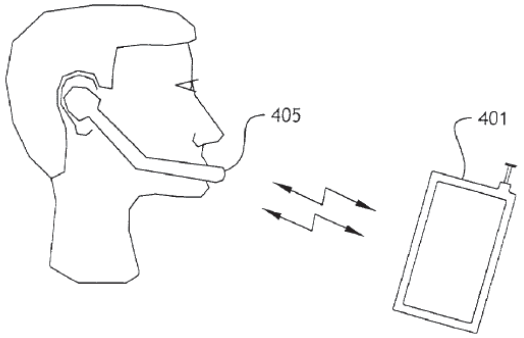
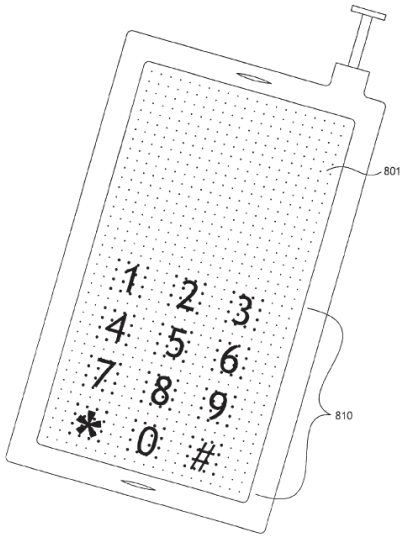
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3)  Fig. 4 (Gupta at FIG. 4)

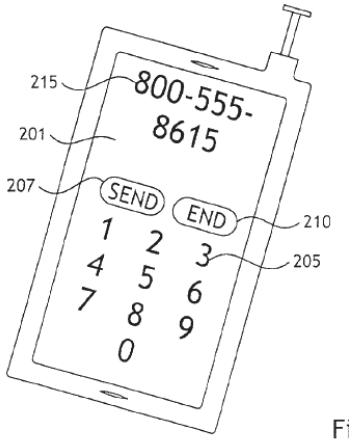
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8)
[9a] a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces,	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra* claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9c] wherein the width of the front surface of the mobile phone is significantly shorter than the length, and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").
[9d] wherein said body has a thin thickness	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").
[9e] a touch sensitive display unit	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, Gupta discloses a "touch-screen display." (Gupta at [0007], [0015], [0020], [0023], [0025], [0040], [0041], FIGS. 2-4, 8.)  Fig. 2 (Gupta at FIG. 2)

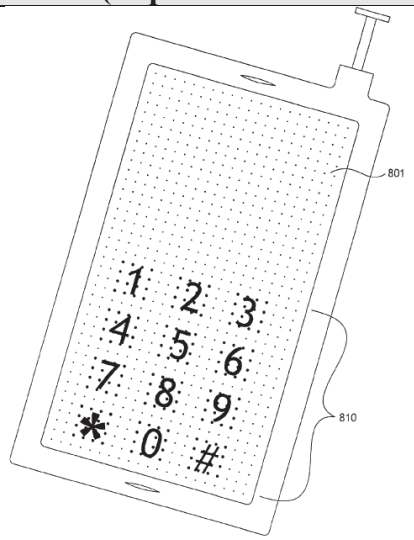
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "A touch-screen display is comprised of icons that represent numbers. The icons are used to enter a number in response to a contact, on the display, over a particular icon to be entered. A controller controls the transmitter, the receiver, and the touch-screen display. The controller controls the operation of the communications device and comprises an apparatus that generates the icons representing numbers for display on the touch-screen display. The controller also comprises an apparatus that generates an accumulated telephone number in response to the particular icons contacted on the touch-screen display." (Gupta at [0007].) "FIG. 8 shows a tactile response display screen of the present invention." (Gupta at [0015].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode

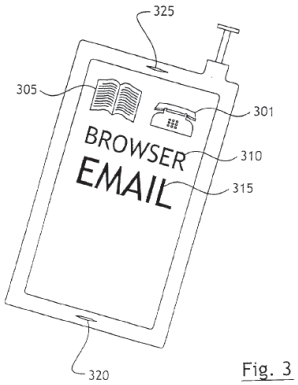
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "FIG. 8 illustrates a tactile touchscreen as used on the communication device of the present invention. The screen is capable of providing raised keys for the telephone numbers or other icons. Using this type of screen, the user has a tactile feedback, similar to depressing a telephone keypad button, when operating the communications device. The tactile touchscreen also provides assistance to visually impaired people by having the capability to display the Braille character set." (Gupta at [0040].) "As illustrated in FIG. 8, the display is comprised of a matrix of individually addressable dot or tactile elements. The elements are arranged in an evenly spaced grid covering the entire display. In an alternate embodiment, the tactile portion of the display is only on part of the display, such as the lower half, in order to provide a 'telephone keypad' area when in that particular mode. In the preferred embodiment, the elements are spaced less than 0.10 inch apart in order to allow the sensation of a continuous line." (Gupta at [0041].) Gupta discloses the following at FIGS. 3, 4, and 8:  Fig. 3 (Gupta at FIG. 3)

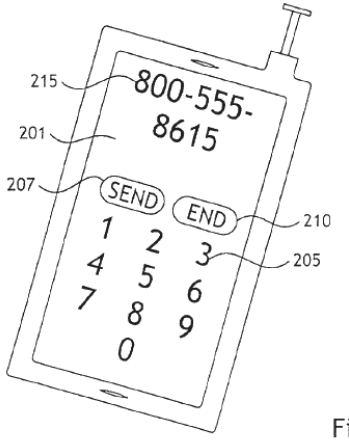
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9f] a virtual keyboard to enter text; and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text." For example, Gupta discloses that data may be entered using a virtual keyboard. (Gupta at [0020]-[0022], [0026], [0051], FIGS. 2, 8.) Gupta explains that the entered data may include "alphanumerical symbol[s]," or text. (Gupta at [0021].)  Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered, the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].) "In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].) Gupta discloses the following at FIG. 8:

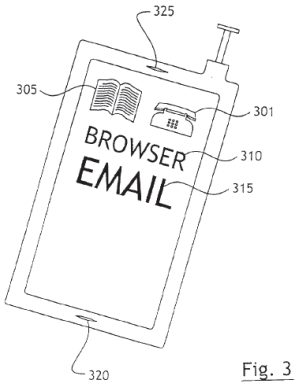
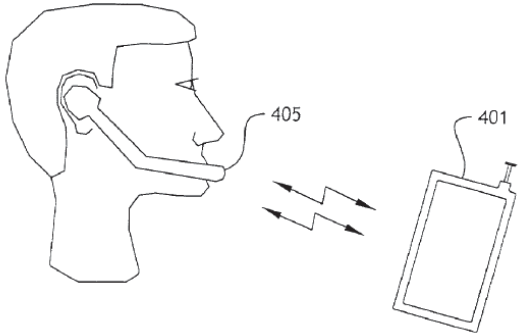
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8)
[9g] a microphone and a speaker	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, Gupta discloses that its device may include a microphone and a speaker located at the bottom and top of the front surface of the housing, respectively. (Gupta at [0029], FIG. 3.)

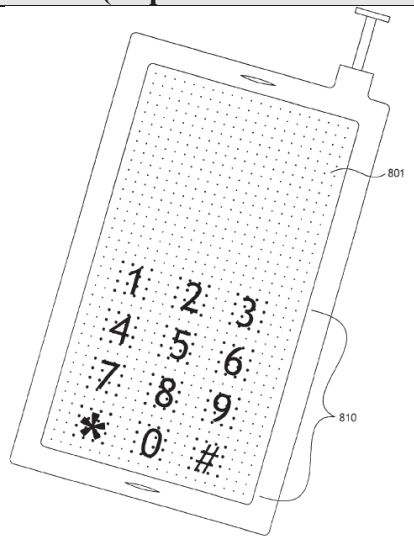
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3) Additional exemplary citations include: "In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320) built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].)
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").
[9i] wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f].

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
physical keyboard to enter text, and	For example, Gupta discloses a "buttonless communication device" or "telephone." (Gupta at abstract, [0001], [0005], [0009], [0017], [0019], [0020], [0025], [0029], [0034], FIGS. 2-4, 8.) Gupta explains that any buttons or keys are not physical "but instead refer[] to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated." (Gupta at [0020].) Additionally, Gupta specifically discloses that its device lacks a "fixed" keypad. (Gupta at [0026], [0051].)  Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: "A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at abstract.) "The present invention relates generally to communications. More particularly, the present invention relates to telephone handsets." (Gupta at [0001].)

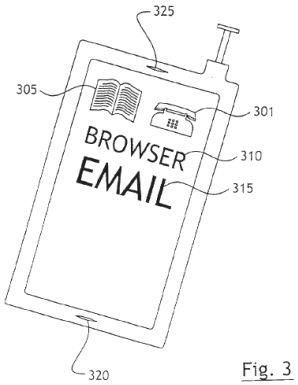
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The present invention encompasses a communications device that transmits and receives communication signals. In the preferred embodiment, the communications device is a wireless radiotelephone for operation in a cellular system." (Gupta at [0005].) "FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].) "The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].)

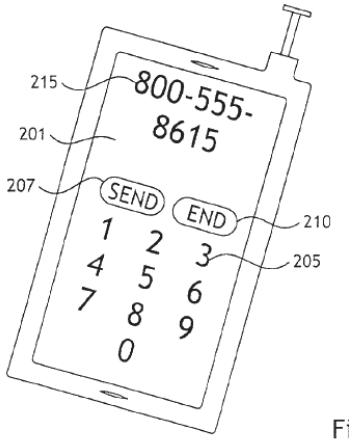
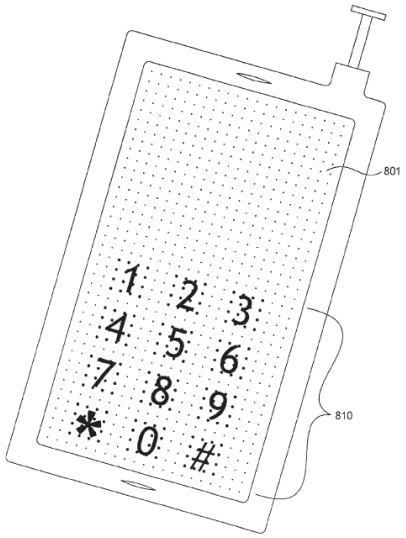
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320) built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].) "FIG. 5 illustrates a block diagram of the preferred embodiment of the present invention. The telephone is comprised of a transmitter (501) and receiver (505) that are coupled to an antenna (520). The antenna (520) receives the radiotelephone signals from the base station for the receiver (505) to demodulate into speech signals. The antenna (520) also transmits modulated signals from the transmitter (501) to the base station." (Gupta at [0034].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].) Gupta discloses the following at FIGS. 3, 4, and 8:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3)  Fig. 4 (Gupta at FIG. 4)

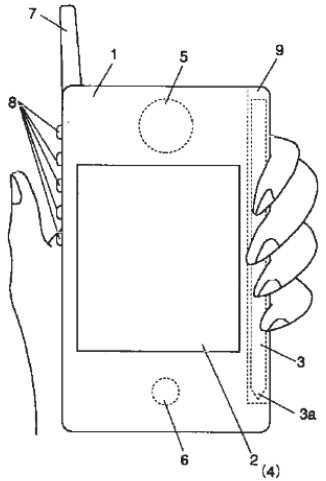
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 8 (Gupta at FIG. 8)
[9j] wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

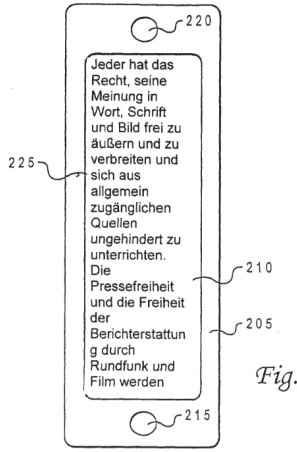
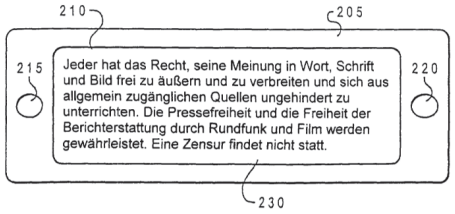
Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[10a] wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user." For example, Gupta discloses that its device may include a microphone located near the bottom of the housing and a speaker located near the top of the housing. (Gupta at [0029], FIG. 3.) A POSITA would understand that the distance between the ear and mouth of the user would correspond to the distance between the speaker at the top of the device (to allow the user to hear conversations) and the microphone at the bottom of the device (to allow the user to speak to other parties). (Gupta at [0029].) Sizing a mobile phone based on the distance between a user's mouth and ear would have been obvious to allow the user to hold an end of the device containing the speaker against their ear and an end of the device containing the microphone near their mouth. (Gupta at FIGS. 2, 3, 8.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 3 (Gupta at FIG. 3) Additional exemplary citations include: "In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320) built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].) Gupta discloses the following at FIGS. 2, 8:

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Gupta at FIG. 2)  Fig. 8 (Gupta at FIG. 8)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the distance between the ear and mouth of a user corresponds to the distance between the ear and the mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by Gupta such that the distance between the microphone and speaker of the device corresponds to the distance between a user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance. A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (the mobile phone of Gupta with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[12a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].
[12b] wherein upon providing a sweeping action on said display	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping

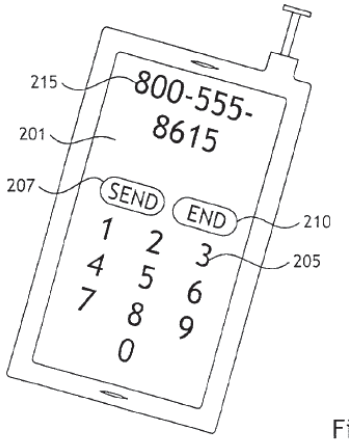
Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendants incorporate all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].
[13a] wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

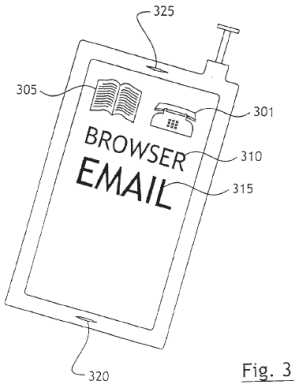
Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9.

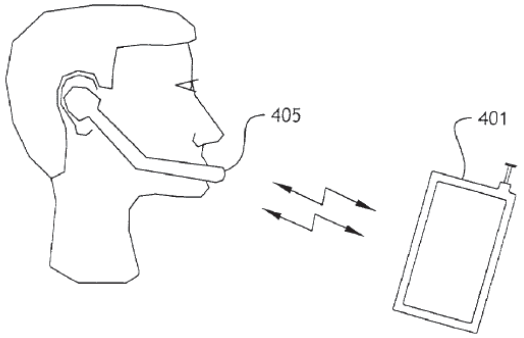
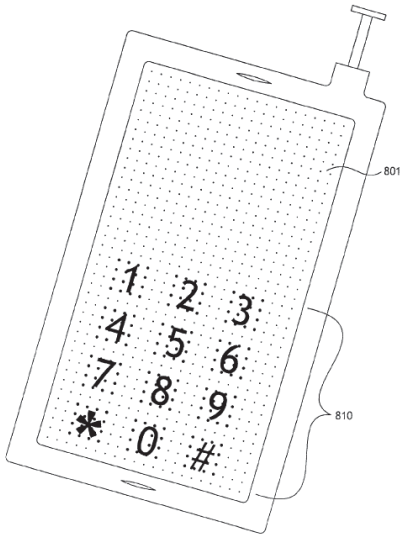
Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Gupta discloses a "buttonless communication device" or "telephone," which is a mobile phone device. (Gupta at abstract, [0001], [0005], [0009], [0017], [0019], [0020], [0025], [0029], [0034], FIGS. 2-4, 8.)

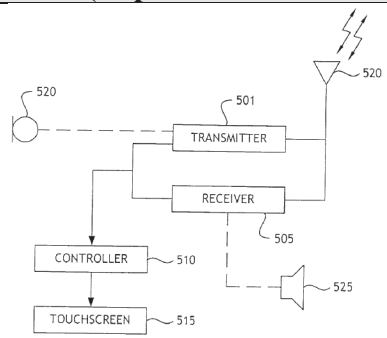
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Gupta at FIG. 2) Additional exemplary citations include: "A buttonless communication device that uses a touchscreen display for entering and displaying data. The different modes of the device are displayed as icons on the display allowing the device to enter the mode enabled by contact of the appropriate icon. A telephone mode displays a keypad of icon numbers, a send icon, an end icon, and an entered telephone number display area. By contact with the appropriate icons, a telephone number can be called or an incoming call answered." (Gupta at abstract.) "The present invention relates generally to communications. More particularly, the present invention relates to telephone handsets." (Gupta at [0001].) "The present invention encompasses a communications device that transmits and receives communication signals. In the preferred embodiment, the communications device is a wireless radiotelephone for operation in a cellular system." (Gupta at [0005].) "FIG. 2 shows a buttonless, wireless communication device of the present invention in a telephone mode." (Gupta at [0009].)

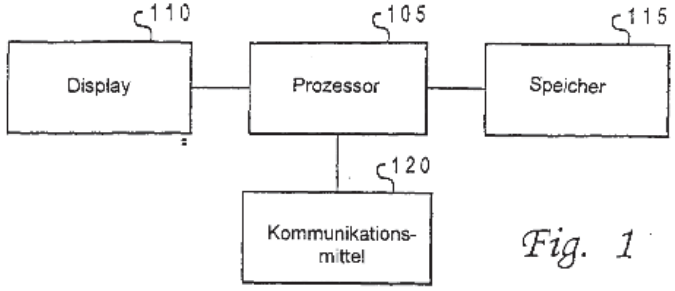
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "FIG. 2 illustrates the buttonless communication device of the present invention. In the preferred embodiment, this communication device is a wireless radiotelephone for use in a cellular system. Alternate embodiments use other types of telephones such as cordless telephones, for use in the home, that are coupled to the public switched telephone system. The cellular radiotelephone of the present invention is not constrained to any one air-interface standard. It works equally well with code division multiple access (CDMA), global system for mobile communication (GSM), time division multiple access (TDMA), or even advanced mobile phone system (AMPS)." (Gupta at [0019].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the "button" or "pad" that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In one embodiment, the telephone of the present invention has a built-in speaker (325) to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone (320) built in to the telephone to enable the user to speak to the other parties on the telephone conversation." (Gupta at [0029].) "FIG. 5 illustrates a block diagram of the preferred embodiment of the present invention. The telephone is comprised of a transmitter (501) and receiver (505) that are coupled to an antenna (520). The antenna (520) receives the radiotelephone signals from the base station for the receiver (505) to demodulate into speech signals. The antenna (520) also transmits modulated signals from the transmitter (501) to the base station." (Gupta at [0034].) Gupta discloses the following at FIGS. 3, 4, and 8:  Fig. 3 (Gupta at FIG. 3)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15a] a body having a practically rectangular shape;	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].
[15b] a processor; and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor." For example, Gupta explains that the telephone is controlled by a "controller," which may be a "microprocessor[]." (Gupta at [0007], [0035].) Additional exemplary citations include: "A touch-screen display is comprised of icons that represent numbers. The icons are used to enter a number in response to a contact, on the display, over a particular icon to be entered. A controller controls the transmitter, the receiver, and the touch-screen display. The controller controls the operation of the communications device and comprises an apparatus that generates the icons representing numbers for display on the touch-screen display. The controller also comprises an apparatus that generates an accumulated telephone number in response to the particular icons contacted on the touch-screen display." (Gupta at [0007].) "The telephone is controlled by a controller (510) that is coupled to the transmitter (501), receiver (505), and the touchscreen display (515) of the present invention. The controller (510), in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use other types of controllers such as microprocessors, application specific integrated circuits (ASIC), or other such controllers." (Gupta at [0035].) Gupta discloses the following at FIG. 5:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 5 (Gupta at FIG. 5) To the extent Keyless argues that Gupta does not disclose or render obvious this limitation, it would have been obvious in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of Gupta combined with Dutta and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Dutta discloses a mobile phone that includes a processor 105 capable of writing data to a display 110. (Dutta at [0015], FIG. 1) In addition, the processor can read and write data to memory and communicate with a wireless network. (*Id*.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 1 (Dutta at FIG. 1) As another example, Benoit discloses a communication tool including a "data processing unit," or "central processing unit," which is a processor. (Benoit at 1:6-7, 3:22-24, claim 10.) A POSITA would have been motivated to configure a mobile phone to include a processor. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Dutta and Benoit. A POSITA would have been motivated to include a processor to allow the phone to execute instructions, improving operation for the user. Thus, a POSITA would have considered the combination of the teachings of Dutta and/or Benoit into the mobile phone architecture disclosed by Gupta to be an example of (A) combining prior art elements (including a processor in a mobile phone as taught by Dutta and Benoit) according to known methods to yield predictable results (proving computing and/or processing capability); (B) use of a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to improve similar devices in the same way (providing computing and/or processing capability); (C) applying a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to a known device ready for improvement to yield predictable results (providing computing and/or processing capability); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Dutta and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Gupta to arrive at the claimed invention. Additional exemplary citations include:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "The present invention relates to a method for navigating a computer program by means of a touch screen. It has a particularly interesting application in a personal digital assistant (PDA) for launching an application or even for general navigation within a program or between multiple programs. However, the invention has a broader scope because it can be applied to any communication tool comprising a touch screen and a data processing unit. In current communication tools, such as microcomputers, there is an operating system capable of managing all the programs present in the computer. In general, the human-machine interface of such an operating system presents a set of active areas." (Benoit at 1:3-10.) "According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 3:22-24.) "A communication tool equipped with a touch screen and a central processing unit for carrying out a method according to any one of the preceding claims." (Benoit at claim 10.)
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
integrated within said device;	device." *See supra* claim [1e] (discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of Gupta, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].
[15e] wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit").A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15.

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[17a] wherein upon providing a predefined interaction with an icon, the corresponding	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a]

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
application is opened on the screen.	(discussing limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[18a] wherein said device does not include a physical key on the front surface of the device.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface").

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15.

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body.	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15. Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait	Gupta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra*

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	claim [5a] (discussing limitation "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position").

Appendix C6

Exhibit C6
Invalidity of Asserted Claims of the '144 Patent
in view of Dutta

German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under pre-AIA 35 U.S.C. § 102(a) and (b) and/or AIA 35 U.S.C. § 102(a)(1).[1] Dutta anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends Dutta does not disclose one or more limitations of the claims, it would have been obvious to combine Dutta with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of Dutta and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- European Patent Application Publication No. 1336949 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C1.
- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- United States Patent No. 8,375,334 to Nakano et. al ("Nakano"), filed on May 9, 2003, and granted on February 12, 2013, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C4.

- United Kingdom Patent Application Publication No. 2331204 to Kobayashi ("Kobayashi"), filed on November 5, 1998, and published on May 12, 1999, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

- French Patent Application Publication No. 2830093 to Benoit et al. ("Benoit"), filed on September 25, 2001, and published on March 28, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1).

- United States Patent No. 5,848,356 to Jambhekar et al. ("Jambhekar"), filed on October 2, 1995, and granted on December 8, 1998, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to Dutta, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

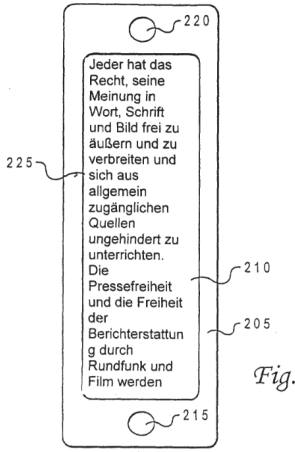
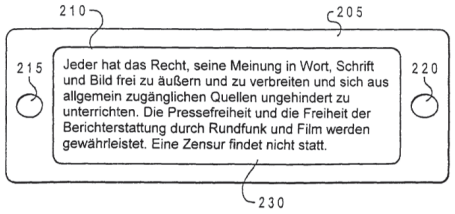
To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserves the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

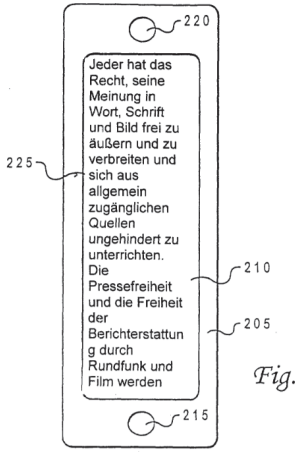
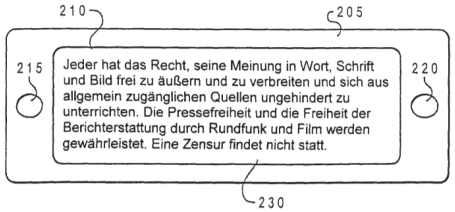
To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Dutta discloses a "mobile phone," which is a mobile phone device. (Dutta at [0002]-[0004], [0009], [0013], [0015]-[0018], FIGS. 2A-B.)

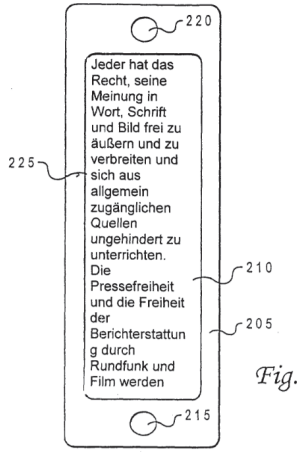
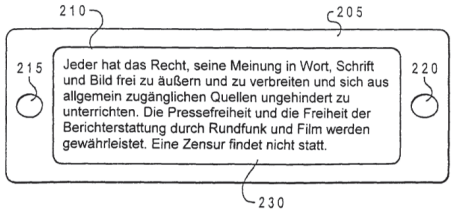
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].)

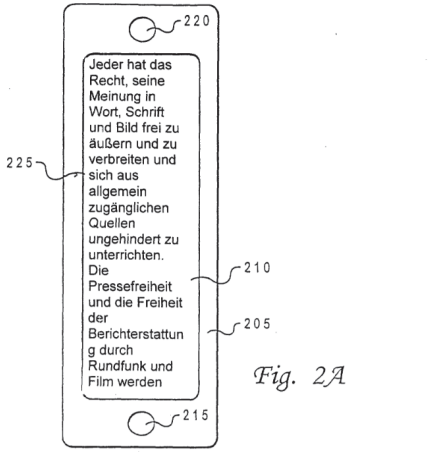
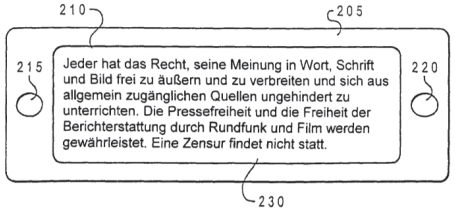
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "Figs. 2A and 2B are exemplary depictions of the display of a mobile phone according to a preferred embodiment of the present invention; and" (Dutta at [0013].) "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "Alternatively, the portable device can also be a mobile phone with an integrated wireless communication unit 120." (Dutta at [0016].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, Dutta discloses a rectangular-shaped housing of a mobile phone. (Dutta at FIGS. 2A-B.) The housing includes components of a mobile phone, such as a display, a speaker, and a microphone. (Dutta at [0018].) The housing includes a front surface, a back surface, and four side surfaces. (Dutta at FIGS. 2A-B)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." For example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1c] wherein the width of the front surface is substantially shorter than the length and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length." For example, Dutta teaches that the ideal size for a mobile phone is determined by the typical ear-to-mouth distance of a user. (Dutta at [0003].) And Dutta further explains the result of this design motivation and consideration is that mobile phones themselves, including their front surfaces, are "long and narrow," with "one edge length significantly larger than the other edge length." (Dutta at [0004], [0006], [0008], [0017], FIGS. 2A-2B.)  *Fig. 2A*  *Fig. 2B*

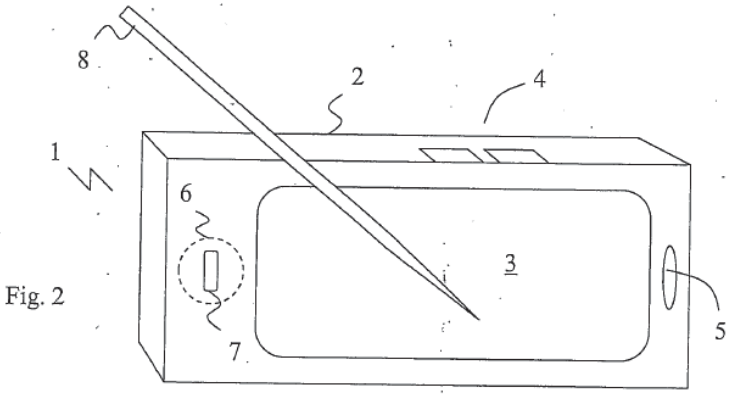
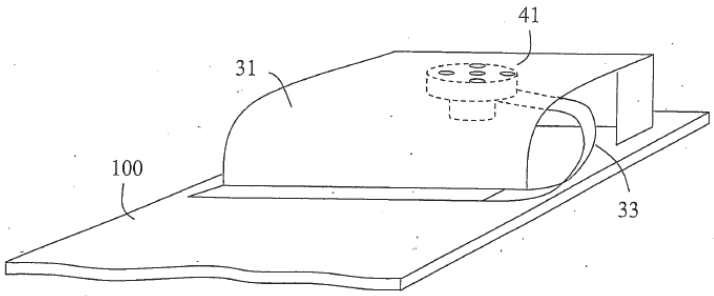
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].) "A further object of the present invention is to provide an improved method of displaying data on a handheld device, in which one edge length of the display is significantly larger than the other edge length." (Dutta at [0008].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) *See also infra* claim [7].
[1d] wherein the housing has a thin thickness; and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the housing has a thin thickness." For example, Dutta teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it discloses that it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires that the device to be thin so that a user's hands can wrap around its edges. (Dutta at [0003].) Additional exemplary citations include: "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].)

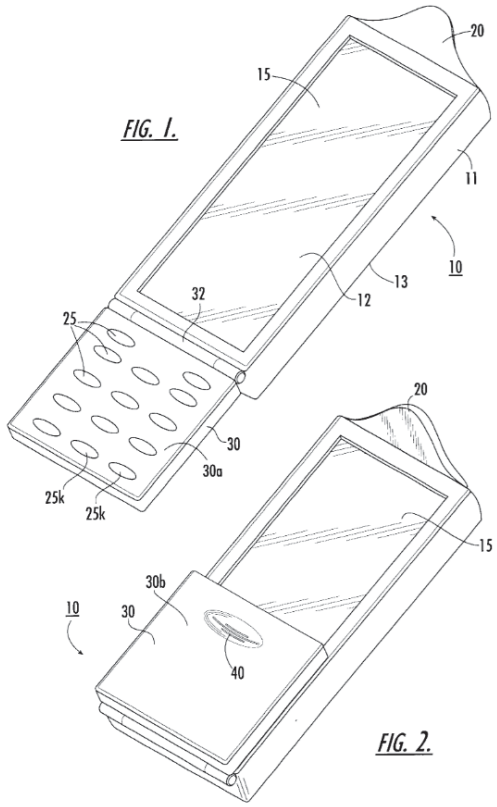
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) To the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Wedel, Rydbeck, and/or Yamaguchi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Wedel, Rydbeck, and Yamaguchi teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like. For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must have been thin.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, and Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, and/or Yamaguchi into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Wedel, Rydbeck, and Yamaguchi) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the housing has a thinness as taught by Wedel, Rydbeck, and Yamaguchi) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as taught by Wedel, Rydbeck, and Yamaguchi) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, and Yamaguchi) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:

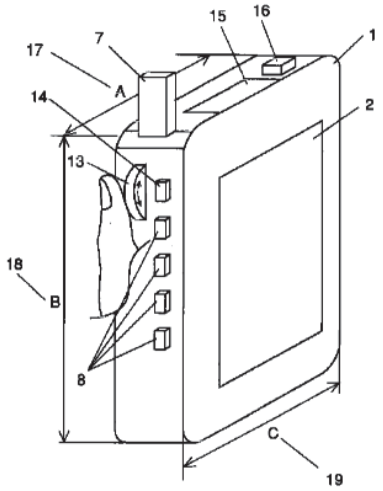
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2)  Fig. 11 (Wedel at FIG. 11) "The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore, a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized" wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.)

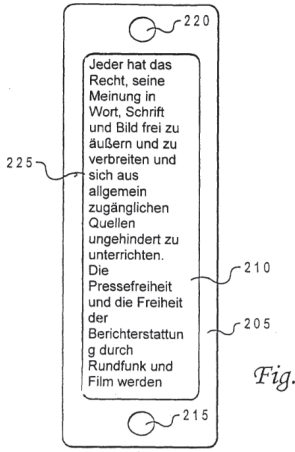
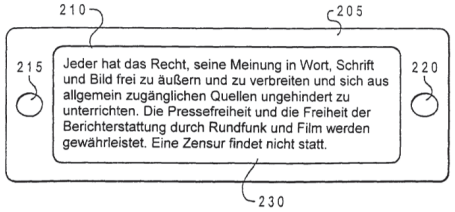
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.) "Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and "rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].) "According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].) "Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図6】  *See also infra* claim [8].
[1e] a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing;	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing." For example, Dutta discloses a display. (Dutta at [0001], [0002], [0004]-[0006], [0008], [0009], [0013], [0015], [0017]-[0022], FIGS. 2A-B.) Dutta explains that the display "occupies the majority of the surface of the telephone." (Dutta at [0018]). Dutta further explains that it may be difficult to display easily readable data on small displays. (Dutta at [0006].) Accordingly, a POSITA would have found it obvious to make the display as large as possible to better display data. For example, Dutta teaches that its display is "larger than that of a typical display." (Dutta at [0005].) A POSITA thus would have

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	understood that the display unit would cover the entire front surface of the device, such that it could be as large as possible.  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "The present invention generally relates to an improved method of displaying data on a handheld device, in particular an improved method of displaying data on a handheld device whose display surface is significantly larger in one direction than in the other." (Dutta at [0001].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "Even when the phone is equipped with a touchscreen keyboard that is located on the display, the display surface is at most sized about 5 x 15 cm or 75 cm^2. Thus, however, this surface is larger than that of a typical PDA, whose display generally measures approximately 7.5 x 7.5 cm and thus about 56 cm^2." (Dutta at [0005].) "While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].) "A further object of the present invention is to provide an improved method of displaying data on a handheld device, in which one edge length of the display is significantly larger than the other edge length." (Dutta at [0008].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such

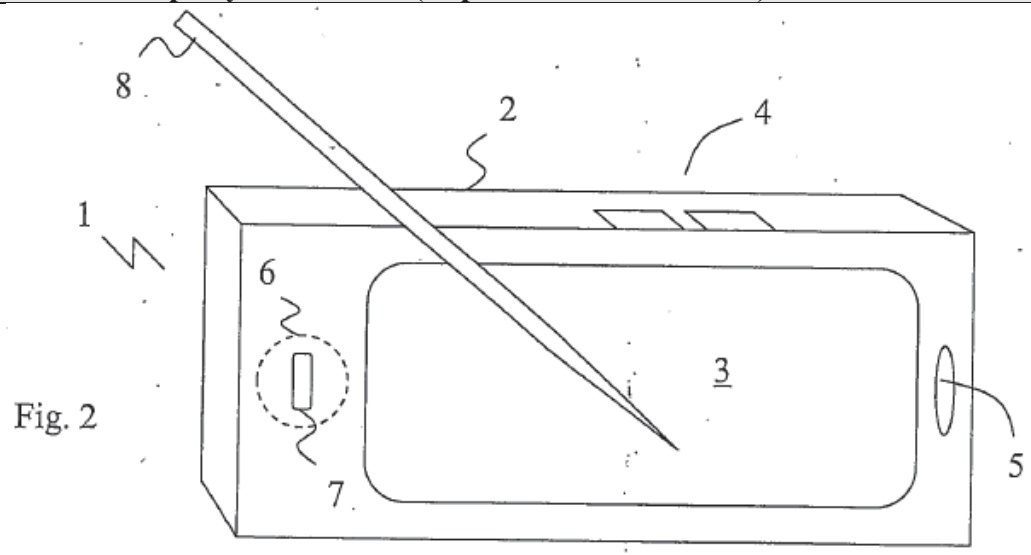
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "Figs. 2A and 2B are exemplary depictions of the display of a mobile phone according to a preferred embodiment of the present invention; and" (Dutta at [0013].) "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The difference between these two figures consists in the representation of data 225 and 230 on the display 210. In Fig. 2A, the data 225 are depicted such that the text is read in portrait format of the display 210, as is usual in current mobile phone models. It is clear that reading is problematic in this format of the display." (Dutta at [0019].) "However, in Fig. 2B, the representation of the data 230 has been rotated by 90 degrees so that they are shown on the display 210 in landscape format. In this case the data 23 are significantly easier to read." (Dutta at [0020].) "Of course, whether presentation on the display in portrait format (as with the data 225) or in landscape format (as with the data 230) is preferred depends on the type of the data. Consequently, in the preferred embodiment. it is possible for the user to choose the orientation of the display at any time and to easily switch between the two modes. The necessary programming of the software or firmware for the display of the data in these two modes should not present a problem for persons skilled in the art in this field." (Dutta at [0021].) "According to the preferred embodiment, a mechanism for selecting the display mode is provided to the user. This mechanism can be embodied either as a button on the phone or as a touch-sensitive selection switch area directly on the display 210. With each activation of the mechanism by the user, the display switches between the two modes." (Dutta at [0022].) To the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Wedel and Gupta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Wedel discloses a mobile phone device with a touch screen display. (Wedel at 1:30-2:14, FIG. 2.) Wedel explains that "[t]he size of a keypad 4 and a display 3 basically sets the limit of how small terminal 1 can be." (Wedel at 1:31-2:1.) Thus, to allow for a larger display while maintaining a small terminal, Wedel proposes removing all physical keys from the front surface of the mobile phone, such that the display may cover more of the front surface of the phone. (Wedel at 2:8-10, FIG. 2.) As another example, Gupta discloses a "full-length touchscreen display." (Gupta at [0015], [0017], [0020], [0023]-[0025], [0030], [0035], [0041], [0042], [0051], FIGS. 2-4, 8.) Additionally, Gupta explains that while the device remains small, the screen should be large enough for "practical information viewing." (Gupta at [0003], [0004], [0020],[0025], [0026], [0049].) A POSITA thus would have understood that the screen would cover the entire front surface of the device, such that it could be as large as possible. A POSITA would have been motivated to configure a mobile phone such that the display unit covers a large portion of the housing. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel and Gupta. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display while maintaining a small device size, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel and/or Gupta into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) according to known methods to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); (B) use of a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to improve similar devices in the same way (allowing more space for a larger touch display while maintaining a small device size); (C) applying a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel and Gupta) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "A combined speaker and antenna arrangement for a communication terminal, comprising a support structure (100) carrying a first antenna element (101), and a second antenna element (31) arranged at a predetermined distance from said first antenna element. Said second antenna element is a conductive first portion (31) of a sheet of flexible film, and an elongated second portion (32) of said flexible film, carrying a conductive lead extends from adjacent to said first portion to a speaker (41) connected to an outer end of said elongated second portion. The second, elongated, portion is bent such that said speaker is positioned between said film and said support structure, adjacent to an aperture in said first portion." (Wedel at abstract.) "In order to benefit from the capabilities of the transmission system, the future generation of phones will have a large display in order to perform multimedia input and output, and the picture quality will be of high importance. Still, the keypad or keyboard must be large enough to allow people to press one key at a time." (Wedel at 1:26-29.) "Figure 1 discloses a typical example of a state of the art mobile phone 1, carried by a housing or chassis 2. The size of a keypad 4 and a display 3 basically sets the limit of how small the terminal 1 can be. However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3. Figs 1 and 3 show two typical examples of state of the art communication terminals 1, whereas the skilled persons will realise that combinations of the two are also well known as well as other designs, such as a so called clamshell type terminal." (Wedel at 1:30-2:14.) "In the state of the art communication terminal a terminal output 7 is mounted on the front of the terminal above the display with the speaker 6 immediately behind the output 7, as shown in Figs 1 and

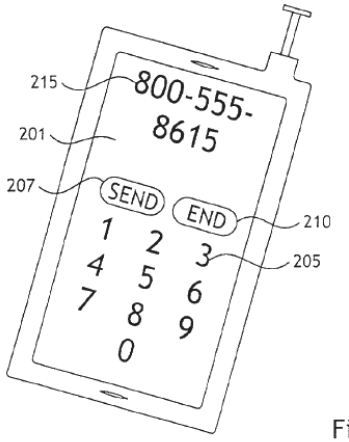
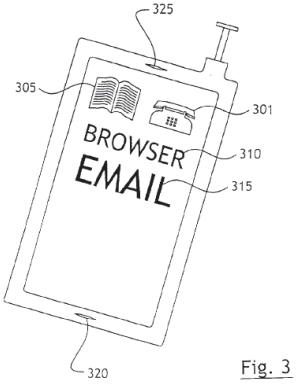
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	2. This means that even with a smallest available speaker used today, with a diameter of about 13 mm, the terminal would be approximately this much longer in its longitudinal extension than what would have been the case if only the display 3 and/or keypad 4 had defined the length of the terminal 1. The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:15-25.) "First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated. Furthermore, even though the antenna cavity 21 has been partly occupied by the speaker, experimental laboratory tests on this design have surprisingly shown that the presence of the speaker will not result in reduced antenna performance if tuned properly. The use of hot bar soldering will not lead to bulging solder pads. Which also contributes to saving space." (Wedel at 13:5-13.) Wedel discloses the following at FIG. 2:

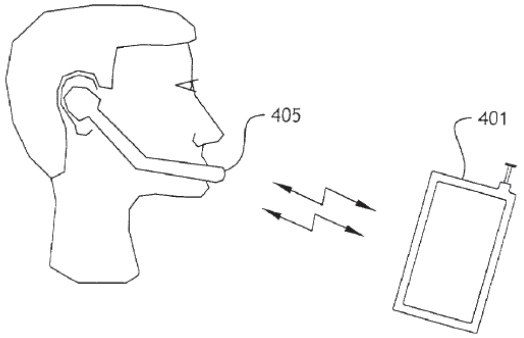
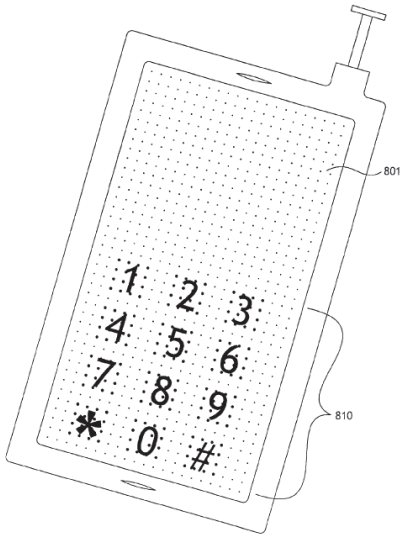
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2.) "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].) "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "FIG. 8 shows a tactile response display screen of the present invention." (Gupta at [0015].)

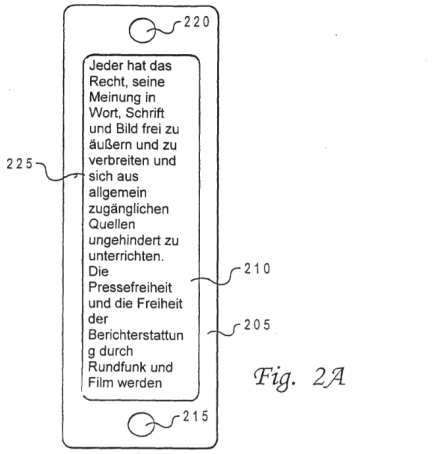
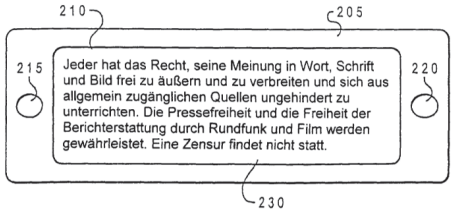
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered, the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].) "In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "The touch sensor may also be a film layer of the tactile surface itself, or may include touch sensitive elements interspersed adjacent to the tactile dot elements So that neither the touch sensor nor the tactile display elements overlay the other. Other touch screens embodiments use grids of interruptible light beams, capacitive discharge sensors, and conductive grids sensing a circuit made across nearby nodes, all of which are considered herein to be structures (circuits and components) equivalent to each other." (Gupta at [0024].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "FIG. 4 illustrates an alternate embodiment of the present invention that uses a wireless headset (405) to communicate with the telephone (401) of the present invention. In order to reduce the size and weight of the telephone (401) and also to give more room for the display, this embodiment does not

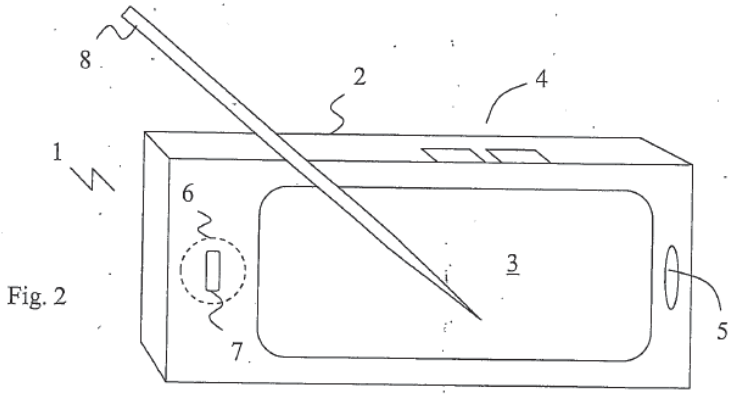
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	have a built-in speaker and microphone. Instead, the wireless headset (405) performs the same task as a built-in speaker and microphone." (Gupta at [0030].) "The telephone is controlled by a controller (510) that is coupled to the transmitter (501), receiver (505), and the touchscreen display (515) of the present invention. The controller (510), in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use other types of controllers such as microprocessors, application specific integrated circuits (ASIC), or other such controllers." (Gupta at [0035].) "As illustrated in FIG. 8, the display is comprised of a matrix of individually addressable dot or tactile elements. The elements are arranged in an evenly spaced grid covering the entire display. In an alternate embodiment, the tactile portion of the display is only on part of the display, such as the lower half, in order to provide a 'telephone keypad' area when in that particular mode. In the preferred embodiment, the elements are spaced less than 0.10 inch apart in order to allow the sensation of a continuous line." (Gupta at [0041].) "Each tactile element is switchable between an inactive position in which the dot is flush with the surrounding surface and an active position in which the dot is raised above the surrounding surface. The mechanism to provide this may be of any type including: electromechanical, electromagnetic, and switchable dimpled plastic film. In the preferred embodiment, the tactile display is transparent in order to permit the conventional liquid crystal display to be seen below the raised surface." (Gupta at [0042].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta discloses the following at FIGS. 2-4 and 8:  Fig. 2 (Gupta at FIG. 2)  Fig. 3 (Gupta at FIG. 3)

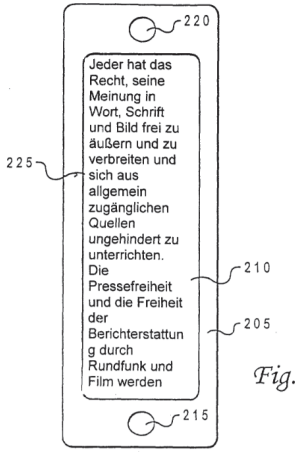
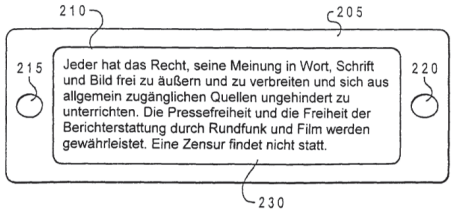
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1f] wherein said mobile phone device does not include a physical key on the front surface, and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said mobile phone device does not include a physical key on the front surface." For example, Dutta discloses a mobile phone that does not have any physical keys on the front surface. (Dutta at FIGS. 2A-B.) Dutta teaches that the phone may include "a touchscreen keyboard," and a "touch-sensitive selection switch area." (Dutta at [0005], [0022].)  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "Even when the phone is equipped with a touchscreen keyboard that is located on the display, the display surface is at most sized about 5 x 15 cm or 75 cm^2. Thus, however, this surface is larger than that of a typical PDA, whose display generally measures approximately 7.5 x 7.5 cm and thus about 56 cm^2." (Dutta at [0005].) "According to the preferred embodiment, a mechanism for selecting the display mode is provided to the user. This mechanism can be embodied either as a button on the phone or as a touch-sensitive selection switch area directly on the display 210. With each activation of the mechanism by the user, the display switches between the two modes." (Dutta at [0022].) To the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.) A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch

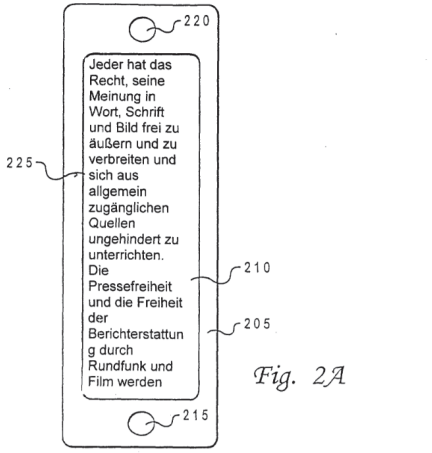
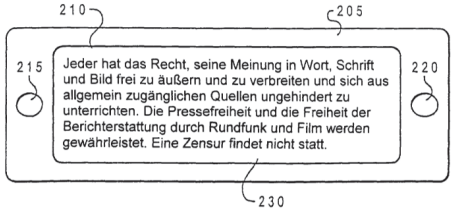
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include: "Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:  Fig. 2 (Wedel at FIG. 2)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1g] wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing." For example, Dutta discloses a mobile phone that does not include components extended out from its housing. (Dutta at FIGS. 2A and 2B.) Dutta teaches that there was a continuing effort to reduce the mobile phones' sizes in order to make them more portable. (Dutta at [0002].) Particularly, Dutta teaches that the mobile phones were commonly designed to have a long, narrow shape. (Dutta at [0004].) To that end, it is useful not to let the phone's components extend out from its housing.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].)

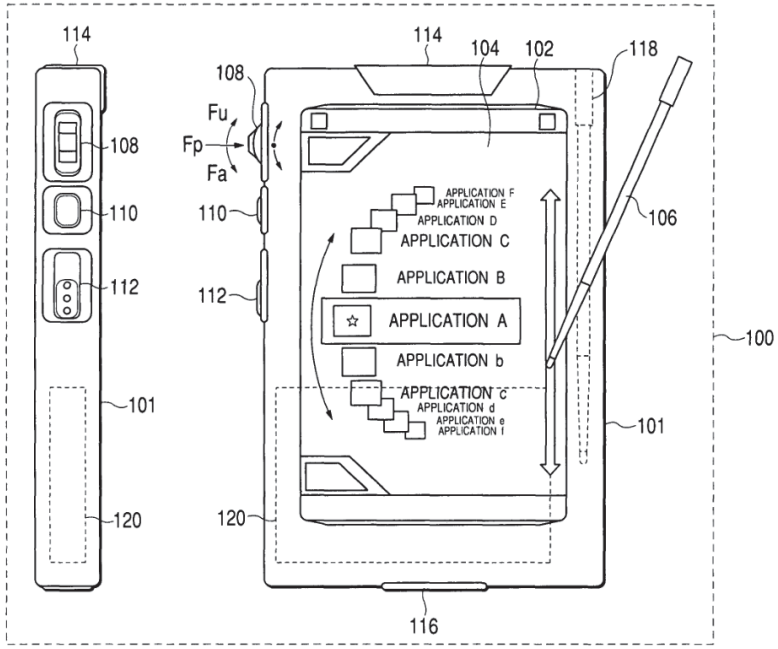
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].) "The difference between these two figures consists in the representation of data 225 and 230 on the display 210. In Fig. 2A, the data 225 are depicted such that the text is read in portrait format of the display 210, as is usual in current mobile phone models. It is clear that reading is problematic in this format of the display." (Dutta at [0019].) "However, in Fig. 2B, the representation of the data 230 has been rotated by 90 degrees so that they are shown on the display 210 in landscape format. In this case the data 23 are significantly easier to read." (Dutta at [0020].)

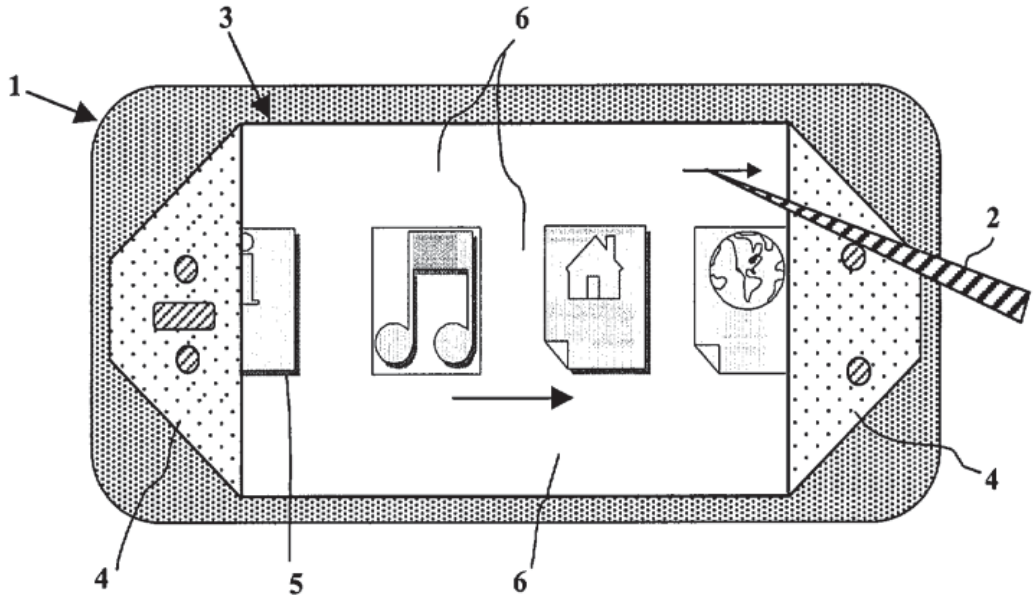
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2pre] The device of claim 1,	Claim 2 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 2 are anticipated and/or obvious for the same reasons set out in claim 1. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2a] wherein said practically rectangular shape has rounded corners.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." For example, Dutta discloses a mobile phone having a rectangular housing with rounded corners. (Dutta at FIGS. 2A-2B.)  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3pre] device of claim 1	Claim 3 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 3 are anticipated and/or obvious for the same reasons set out in claim 1. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[3a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." For example, Dutta explains that the mobile phone may be used "to navigate between Internet pages, to process text, to make a phone call, or to use other functions of the device." (Dutta at [0028].) A POSITA would have understood that these different functions would be accomplished by different applications. Further, a POSITA would have found it obvious to represent these applications with icons corresponding to the applications, as was well known in the art. Additional exemplary citations include: "Of course, at any point of this process, the user can intervene in order to navigate between Internet pages, to process text, to make a phone call, or to use other functions of the device. These are not depicted in the flowchart of Fig. 3 because they are not essential for the function of the preferred embodiment." (Dutta at [0028].) To the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Bast, Nakano, and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. Each of Bast, Nakano, and Benoit explain that applications may be displayed as a plurality of icons to allow the user to see and select an application. A POSITA would have understood that representing applications as graphical icons would have supported Dutta's goal of improving the functionality of a handheld device with a display that may execute a variety of functions. (Dutta at [0001], [0006], [0028].) For example, Bast discloses an electronic display that shows a plurality of program and function icons. (Bast at [0010], FIG. 1.) The icons correspond to various applications that are programmed into the terminal. (*Id*.) Similarly, Nakano discloses that "menu items," represented as icons and corresponding to a plurality of programs may be displayed. (Nakano at 1:34-40, 16:39-54, 21:1-6, 21:48-53, 28:24-27, 36:37-40, 44:34-39, 45:54-61, 51:24-29, FIGS. 1, 10, 26A-26C, 53-56.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Likewise, Benoit discloses a mobile phone that can display a series of icons that correspond to programs. (Benoit at (cover page, 57), 2:9-12, FIGS. 1, 3.)

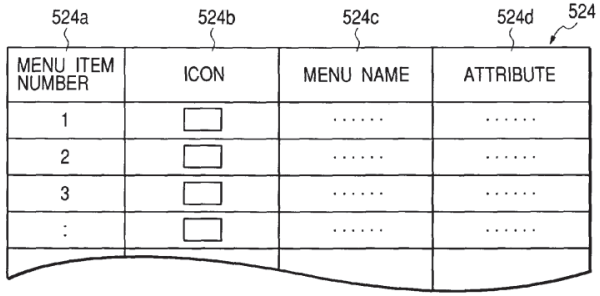
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone to display a plurality of icons corresponding to a plurality of applications on the display screen. Configuring a mobile phone to display a plurality of icons corresponding to a plurality of applications was routine and conventional to a POSITA, as shown by Bast, Nakano, and Benoit. A POSITA would have been motivated to configure a mobile phone in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Bast, Nakano, and/or Benoit's teachings into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (combining a mobile phone capable of executing a plurality of applications, as disclosed by Dutta, with the technique of displaying a plurality of icons corresponding to the plurality of applications, as disclosed by Bast, Nakano, and Benoit) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (displaying a plurality of icons corresponding to a plurality of applications as taught by Bast, Nakano, and Benoit) to

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (displaying a plurality of icons corresponding to a plurality of applications as taught by Bast, Nakano, and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Nakano, and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include: "In the related art menu display by the launcher, icons representing application software programs and/or documents and their names are displayed in sets (the sets are hereinafter referred to as 'menu items'), arranged like tiles on a plane. The user selects any menu item by way of operation of a button such as a lever and across-hair key, or selection using a pointing device such as a stylus pen or a tracking pad." (Nakano at 1:34-40.) "In the menu display, a single menu item or a plurality of menu items are displayed. A menu item has an icon 130 and a menu name 132 as shown in FIG. 2D for example, and an icon and a menu name are handled as a set, or a menu panel 134. A menu item in a predetermined position B4 is a candidate for selection, which shows that the menu is in the selection state by way of a different display form of the menu panel 134 (the display form is hereinafter referred to as the 'selection display'). To be more specific, the area surrounding the icon 132 and the menu name 132 corresponding to the ground of the menu panel 134) is filled in with a color different from that of the menu panel 134 in the non-selection state. While in this embodiment, the menu panel 134 is a rectangle where the horizontal direction in the screen is the longitudinal direction, any other shape may be used. The menu panel 134 may display only the icon 130 or the menu name 132." (Nakano at 16:39-54.) "The menu screen information 520 stores various ii required for screen display of a launcher shown in FIG. 2, for example image information on various icons and their display position coordinates. The menu screen information 520 is set per menu display mode. Which mode of menu display is to be used is stored as the display mode 521." (Nakano at 21:1-6.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"FIG. 10 shows an example of the menu item information 524. As shown in FIG. 10, the menu item information 524 stores, per menu item number 524a, the icon 524b of the icon 130, the menu name 524c of the menu name 132, and the attribute 524d of the menu item (for example distinction between an application, a folder and a file)" (Nakano at 21:48-53.) "The 'menu display entity' comprises an icon specifying an application and a menu name. In the following description, the menu name of each menu display entity is used to identify the menu entity." (Nakano at 28:24-27.) "FIG. 42 shows the data structure of the menu display entity data. As shown in FIG. 42, the menu display entity data comprises menu numbers, icons, and menu names keyed to a plurality of menu display entities." (Nakano at 36:37-40.) "Referring to FIG. 53A, on the launcher screen are displayed, as menu items, for example, application programs related to Mail, Browser, Address book, Schedule, Memo pad, File viewer, Accessory, System, and Setting, together with icons. In the storage section 622 are stored application programs (application software) related to theses [sic] menu items." (Nakano at 44:34-39.) "To the left of the window display section 641 are arranged icons 640 representing the menu items in the launcher screen (Mail, Browser, Address book, Schedule. Memo pad, File viewer. Accessory, and System) in the vertical direction, and are displayed the upward and downward scroll buttons 635 and 636. Tapping on the upward or downward scroll button 635 or 636 moves a cursor 37 (not shown in FIG. 54) between the icons 640." (Nakano at 45:54-61.) "In FIG. 55, the screen displays menu items as a plurality of items, for example, Schedule, Browse, Address book, and Schedule, as well as icons corresponding to the menu items to the left of these menu items. For these icons, various display control mentioned above will be performed as well as handling of items." (Nakano at 51:24-29.) Nakano discloses the following at FIGS. 10, 26A-26C, 53-56:

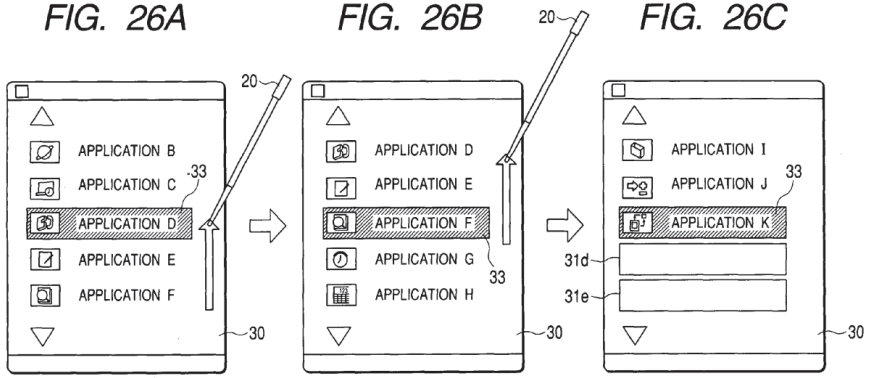
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations

FIG. 10

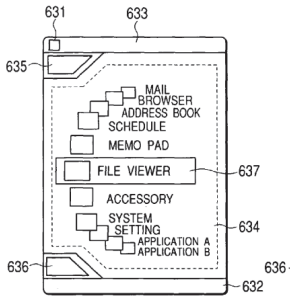
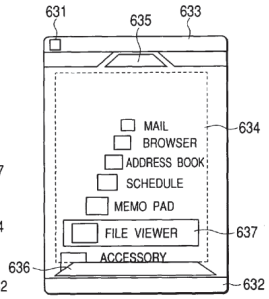
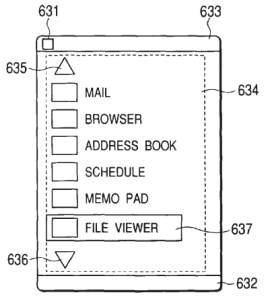


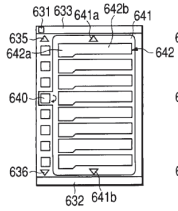
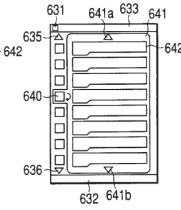
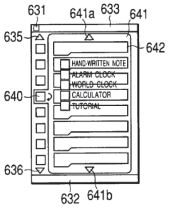
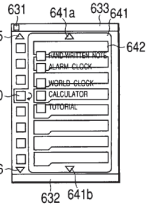
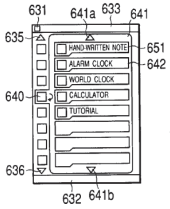
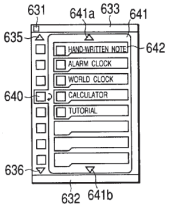
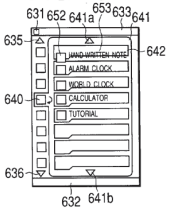
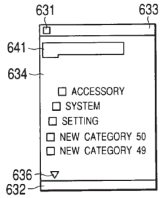
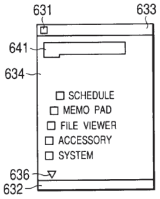
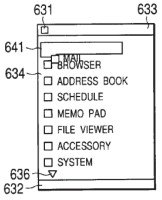
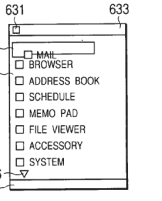
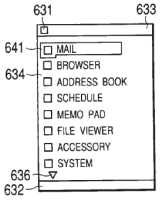
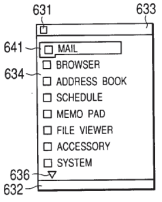
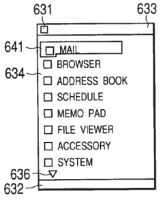
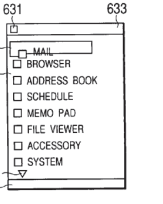
(Nakano at FIG. 10)

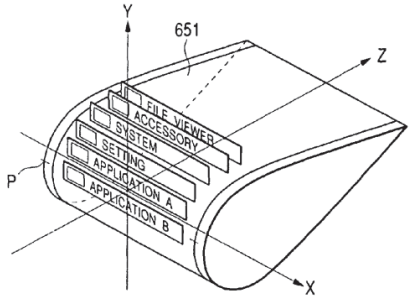
FIG. 26A FIG. 26B FIG. 26C

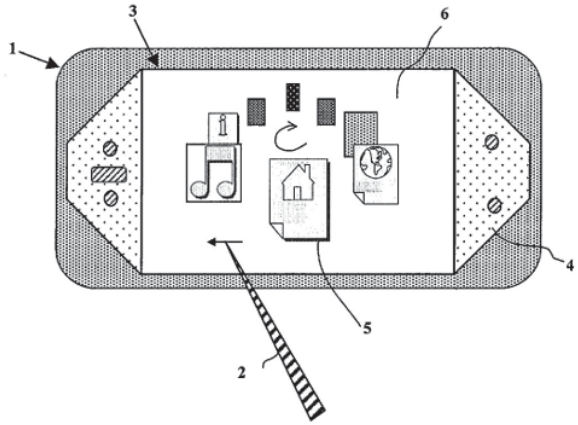


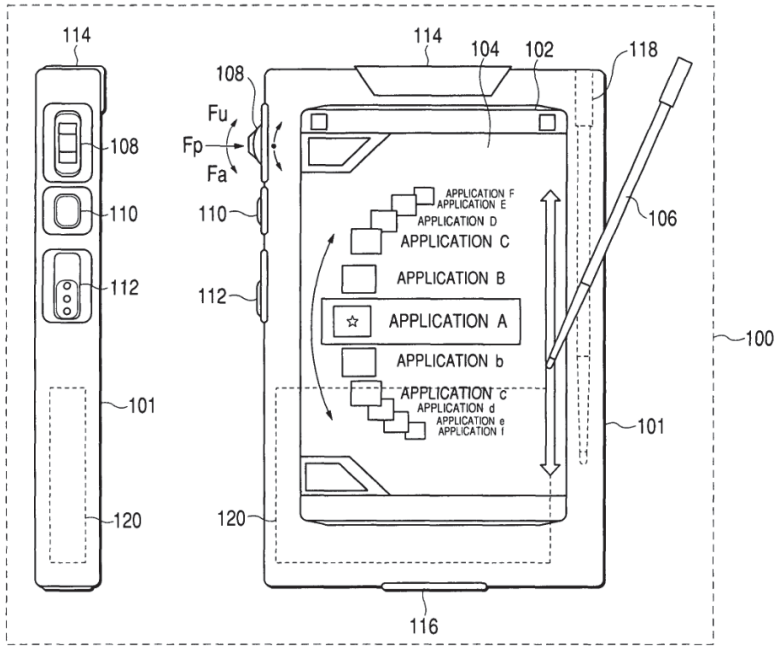
(Nakano at FIGS. 26A-C)

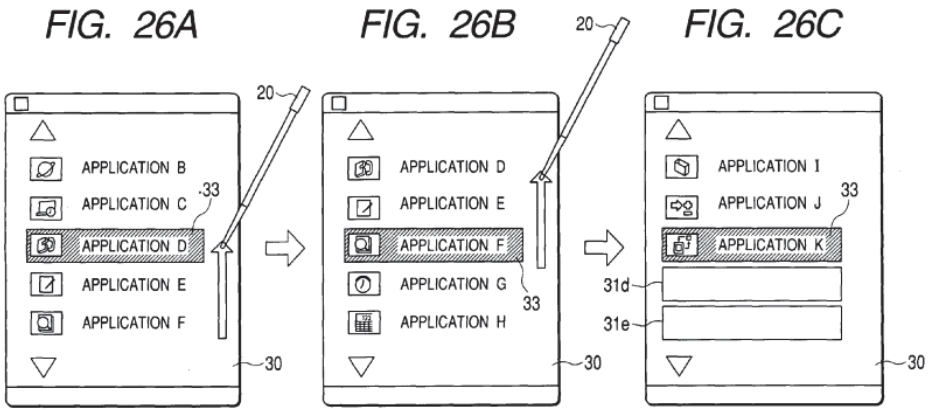
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 53A  FIG. 53B  FIG. 53C  (Nakano at FIGS. 53A-C)

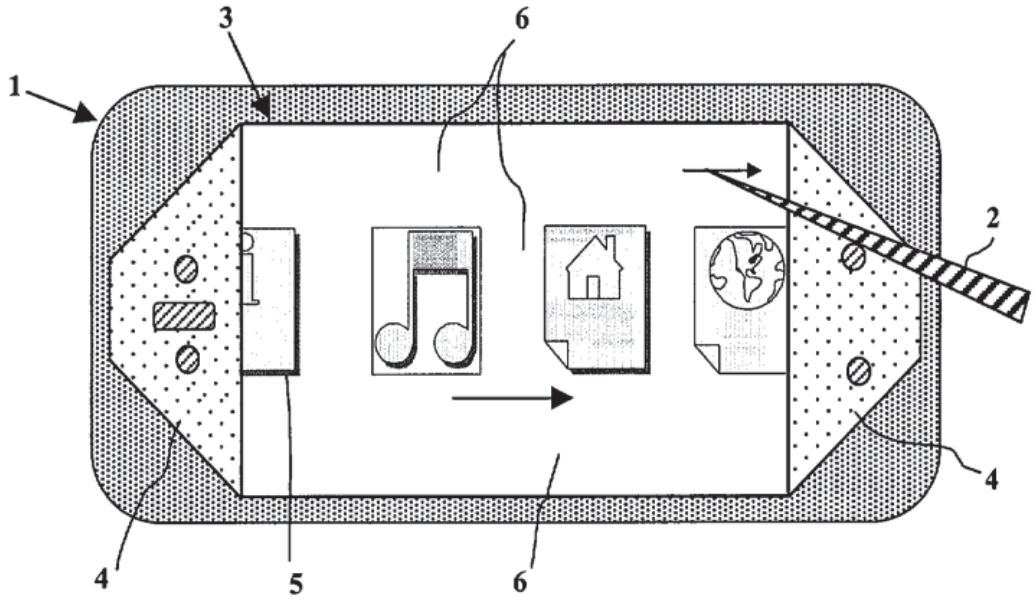
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 54A  FIG. 54B  FIG. 54C  FIG. 54D  FIG. 54G  FIG. 54F  FIG. 54E  (Nakano at FIGS. 54A-G) FIG. 55A  FIG. 55B  FIG. 55C  FIG. 55D  FIG. 55H  FIG. 55G  FIG. 55F  FIG. 55E  (Nakano at FIGS. 55A-H)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 56  (Nakano at Fig. 56) "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (cover page, 57).) "The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon." (Benoit at 2:9-12.) Benoit discloses the following at FIG. 3:

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIGURE 3 (Benoit at FIG. 3)
[3b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." It would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Nakano and/or Benoit to display a plurality of other applications upon a user action on the display unit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Nakano discloses a mobile phone that includes a touch panel 104. (Nakano at 2:49-51, FIG. 1.) Nakano teaches a method of improving the control of a menu display by using said touch panel. (*Id*.) The touch panel is integrated into the display of the portable device disclosed by Nakano, which may be a mobile phone. (Nakano at 7:20-39.) Nakano teaches using a drag operation to control the display of various entities shown on the display. (Nakano 7:40-52.) The drag operation taught by Nakano may comprise drawing a finger across the display panel or using a stylus to do the same. (Nakano at 7:57-8:16). Nakano teaches that programming a device, display, and touch panel in this way allows for improved control of display entities that are shown on the display. (Nakano at 8:50-54). The display entities disclosed by Nakano may correspond to programs, also known as applications, that can be activated and executed by the device. (Nakano at 8:65-9:6.) *FIG. 1* 

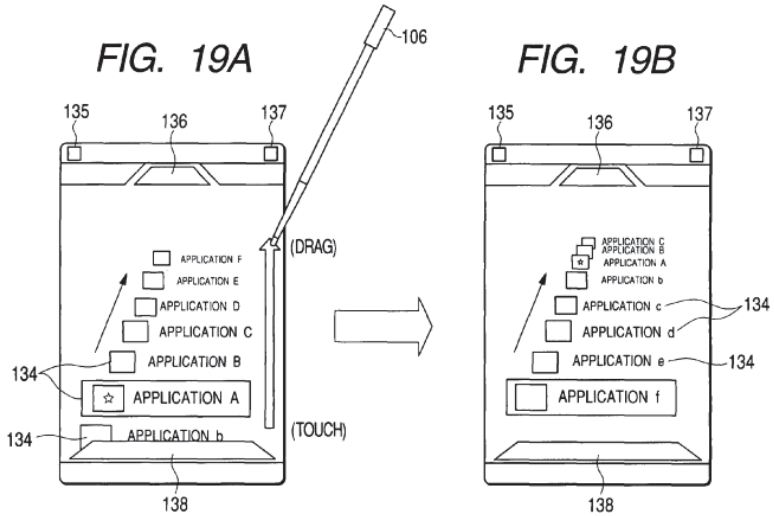
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	(Nakano at FIG. 1) Thus, Nakano teaches programming a device, such as a mobile phone, so that is operative to allow a user to slide a finger or stylus pen across a menu screen, displaying a plurality of application icons in the form of menu items. (Nakano at 15:66-16:10). A dragging operation, also known as a sliding operation, allows a user to move the menu items displayed in various directions across the screen. (Nakano at 25:40-47, FIGS. 19A-19B.) As shown in FIGS. 26A-C, menu items, also known as application icons, that are not originally shown on the display may be displayed based on a dragging or sliding input from a user. (Nakano at 28:36-29:10, FIGS. 26A-C.)  (Nakano at FIGS. 26A-26C.) As another example, Benoit teaches a display used in a mobile phone that can display a series of icons that correspond to programs and respond to a sweeping input to display a plurality of additional icons. (Benoit at (cover page, 57).) Benoit further teaches that it is desirable to display large icons corresponding to applications, making them easily distinguishable. (Benoit at 2:17-18.) And the dexterity needed to control the display of application icons is reduced because the control input can be made across the entire screen, including the area where the application icons are shown. (*Id.*)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit. Configuring a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (combining a display unit, as disclosed by Dutta, with the ability to display of a plurality of additional application icons in response to a sweeping action into the mobile phone, which is operative to display a plurality of application icons, as disclosed

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	by Nakano and Benoit) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include: "The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:49-51.) "The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano 7:40-52.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a "tap-in" and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a "tap-out". The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a "tap". According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity).” (Nakano at 7:57-8:16). “According to the invention, the following advantage is obtained. Information display entities are arranged on a virtual face. Scroll display is allowed by moving a virtual camera whose line of sight faces the virtual face, thus more readily allowing scroll control in a virtual space.” (Nakano at 8:50-54). “The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means.” (Nakano at 8:65-9:6.) “The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection.” (Nakano at 15:66-16:10).

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In FIG. 19A, a menu item in the middle of the menu is in the selection state. Menu items preceding and following the item are three-dimensionally represented in one-point perspective in the upward direction in the screen. Dragging with the stylus pen 106 in the upward direction so as to slide the menu display in the upward direction causes the menu panel 134 to move in the upward direction along the one-point perspective, for example, as shown in FIG. 19B." (Nakano at 25:40-47.) "In FIG. 26A, the menu display area 31 a displays "Application B", the menu display area 31 b displays "Application C", the menu display area 31 c displays "Application D", the menu display area 31 d displays "Application E", and the menu display area 31 e displays "Application F", respectively. In the selection candidate display area 32, that is, in the menu display area 31 c, the focus 33 is overlaid on Application D. The Application D is a candidate for selection. In the menu screen 30, dragging the stylus pen 20 in the upward direction scrolls through the menu display entities in the menu screen 30 as shown in FIG. 26B. In FIG. 26B, the menu display area 31 a displays "Application D", the menu display area 31 b displays "Application E", the menu display area 31 c displays "Application F", the menu display area 31 d displays "Application G", and the menu display area 31 e displays "Application H", respectively. The menu display entities on the screen are scrolled though in the upward direction by two rows. On the menu display entity displayed in the selection candidate display area 32, that is, on Application F, is overlaid the focus 33. The Application F is a candidate for selection. Dragging with the stylus pen 20 refers to an operation (including standstill state) of sliding the stylus pen 20 on the LCD panel 11 with the tip of the stylus pen 20 in contact with the LCD panel 11. In FIG. 26B, further dragging in the upward direction further scrolls through the menu entities on the screen in the upward direction. As shown in FIG. 26C, when the lowermost menu display entity (Application K in the figure) reaches the selection candidate display area 32, the scroll comes to a halt. In FIG. 26C, the menu display area 31 a displays "Application I", the menu display area 31 b displays "Application J", and the menu display area 31 c displays "Application K", respectively. On the menu display entity displayed in the selection candidate display area 32, that is, on Application K, is overlaid the focus 33. The Application K is a candidate for selection. While a drag is made in the upward direction in FIGS. 26A through 26C, the same applies to a drag in the downward direction. That is, as shown in FIG. 27A, dragging in the downward direction scrolls through the menu display entities in the downward direction. As shown in FIG. 27B, when the uppermost menu display entity (Application A in the figure) reaches the selection candidate display area 32, that is, the menu display area 31 c, the scroll comes to a halt. While the drag operation is made

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	in the rightmost area of the menu screen 30 for clarity in FIGS. 26A through 26C and FIGS. 27A and 27B, the drag operation is allowed across the menu screen 30 as shown in FIG. 31 in practice." (Nakano at 28:36-29:10.) Nakano discloses the following at FIGS. 19A-B:  "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (cover page, 57).) "In addition, the use of a touch screen generates another serious problem. That is, because the icons and drop-down menus are generally fixed, the user always uses their finger or a stylus to point at the

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	same small areas of the touch screen. This leads, therefore, to local damage, decalibration, and premature wear of the touch screen. The object of this invention is to ameliorate the disadvantages of the aforementioned systems and to propose a human-machine interface with a touch screen in which navigation is simplified. Another object of the invention is to limit the premature decalibration of touch screens. The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon. Preferably, the control area is extended so as to distribute the touch points and prevent the premature wear of the touch screen over the defined areas. The entire surface of the touch screen not covering an icon can be expected to constitute the control area. Thus, the control is no longer localized in a limiting manner. Unlike the prior art, the scrolling of icons allows these icons to be shown at a large size such that they are easily distinguishable. With such a method according to the invention, the fact of having an extended control area prevents the constant use of certain small areas of the screen. According to an advantageous characteristic of the invention, the touch command for scrolling the series of icons comprises a touch followed by a directional movement. The scrolling speed and direction are defined by the point of contact and the projection into the scrolling direction of a vector obtained as a result of the directional movement. The point of contact can be anywhere over the entire extended control area. The icons can be shown independently of each other, whether attached or embedded in a scrolling banner, and representing, for example, a landscape.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen. These icons can be scrolled to show the icon representing the application intended to be launched in the foreground in the center of the screen. According to a preferred embodiment of the invention, the icons scroll along a virtual circle inscribed in a plane perpendicular to the plane of the screen. Scrolling then makes it possible to show each icon on the screen successively, with the other icons remaining in the background. In this case, it is possible to envisage that only the icon shown on the touch screen is capable of launching an application. It is also possible to envisage that all the icons remain permanently visible on the touch screen during scrolling. As such, all the icons may be active. According to an advantageous embodiment of the invention, the scrolling of a series of icons may exhibit inertia as a function of the scrolling speed. Consequently, when a user lifts their finger or stylus from the touch screen, the scrolling continues for a few short moments based on the movement made by that user to carry out the scrolling. According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 2:1-3:24.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
[4pre] The device of claim 3	Claim 4 depends from claim 3. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 3 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 3 to show the additional limitations of claim 4 are anticipated and/or obvious for the same reasons set out in claim 3.

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 3." *See supra* claim [3].
[4a] wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit." For example, Dutta explains that the mobile phone may be used "to navigate between Internet pages, to process text, to make a phone call, or to use other functions of the device." (Dutta at [0028].) A POSITA would have understood that these different functions would be accomplished by different applications. Further, Dutta discloses a touch screen that is operative to respond to interactions from a user. (Dutta at [0005], [0022].) Accordingly, it would have been obvious in the mobile phone design disclosed by Dutta that the touch screen must be operative to open application icons in response to a user's touch. A POSITA would recognize that the mobile phone disclosed by Dutta must be programmed in this way in order to be functional, else the application icons could not be opened. Additional exemplary citations include: "Even when the phone is equipped with a touchscreen keyboard that is located on the display, the display surface is at most sized about 5 x 15 cm or 75 cm^2. Thus, however, this surface is larger than that of a typical PDA, whose display generally measures approximately 7.5 x 7.5 cm and thus about 56 cm^2." (Dutta at [0005].) "According to the preferred embodiment, a mechanism for selecting the display mode is provided to the user. This mechanism can be embodied either as a button on the phone or as a touch-sensitive selection switch area directly on the display 210. With each activation of the mechanism by the user, the display switches between the two modes." (Dutta at [0022].)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Of course, at any point of this process, the user can intervene in order to navigate between Internet pages, to process text, to make a phone call, or to use other functions of the device. These are not depicted in the flowchart of Fig. 3 because they are not essential for the function of the preferred embodiment." (Dutta at [0028].) To the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Nakano and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Nakano discloses that a tap operation (a predefined interaction) may be used to select a display entity, such as menu item corresponding to an application. (Nakano at 9:49-57.) In response, a program corresponding to said menu item or display entity may be activated. (Nakano at 9:58-62.) Accordingly, a tap operation may activate an application program corresponding to a selected information display entity, such as an application icon. (Nakano at 9:63-67.) Nakano further discloses that tapping a stylus pen on a menu display entity shown on the display of the device may activate an application program corresponding to that menu display entity. (Nakano at 34:26-30.) As another example, Benoit teaches displaying application icons that launch when a brief contact is made with said icon. (Benoit at 3:5-8.) Thus, the brief contact is a predefined interaction that opens that corresponding application when input by the user. (*See id*.) A POSITA would have recognized that Benoit taught the method of opening an application icon in response to a user providing a predefined interaction with said icon. A POSITA would have been motivated to configure a mobile phone such that an application is opened upon a user providing a predefined interaction with an icon, such as a tap. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA

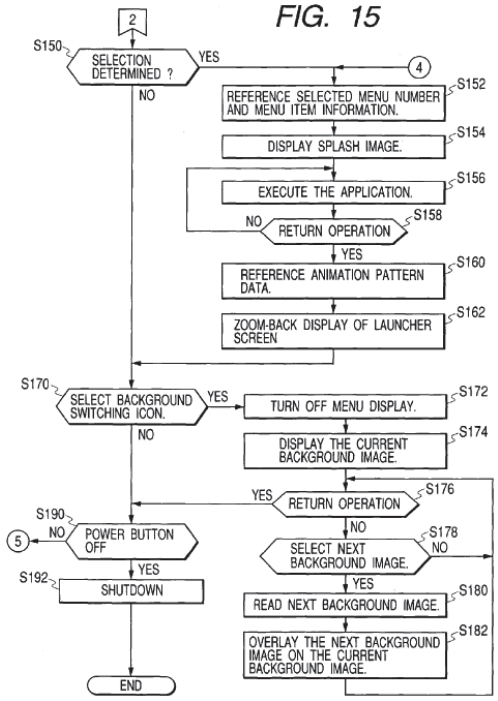
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (combining display unit operative to open an application icons in response to a predefined interaction provided by the user into the mobile phone architecture disclosed by Dutta, which is operative to select icons with a predefined interaction) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to open an application icon upon detecting a predefined user input directed at an application icon as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to open an application in response to user providing a predefined interaction with an icon corresponding to said application as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include: "The PDA can execute a plurality of application software programs (also referred to as simply 'applications') by way of arithmetic operation by a built-in CPU. Application software includes schedule software, address book software, memo pad software, word processing software, calculator software, electronic mail software, web browser software, music playback software, graphics viewer software, and clock display software. Operation of selection and execution of application software is controlled by the application management program called 'launcher'. With application software programs and/or documents registered in advance, the application software programs and/or documents are displayed on a menu by the launcher, and directly started via simple input operation." (Nakano at 1:20-33.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"However, in a scroll operation and selection of a menu display entity, at least two operations are required. The scroll operation on a touchpanel is the same as the mouse operation, for example tapping operation, on an ordinary PC." (Nakano at 1:52-55.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a 'tap-in' and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a 'tap-out'. The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a 'tap'. According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:13-26.) "According to the invention, a tap operation may be used, on top of a drag operation, to select a desired information display entity. A method for selecting an information display entity may be switched as appropriate, such as using a drag operation in case a desired information display entity is not displayed in the predetermined display area, and a tap operation in case one is displayed. In any case, it is possible to readily select a desired information display entity thus enhancing its operability." (Nakano at 9:49-57.) "In case determination is made by the second determination means, the activation means may activate a program corresponding to an information display entity determined as a candidate for selection by the second determination means, if any." (Nakano at 9:58-62.) "According to the invention, a tap operation may be used to activate an application program corresponding to a selected information display entity. That is, a single tap operation directly activates a desired application thus enhancing its operability." (Nakano at 9:63-67.) "The processor 20 performs arithmetic operation in accordance with programs to make centralized control of the PDA 100 as well as execute a launcher or various application programs for the PDA 100." (Nakano at 18:31-35.) "The control program 502 executes a so-caller 'launcher' to work as utility software to help activate the application program 510. The control program 502 comprises processing concerning menu display shown in FIG. 2 and includes a menu item selector 22 and a menu display controller 24 in a processor 20." (Nakano at 20:55-60.) "FIGS. 13 through 15 are flowcharts illustrating the flow of processing from selection of an item to activation of an application in this embodiment." (Nakano at 22:59-61.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In case the stylus pen is released from the touch panel 104, a so-called tap-out operation is made (YES in step S118), execution proceeds to activation of an application described later. In case a tap input is made with the stylus pen 106 (YES in step S120), the menu item selector 22 determines whether any menu panel 134 includes the position coordinates which are tapped on referring to the menu panel position information 523. In case any menu panel 134 is tapped on (YES in step S122), the menu item selector 22 changes the selected menu number 531 to the menu number of the menu panel 134 (step S124). Execution then proceeds to activation of an application described later." (Nakano at 23:18-26.) "FIG. 15 is a flowchart specifically illustrating the flow of processing from determination of a selected item to activation of an application program and the flow of screen switchover. As shown in FIG. 15, in case determination of a selected item is input by way of a push on the side controller 108 or a tap using the stylus pen 106 (YES in step S150), the processor 20 references the menu item information 524 in accordance with the selected menu number 531 (step S152) to retrieve the corresponding splash image data 536 and displays the data on the screen (step S154). After that, the processor 20 loads and activates the application (step S156)." (Nakano at 24:34-44.) "While the desired menu panel 134 is selected on the screen and the selected menu panel 134 is determined then an application is activated in this example, the application may be automatically activated when the desired menu panel 134 has moved to the display position P0 and selected on the screen. To be more specific, a step of comparing the specified menu number 532 with the selected menu number 531 is added before step S142 in FIG. 14. In case the specified menu number 532 is the same as the selected menu number 531, a step of checking the attribute of a registered menu item by referencing the menu item information 524 and a step of proceeding to step S152 (FIG. 15) in case the attribute is an applications are executed." (Nakano at 25:1-13.) "Next, the method for activating an application program corresponding to the menu display entity will be described. The application program corresponding to the menu display entity is activated by way of the operation input using (1) the stylus pen 20 or (2) the side controller 14.

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	When the application is activated, display on the screen 30 is terminated and the screen of the activated application appears on the LCD panel 11." (Nakano at 34:9-16.) "Activation of an application program corresponding to each menu display entity by way of the stylus pen 20 is made by way of (1) tap or (2) drag." (Nakano at 34:20-22.) "Tapping the stylus pen 20 on any of the menu display entities displayed in the menu screen 30, or to be more specific, the menu display area 31, the application program corresponding to the menu display entity displayed in the tapped position is activated." (Nakano at 34:26-30.) "After that, when the stylus pen 20 which has been in contact with the LCD panel 11 is released from the LCD panel 11 (hereinafter referred to as 'tap-out' as appropriate), an application program corresponding to Application Dawaiting activation is activated." (Nakano at 34:52-56.) "A drag is available as a method for selecting a desired menu display entity as well as a tap. In case a desired menu display entity is not displayed in the menu screen 30, a drag is used, and in case it is displayed, a tap is used, in a selective way. In any case, it is possible to readily select a desired menu display entity thus enhancing its operability." (Nakano at 34:65-35:3.) "The application activation controller 320 calls the application program from the storage section 400 based on application activation condition data 426 and executes the application program. Also, in response with a tap by way of the stylus pen 20 or a 'push' on the side controller 14, the application activation controller 320 calls the application program from the storage section 400 and executes the application program." (Nakano at 36:5-12.) "In case the input determination section 311 has determined that operation is a tap (step S14: YES), the input determination section 311 determines whether the indicated position by the stylus pen 20 is included in which menu display area 31 (step S15). In case the input determination section 311 has determined that whether the indicated position is included in any menu display area 31 (step S15: YES), the Application activation controller 320

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	identifies the menu display area 31 which includes the indicated position and calls the application program 411 corresponding to the menu display entity displayed in the identified area and execute the application program (step S16).” (Nakano at 37:50-62.) “While an application program corresponding to a menu display entity which shifted to the activation wait state is activated by halting a drag and performing a tap-out after a predetermined period in that state in the embodiments, an application program corresponding to a menu display entity which is a candidate for selection at the point of tap-out may be activated.” (Nakano at 41:55-61.) Nakano discloses the following at FIG. 15:  FIG. 15 (Nakano at FIG. 15)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen." (Benoit at 3:5-8.) "Scrolling is carried out according to a method illustrated in the diagram in figure 2. When a user contacts the touch screen 3 by means of the control stylus 2, they use the stylus for pointing in step 7 in accordance with figure 2. If the stylus points at an icon in step 8, the operating system launches an application, in step 9, related to the pointed-at icon." (Benoit at 4:21-5:2.) "A third embodiment of the series of icons is illustrated in figure 4, showing a continuous banner 14 representing a given landscape. This banner may be a series of icons adjoined to one another or a series of distinct icons embedded in specific locations on the banner. Under these conditions, the control area 6 may include the entire surface of the touch screen 3. However, it is necessary to distinguish between a scroll command and an application launch command if the stylus points at an icon. An application launch command is characterized by a brief touch of the stylus on the icon. By contrast, a scroll command is characterized by a long pointing comprising a touch followed by a lateral displacement on any contact area over the entire surface of the touch screen. In this particular example, the icons can be represented by the active areas 15 and 16." (Benoit at 5:17-6:3.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5pre] The device of claim 1	Claim 5 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 5 are anticipated and/or obvious for the same reasons set out in claim 1. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5a] wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." For example, Dutta discloses that text may be entered using a virtual keyboard. (Dutta at [0005].) Dutta further discloses that text may be displayed in either portrait or landscape direction. (Dutta at [0006], [0009], [0017], [0019]-[0023], [0025]-[0027], FIGS. 2A-B.) Dutta explains that the device may switch between the portrait and landscape modes according to the user's choice, such as by using a button or touch-sensitive selection switch area. (Dutta at [0021], [0022].) A POSITA would have found it obvious to enable a user to switch between landscape and portrait modes by using the device in a landscape or portrait position, as was known in the art.

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

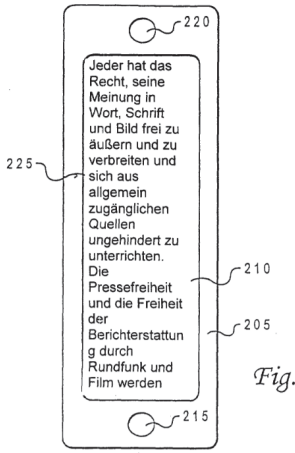


Fig. 2A

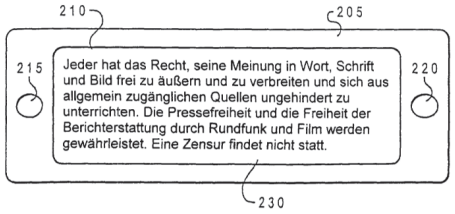


Fig. 2B

(Dutta at FIGS. 2A and 2B)

Additional exemplary citations include:

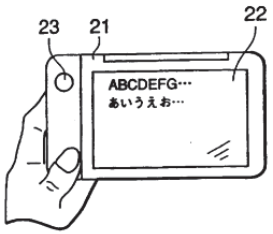
"Even when the phone is equipped with a touchscreen keyboard that is located on the display, the display surface is at most sized about 5 x 15 cm or 75 cm^2. Thus, however, this surface is larger than that of a typical PDA, whose display generally measures approximately 7.5 x 7.5 cm and thus about 56 cm^2." (Dutta at [0005].)

"While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) "The difference between these two figures consists in the representation of data 225 and 230 on the display 210. In Fig. 2A, the data 225 are depicted such that the text is read in portrait format of the display 210, as is usual in current mobile phone models. It is clear that reading is problematic in this format of the display." (Dutta at [0019].)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"However, in Fig. 2B, the representation of the data 230 has been rotated by 90 degrees so that they are shown on the display 210 in landscape format. In this case the data 23 are significantly easier to read." (Dutta at [0020].) "Of course, whether presentation on the display in portrait format (as with the data 225) or in landscape format (as with the data 230) is preferred depends on the type of the data. Consequently, in the preferred embodiment. it is possible for the user to choose the orientation of the display at any time and to easily switch between the two modes. The necessary programming of the software or firmware for the display of the data in these two modes should not present a problem for persons skilled in the art in this field." (Dutta at [0021].) "According to the preferred embodiment, a mechanism for selecting the display mode is provided to the user. This mechanism can be embodied either as a button on the phone or as a touch-sensitive selection switch area directly on the display 210. With each activation of the mechanism by the user, the display switches between the two modes." (Dutta at [0022].) "Alternatively to the preferred embodiment or in combination therewith, the Internet browser software or the display-control software of the portable device can be configured to automatically recognize the most suitable orientation for presenting of data and to switch between the two display modes." (Dutta at [0023].) "The device then shows the page in the standard orientation (step 315), which is referred to as display mode 1. The user can set either portrait format or landscape format as the standard orientation of the display. Alternatively, the device can be configured to automatically determine the most suitable display mode. Here, based on checking the line length of the received text, the device establishes whether portrait format or landscape format is the more suitable display format." (Dutta at [0025].) "When the device has been configured to automatically switch between the display modes (step 320), it first waits for the expiry of a preset delay period (step 325) and then displays the page in an orientation rotated by 90 degrees (step 330), which is referred to as display mode 2." (Dutta at [0026].)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In another configuration, the system waits for user input. When the user activates the switching mechanism (step 335), as described above, the device switches to display mode 2 (step 440). Then, the process is repeated (step 305)." (Dutta at [0027].) To the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Kobayashi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. As another example, Kobayashi discloses a similar device to that disclosed by Dutta and provides relevant teachings. Kobayashi teaches that is beneficial to have display which is operative to automatically adjust to the orientation it is being held in by the user. (Kobayashi at 2:5-23; see also *id*. at 19:25-20:4, FIGS. 4A, 4B.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	Fig.4a  Fig.4b  "In this manner, the display screen on the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:25-20:4.) A POSITA would have been motivated to configure a mobile phone to display text in landscape direction and in portrait direction on said display unit when the device is used, respectively, in

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	landscape position and in portrait position. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Kobayashi. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily read text regardless of phone orientation, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Kobayashi into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (aligning the display orientation to the phone orientation, as taught by Kobayashi) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (reorienting the display based on device orientation as taught by Kobayashi) to improve similar devices in the same way (a mobile phone that allows a user to easily review text); (C) applying a known technique (reorienting the display based on device orientation as taught by Kobayashi) to a known device ready for improvement to yield predictable results (a mobile phone); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Kobayashi) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include: "The orientation at which data is displayed on portable terminal device is altered by detecting where the device is being held by a user. Pressure sensors or photo cells along two edges of the device may be used to alter the orientation by 90°. The orientation of data on the display may also be altered according to which function is being used or by operating a switch. Alternatively the device may have a plurality of displays at different orientations which may be used according to the way in which the terminal is being used. The portable terminal device may be a selective call receiver or a mobile telephone." (Kobayashi at Abstract.) "in view of the above-mentioned problems, in a preferred embodiment the present invention enhances an operability by controlling the direction of screen display on the display in accordance with whether or not the user's fingers and palm come into contact with a pressure sensor or a photo-detection sensor on any surface of a portable terminal device body." (Kobayashi at 13:14-19.) "When the mobile information terminal 31 is longitudinally used and held, the pressure sensors 33 and 34 are disposed on both the side surfaces of the mobile information terminal 31. The user's fingers and

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	palm ca-ne into contact with the pressure sensor 33 and/or the pressure sensor 34, whereby the direction of screen display on the display 32 is controlled. That is, when the user uses and holds the mobile information terminal 31 laterally as shown in Figs. 8a and 8b, the user's fingers and palm 10 do not c-cm into contact with the pressure sensors 33 and 34. Thus, the screen is displayed along the long side on the display 32. On the other hand, when the user uses and holds the mobile information terminal 31 longitudinally as shown in Figs. 9a and 9b, the user's fingers and palm come into contact with the pressure sensors 33 and/or 15 34. Thus, the screen is displayed along the short side on the display 32. In this way, the direction of display can be automatically changed in accordance with the direction in which the user views the display." (Kobayashi at 18:2-19.) "The direction of screen display on the display 32 is controlled by the controller 36 in accordance with whether or not the signal from. the pressure sensors 33 and 34 is detected. That is, when the user's fingers and palm do not cane into contact with the pressure sensors 33 and 34, the signal is not outputted from the pressure sensors 33 and 34. Thus, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm come into contact with the pressure sensors 33 and 34, the signal is outputted from the pressure sensors 33 and 34. When the signal is inputted from the pressure sensors 33 and/or 34, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the short side. The direction of screen display can be controlled in accordance with, for example, whether a binary signal has me value or the other value, instead of whether or not the signal is detected. When the telephone function is used, the telephone number to be called is inputted from the input section 35. The telephone number to be called inputted from, the input section 35 is translated/received from an antenna 42 through the controller 36 and a radio section 41. When the voice is transmitted/received, an audio amplifier 40, a receiver 38 and a microphone 39 are used as the input/output unit. When the data other than the voice is transmitted/received, the input section 35 and the display 32 are used. 2 5 In this manner, the display screen m the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:2-20:4.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The direction of screen display on the display 52 is controlled by the controller 56 in accordance with whether or not the signal from the photo-detection sensor 54 is detected. That is, when the user's fingers and palm are not put on the photo-detection sensor 54, the signal is not outputted from the photo-detection sensor 54. Thus, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm are put on the photo-detection sensor 54, the signal is outputted from the photo-detection sensor 54. When the signal is inputted from the photo-detection sensor 54, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the short side." (Kobayashi at 22:14-25.) "Moreover, the direction of screen display in the display can be 26 controlled in accordance with whether or not the user's finger and palm came into contact with the pressure sensor or the photo-detection sensor on any surface of the portable terminal device body. Thus, the direction of display screen on the display can automatically controlled in response to how the user holds the portable terminal device, without needing any user's operation. The operability can be thus enhanced." (Kobayashi at 25:27-26:6.) *See also* Kobayashi at Figs. 6, 7. Further, to the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Jambhekar. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

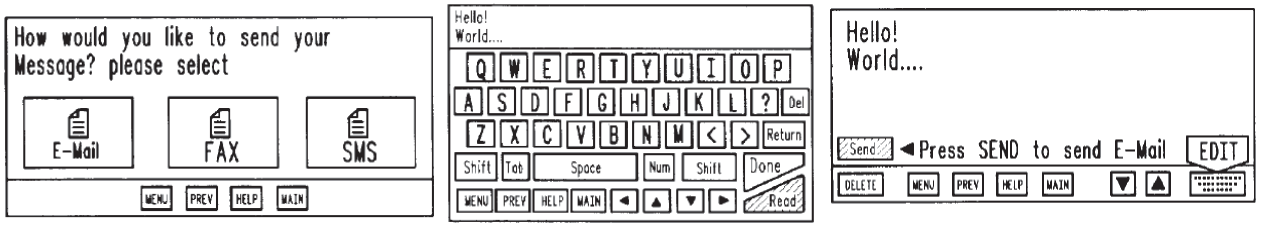


FIG.8A FIG.8B FIG.8C

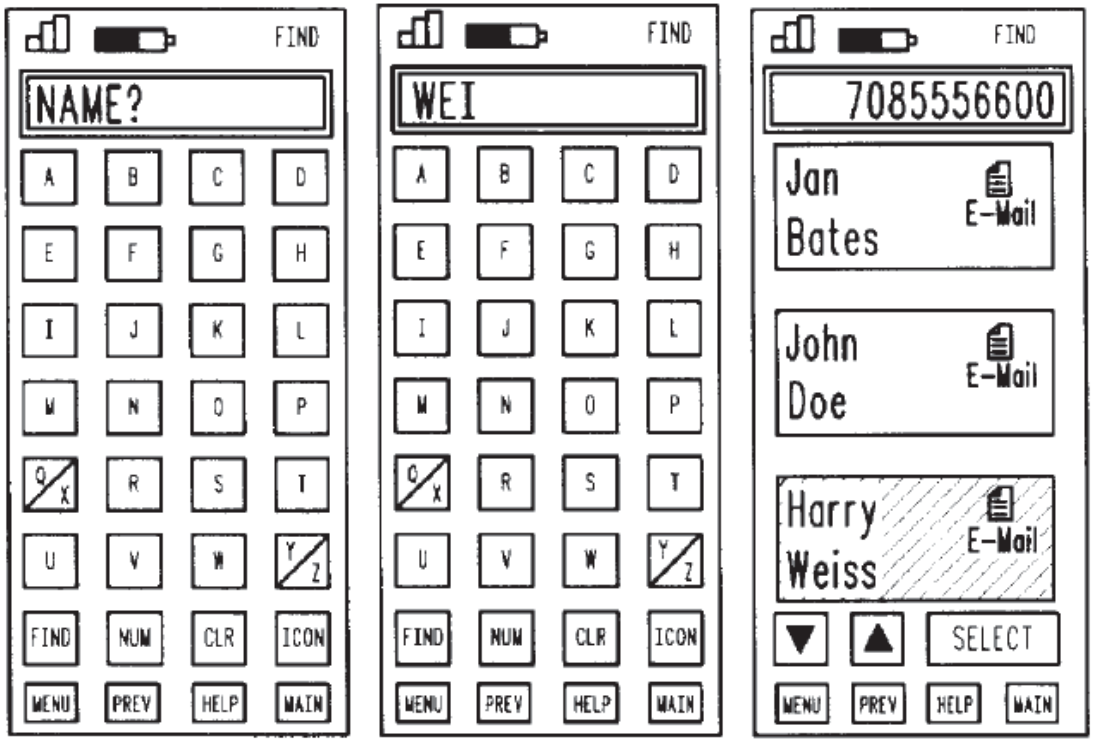
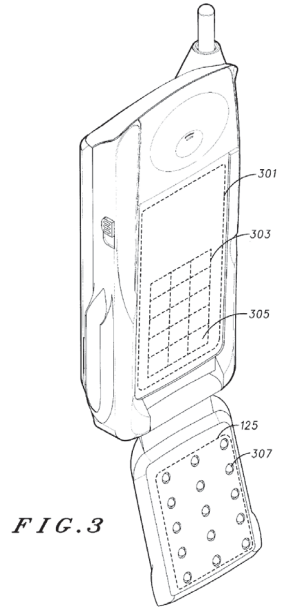
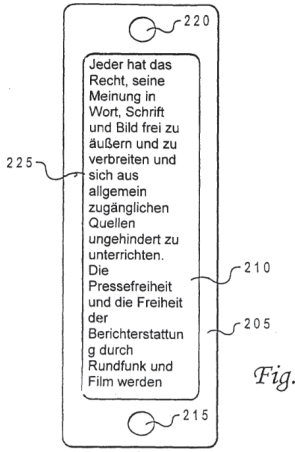
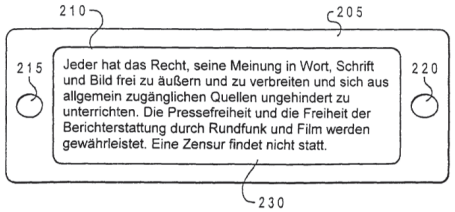


FIG.8D FIG.8E FIG.8F

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text in either portrait or landscape mode. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Jambhekar. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:  FIG.3 (Jambhekar at FIG. 3)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, Dutta discloses a device where the width is less than the length. (Dutta at [0004], [0006], [0008], [0017], FIGS. 2A-B.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	"While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].) "A further object of the present invention is to provide an improved method of displaying data on a handheld device, in which one edge length of the display is significantly larger than the other edge length." (Dutta at [0008].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) To the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Rydbeck and/or Yamaguchi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck discloses a mobile phone wherein the length is 8-10 inches and the width is less than about 4 inches. (Rydbeck at 4:39-43.) As another example, Yamaguchi discloses a mobile phone 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) A POSITA would have found it obvious to configure the mobile phone as disclosed by Dutta with width and length dimensions as claimed. Each of Rydbeck and Yamaguchi teaches configuring a mobile phone such that the width of the device is about half of its length improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and operate as a telephone by placing the speaker close to a user's ear and the microphone close to a user's mouth during operation of the device, while also providing a display that is as large as possible. A POSITA would have been motivated to configure a mobile phone with similar dimensions to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user and the user could easily hear sound produced by the speaker during a phone call. (Dutta at [0003].) For example, as taught by Yamaguchi, a device that is longer than it is wide improves operability and portability. (Yamaguchi at [0015].) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck and Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Rydbeck and/or Yamaguchi into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Rydbeck and Yamaguchi) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone as taught by Rydbeck and Yamaguchi) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone with a width to length ratio as taught by Rydbeck and Yamaguchi) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck and Yamaguchi) that would

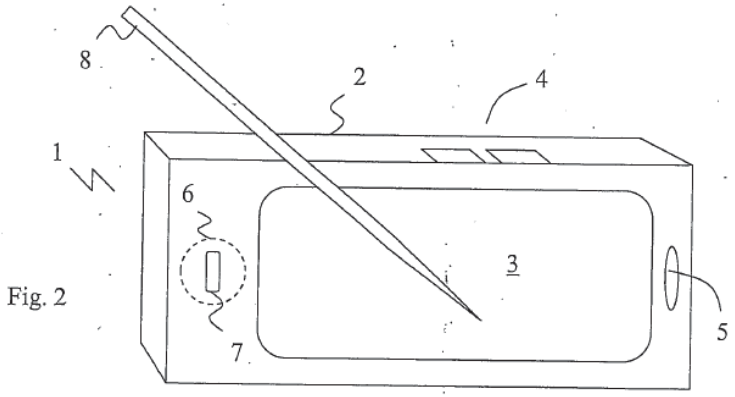
Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include: "The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:39-43.) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].)

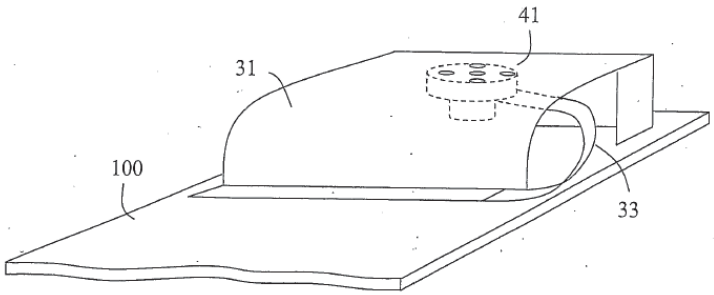
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, Dutta teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires the device to be thin so that a user's hands can wrap around its edges. (Dutta at [0003].) Additional exemplary citations include: "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) To the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Yamaguchi and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi discloses a mobile phone that is 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) Thus, the mobile phone disclosed by Yamaguchi has a thickness that is 20 percent of its width. Further, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) A POSITA would have found it obvious to configure the mobile phone as disclosed by Dutta with width and thickness dimensions as claimed. Yamaguchi teaches configuring a mobile phone such that the thickness of the device is 20 percent of its width, which improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and provides a display that is as large as possible. Wedel simultaneously teaches that there is demand for ever smaller, lighter phones.

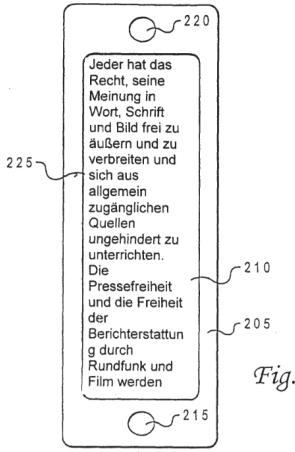
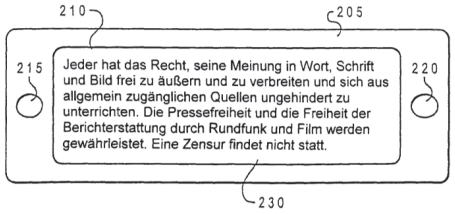
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	A POSITA would thus have been motivated to configure a mobile phone with a thickness to width ratio less than Yamaguchi's to gain market advantage. (Wedel at 1:14-21, 3:19-21.) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve user experience and market demand as suggested by Wedel. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Wedel into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as suggested by Yamaguchi and Wedel) according to known methods to yield predictable results (improving the portability and marketability of a mobile phone); (B) use of a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and/or Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include: "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:  Fig. 2 (Wedel at FIG. 2)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 11 (Wedel at FIG. 11)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone." For example, Dutta discloses a "mobile phone," which is a mobile phone device. (Dutta at [0002]-[0004], [0009], [0013], [0015]-[0018], FIGS. 2A-B.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "Figs. 2A and 2B are exemplary depictions of the display of a mobile phone according to a preferred embodiment of the present invention; and" (Dutta at [0013].) "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "Alternatively, the portable device can also be a mobile phone with an integrated wireless communication unit 120." (Dutta at [0016].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)
[9a] a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces,	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra* claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").
[9c] wherein the width of the front surface of the mobile phone is	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
significantly shorter than the length, and	the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").
[9d] wherein said body has a thin thickness	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").
[9e] a touch sensitive display unit	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, Dutta discloses a display. (Dutta at [0001], [0002], [0004]-[0006], [0008], [0009], [0013], [0015], [0017]-[0022], FIGS. 2A-B.) Dutta explains that the display is touch sensitive because it may include a "touchscreen keyboard" or a "touch-sensitive selection switch." (Dutta at [0005], [0022].)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

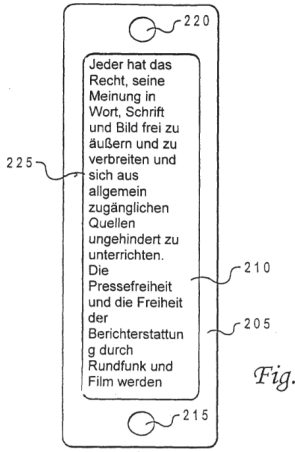


Fig. 2A

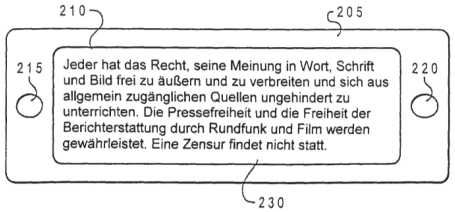


Fig. 2B

(Dutta at FIGS. 2A and 2B)

Additional exemplary citations include:

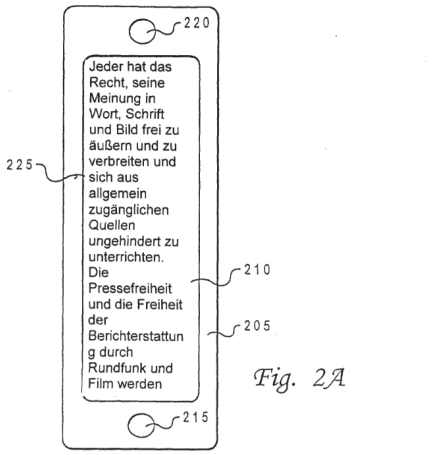
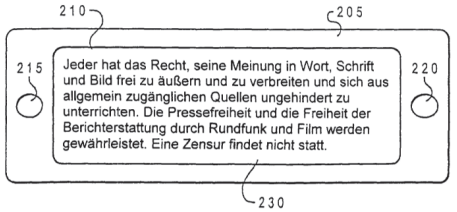
"The present invention generally relates to an improved method of displaying data on a handheld device, in particular an improved method of displaying data on a handheld device whose display surface is significantly larger in one direction than in the other." (Dutta at [0001].)

"A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for

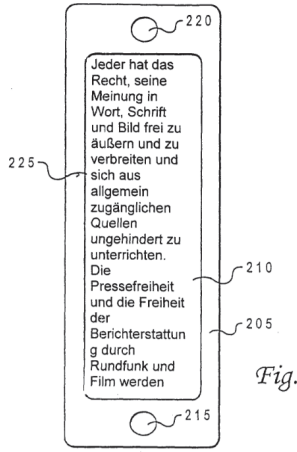
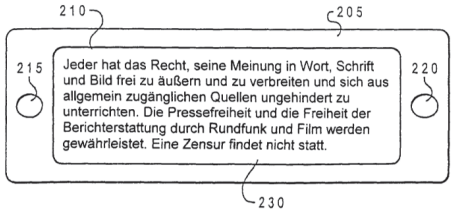
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "Even when the phone is equipped with a touchscreen keyboard that is located on the display, the display surface is at most sized about 5 x 15 cm or 75 cm^2. Thus, however, this surface is larger than that of a typical PDA, whose display generally measures approximately 7.5 x 7.5 cm and thus about 56 cm^2." (Dutta at [0005].) "While significant amounts of data can be displayed on a 75 cm^2 surface, owing to the long, narrow design of these types of displays, it is difficult to display the data in an easily readable form. Most web-based data have been created for screens that are significantly larger in both directions than the display of a phone, and because the data are often displayed in truncated form on the small display, they are difficult to read. While under certain circumstances it does not present any difficulty to the user to display the text over the width of the display and to scroll, significant problems occur while reading text that is presented in portrait format on the display. Therefore, the development of an aid is desirable that allows the user to view the data on the display as desired in portrait format or landscape format." (Dutta at [0006].) "A further object of the present invention is to provide an improved method of displaying data on a handheld device, in which one edge length of the display is significantly larger than the other edge length." (Dutta at [0008].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "Figs. 2A and 2B are exemplary depictions of the display of a mobile phone according to a preferred embodiment of the present invention; and" (Dutta at [0013].) "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)

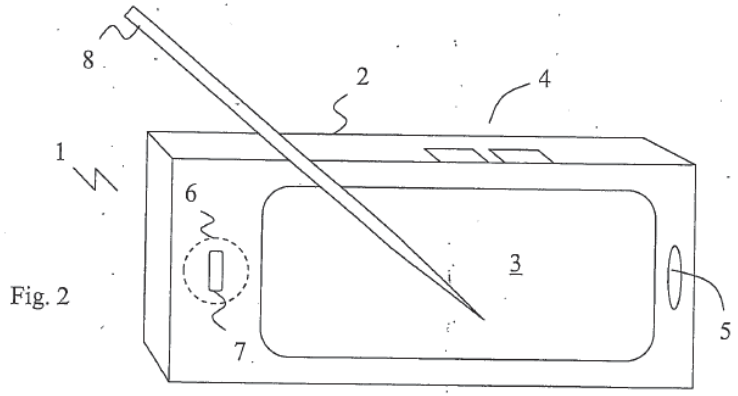
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The difference between these two figures consists in the representation of data 225 and 230 on the display 210. In Fig. 2A, the data 225 are depicted such that the text is read in portrait format of the display 210, as is usual in current mobile phone models. It is clear that reading is problematic in this format of the display." (Dutta at [0019].) "However, in Fig. 2B, the representation of the data 230 has been rotated by 90 degrees so that they are shown on the display 210 in landscape format. In this case the data 23 are significantly easier to read." (Dutta at [0020].) "Of course, whether presentation on the display in portrait format (as with the data 225) or in landscape format (as with the data 230) is preferred depends on the type of the data. Consequently, in the preferred embodiment. it is possible for the user to choose the orientation of the display at any time and to easily switch between the two modes. The necessary programming of the software or firmware for the display of the data in these two modes should not present a problem for persons skilled in the art in this field." (Dutta at [0021].) "According to the preferred embodiment, a mechanism for selecting the display mode is provided to the user. This mechanism can be embodied either as a button on the phone or as a touch-sensitive selection switch area directly on the display 210. With each activation of the mechanism by the user, the display switches between the two modes." (Dutta at [0022].)
[9f] a virtual keyboard to enter text; and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text." For example, Dutta discloses that the phone may be "equipped with a touchscreen keyboard that is located on the display." (Dutta at [0005].) Additional exemplary citations include: "Even when the phone is equipped with a touchscreen keyboard that is located on the display, the display surface is at most sized about 5 x 15 cm or 75 cm^2. Thus, however, this surface is larger than

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	that of a typical PDA, whose display generally measures approximately 7.5 x 7.5 cm and thus about 56 cm^2." (Dutta at [0005].)
[9g] a microphone and a speaker	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, Dutta discloses a mobile phone including a microphone and a speaker. (Dutta at [0018], FIGS. 2A-B.)  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").
[9i] wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text, and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f]. For example, Dutta discloses a mobile phone that does not have any physical keys on the front surface. (Dutta at FIGS. 2A-B.) Dutta further teaches that the phone may include "a touchscreen keyboard," thus removing the need for a physical keyboard, and a "touch-sensitive selection switch area." (Dutta at [0005], [0022].).

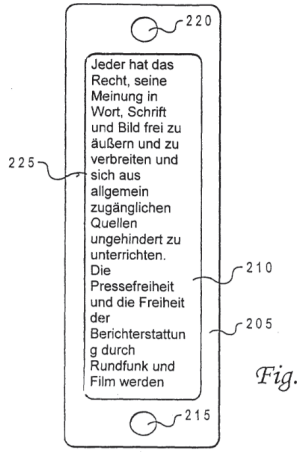
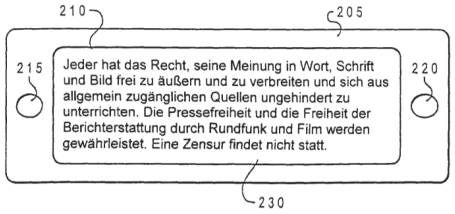
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "Even when the phone is equipped with a touchscreen keyboard that is located on the display, the display surface is at most sized about 5 x 15 cm or 75 cm^2. Thus, however, this surface is larger than that of a typical PDA, whose display generally measures approximately 7.5 x 7.5 cm and thus about 56 cm^2." (Dutta at [0005].) "According to the preferred embodiment, a mechanism for selecting the display mode is provided to the user. This mechanism can be embodied either as a button on the phone or as a touch-sensitive

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	selection switch area directly on the display 210. With each activation of the mechanism by the user, the display switches between the two modes." (Dutta at [0022].) To the extent Keyless argues that Dutta does not disclose or render obvious this limitation, it would have been obvious in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of Dutta combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.) A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by Dutta to be an example of (A) combining prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by Dutta to arrive at the claimed invention. Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:  Fig. 2 (Wedel at FIG. 2)
[9j] wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of Dutta,

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
position and in portrait position.	POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[10a] wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user." As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].) Dutta explains that the microphone is at one end of the phone while the speaker is at the other end. (Dutta at [0018].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include: "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

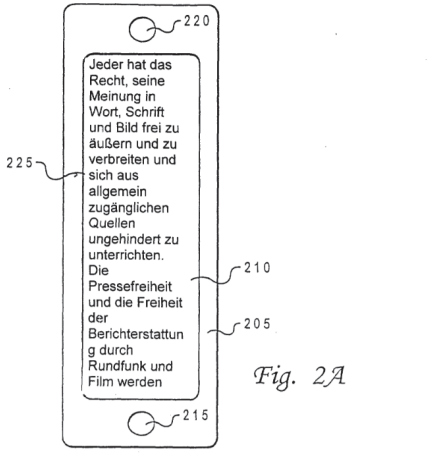
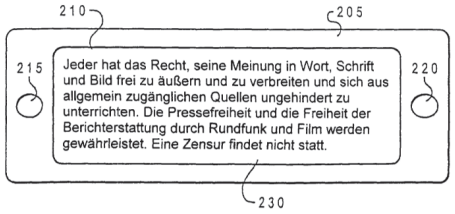
Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[12a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].
[12b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendants incorporate all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].

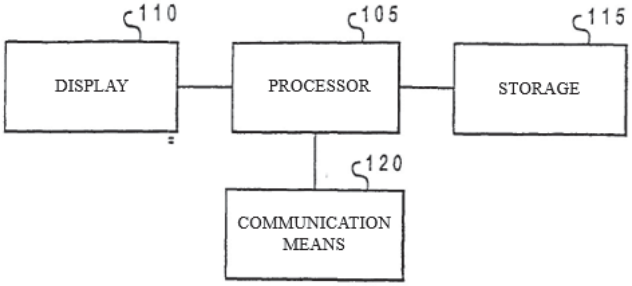
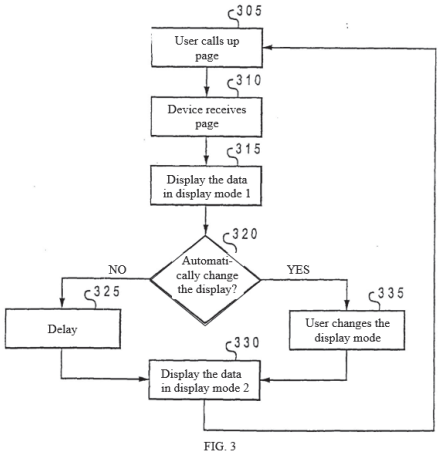
Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13a] wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, Dutta discloses a "mobile phone," which is a mobile phone device. (Dutta at [0002]-[0004], [0009], [0013], [0015]-[0018], FIGS. 2A-B.)  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) Additional exemplary citations include:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].) "The achievement of the above objects is described below. The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective display of this data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or dynamically by the portable terminal." (Dutta at [0009].) "Figs. 2A and 2B are exemplary depictions of the display of a mobile phone according to a preferred embodiment of the present invention; and" (Dutta at [0013].) "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "Alternatively, the portable device can also be a mobile phone with an integrated wireless communication unit 120." (Dutta at [0016].) "The preferred embodiment comprises a system-, method-, and program-product that enables, on a portable device, rapid switching of the display of data between portrait format and landscape format so that the display can be used both as a narrow, tall display and as a wide, flat display. The preferred embodiment is in particular designed such that web data can be displayed on a portable terminal, for example, a mobile phone, and an effective presentation of these data is provided by the rapid switching of the display between portrait format and landscape format. This switching can be undertaken by conscious action of the user or automatically by the portable terminal." (Dutta at [0017].) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].)
[15a] a body having a practically rectangular shape;	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].
[15b] a processor; and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor." For example, Dutta discloses a "processor." (Dutta at [0015], [0024], FIGS. 1, 3.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 1 (Dutta at FIG. 1)  FIG. 3 (Dutta at FIG. 3) Additional exemplary citations include: "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "Fig. 3 is a flowchart representation of a processor corresponding to the preferred embodiment of the present invention. Here, the user himself initially calls up an Internet page or another data site via the wireless terminal (step 305). Then, the called-up page or a WML short version of this page is received by the device (step 310)." (Dutta at [0024].)
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device;	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device." *See supra* claim [1e] (discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of Dutta, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].
[15e] wherein upon identifying an input corresponding to a sweeping action provided	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit.	displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"). A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
	rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[17a] wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a] (discussing limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[18a] wherein said device does not include a	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
physical key on the front surface of the device.	Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface").

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
	show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15. Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	Dutta, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position").

Appendix C7

Exhibit C7
Invalidity of Asserted Claims of the '144 Patent
in view of MyOrigo Magazine

"Gyrophone" by David Chow ("MyOrigo Magazine"), published on Oct. 2, 2003, qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under pre-AIA 35 U.S.C. § 102(a) and/or AIA 35 U.S.C. § 102(a)(1).[1] MyOrigo Magazine anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends MyOrigo Magazine does not disclose one or more limitations of the claims, it would have been obvious to combine MyOrigo Magazine with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of MyOrigo Magazine and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- European Patent Application Publication No. 1336949 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C1.
- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C6.

- United States Patent No. 8,375,334 to Nakano et. al ("Nakano"), filed on May 9, 2003, and granted on February 12, 2013, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C4.

- French Patent Application Publication No. 2830093 to Benoit et al. ("Benoit"), filed on September 25, 2001, and published on March 28, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1).

- United States Patent No. 5,848,356 to Jambhekar et al. ("Jambhekar"), filed on October 2, 1995, and granted on December 8, 1998, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to MyOrigo Magazine, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

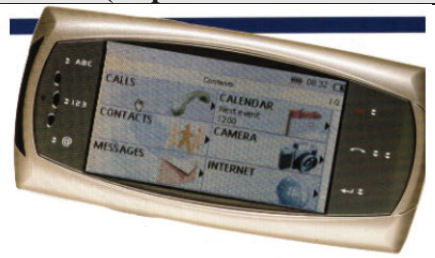
To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserves the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

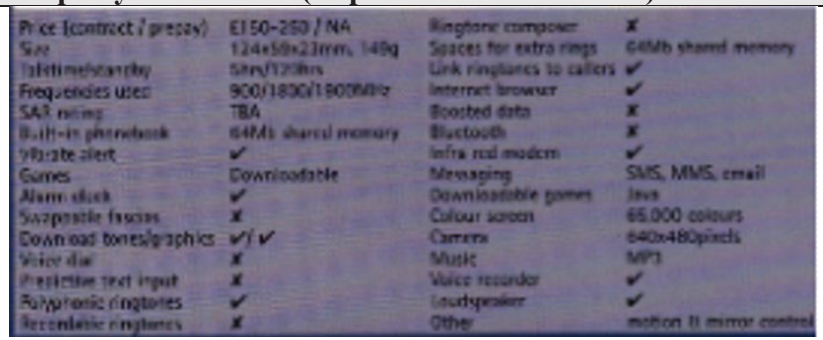
To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, MyOrigo Magazine discloses the "MyDevice," which is a "smartphone," or a mobile phone device. (MyOrigo Magazine at 27, 28.)  (MyOrigo Magazine at 28.)

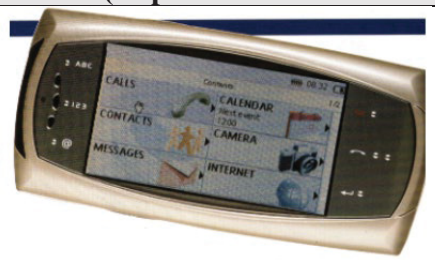
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 28.) Additional exemplary citations include: "The MyDevice is a quirky new smartphone that boasts a revolutionary user interface based on motion control-the screen shifts whether you are holding the device horizontally or vertically. Plus the 'book layout' menu structure creates an entirely new user experience and easier access to mobile multimedia services. The phone is designed and built by MyOrigo in Finland but it's doubtful that they will sell the phone directly and probably sign a deal with a network to create an own brand phone, like Orange has done with the SPV. The phone we tested out was a prototype but it gives you a pretty good indicator if what to expect when the MyDevice ships at the end of the month. The standard package will comprise of a phone, stereo headset, PC sync package and a couple of games. The target price is around €150 to €250 with contract. Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "Whilst the final specification will depend on who takes the phone, MyOrigo has provisioned a tri-band chipset, GPAS, 64Mb RAM, a digital camera and MP3 play as standard. There is a SD card slot

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	for extra storage and music files. First release devices will use infrared and a mini USB point for connectivity. However MyOrigo has confirmed that its second device will feature Bluetooth and Wi-Fi." (MyOrigo Magazine at 27-28.) "Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.) "A feature rich smartphone that uses motion control as a means to navigate around the menu system as well as using a touch screen environment with haptic (vibrating) feedback. Take it as read that the MyDevice is a revolutionary piece of technology but whether it will take off is another thing. The motion control and mirroring are ahead of the game, but only time will tell if the public embrace or shun these exciting new technologies. Lack of Bluetooth mars an otherwise interesting debut." (MyOrigo Magazine at 28.)
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, MyOrigo Magazine discloses a rectangular-shaped housing of a mobile phone. (MyOrigo Magazine at 27, 28.) The housing includes components of a mobile phone, such as a color screen, a camera, an MP3 player, a battery, and a speaker. (MyOrigo Magazine at 27, 28.) The housing includes a front surface, a back surface, and four side surfaces. (MyOrigo Magazine at 27, 28.)

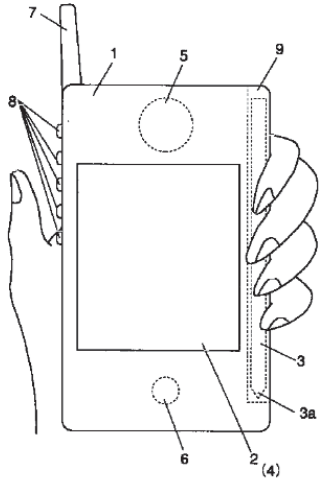
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 27.)  (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.)

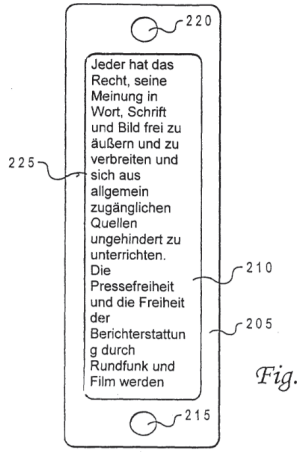
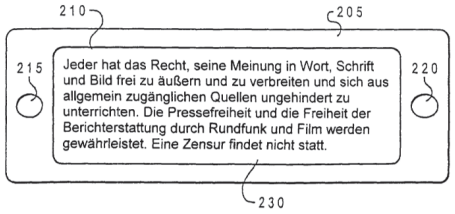
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 28.) Additional exemplary citations include: "Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "Whilst the final specification will depend on who takes the phone, MyOrigo has provisioned a tri-band chipset, GPAS, 64Mb RAM, a digital camera and MP3 player as standard. There is a SD card slot for extra storage and music files. First release devices will use infrared and a mini USB point for connectivity. However MyOrigo has confirmed that its second device will feature Bluetooth and Wi-Fi. A huge 1300mAh lithium battery provides a somewhat meagre 120 hours standby or between two and five hours talktime depending on access to online services. Its graphical user interface has been designed to allow personalization by network operators but for the moment you are greeted by a virtual desktop with big friendly buttons. The phone has what the designers boast is a 'full book' interface, where you stroke the screen to turn pages or to access the next/previous menu." (MyOrigo Magazine at 27-28.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The inbuilt camera's VGA spec with images of up to 640x480 pixels. Thanks to the motion control sensor the viewfinder automatically switches from portrait to landscape mode. There is a timer that allows you to set a delay on the camera of between 5 to 60 seconds, great for group photos or self-portraits. Unusually you can choose between BMP and PNG formatted images. There's also a night shot mode, which increases contrast in low light conditions." (MyOrigo Magazine at 28.)
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." For example, MyOrigo Magazine discloses that the device is a smart phone that may be used "[f]or making calls." (MyOrigo Magazine at 28.) A POSITA would have understood the length of MyOrigo Magazine's device would correspond to the distance between the ear and mouth of the user because such dimensions would have been obvious to allow the user to hold an end of the device containing a speaker against their ear and an end of the device containing a microphone near their mouth. (MyOrigo Magazine at 27, 28.) *See also infra* [9g].  (MyOrigo Magazine at 28.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 28.) Additional exemplary citations include: "Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.) To the extent Keyless argues that MyOrigo Magazine does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by MyOrigo Magazine such that the length of the front surface of the mobile phone, and correspondingly the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta, [0003].) A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (the mobile phone of MyOrigo Magazine with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)
[1c] wherein the width of the front surface is substantially shorter than the length and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length." For example, MyOrigo Magazine discloses a mobile phone, including its front surface, where the width is shorter than the length. (MyOrigo Magazine at 27, 28.)

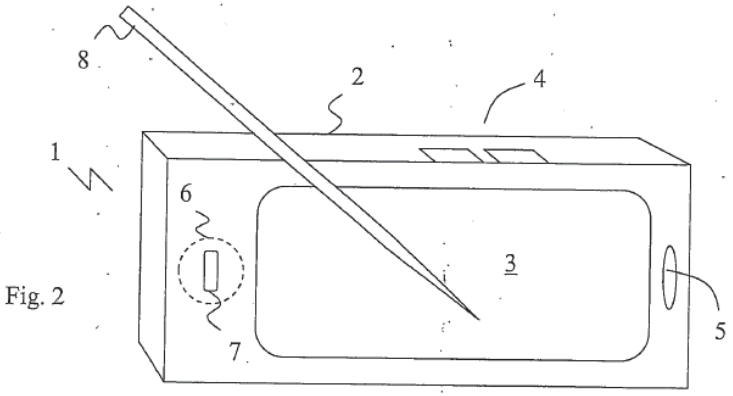
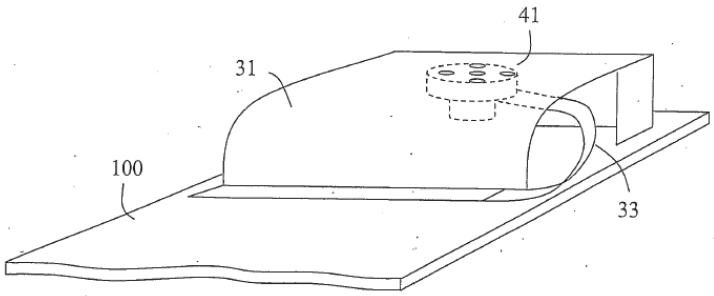
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 28)  (MyOrigo Magazine at 28) Additional exemplary citations include: "Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) *See also infra* claim [7].

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1d] wherein the housing has a thin thickness; and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the housing has a thin thickness." For example, MyOrigo Magazine discloses a device with a thickness that is less than the length and the width. (MyOrigo Magazine at 27.)  (MyOrigo Magazine at 27) Additional exemplary citations include: "Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) To the extent Keyless argues that MyOrigo Magazine does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Wedel, Rydbeck, Yamaguchi,

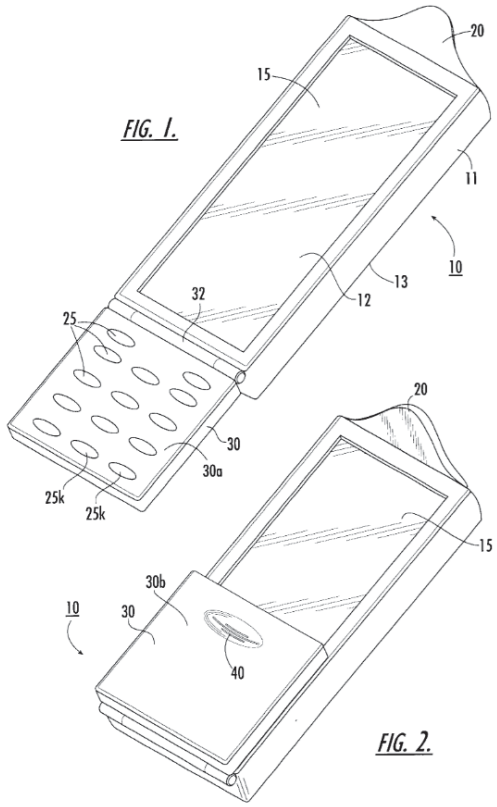
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Wedel, Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like. For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must have been thin. As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].) Dutta similarly teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	grip, which inherently requires that the device is thin so that a user's hands can wrap around its edges. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the housing has a thinness as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:

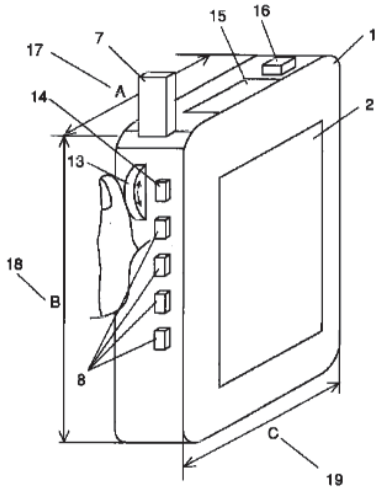
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2)  Fig. 11 (Wedel at FIG. 11) "The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore, a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized" wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.) "Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and "rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:

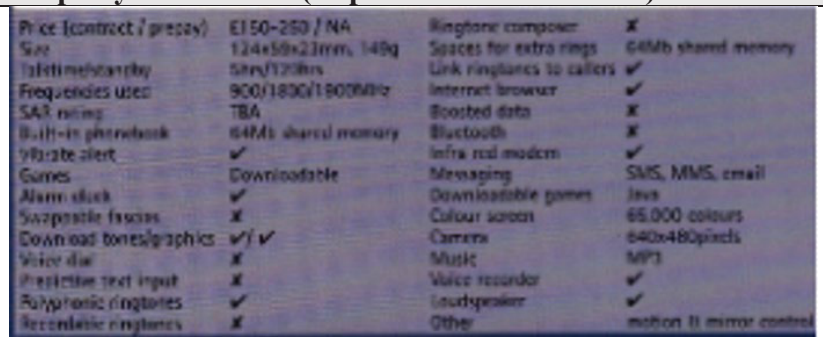
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].) "According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].) "Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図6】  "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) *See also infra* claim [8].
[1e] a display unit integrated within the front surface of said housing	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit integrated within the front

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
wherein said display unit practically covers the entire front surface of said housing;	surface of said housing wherein said display unit practically covers the entire front surface of said housing." For example, MyOrigo Magazine discloses a "pixel colour display" that covers the majority of the front surface of the housing. (MyOrigo Magazine at 27, 28.)  (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.)

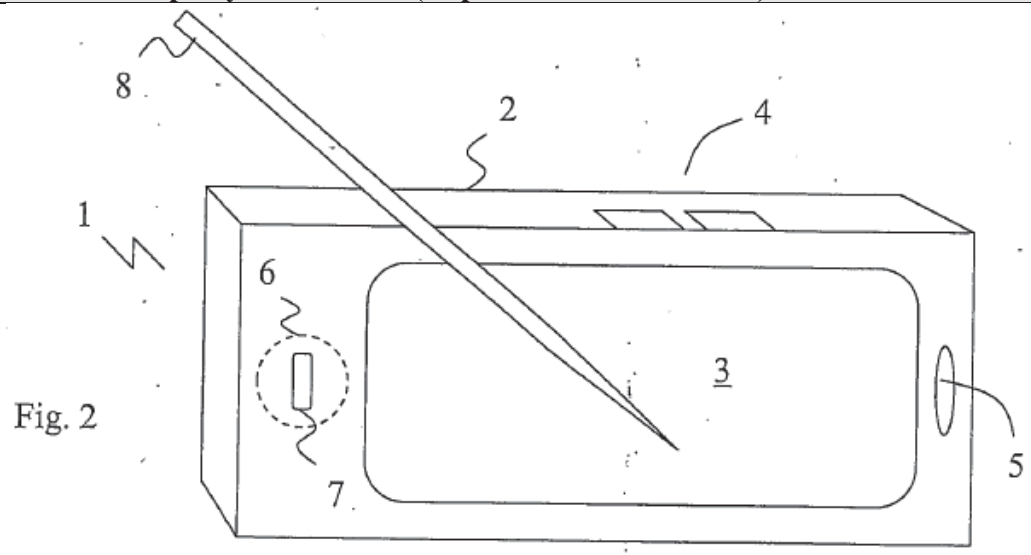
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 28.) Additional exemplary citations include: "The MyDevice is a quirky new smartphone that boasts a revolutionary user interface based on motion control-the screen shifts whether you are holding the device horizontally or vertically. Plus the 'book layout' menu structure creates an entirely new user experience and easier access to mobile multimedia services." (MyOrigo Magazine at 27.) "Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "A huge 1300mAh lithium battery provides a somewhat meagre 120 hours standby or between two and five hours talktime depending on access to online services. Its graphical user interface has been designed to allow personalization by network operators but for the moment you are greeted by a virtual desktop with big friendly buttons. The phone has what the designers boast is a 'full book' interface, where you stroke the screen to turn pages or to access the next/previous menu." (MyOrigo Magazine at 28.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The best way to describe motion control on the MyDevice is to imagine a gyroscope, which will remain upright no matter what angle it spins. Using motion sensors the screen in the device adjusts as you move your hand. Turn the device 90, even 180 degrees and watch the screen display follow you from landscape to portrait in an instant. Maybe this is something Sony Ericsson should consider for its next breed of smartphones!" (MyOrigo Magazine at 28.) "The phone book is rather whizzy to use as it's arranged in a grid format with icons marked ABC, DEF and so on. You simply guide the cursor over the relevant icon (or press the screen) and it opens up to reveal the list of names or surnames. Like most smart phones the messages folder is a combined text and email centre with one touch buttons for access to received messages, outbox and separate options to compose your text messages and emails. Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.) "A feature rich smartphone that uses motion control as a means to navigate around the menu system as well as using a touch screen environment with haptic (vibrating) feedback. Take it as read that the MyDevice is a revolutionary piece of technology but whether it will take off is another thing. The motion control and mirroring are ahead of the game, but only time will tell if the public embrace or shun these exciting new technologies. Lack of Bluetooth mars an otherwise interesting debut." (MyOrigo Magazine at 28.) To the extent Keyless argues that MyOrigo Magazine does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Wedel and Gupta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel discloses a mobile phone device with a touch screen display. (Wedel at 1:30-2:14, FIG. 2.) Wedel explains that "[t]he size of a keypad 4 and a display 3 basically sets the limit of how small terminal 1 can be." (Wedel at 1:31-2:1.) Thus, to allow for a larger display while maintaining a small terminal, Wedel proposes removing all physical keys from the front surface of the mobile phone, such that the display may cover more of the front surface of the phone. (Wedel at 2:8-10, FIG. 2.) As another example, Gupta discloses a "full-length touchscreen display." (Gupta at [0015], [0017], [0020], [0023]-[0025], [0030], [0035], [0041], [0042], [0051], FIGS. 2-4, 8.) Additionally, Gupta explains that while the device remains small, the screen should be large enough for "practical information viewing." (Gupta at [0003], [0004], [0020],[0025], [0026], [0049].) A POSITA thus would have understood that the screen would cover the entire front surface of the device, such that it could be as large as possible. A POSITA would have been motivated to configure a mobile phone such that the display unit covers a large portion of the housing. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel and Gupta. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display while maintaining a small device size, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel and/or Gupta into the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) according to known methods to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); (B) use of a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to improve similar devices in the same way (allowing more space for a larger touch display while maintaining a small device size); (C) applying a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display while

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	maintaining a small device size); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel and Gupta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: "A combined speaker and antenna arrangement for a communication terminal, comprising a support structure (100) carrying a first antenna element (101), and a second antenna element (31) arranged at a predetermined distance from said first antenna element. Said second antenna element is a conductive first portion (31) of a sheet of flexible film, and an elongated second portion (32) of said flexible film, carrying a conductive lead extends from adjacent to said first portion to a speaker (41) connected to an outer end of said elongated second portion. The second, elongated, portion is bent such that said speaker is positioned between said film and said support structure, adjacent to an aperture in said first portion." (Wedel at abstract.) "In order to benefit from the capabilities of the transmission system, the future generation of phones will have a large display in order to perform multimedia input and output, and the picture quality will be of high importance. Still, the keypad or keyboard must be large enough to allow people to press one key at a time." (Wedel at 1:26-29.) "Figure 1 discloses a typical example of a state of the art mobile phone 1, carried by a housing or chassis 2. The size of a keypad 4 and a display 3 basically sets the limit of how small the terminal 1 can be. However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3. Figs 1 and 3 show two typical examples of state of the art communication terminals 1, whereas the skilled persons

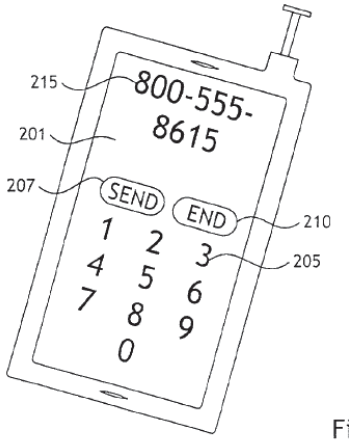
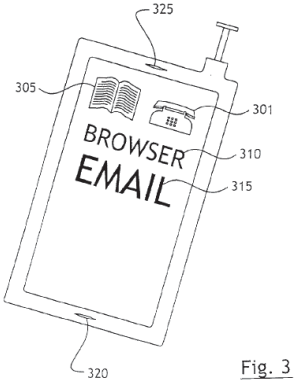
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	will realise that combinations of the two are also well known as well as other designs, such as a so called clamshell type terminal." (Wedel at 1:30-2:14.) "In the state of the art communication terminal a terminal output 7 is mounted on the front of the terminal above the display with the speaker 6 immediately behind the output 7, as shown in Figs 1 and 2. This means that even with a smallest available speaker used today, with a diameter of about 13 mm, the terminal would be approximately this much longer in its longitudinal extension than what would have been the case if only the display 3 and/or keypad 4 had defined the length of the terminal 1. The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:15-25.) "First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated. Furthermore, even though the antenna cavity 21 has been partly occupied by the speaker, experimental laboratory tests on this design have surprisingly shown that the presence of the speaker will not result in reduced antenna performance if tuned properly. The use of hot bar soldering will not lead to bulging solder pads. Which also contributes to saving space." (Wedel at 13:5-13.) Wedel discloses the following at FIG. 2:

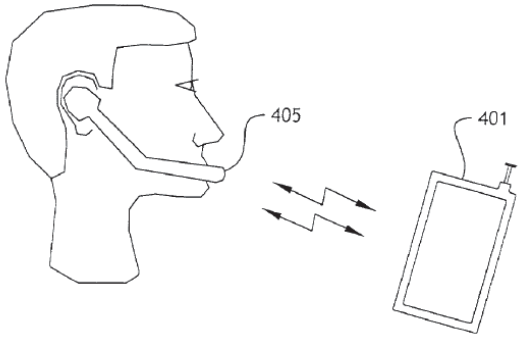
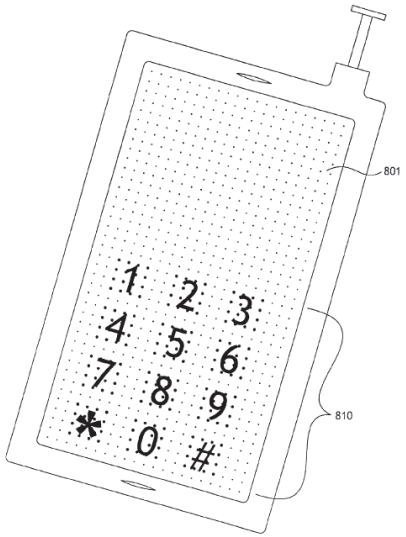
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2.) "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].) "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "FIG. 8 shows a tactile response display screen of the present invention." (Gupta at [0015].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered, the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].) "In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "The touch sensor may also be a film layer of the tactile surface itself, or may include touch sensitive elements interspersed adjacent to the tactile dot elements So that neither the touch sensor nor the tactile display elements overlay the other. Other touch screens embodiments use grids of interruptible light beams, capacitive discharge sensors, and conductive grids sensing a circuit made across nearby nodes, all of which are considered herein to be structures (circuits and components) equivalent to each other." (Gupta at [0024].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "FIG. 4 illustrates an alternate embodiment of the present invention that uses a wireless headset (405) to communicate with the telephone (401) of the present invention. In order to reduce the size and weight of the telephone (401) and also to give more room for the display, this embodiment does not

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	have a built-in speaker and microphone. Instead, the wireless headset (405) performs the same task as a built-in speaker and microphone." (Gupta at [0030].) "The telephone is controlled by a controller (510) that is coupled to the transmitter (501), receiver (505), and the touchscreen display (515) of the present invention. The controller (510), in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use other types of controllers such as microprocessors, application specific integrated circuits (ASIC), or other such controllers." (Gupta at [0035].) "As illustrated in FIG. 8, the display is comprised of a matrix of individually addressable dot or tactile elements. The elements are arranged in an evenly spaced grid covering the entire display. In an alternate embodiment, the tactile portion of the display is only on part of the display, such as the lower half, in order to provide a 'telephone keypad' area when in that particular mode. In the preferred embodiment, the elements are spaced less than 0.10 inch apart in order to allow the sensation of a continuous line." (Gupta at [0041].) "Each tactile element is switchable between an inactive position in which the dot is flush with the surrounding surface and an active position in which the dot is raised above the surrounding surface. The mechanism to provide this may be of any type including: electromechanical, electromagnetic, and switchable dimpled plastic film. In the preferred embodiment, the tactile display is transparent in order to permit the conventional liquid crystal display to be seen below the raised surface." (Gupta at [0042].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta discloses the following at FIGS. 2-4 and 8:  Fig. 2 (Gupta at FIG. 2)  Fig. 3 (Gupta at FIG. 3)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1f] wherein said mobile phone device does not include a physical key on the front surface, and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said mobile phone device does not include a physical key on the front surface." For example, MyOrigo Magazine discloses a smart phone with no physical buttons or keys on the front surface. (MyOrigo Magazine at 27, 28.) MyOrigo Magazine explains that the smart phone includes "touch sensitive" or "virtual" buttons. (MyOrigo Magazine at 27, 28.)  (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.) Additional exemplary citations include: "You switch on the MyDevice by squeezing not one, but two buttons located either side of the phone and a little green light appears briefly at the top of the phone before the touch screen flickers to life.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	The standby screen is reminiscent of the P800 with a virtual keypad and a strip of icons above. The battery and signal meters are tiny though." (MyOrigo Magazine at 27.) "A huge 1300mAh lithium battery provides a somewhat meagre 120 hours standby or between two and five hours talktime depending on access to online services. Its graphical user interface has been designed to allow personalization by network operators but for the moment you are greeted by a virtual desktop with big friendly buttons. The phone has what the designers boast is a 'full book' interface, where you stroke the screen to turn pages or to access the next/previous menu." (MyOrigo Magazine at 28.) "The phone book is rather whizzy to use as it's arranged in a grid format with icons marked ABC, DEF and so on. You simply guide the cursor over the relevant icon (or press the screen) and it opens up to reveal the list of names or surnames. Like most smart phones the messages folder is a combined text and email centre with one touch buttons for access to received messages, outbox and separate options to compose your text messages and emails. Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.) "A feature rich smartphone that uses motion control as a means to navigate around the menu system as well as using a touch screen environment with haptic (vibrating) feedback. Take it as read that the MyDevice is a revolutionary piece of technology but whether it will take off is another thing. The motion control and mirroring are ahead of the game, but only time will tell if the public embrace or shun these exciting new technologies. Lack of Bluetooth mars an otherwise interesting debut." (MyOrigo Magazine at 28.)
[1g] wherein said components of the mobile phone are integrated within said housing such	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile

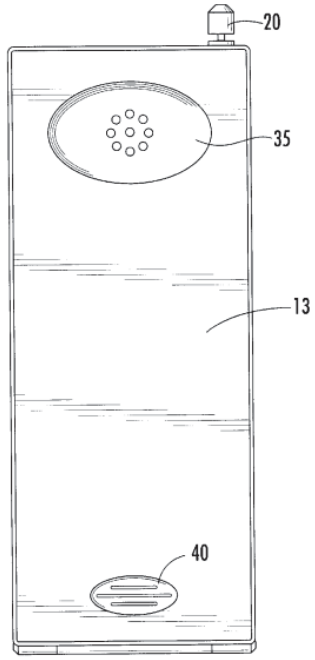
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
that none of said components is noticeably extended out from said housing.	phone are integrated within said housing such that none of said components is noticeably extended out from said housing." For example, MyOrigo Magazine discloses a mobile phone with no components extended out from the housing. (MyOrigo Magazine at 27, 28.)  (MyOrigo Magazine at 28)  (MyOrigo Magazine at 28) Additional exemplary citations include: "Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the

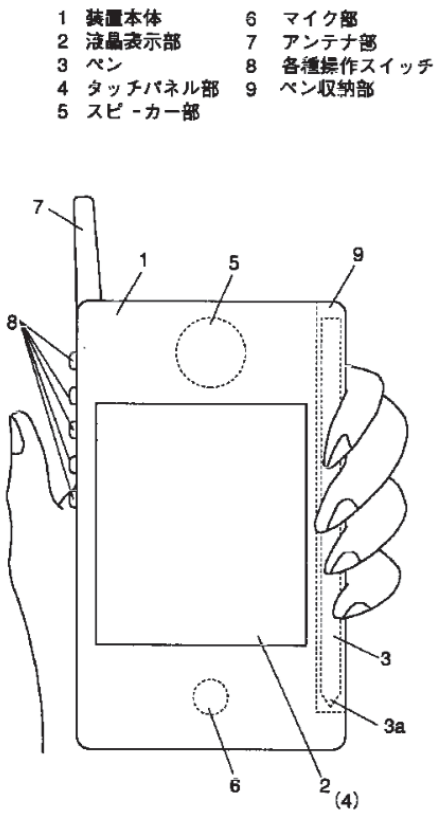
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.)

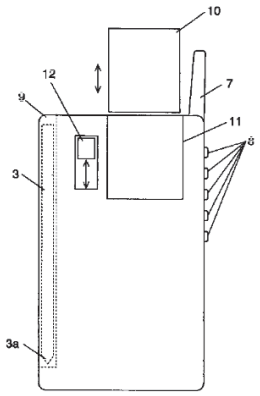
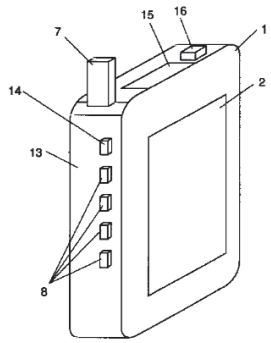
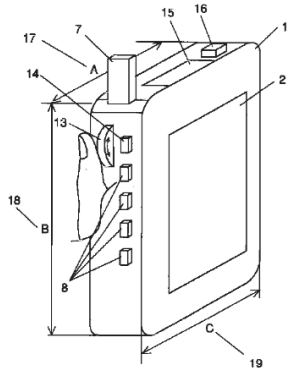
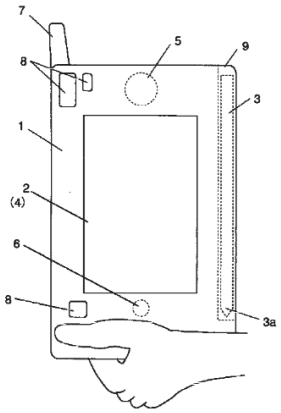
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2pre] The device of claim 1,	Claim 2 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 2 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[2a] wherein said practically rectangular shape has rounded corners.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." For example, MyOrigo Magazine discloses a housing wherein the corners have slightly rounded edges. (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.)

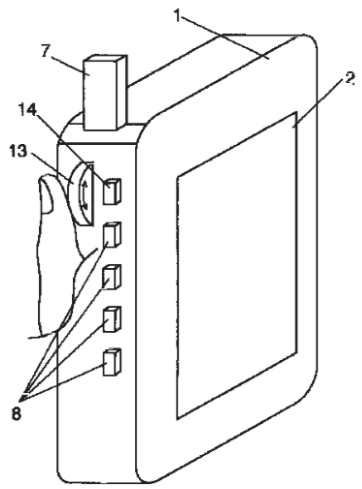
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 28.) To the extent Keyless argues that MyOrigo Magazine does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Rydbeck discloses a mobile phone housing that is generally rectangular and includes rounded corners. (Rydbeck at FIG. 3.) As another example, Yamaguchi discloses a mobile phone device having a rectangular housing with rounded corners. (Yamaguchi at FIGS. 1, 3-7). As a further example, Dutta discloses a mobile phone having a rectangular housing with rounded corners. (Dutta at FIGS. 2A-2B.) A POSITA would have been motivated to configure a mobile phone such that the housing has rounded corners to improve the ease of use and portability of the phone. Configuring a mobile phone in this

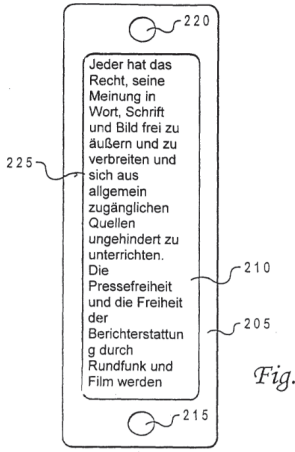
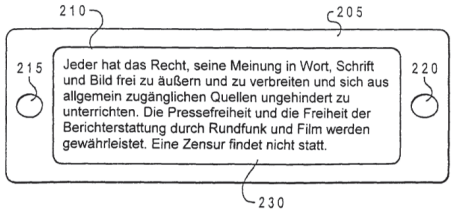
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	way was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to round the corners in order to improve user experience and make the design more ergonomical. Thus, a POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (a housing with rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the user experience and ergonomics of a mobile phone); (B) use of a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and ergonomics); (C) applying a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device ergonomics); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: Rydbeck discloses the following at FIG. 3:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 FIG. 3. Yamaguchi discloses the following at FIG. 1:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】  Yamaguchi discloses the following at FIGS. 3 and 5-7:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図３】  【図５】  【図６】  【図７】  Yamaguchi discloses the following at FIG. 4:

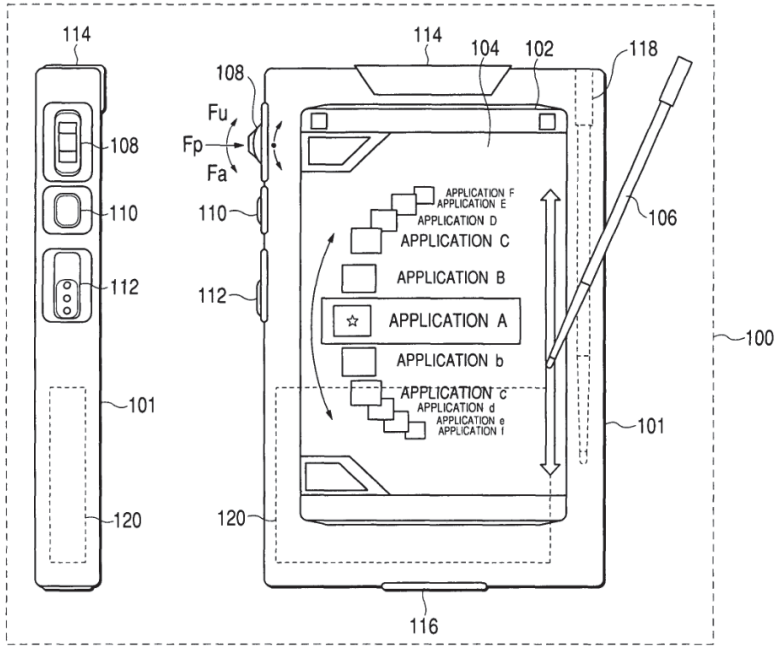
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図4】  Dutta discloses the following at FIGS. 2A-2B:

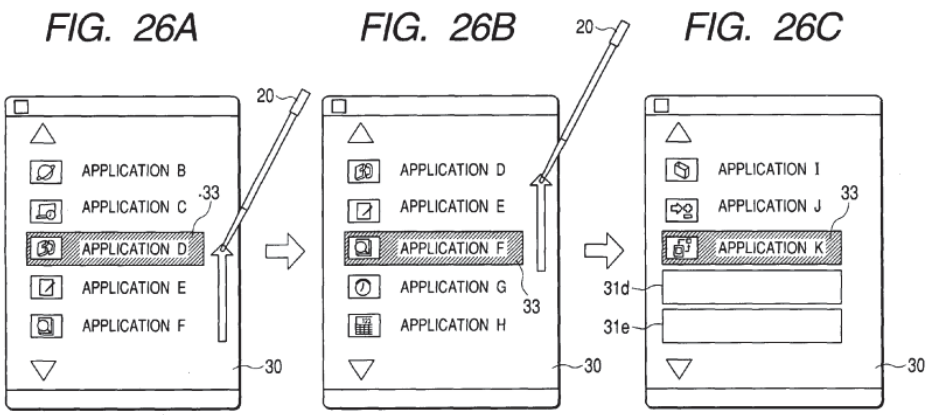
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B*

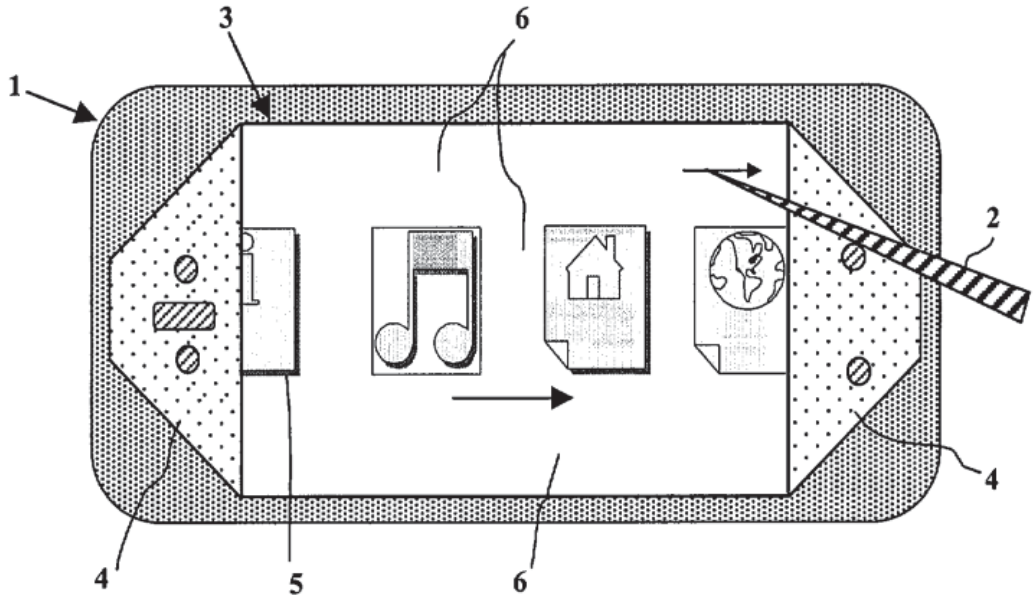
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3pre] device of claim 1	Claim 3 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 3 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[3a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." For example, MyOrigo Magazine depicts a display showing icons representing a plurality of different applications such as "calls," "contacts," "messages," "calendar," "camera," and "internet." (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." It would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Nakano and/or Benoit to display a plurality of other applications upon a user's sweeping action on the display unit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Nakano discloses a mobile phone that includes a touch panel 104. (Nakano at 2:49-51, FIG. 1.) Nakano teaches a method of improving the control of a menu display by using said touch panel. (*Id*.) The touch panel is integrated into the display of the portable device disclosed by Nakano, which may be a mobile phone. (Nakano at 7:20-39.) Nakano teaches using a drag operation to control the display of various entities shown on the display. (Nakano 7:40-52.) The drag operation taught by Nakano may comprise drawing a finger across the display panel or using a stylus to do the same. (Nakano at 7:57-8:16). Nakano teaches that programming a device, display, and touch panel in this way allows for improved control of display entities that are shown on the display. (Nakano at 8:50-54). The display entities disclosed by Nakano may correspond to programs, also known as applications, that can be activated and executed by the device. (Nakano at 8:65-9:6.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Thus, Nakano teaches programming a device, such as a mobile phone, so that is operative to allow a user to slide a finger or stylus pen across a menu screen, displaying a plurality of application icons in the form of menu items. (Nakano at 15:66-16:10). A dragging operation, also known as a sliding operation, allows a user to move the menu items displayed in various directions across the screen. (Nakano at 25:40-47, FIGS. 19A-19B.) As shown in FIGS. 26A-C, menu items, also known as application icons, that are not originally shown on the display may be displayed based on a dragging or sliding input from a user. (Nakano at 28:36-29:10, FIGS. 26A-C.)

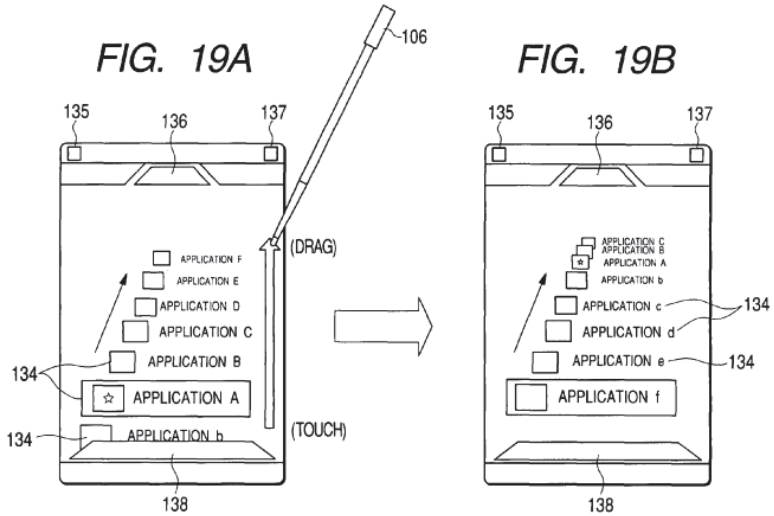
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Nakano at FIGS. 26A-26C.) As another example, Benoit teaches a display used in a mobile phone that can display a series of icons that correspond to programs and respond to a sweeping input to display a plurality of additional icons. (Benoit at (cover page, 57).) Benoit further teaches that it is desirable to display large icons corresponding to applications, making them easily distinguishable. (Benoit at 2:17-18.) And the dexterity needed to control the display of application icons is reduced because the control input can be made across the entire screen, including the area where the application icons are shown. (*Id*.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit. Configuring a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (combining a display unit, as disclosed by MyOrigo Magazine, with the ability to display of a plurality of additional application icons in response to a sweeping action into the mobile phone, which is operative to display a plurality of application icons, as disclosed by Nakano and Benoit) according to known methods to yield

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: "The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:49-51.) "The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano 7:40-52.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a "tap-in" and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a "tap-out". The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a "tap". According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity).” (Nakano at 7:57-8:16). “According to the invention, the following advantage is obtained. Information display entities are arranged on a virtual face. Scroll display is allowed by moving a virtual camera whose line of sight faces the virtual face, thus more readily allowing scroll control in a virtual space.” (Nakano at 8:50-54). “The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means.” (Nakano at 8:65-9:6.) “The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection.” (Nakano at 15:66-16:10).

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In FIG. 19A, a menu item in the middle of the menu is in the selection state. Menu items preceding and following the item are three-dimensionally represented in one-point perspective in the upward direction in the screen. Dragging with the stylus pen 106 in the upward direction so as to slide the menu display in the upward direction causes the menu panel 134 to move in the upward direction along the one-point perspective, for example, as shown in FIG. 19B." (Nakano at 25:40-47.) "In FIG. 26A, the menu display area 31 a displays "Application B", the menu display area 31 b displays "Application C", the menu display area 31 c displays "Application D", the menu display area 31 d displays "Application E", and the menu display area 31 e displays "Application F", respectively. In the selection candidate display area 32, that is, in the menu display area 31 c, the focus 33 is overlaid on Application D. The Application D is a candidate for selection. In the menu screen 30, dragging the stylus pen 20 in the upward direction scrolls through the menu display entities in the menu screen 30 as shown in FIG. 26B. In FIG. 26B, the menu display area 31 a displays "Application D", the menu display area 31 b displays "Application E", the menu display area 31 c displays "Application F", the menu display area 31 d displays "Application G", and the menu display area 31 e displays "Application H", respectively. The menu display entities on the screen are scrolled though in the upward direction by two rows. On the menu display entity displayed in the selection candidate display area 32, that is, on Application F, is overlaid the focus 33. The Application F is a candidate for selection. Dragging with the stylus pen 20 refers to an operation (including standstill state) of sliding the stylus pen 20 on the LCD panel 11 with the tip of the stylus pen 20 in contact with the LCD panel 11. In FIG. 26B, further dragging in the upward direction further scrolls through the menu entities on the screen in the upward direction. As shown in FIG. 26C, when the lowermost menu display entity (Application K in the figure) reaches the selection candidate display area 32, the scroll comes to a halt. In FIG. 26C, the menu display area 31 a displays "Application I", the menu display area 31 b displays "Application J", and the menu display area 31 c displays "Application K", respectively. On the menu display entity displayed in the selection candidate display area 32, that is, on Application K, is overlaid the focus 33. The Application K is a candidate for selection. While a drag is made in the upward direction in FIGS. 26A through 26C, the same applies to a drag in the downward direction. That is, as shown in FIG. 27A, dragging in the downward direction scrolls through the menu display entities in the downward direction. As shown in FIG. 27B, when the uppermost menu display entity (Application A in the figure) reaches the selection candidate display area 32, that is, the menu display area 31 c, the scroll comes to a halt. While the drag operation is made

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	in the rightmost area of the menu screen 30 for clarity in FIGS. 26A through 26C and FIGS. 27A and 27B, the drag operation is allowed across the menu screen 30 as shown in FIG. 31 in practice." (Nakano at 28:36-29:10.) Nakano discloses the following at FIGS. 19A-B:  "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (cover page, 57).) "In addition, the use of a touch screen generates another serious problem. That is, because the icons and drop-down menus are generally fixed, the user always uses their finger or a stylus to point at the

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	same small areas of the touch screen. This leads, therefore, to local damage, decalibration, and premature wear of the touch screen. The object of this invention is to ameliorate the disadvantages of the aforementioned systems and to propose a human-machine interface with a touch screen in which navigation is simplified. Another object of the invention is to limit the premature decalibration of touch screens. The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon. Preferably, the control area is extended so as to distribute the touch points and prevent the premature wear of the touch screen over the defined areas. The entire surface of the touch screen not covering an icon can be expected to constitute the control area. Thus, the control is no longer localized in a limiting manner. Unlike the prior art, the scrolling of icons allows these icons to be shown at a large size such that they are easily distinguishable. With such a method according to the invention, the fact of having an extended control area prevents the constant use of certain small areas of the screen. According to an advantageous characteristic of the invention, the touch command for scrolling the series of icons comprises a touch followed by a directional movement. The scrolling speed and direction are defined by the point of contact and the projection into the scrolling direction of a vector obtained as a result of the directional movement. The point of contact can be anywhere over the entire extended control area. The icons can be shown independently of each other, whether attached or embedded in a scrolling banner, and representing, for example, a landscape.

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen. These icons can be scrolled to show the icon representing the application intended to be launched in the foreground in the center of the screen. According to a preferred embodiment of the invention, the icons scroll along a virtual circle inscribed in a plane perpendicular to the plane of the screen. Scrolling then makes it possible to show each icon on the screen successively, with the other icons remaining in the background. In this case, it is possible to envisage that only the icon shown on the touch screen is capable of launching an application. It is also possible to envisage that all the icons remain permanently visible on the touch screen during scrolling. As such, all the icons may be active. According to an advantageous embodiment of the invention, the scrolling of a series of icons may exhibit inertia as a function of the scrolling speed. Consequently, when a user lifts their finger or stylus from the touch screen, the scrolling continues for a few short moments based on the movement made by that user to carry out the scrolling. According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 2:1-3:24.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
[4pre] The device of claim 3	Claim 4 depends from claim 3. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 3 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 3 to show the additional limitations of claim 4 are anticipated and/or obvious for the same reasons set out in claim 3.

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 3." *See supra* claim [3].
[4a] wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit." For example, MyOrigo Magazine explains that an icon may be selected and opened by guiding a cursor over it or pressing the screen. (MyOrigo Magazine at 28.) Additional exemplary citations include: "The phone book is rather whizzy to use as it's arranged in a grid format with icons marked ABC, DEF and so on. You simply guide the cursor over the relevant icon (or press the screen) and it opens up to reveal the list of names or surnames. Like most smart phones the messages folder is a combined text and email centre with one touch buttons for access to received messages, outbox and separate options to compose your text messages and emails." (MyOrigo Magazine at 28.) MyOrigo Magazine discloses the following at 28:  (MyOrigo Magazine at 28.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 28.) To the extent Keyless argues that MyOrigo Magazine does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Nakano and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Nakano discloses that a tap operation (a predefined interaction) may be used to select a display entity, such as menu item corresponding to an application. (Nakano at 9:49-57.) In response, a program corresponding to said menu item or display entity may be activated. (Nakano at 9:58-62.) Accordingly, a tap operation may activate an application program corresponding to a selected information display entity, such as an application icon. (Nakano at 9:63-67.) Nakano further discloses that tapping a stylus pen on a menu display entity shown on the display of the device may activate an application program corresponding to that menu display entity. (Nakano at 34:26-30.) As another example, Benoit teaches displaying application icons that launch when a brief contact is made with said icon. (Benoit at 3:5-8.) Thus, the brief contact is a predefined interaction that opens that corresponding application when input by the user. (*See id*.) A POSITA would have recognized that

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Benoit taught the method of opening an application icon in response to a user providing a predefined interaction with said icon. A POSITA would have been motivated to configure a mobile phone such that an application is opened upon a user providing a predefined interaction with an icon, such as a tap. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and Benoit's teachings into the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (combining display unit operative to open an application icons in response to a predefined interaction provided by the user into the mobile phone architecture disclosed by MyOrigo Magazine, which is operative to select icons with a predefined interaction) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of known technique (programming display unit such that it is operative to open an application icon upon detecting a predefined user input directed at an application icon as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to open an application in response to user providing a predefined interaction with an icon corresponding to said application as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: "The PDA can execute a plurality of application software programs (also referred to as simply 'applications') by way of arithmetic operation by a built-in CPU. Application software includes schedule software, address book software, memo pad software, word processing software, calculator software, electronic mail software, web browser software, music playback software, graphics viewer software, and clock display software.

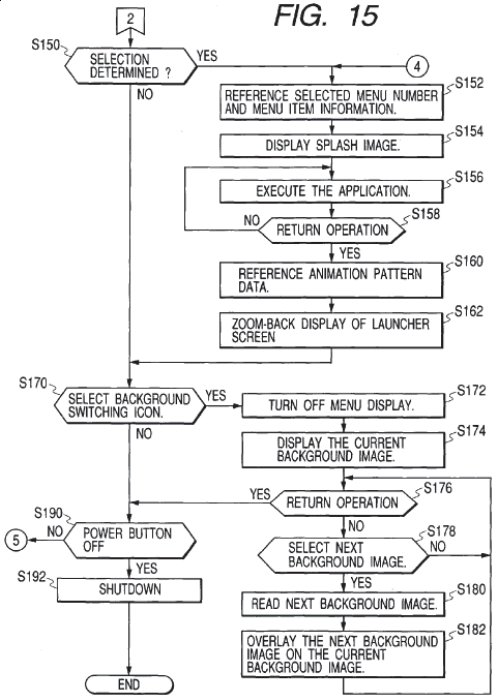
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Operation of selection and execution of application software is controlled by the application management program called 'launcher'. With application software programs and/or documents registered in advance, the application software programs and/or documents are displayed on a menu by the launcher, and directly started via simple input operation." (Nakano at 1:20-33.) "However, in a scroll operation and selection of a menu display entity, at least two operations are required. The scroll operation on a touchpanel is the same as the mouse operation, for example tapping operation, on an ordinary PC." (Nakano at 1:52-55.) "The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a 'tap-in' and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a 'tap-out'. The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a 'tap'. According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; tap-out determination means (for example an input determination section 311 in FIG. 41) for determining tap-out on the touch panel; and activation means (for example an application activation controller 320 in FIG. 41) for automatically activating a program corresponding to the information display entity determined as a candidate for selection by the first determination means, if any, based on the tap-out determination by the tap-out determination means." (Nakano at 9:13-26.) "According to the invention, a tap operation may be used, on top of a drag operation, to select a desired information display entity. A method for selecting an information display entity may be switched as appropriate, such as using a drag operation in case a desired information display entity is not displayed in the predetermined display area, and a tap operation in case one is displayed. In any case, it is possible to readily select a desired information display entity thus enhancing its operability." (Nakano at 9:49-57.) "In case determination is made by the second determination means, the activation means may activate a program corresponding to an information display entity determined as a candidate for selection by the second determination means, if any." (Nakano at 9:58-62.) "According to the invention, a tap operation may be used to activate an application program corresponding to a selected information display entity. That is, a single tap operation directly activates a desired application thus enhancing its operability." (Nakano at 9:63-67.) "The processor 20 performs arithmetic operation in accordance with programs to make centralized control of the PDA 100 as well as execute a launcher or various application programs for the PDA 100." (Nakano at 18:31-35.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The control program 502 executes a so-caller 'launcher' to work as utility software to help activate the application program 510. The control program 502 comprises processing concerning menu display shown in FIG. 2 and includes a menu item selector 22 and a menu display controller 24 in a processor 20." (Nakano at 20:55-60.) "FIGS. 13 through 15 are flowcharts illustrating the flow of processing from selection of an item to activation of an application in this embodiment." (Nakano at 22:59-61.) "In case the stylus pen is released from the touch panel 104, a so-called tap-out operation is made (YES in step S118), execution proceeds to activation of an application described later. In case a tap input is made with the stylus pen 106 (YES in step S120), the menu item selector 22 determines whether any menu panel 134 includes the position coordinates which are tapped on referring to the menu panel position information 523. In case any menu panel 134 is tapped on (YES in step S122), the menu item selector 22 changes the selected menu number 531 to the menu number of the menu panel 134 (step S124). Execution then proceeds to activation of an application described later." (Nakano at 23:18-26.) "FIG. 15 is a flowchart specifically illustrating the flow of processing from determination of a selected item to activation of an application program and the flow of screen switchover. As shown in FIG. 15, in case determination of a selected item is input by way of a push on the side controller 108 or a tap using the stylus pen 106 (YES in step S150), the processor 20 references the menu item information 524 in accordance with the selected menu number 531 (step S152) to retrieve the corresponding splash image data 536 and displays the data on the screen (step S154). After that, the processor 20 loads and activates the application (step S156)." (Nakano at 24:34-44.) "While the desired menu panel 134 is selected on the screen and the selected menu panel 134 is determined then an application is activated in this example, the application may be automatically activated when the desired menu panel 134 has moved to the display position P0 and selected on the screen. To be more specific, a step of comparing the specified menu number 532 with the selected menu number 531 is added before step S142 in FIG. 14. In case the specified menu number 532 is the

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	same as the selected menu number 531, a step of checking the attribute of a registered menu item by referencing the menu item information 524 and a step of proceeding to step S152 (FIG. 15) in case the attribute is an applications are executed." (Nakano at 25:1-13.) "Next, the method for activating an application program corresponding to the menu display entity will be described. The application program corresponding to the menu display entity is activated by way of the operation input using (1) the stylus pen 20 or (2) the side controller 14. When the application is activated, display on the screen 30 is terminated and the screen of the activated application appears on the LCD panel 11." (Nakano at 34:9-16.) "Activation of an application program corresponding to each menu display entity by way of the stylus pen 20 is made by way of (1) tap or (2) drag." (Nakano at 34:20-22.) "Tapping the stylus pen 20 on any of the menu display entities displayed in the menu screen 30, or to be more specific, the menu display area 31, the application program corresponding to the menu display entity displayed in the tapped position is activated." (Nakano at 34:26-30.) "After that, when the stylus pen 20 which has been in contact with the LCD panel 11 is released from the LCD panel 11 (hereinafter referred to as 'tap-out' as appropriate), an application program corresponding to Application Dawaiting activation is activated." (Nakano at 34:52-56.) "A drag is available as a method for selecting a desired menu display entity as well as a tap. In case a desired menu display entity is not displayed in the menu screen 30, a drag is used, and in case it is displayed, a tap is used, in a selective way. In any case, it is possible to readily select a desired menu display entity thus enhancing its operability." (Nakano at 34:65-35:3.) "The application activation controller 320 calls the application program from the storage section 400 based on application activation condition data 426 and executes the application program. Also, in response with a tap by way of the stylus pen 20 or a 'push' on the side controller 14, the application activation controller 320 calls the application program from the storage section 400 and executes the application program." (Nakano at 36:5-12.)

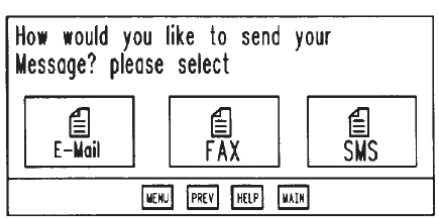
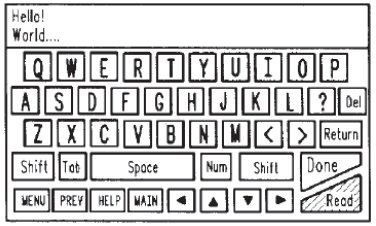
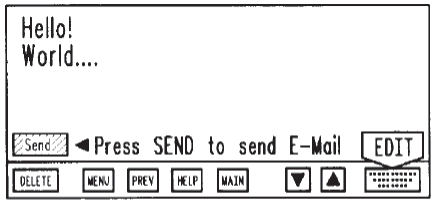
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In case the input determination section 311 has determined that operation is a tap (step S14: YES), the input determination section 311 determines whether the indicated position by the stylus pen 20 is included in which menu display area 31 (step S15). In case the input determination section 311 has determined that whether the indicated position is included in any menu display area 31 (step S15: YES), the Application activation controller 320 identifies the menu display area 31 which includes the indicated position and calls the application program 411 corresponding to the menu display entity displayed in the identified area and execute the application program (step S16)." (Nakano at 37:50-62.) "While an application program corresponding to a menu display entity which shifted to the activation wait state is activated by halting a drag and performing a tap-out after a predetermined period in that state in the embodiments, an application program corresponding to a menu display entity which is a candidate for selection at the point of tap-out may be activated." (Nakano at 41:55-61.) Nakano discloses the following at FIG. 15:

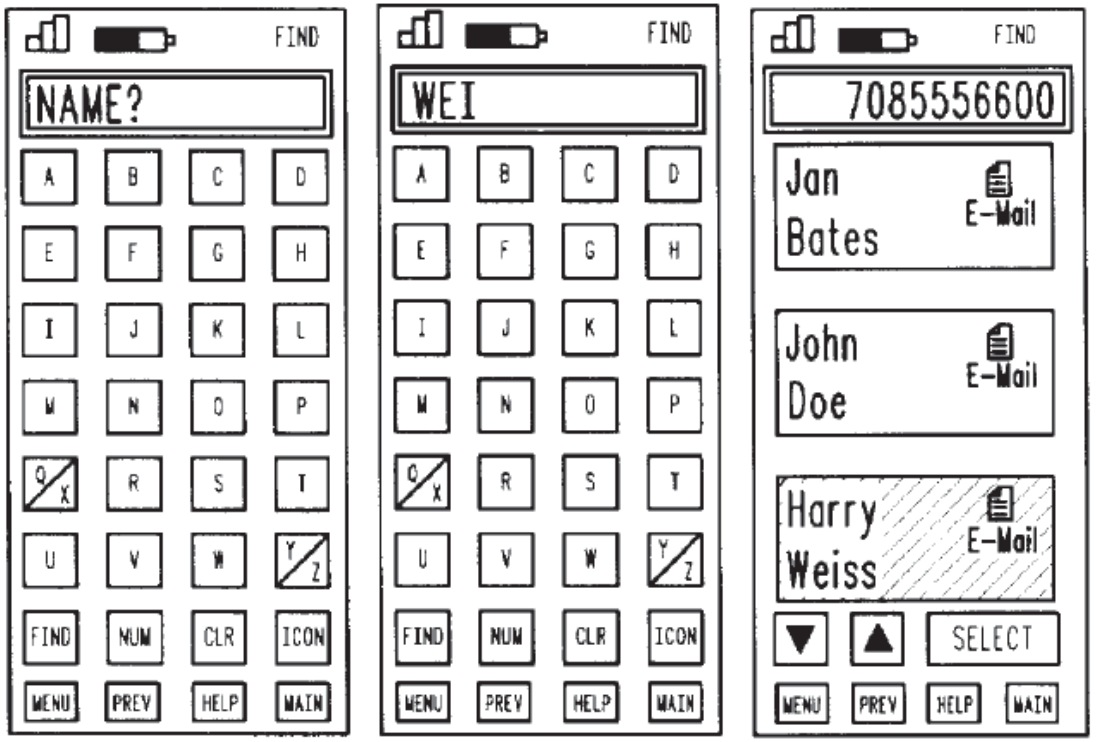
Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 15  (Nakano at FIG. 15) "Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen." (Benoit at 3:5-8.) "Scrolling is carried out according to a method illustrated in the diagram in figure 2. When a user contacts the touch screen 3 by means of the control stylus 2, they use the stylus for pointing in step 7 in accordance with figure 2. If the stylus points at an icon in step 8, the operating system launches an application, in step 9, related to the pointed-at icon." (Benoit at 4:21-5:2.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A third embodiment of the series of icons is illustrated in figure 4, showing a continuous banner 14 representing a given landscape. This banner may be a series of icons adjoined to one another or a series of distinct icons embedded in specific locations on the banner. Under these conditions, the control area 6 may include the entire surface of the touch screen 3. However, it is necessary to distinguish between a scroll command and an application launch command if the stylus points at an icon. An application launch command is characterized by a brief touch of the stylus on the icon. By contrast, a scroll command is characterized by a long pointing comprising a touch followed by a lateral displacement on any contact area over the entire surface of the touch screen. In this particular example, the icons can be represented by the active areas 15 and 16." (Benoit at 5:17-6:3.)

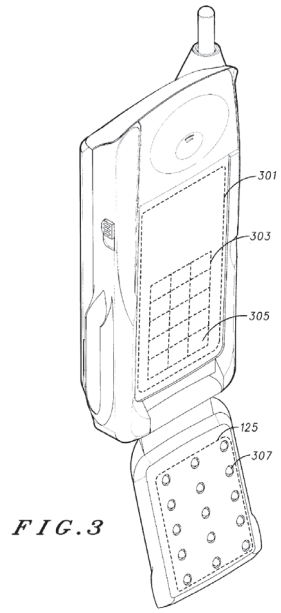
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5pre] The device of claim 1	Claim 5 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 5 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[5a] wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." For example, MyOrigo Magazine discloses a "virtual keypad" that may be used for data entry, including composing emails. (MyOrigo Magazine at 27, 28.) MyOrigo Magazine explains that the display will remain upright no matter what angle the device is held. (MyOrigo Magazine at 27, 28.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
landscape position and in portrait position.	Thus, "the screen display follow[s] you from landscape to portrait in an instant." (MyOrigo Magazine at 28.) Additional exemplary citations include: "The MyDevice is a quirky new smartphone that boasts a revolutionary user interface based on motion control-the screen shifts whether you are holding the device horizontally or vertically. Plus the 'book layout' menu structure creates an entirely new user experience and easier access to mobile multimedia services." (MyOrigo Magazine at 27.) "You switch on the MyDevice by squeezing not one, but two buttons located either side of the phone and a little green light appears briefly at the top of the phone before the touch screen flickers to life. The standby screen is reminiscent of the P800 with a virtual keypad and a strip of icons above. The battery and signal meters are tiny though." (MyOrigo Magazine at 27.) "The best way to describe motion control on the MyDevice is to imagine a gyroscope, which will remain upright no matter what angle it spins. Using motion sensors the screen in the device adjusts as you move your hand. Turn the device 90, even 180 degrees and watch the screen display follow you from landscape to portrait in an instant. Maybe this is something Sony Ericsson should consider for its next breed of smartphones!" (MyOrigo Magazine at 28.) "The large virtual keypad has haptic feedback (it vibrates each time you press a 'key') which makes data entry reasonably easy, but I wonder what it would be like to compose emails on such a small working surface. But the jury is still out to decide whether motion control is *the* next big thing. Why not vent your opinions on our forum at www.whatmobile.net?" (MyOrigo Magazine at 28.) Further, to the extent Keyless argues that MyOrigo Magazine does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Jambhekar. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)  FIG.8A  FIG.8B  FIG.8C

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 ***FIG.8D FIG.8E FIG.8F*** A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text in either portrait or landscape mode. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Jambhekar. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar into the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) according to known methods to yield

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.) "Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:  FIG.3 (Jambhekar at FIG. 3)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, MyOrigo Magazine depicts a device where the width is less than the length. (MyOrigo Magazine at 28.) MyOrigo Magazine discloses that the length of the device is 124mm while the width of the device is 59mm (MyOrigo Magazine at 27.)  (MyOrigo Magazine at 28)  (MyOrigo Magazine at 28) Additional exemplary citations include:

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.)

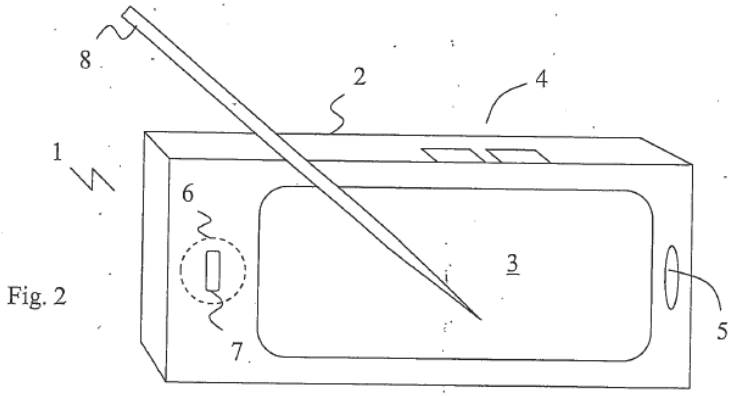
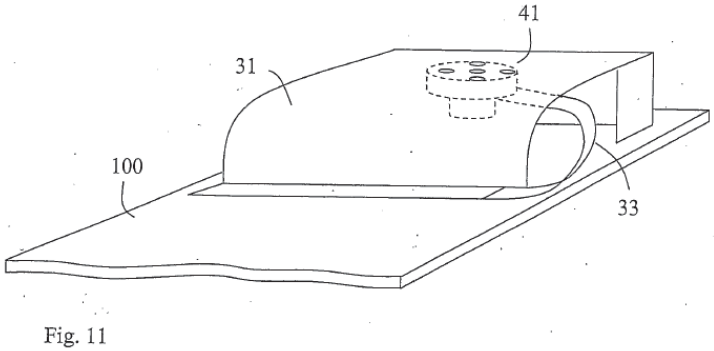
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, MyOrigo Magazine discloses a device with a thickness that is less than the length and the width. (MyOrigo Magazine at 27.)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 27) Additional exemplary citations include: "Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) To the extent Keyless argues that MyOrigo Magazine does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Yamaguchi and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi discloses a mobile phone that is 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) Thus, the mobile phone disclosed by Yamaguchi has a thickness that is 20 percent of its width. Further, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) A POSITA would have found it obvious to configure the mobile phone as disclosed by MyOrigo Magazine with width and thickness dimensions as claimed. Yamaguchi teaches configuring a mobile phone such that the thickness of the device is 20 percent of its width, which improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and provides a display that is as large as possible. Wedel simultaneously teaches that there is demand for ever smaller, lighter phones. A POSITA would thus have been motivated to configure a mobile phone with a thickness to width ratio less than Yamaguchi's to gain market advantage. (Wedel at 1:14-21, 3:19-21.) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve user experience and market demand as suggested by Wedel. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Wedel into the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as suggested by Yamaguchi and Wedel) according to known methods to yield predictable results (improving the portability and marketability of a mobile phone); (B) use of a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to improve similar devices in the same way (improving user experience and device

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	performance); (C) applying a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and/or Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	"More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:

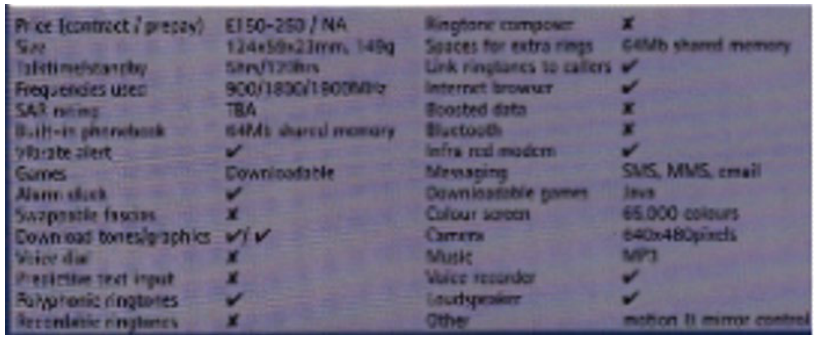
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2)  Fig. 11 (Wedel at FIG. 11)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone."

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, MyOrigo Magazine discloses the "MyDevice," which is a "smartphone," or a mobile phone device. (MyOrigo Magazine at 27, 28.)  (MyOrigo Magazine at 28)  (MyOrigo Magazine at 28) Additional exemplary citations include: "The MyDevice is a quirky new smartphone that boasts a revolutionary user interface based on motion control-the screen shifts whether you are holding the device horizontally or vertically. Plus the 'book layout' menu structure creates an entirely new user experience and easier access to mobile multimedia services. The phone is designed and built by MyOrigo in Finland but it's doubtful that they will sell the phone directly and probably sign a deal with a network to create an own brand phone, like Orange has done with the SPV.

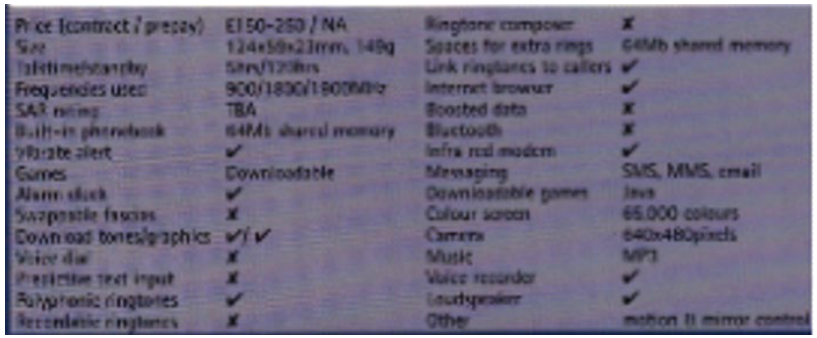
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	The phone we tested out was a prototype but it gives you a pretty good indicator if what to expect when the MyDevice ships at the end of the month. The standard package will comprise of a phone, stereo headset, PC sync package and a couple of games. The target price is around €150 to €250 with contract. Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "Whilst the final specification will depend on who takes the phone, MyOrigo has provisioned a tri-band chipset, GPAS, 64Mb RAM, a digital camera and MP3 play as standard. There is a SD card slot for extra storage and music files. First release devices will use infrared and a mini USB point for connectivity. However MyOrigo has confirmed that its second device will feature Bluetooth and Wi-Fi." (MyOrigo Magazine at 27-28.) "Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.) "A feature rich smartphone that uses motion control as a means to navigate around the menu system as well as using a touch screen environment with haptic (vibrating) feedback. Take it as read that the MyDevice is a revolutionary piece of technology but whether it will take off is another thing. The motion control and mirroring are ahead of the game, but only time will tell if the public embrace or shun these exciting new technologies. Lack of Bluetooth mars an otherwise interesting debut." (MyOrigo Magazine at 28.)
[9a] a body having a practically rectangular	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
shape, said body having a front surface, a back surface and four side surfaces,	Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra* claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").
[9c] wherein the width of the front surface of the mobile phone is significantly shorter than the length, and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").
[9d] wherein said body has a thin thickness	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").
[9e] a touch sensitive display unit	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, MyOrigo Magazine discloses a screen that is a "pixel colour display." (MyOrigo Magazine at 27, 28.) MyOrigo Magazine explains that the screen is touch sensitive. (MyOrigo Magazine at 27, 28.)

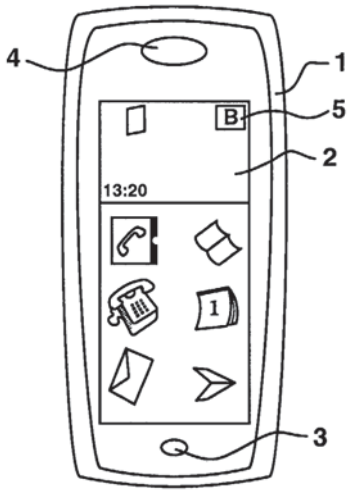
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 28)  (MyOrigo Magazine at 28)  (MyOrigo Magazine at 28) Additional exemplary citations include:

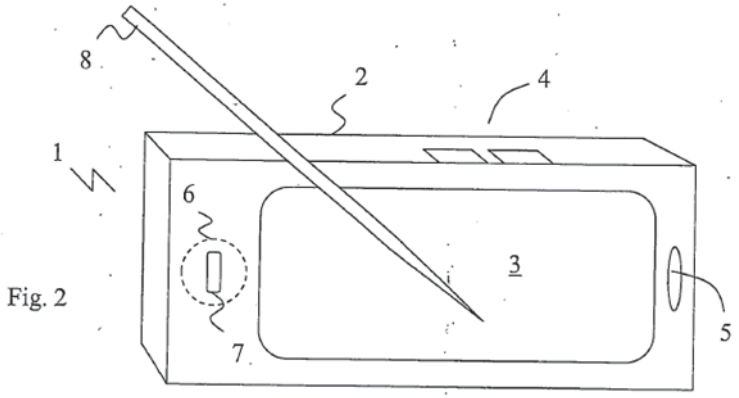
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The MyDevice is a quirky new smartphone that boasts a revolutionary user interface based on motion control-the screen shifts whether you are holding the device horizontally or vertically. Plus the 'book layout' menu structure creates an entirely new user experience and easier access to mobile multimedia services." (MyOrigo Magazine at 27.) "Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "You switch on the MyDevice by squeezing not one, but two buttons located either side of the phone and a little green light appears briefly at the top of the phone before the touch screen flickers to life. The standby screen is reminiscent of the P800 with a virtual keypad and a strip of icons above. The battery and signal meters are tiny though." (MyOrigo Magazine at 27.) "A huge 1300mAh lithium battery provides a somewhat meagre 120 hours standby or between two and five hours talktime depending on access to online services. Its graphical user interface has been designed to allow personalization by network operators but for the moment you are greeted by a virtual desktop with big friendly buttons. The phone has what the designers boast is a 'full book' interface, where you stroke the screen to turn pages or to access the next/previous menu." (MyOrigo Magazine at 28.) "The best way to describe motion control on the MyDevice is to imagine a gyroscope, which will remain upright no matter what angle it spins. Using motion sensors the screen in the device adjusts as you move your hand. Turn the device 90, even 180 degrees and watch the screen display follow you from landscape to portrait in an instant. Maybe this is something Sony Ericsson should consider for its next breed of smartphones!" (MyOrigo Magazine at 28.) "The phone book is rather whizzy to use as it's arranged in a grid format with icons marked ABC, DEF and so on. You simply guide the cursor over the relevant icon (or press the screen) and it opens up to

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	reveal the list of names or surnames. Like most smart phones the messages folder is a combined text and email centre with one touch buttons for access to received messages, outbox and separate options to compose your text messages and emails. Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist. The large virtual keypad has haptic feedback (it vibrates each time you press a 'key') which makes data entry reasonably easy, but I wonder what it would be like to compose emails on such a small working surface. But the jury is still out to decide whether motion control is *the* next big thing. Why not vent your opinions on our forum at www.whatmobile.net?" (MyOrigo Magazine at 28.) "A feature rich smartphone that uses motion control as a means to navigate around the menu system as well as using a touch screen environment with haptic (vibrating) feedback. Take it as read that the MyDevice is a revolutionary piece of technology but whether it will take off is another thing. The motion control and mirroring are ahead of the game, but only time will tell if the public embrace or shun these exciting new technologies. Lack of Bluetooth mars an otherwise interesting debut." (MyOrigo Magazine at 28.)
[9f] a virtual keyboard to enter text; and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text." For example, MyOrigo Magazine discloses a "virtual keypad" used for data entry, such as composing an email. (MyOrigo Magazine at 27, 28.) Additional exemplary citations include: "You switch on the MyDevice by squeezing not one, but two buttons located either side of the phone and a little green light appears briefly at the top of the phone before the touch screen flickers to life.

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	The standby screen is reminiscent of the P800 with a virtual keypad and a strip of icons above. The battery and signal meters are tiny though." (MyOrigo Magazine at 27.) "The large virtual keypad has haptic feedback (it vibrates each time you press a 'key') which makes data entry reasonably easy, but I wonder what it would be like to compose emails on such a small working surface. But the jury is still out to decide whether motion control is the next big thing. Why not vent your opinions on our forum at www.whatmobile.net?" (MyOrigo Magazine at 28.)
[9g] a microphone and a speaker	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, MyOrigo Magazine discloses that its device includes a "loudspeaker" and a "voice recorder." (MyOrigo Magazine at 28.) A POSITA would have understood that a microphone is necessary to record sounds like voices.  (MyOrigo Magazine at 28) MyOrigo Magazine further explains that its device may be used to make calls. (MyOrigo Magazine at 28.) A POSITA would have understood a smart phone to necessarily include a microphone and speaker for placing phone calls. Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.) To the extent Keyless argues that MyOrigo Magazine does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Bast, Wedel, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Bast discloses that the housing includes a microphone 3 and a speaker 4 located at the bottom and top of the front surface of the housing, respectively. (Bast at [0010], FIG. 1)

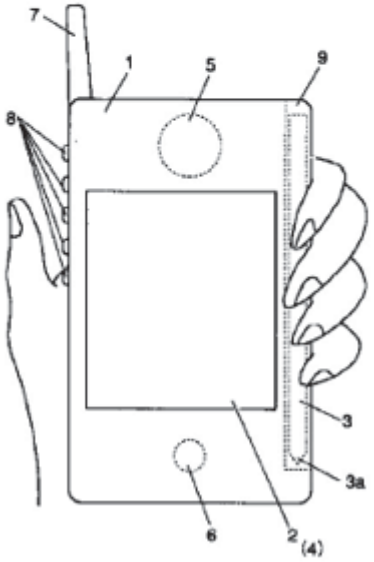
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Figure 1 (Bast at FIG. 1) For example, Wedel discloses that the terminal 1 includes "a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1." (Wedel at 2:1-11, FIG. 2.)

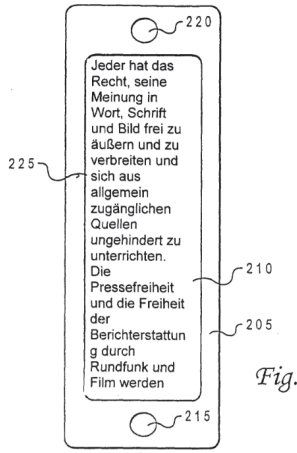
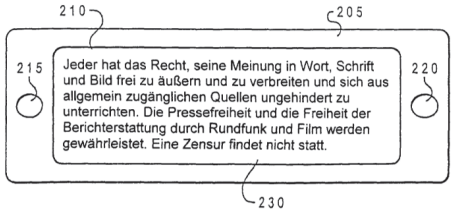
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2.) Additionally, Yamaguchi discloses a "mobile-communication-information terminal device" including a "speaker part 5" and a "microphone part 6." (Yamaguchi at claim 1, [0003], [0005], [0011], [0017], FIG. 1.) Additionally, Dutta discloses a mobile phone including a microphone and a speaker. (Dutta at [0018], FIGS. 2A-B.) A POSITA would have been motivated to configure a mobile phone to include a microphone and a speaker. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Bast, Wedel, Yamaguchi, and Dutta. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to make phone calls, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Bast, Wedel, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (including a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and Dutta) according to known methods to yield predictable results (a mobile phone that allows a place calls using the microphone and speaker); (B) use of a known technique (allowing a user to make calls using a microphone and speaker as taught by Bast, Wedel, Yamaguchi, and Dutta) to improve similar devices in the same way (a mobile phone that allows a user to make phone calls); (C) applying a known technique (allowing a user to place calls using a microphone and

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	speaker as taught by Bast, Wedel, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Bast, Wedel, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: "The mobile terminal shown in Figure 1 combines the functions of a personal digital assistant (PDA) and a mobile telephone. It includes a housing 1 equipped, on the front face, with a large screen 2, which can be a touch screen. The front face of the housing also includes a microphone 3 and a speaker 4, located at the lower part and the upper part, respectively, of the front face of the housing. The touch screen 2 is a rectangular screen that is as large as possible to enable: the input and display of data, particularly writing by means of a stylus; the display of various information, like the time; the display of short messages or messages obtained by email; and the display of program and function icons, settings icons, a virtual keypad for numbering etc. When coming on line, it can, for example, as shown in Figure 1, display a desktop in the form of icons corresponding to the various applications programmed in the terminal." (Bast at [0010].) "However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. . . . A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3." (Wedel at 2:1-11.) "A mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, the device being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body." (Yamaguchi at claim 1.) "FIG. 7 is a front view of a mobile-communication-information terminal device according to the existing art. In the mobile-communication-information terminal device according to the existing art, as shown in FIG. 7, a liquid-crystal display part 2, which outputs and displays text, graphics data, and wireless status, is provided on a front-surface portion of a device body 1; a touch panel part 4, by which data inputs are made by touching with a pen tip, is disposed on a front surface of the liquid-crystal display part 2; a pen-housing part 9 for housing a pen 3 is located on a lower portion of the liquid-crystal display part 2; and an antenna part 7 is located on a rear surface of the liquid-crystal display part 2 and near a side-surface portion thereof. Moreover, various manipulable switches 8 are provided on the same surface as the liquid-crystal display part 2 and at locations centered on the liquid-crystal display part 2 in a left-right direction, and a speaker part 5, which outputs audio, and a microphone part 6, by which audio is inputted, are disposed on the same surface as the liquid-crystal display part 2 and centered on the liquid-crystal display part 2 in the left-right direction. In addition, although not shown in the drawings, a card-housing part for a memory card having a data storage function and, adjacent thereto, a card EJECT button having an EJECT function are provided on a lower portion of the device body 1, and the device body 1 has a shape having overall horizontally elongated dimensional ratios." (Yamaguchi at [0003].) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "EMBODIMENTS OF THE INVENTION The invention according to claim 1 of the present invention is a mobile-communication-information terminal device provided with a liquid-crystal display part, which outputs and displays text and graphics data, a touch panel part, which is disposed on a front surface of the liquid-crystal display part and by which data is inputted using a pen, and a wireless part, which transmits and receives data, a device body of the device being holdable in one hand, and the device being provided with: a speaker part, which is disposed at an upper portion and outputs audio, and a microphone part, which is disposed at a lower portion and by which audio is inputted, with the data input/output part interposed therebetween; an antenna part and various manipulable switches disposed on a same-side surface portion of the device body; and a pen-housing part disposed on an opposite side-surface portion; wherein the various manipulable switches are disposed at locations such that the switches can be manipulated by the thumb of a hand holding the device body; thus, the invention has the effects that, if pen input is not required, then various manipulations can be performed with the one hand holding the device body, and audio input/output can be performed without adjusting one's grip on the device body, thereby improving ease of manipulation." (Yamaguchi at [0011].) "As shown in FIG. 1 and FIG. 2, the mobile-communication-information terminal device is constituted by: a liquid-crystal display part 2, which is disposed on a front-surface portion of a device body 1 and outputs and displays text and graphics data; a touch panel part 4, which is disposed on a front-surface portion of the liquid-crystal display part 2 and by which inputs can be made by touching with a tip 3a of a pen 3; a speaker part 5, which outputs audio and is disposed at an upper portion of the liquid-crystal display part 2 and on the same surface as the liquid-crystal display part 2; a microphone part 6, into which audio is inputted and which is disposed at a lower portion of the liquid-crystal display part 2 and on the same surface as the liquid-crystal display part 2; an antenna part 7 and various manipulable switch parts 8, which are disposed on a same-side surface portion of the device body 1; a pen-housing part 9, which is disposed on a side-surface portion of the device body 1 opposite the aforementioned; and the like; furthermore, the various manipulable switch parts 8 are disposed at locations such that they can be manipulated by the thumb of one hand holding the device body 1." (Yamaguchi at [0017].) Yamaguchi discloses the following at FIG. 1:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1 1: Device body 2: Liquid-crystal display part 3: Pen 4: Touch panel part 5: Speaker part 6: Microphone part 7: Antenna part 8: Various manipulable switches 9: Pen-housing part  (Yamaguchi at FIG. 1.) "Figs. 2A and 2B are exemplary representations of the display of a mobile phone corresponding to a preferred embodiment of the present invention. The two figures show this telephone 205, which is equipped with a display 210. From the illustration it follows that the display 210 occupies the majority

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	of the surface of the telephone 205, in which a microphone 215 is located at one end of the display, and a speaker 220 is located at the other end of the display." (Dutta at [0018].) Dutta discloses the following at FIGS. 2A-B:  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B.)
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See*

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
integrated within said mobile phone and	*supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").
[9i] wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text, and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f]. For example, MyOrigo Magazine discloses a phone that does not have any physical buttons on its front surface. (MyOrigo Magazine at 27, 28.) MyOrigo Magazine explains that data may be input using a touch sensitive keypad or touch sensitive buttons. (MyOrigo Magazine at 27, 28.)  (MyOrigo Magazine at 28)  (MyOrigo Magazine at 28)

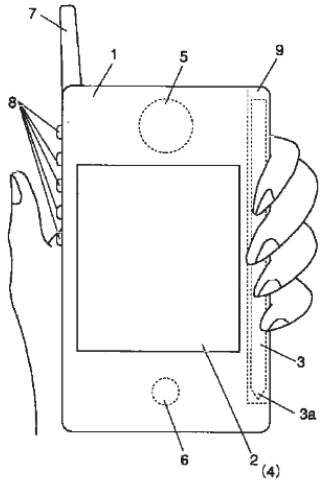
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: "Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "You switch on the MyDevice by squeezing not one, but two buttons located either side of the phone and a little green light appears briefly at the top of the phone before the touch screen flickers to life. The standby screen is reminiscent of the P800 with a virtual keypad and a strip of icons above. The battery and signal meters are tiny though." (MyOrigo Magazine at 27.) "A huge 1300mAh lithium battery provides a somewhat meagre 120 hours standby or between two and five hours talktime depending on access to online services. Its graphical user interface has been designed to allow personalization by network operators but for the moment you are greeted by a virtual desktop with big friendly buttons. The phone has what the designers boast is a 'full book' interface, where you stroke the screen to turn pages or to access the next/previous menu." (MyOrigo Magazine at 28.) "The phone book is rather whizzy to use as it's arranged in a grid format with icons marked ABC, DEF and so on. You simply guide the cursor over the relevant icon (or press the screen) and it opens up to reveal the list of names or surnames. Like most smart phones the messages folder is a combined text and email centre with one touch buttons for access to received messages, outbox and separate options to compose your text messages and emails. Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist.

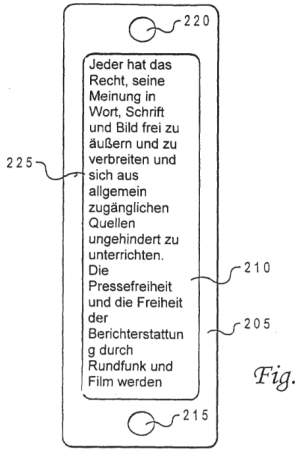
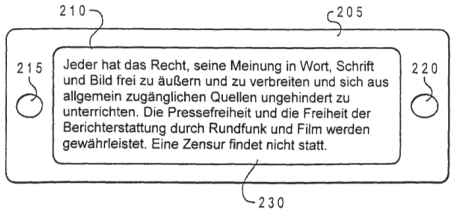
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	The large virtual keypad has haptic feedback (it vibrates each time you press a 'key') which makes data entry reasonably easy, but I wonder what it would be like to compose emails on such a small working surface. But the jury is still out to decide whether motion control is the next big thing. Why not vent your opinions on our forum at www.whatmobile.net?" (MyOrigo Magazine at 28.)
[9j] wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10a] wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user." For example, MyOrigo Magazine discloses that the device is a smart phone that may be used "[f]or making calls." (MyOrigo Magazine at 28.) A POSITA would have understood the length of MyOrigo Magazine's device would correspond to the distance between the ear and mouth of the user because such dimensions would have been obvious to allow the user to hold an end of the device containing a speaker against their ear and an end of the device containing a microphone near their mouth. (MyOrigo Magazine at 27, 28.) *See also supra* [9g].  (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.) Additional exemplary citations include:

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.) To the extent Keyless argues that MyOrigo Magazine does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Magazine combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1) 【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by MyOrigo Magazine such that the length of the front surface of the mobile phone, and correspondingly the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta, [0003].) A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by MyOrigo Magazine to be an example of (A) combining prior art elements (the mobile phone of MyOrigo Magazine with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Magazine to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[12a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].
[12b] wherein upon providing a sweeping	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendants incorporate all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].
[13a] wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
	additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

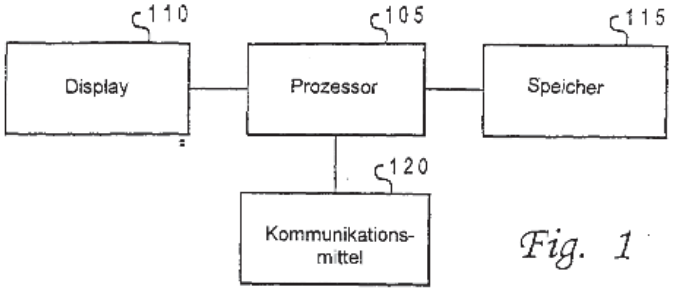
Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, MyOrigo Magazine discloses the "MyDevice," which is a "smartphone," or a mobile phone device. (MyOrigo Magazine at 27, 28.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.) Additional exemplary citations include: "The MyDevice is a quirky new smartphone that boasts a revolutionary user interface based on motion control-the screen shifts whether you are holding the device horizontally or vertically. Plus the 'book layout' menu structure creates an entirely new user experience and easier access to mobile multimedia services. The phone is designed and built by MyOrigo in Finland but it's doubtful that they will sell the phone directly and probably sign a deal with a network to create an own brand phone, like Orange has done with the SPV. The phone we tested out was a prototype but it gives you a pretty good indicator if what to expect when the MyDevice ships at the end of the month. The standard package will comprise of a phone, stereo headset, PC sync package and a couple of games. The target price is around €150 to €250 with contract.

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Measuring 124x59x23mm and weighing 149g, the MyDevice is gunning for the likes of the Sony Ericsson P800 and Nokia 6600. The styling is clean and minimalist, combining the Nokia 7650's classic lines with a flip-free Sony Ericsson P800. At both ends of the 320x176 pixel colour display there are touch sensitive buttons tipped off by slivers of aluminum. A camera is discreetly placed at the back. Non slip feet at all four corners ensure that the phone doesn't slide around on your deck." (MyOrigo Magazine at 27.) "Whilst the final specification will depend on who takes the phone, MyOrigo has provisioned a tri-band chipset, GPAS, 64Mb RAM, a digital camera and MP3 play as standard. There is a SD card slot for extra storage and music files. First release devices will use infrared and a mini USB point for connectivity. However MyOrigo has confirmed that its second device will feature Bluetooth and Wi-Fi." (MyOrigo Magazine at 27-28.) "Using the MyDevice is an interesting experience. For making calls it's fine-you simply use the touch screen to press the virtual buttons. You do need a steady hand at time to control the phone, especially with the zoom feature which can bring you up close and personal or pull the page away just as quick, with an uncoordinated flick of the wrist." (MyOrigo Magazine at 28.) "A feature rich smartphone that uses motion control as a means to navigate around the menu system as well as using a touch screen environment with haptic (vibrating) feedback. Take it as read that the MyDevice is a revolutionary piece of technology but whether it will take off is another thing. The motion control and mirroring are ahead of the game, but only time will tell if the public embrace or shun these exciting new technologies. Lack of Bluetooth mars an otherwise interesting debut." (MyOrigo Magazine at 28.)
[15a] a body having a practically rectangular shape;	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15b] a processor; and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor." For example, a POSITA would have understood that MyOrigo Magazine's device would have inherently included a processor because it is intended for use as a "smartphone." (MyOrigo Magazine at 27, 28.) Additionally, MyOrigo Magazine explains that the device is powered by an operating system. (MyOrigo Magazine at 28.) A POSITA would have understood that an operating system executes on a processor, and therefore MyOrigo Magazine's device must include a processor.  (MyOrigo Magazine at 28.)  (MyOrigo Magazine at 28.) Additional exemplary citations include:

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The MyDevice is a quirky new smartphone that boasts a revolutionary user interface based on motion control-the screen shifts whether you are holding the device horizontally or vertically. Plus the 'book layout' menu structure creates an entirely new user experience and easier access to mobile multimedia services." (MyOrigo Magazine at 27.) "A lot of this is possible due to the fact that MyDevice is powered by an amazingly fast operating system called Intent. It's made by Tao (pronounced 'dow'), a company you've probably never heard of but chances are you own something in the house or car powered by them. Tao's background was originally in computer games, so it's no surprise that they are helping to develop a games version of the MyDevice. I tried out a fun demo game called Sperinoid, where you guide a marble around a maze by tilting the screen." (MyOrigo Magazine at 28.) "The phone book is rather whizzy to use as it's arranged in a grid format with icons marked ABC, DEF and so on. You simply guide the cursor over the relevant icon (or press the screen) and it opens up to reveal the list of names or surnames. Like most smart phones the messages folder is a combined text and email centre with one touch buttons for access to received messages, outbox and separate options to compose your text messages and emails." (MyOrigo Magazine at 28.) "A feature rich smartphone that uses motion control as a means to navigate around the menu system as well as using a touch screen environment with haptic (vibrating) feedback. Take it as read that the MyDevice is a revolutionary piece of technology but whether it will take off is another thing. The motion control and mirroring are ahead of the game, but only time will tell if the public embrace or shun these exciting new technologies. Lack of Bluetooth mars an otherwise interesting debut." (MyOrigo Magazine at 28.) To the extent Keyless argues that Bast does not disclose or render obvious this limitation, it would have been obvious in view of Bast, POSITA's pre-existing knowledge, and/or the teachings of Bast combined with Dutta and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Dutta discloses a mobile phone that includes a processor 105 capable of writing data to a display 110. (Dutta at [0015], FIG. 1) In addition, the processor can read and write data to memory and communicate with a wireless network. (*Id*.)  (Dutta at FIG. 1) As another example, Benoit discloses a communication tool including a "data processing unit," or "central processing unit," which is a processor. (Benoit at 1:6-7, 3:22-24, claim 10.) A POSITA would have been motivated to configure a mobile phone to include a processor. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Dutta and Benoit. A POSITA would have been motivated to include a processor to allow the phone to execute instructions, improving operation for the user. Thus, a POSITA would have considered the combination of the teachings of Dutta and/or Benoit into the mobile phone architecture disclosed by Bast to be an example of (A) combining prior art elements (including a processor in a mobile phone as taught by Dutta and Benoit) according to known methods to yield predictable results (proving computing and/or processing capability); (B) use of a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to improve similar devices in the same way (providing computing and/or processing capability); (C) applying a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to a known device ready for improvement to yield

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	predictable results (providing computing and/or processing capability); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Dutta and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by Bast to arrive at the claimed invention. Additional exemplary citations include: "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "The present invention relates to a method for navigating a computer program by means of a touch screen. It has a particularly interesting application in a personal digital assistant (PDA) for launching an application or even for general navigation within a program or between multiple programs. However, the invention has a broader scope because it can be applied to any communication tool comprising a touch screen and a data processing unit. In current communication tools, such as microcomputers, there is an operating system capable of managing all the programs present in the computer. In general, the human-machine interface of such an operating system presents a set of active areas." (Benoit at 1:3-10.) "According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 3:22-24.) "A communication tool equipped with a touch screen and a central processing unit for carrying out a method according to any one of the preceding claims." (Benoit at claim 10.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device;	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device." *See supra* claim [1e] (discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of MyOrigo Magazine, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].
[15e] wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"). A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17a] wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a] (discussing limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[18a] wherein said device does not include a physical key on the front surface of the device.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface").

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
	rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15. MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	MyOrigo Magazine, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] (discussing limitation "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position").

Appendix C8

Exhibit C8
Invalidity of Asserted Claims of the '144 Patent
in view of MyOrigo Manual

MyOrigo mydevice Z1 User Manual ("MyOrigo Manual"), which was submitted as Exhibit 8 to Federal communications Committee ("FCC") Application RB90601 on December 19, 2003. FCC lists a "Date Available" for Exhibit 8 as December 19, 2003. Thus, MyOrigo Manual qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1).[1] MyOrigo Manual anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends MyOrigo Manual does not disclose one or more limitations of the claims, it would have been obvious to combine MyOrigo Manual with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid in view of MyOrigo Manual and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).
- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1).
- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C6.

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

- United States Patent No. 8,375,334 to Nakano et. al ("Nakano"), filed on May 9, 2003, and granted on February 12, 2013, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. §102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C4.

- United Kingdom Patent Application Publication No. 2331204 to Kobayashi ("Kobayashi"), filed on November 5, 1998, and published on May 12, 1999, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. §102(a)(1).

- French Patent Application Publication No. 2830093 to Benoit et al. ("Benoit"), filed on September 25, 2001, and published on March 28, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1).

- United States Patent No. 5,848,356 to Jambhekar et al. ("Jambhekar"), filed on October 2, 1995, and granted on December 8, 1998, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.

- The Sony Ericsson P800 was, on information and belief, publicly available in the United States on or about October 15, 2002. The P800 qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C9.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to MyOrigo Manual, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserves the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications, that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications, are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments, and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, MyOrigo Manual discloses a triple band phone that can operate on various GSM networks. (MyOrigo Manual at 2.) MyOrigo Manual discloses a "phone mode" that allows the phone to make voice calls and data calls. (*Id*. at 9). **Introduction** The MyOrigo **mydevice** Z1 is a triple band phone and can be operated on E-GSM 900, GSM 1800 and GSM 1900 networks, which means that you are able to use the device in many regions across the world. The device has a large colour display that is also a touch screen with feed-back when you press the screen. This feedback from the touch screen is referred to as Haptitouch. The device has a built in digital camera which can be used to take photos. In the device are motion sensors that can be used to control certain move-ments and functions in the device, like mirroring and zooming the views. The device supports GPRS (General Packet Radio Services) which means that you can make fast data connections. MMS, E-mail messaging and Internet browsing are supported in the device through GPRS connections. MyOrigo Manual at 2.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Phone Mode

The phone mode allows you to use the device normally with all the data connections so that it is possible to make voice calls, data calls, etc.



You may be asked to enter a PIN code, if so this is supplied by the operator with your subscription. To change this code, switch this function off see...

1. Enter your PIN number and press *OK*.
   Press *Clear* if you make a mistake whilst entering the PIN number.
   If you enter the PIN code incorrectly *Wrong code, Enter PIN code again* is displayed.
   If a PIN code is entered incorrectly 3 times in a row then the SIM card will be blocked and the message *Wrong code, SIM use blocked. Enter PUK code* is displayed. See SIM card locking...

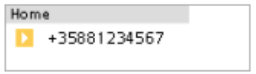
MyOrigo Manual at 9.

Additional exemplary citations include:

"The MyOrigo mydevice Z1 is a triple band phone and can be operated on E-GSM 900, GSM 1800 and GSM 1900 networks, which means that you are able to use the device in many regions across the world." (MyOrigo Manual at 2.)

"The phone mode allows you to use the device normally with all the data connections so that it is possible to make voice calls, data calls, etc." (MyOrigo Manual at 9.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Attaching the battery 1. Place the battery into the back of the phone, with the golden connectors facing down. 2. Push the battery down at the bottom and then slide up so that the battery is locked into position by means of the battery locking pins.  ***Removing the battery*** 1. With your finger nail pull down and lift out the battery.  **NOTE:**Always switch the phone off before removing the battery. (MyOrigo Manual at 5.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Action Fields An action field is a field that can contain a specific text format and the play icon and when pressed it will launch a specific action or an application dependant upon the data in the field. An action field for a phone number when pressed will open the phone application with the number already inputted and only needs to be pressed to make a call to that number. See the example of a phone number action field.  Action fields for the following formats may be possible: • Calls - • E-mail - (MyOrigo Manual at 15.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Standby Menu The standby menu can be reached at any time when the phone is switched on by pressing both A & B keys simultaneously. The standby menu contains the following options; • Turn on key lock • Turn on/off silent • Shut down • Task manager • Profiles • Volume control **The key lock** The key lock is a feature that helps to prevent accidentally pressing buttons or dialling a number, when for example being carried in your pocket. The key lock will remain locked unless the following happens: (MyOrigo Manual at 23.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	• you unlock the key lock • you receive an incoming call • you receive a message ***To turn on the key lock*** 1. Full click the A & B keys simultaneously to access the standby menu. 2. Press *Lock* When the device is key locked the virtual phone will be displayed with *Screen locked* displayed. ***To turn off the key lock*** • Press Unlock in the display. **NOTE:**With the key lock on you can still access the phone to make an emergency number call. See.... (MyOrigo Manual at 24.) **Call Functions** The phone application can be activated in several ways, from the Phone key on the lens , though the Fast menu or from the *Calls/New call* field. Depending on how you are using the device you can choose the most appropriate way to access the phone application. The Calls chapter contains call management features for this device, dialled, received and missed calls lists.  (MyOrigo Manual at 27.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Making Calls ***To make a call*** 1. Press 2. Enter the phone number with the area code if needed. If you enter the incorrect number press *Clear* to delete it. Pressing and holding *Clear* will delete the whole number. 3. Press Call Press *End* to end the call. 4. To exit the phone application press *Close* when in standby mode to return to the previous menu. ***To create a new contact from the entered number in the phone application*** • Press *Create contact* to create a new contact with that number. See *Creating a contact* page..... ***To answer a call*** • Press *Answer* to answer the incoming call. ***To reject an incoming call*** • Press *Reject* to reject the incoming call. ***To mute the audio alert for an incoming call*** • Press *Mute Tone* to mute the audio for the incoming call. ***To make international calls*** 1. Press and hold to enter the + sign. The + sign replaces the international prefix number. 2. Enter the country code, then the area code (without the first 0) and the phone number and press *Call* ***To adjust the earpiece volume during a call*** (MyOrigo Manual at 27.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Speed Dialling You can assign contacts numbers to the number buttons in the phone application, which can then be quickly recalled and dialled. To *set a speed dial number for a contact* See page... ***To make a call to a speed dial number*** • When the phone application is open either: • Press the corresponding speed dialling key for the contact you have assigned that number and press *Call* • Press and hold the number until the call is started. **Emergency Calls** At any time when the phone is switched on you can make an emergency call usually even without a SIM card if there is a GSM network in range. The international emergency numbers that are supported in this device are 112, 911 & 08. It is also possible to make an emergency call when the device is locked. See *Locking and unlocking the device* page... ***To make an emergency call*** 1. Press 2. Enter *112*, the GSM international emergency number. 3. Press *Call* **Call Details** • You can check the details of calls from the device. From the *Details viewer* you can see the following information: • Start time (MyOrigo Manual at 28.)

DRAFT

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Call Management

The call management menu is a dynamic menu which contains the in-call options through the menus. The following in-call options may be available.

- Hold Call
- Activate Call
- Send DTMF
- End all calls
- Mute
- Swap

To turn off the microphone

1. Select a call from the *Call Management* menu with a long press to activate the Fast menu.
2. Select *Mute Mic*  .
   To turn the microphone back on repeat this process and press *Mic On*  .

Dialled Calls

The device stores the 12 last dialled calls.

To view your received calls

- Select *Calls/Dialled calls*.

Calling a previously dialled number

1. Select *Calls/Dialled calls*.
2. Select the number or name that you wish to redial.
3. Press *Call* 

TIP: Dialled calls can also be reached by pressing *Dialled*  when in the phone application and no numbers have been entered in the phone.

Received Calls

The device stores the 12 last received calls.

To view your received calls

- Select *Calls/Received calls*.

(MyOrigo Manual at 29.)

DRAFT

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Missed Calls The device stores the 12 last missed calls, a message *1 missed call* will appear under the *Calls* chapter in the contents page and also be displayed as in the status header. ***To view your missed calls*** • Select *Calls/Missed calls*. **Call Waiting** See *Settings/Phone Settings* page... **Diverting Calls** See *Settings/Phone Settings* page... (MyOrigo Manual at 30.) **Voicemail** Your voice mailbox is an answering service provided by your network or service provider, which allows callers to leave voice messages for you when you are unable to answer the call. You can save your voicemail service number in the device so that you are able to quickly access the number through the speed dial number 1 which is reserved for your voicemail. See *Creating a contact* page..... The voicemail indication.... ***To call your voice mailbox*** • Press and hold 1 (MyOrigo Manual at 30.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Call Holding ***To put a call on hold*** 1. Press *Manage Call* 2. Select *Hold call* To take the call off hold, repeat steps 1 and 2 and select the call *Activate Call* ***To hold a call and make a new call*** 1. Press *Manage Call* 2. Select *Hold Call* 3. Select *Open Phone* Either: • Enter the new number and press *Call* • Press *Main Index* and select a contact from the contacts list, with a long press on the number to activate the Fast Menu and press Call (MyOrigo Manual at 31.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Receiving a second call If Call waiting is activated.... ***To answer the second call and put the ongoing call on hold*** • Press *Answer* to answer the second call. The current call will now be put on hold. ***To reject the waiting call and continue with the ongoing call*** • Press *Busy* to reject the second call ***To switch between calls*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Select the call indicated as *Activate* This call is now switched to *Hold Call*. ***To end the ongoing call and return to the call on hold*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Long press the to activate the Fast menu on the call indicated as Online 3. Select *End* to end the ongoing call The previously held call is now active. ***To end all calls*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Long press the to activate the Fast menu on the call indicated as Online 3. Select *End All* to end all calls. (MyOrigo Manual at 31.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Receiving a third call It is not possible to answer a third call without ending one of the other two calls first. ***To handle a third call*** When the a third call is displayed as *Waiting* the following options are available: • Press *Release and Answer* to release the online call and answer the waiting call. • Press *Busy* to send a busy tone to the waiting call • Press *End* to end the online call (MyOrigo Manual at 32.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Conference Calls

The device will allow you up to "x" people to be in a conference call. In order to make a conference call, one call must already be active.

To make a conference call

When two calls are ongoing you can then make a conference call...

1. Press *Manage Call* to move to the *Call management* menu.
2. Select *Conference Call*.

The two calls are now joined into a conference call.

To add a new member to an active conference call

1. Press *Manage Call* to move to the *Call management* menu.
2. Select *New call*.

Enter the new number and press *Call*. When answered the new call is active and the conference call is on hold.

3. Press *Manage Call* to move to the *Call management* menu.
4. Select *Add to Conference*.

To remove a member from a conference call

1. Press *Manage Call* to move to the *Call management* menu.
2. Select the member *At conference:* in the conference call with a long press to activate the Fast menu.
3. Select *End* to remove that member.

To enable a private conversation with a member of a conference call

The device allows you to have a private conversation with one of the members in the conference call. This will put the rest of the conference call members on hold.

1. Select the member *At conference:* in the conference call with a long press to activate the Fast menu.
2. Select *Private*.

(MyOrigo Manual at 32.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	The conference call is now on hold. ***To rejoin a private conversation member to a conference call*** Follow steps 3 & 4 of *To add a new member to an active conference call*. ***To end the conference call*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Select the conference call with a long press to activate the Fast menu. 3. Press *End All* **Call Account** The call account menu contains timers which will show you the total time for calls, this means both incoming and outgoing call and outgoing time only. The call timers can be reset at any time. ***To view the total time for all calls*** • Select *Calls/Call Account*. ***To view the total time for outgoing calls*** • Select *Calls/Call Account*. ***To reset the call timers*** 1. Select *Calls/Call Account*. 2. Long press to activate the Fast menu on the call timer you wish to reset. 3. Press to reset that counter. 4. Press to confirm you wish to reset the counter. (MyOrigo Manual at 33.)
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces."

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
surface, a back surface and four side surfaces,	For example, MyOrigo Manual discloses a housing that is rectangular and contains the components of a mobile phone (MyOrigo Manual 3-7.). It includes a front surface, with a display 6, a back surface, and four side surfaces. (MyOrigo Manual at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  **1.** Function Key A **2.** Function Key B **3.** Infrared Port **4.** LED Indicator **5.** Earpiece **6.** Haptitouch Screen **7.** Microphone **8.** Camera Lens **9.** Battery Cover Release **10.** Mini USB Data Cable Connector **11.** Headset Connector Port **12.** Charger Connector Port (MyOrigo Manual at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: **Inserting the Battery** ***Removing the Battery Cover*** **1.** With your fingernail, pull the battery cover latch downwards  **2.** Lift the cover slightly at the battery cover latch end and gently slide upwards to release the battery cover from the upper corner release catches.  ***Replacing the Battery Cover*** Repeat the *Removing the battery Cover* in the opposite order. (MyOrigo Manual at 4.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Attaching the battery 1. Place the battery into the back of the phone, with the golden connectors facing down. 2. Push the battery down at the bottom and then slide up so that the battery is locked into position by means of the battery locking pins.  ***Removing the battery*** 1. With your finger nail pull down and lift out the battery.  **NOTE:**Always switch the phone off before removing the battery. (MyOrigo Manual at 5.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Technical Data **General** Product Name: MyOrigo Type Number: Z1 **Dimensions** Size: 123 mm x 58 mm x 23 mm Weight (including standard battery): 171 g Li-ion Battery: 1310 mAh **Operation** E-GSM Class: 4 (2 watt) Frequency: 900 MHz GSM Class: 1 (1 watt) Frequency: 1800 MHz GSM Class: 1 (1 watt) Frequency: 1900 MHz SIM card: 3 V GPRS Class: 8 (4 downlink + 1 uplink slots) Operating temperature: Min. -10 C Max. +55 C Standby time: 130 hrs. Talk time: 220 - 600 mins. **NOTE:** Standby time and talk time are subject to the network conditions (MyOrigo Manual at 113.)
[1b] wherein the length of the front surface approximately corresponds to the	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user."

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
distance between the ear and the mouth of a user and	For example, MyOrigo Manual discloses a speaker (earpiece 5) and a microphone 7. (MyOrigo Manual at 3.) The earpiece 5 and microphone 7 are positioned at opposite ends of the device, which is 123mm in length. (*Id*. at 3, 113). It would have been obvious to a POSITA that the length of the MyOrigo Manual would correspond to the distance between the ear and mouth of the user because the device is a mobile telephone, and such dimensions would have been obvious to allow the user to hold an end of the device containing a speaker against their ear and an end of the device containing a microphone near their mouth. Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Standby menu commands Power off / Device is locked Sounds on / Device is unlocked Mute on / Flight mode **Contact application commands** Contact / Save to SIM Contact Group / Copy from SIM to device Contact Chooser / Move to SIM Synchronize contacts / Move from SIM Delete contact from device / Delete from SIM **Contact application icons** Contact in device / Contact on SIM (MyOrigo Manual at 19.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

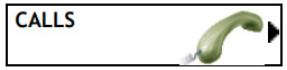
Calls application commands

	Call		Close call
	Conference call		Close all calls
	On hold		DTMF call
	Private call		Mute microphone
	Divert call		Turn on microphone
	Reset counter		

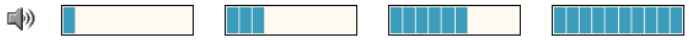
Messages application commands

	Create SMS		Reply to SMS
	Send SMS		Forward SMS
	Create MMS		Reply to MMS
	Send MMS		Forward MMS
	Create E-mail		Send E-mail
	Attachment		Reply to E-mail

(MyOrigo Manual at 19.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	# Call Functions The phone application can be activated in several ways, from the Phone key on the lens , though the Fast menu or from the *Calls/New call* field. Depending on how you are using the device you can choose the most appropriate way to access the phone application. The Calls chapter contains call management features for this device, dialled, received and missed calls lists.  (MyOrigo Manual at 27.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Making Calls ***To make a call*** 1. Press 2. Enter the phone number with the area code if needed. If you enter the incorrect number press *Clear* to delete it. Pressing and holding *Clear* will delete the whole number. 3. Press Call Press *End* to end the call. 4. To exit the phone application press *Close* when in standby mode to return to the previous menu. ***To create a new contact from the entered number in the phone application*** • Press *Create contact* to create a new contact with that number. See *Creating a contact* page..... ***To answer a call*** • Press *Answer* to answer the incoming call. ***To reject an incoming call*** • Press *Reject* to reject the incoming call. ***To mute the audio alert for an incoming call*** • Press *Mute Tone* to mute the audio for the incoming call. ***To make international calls*** 1. Press and hold to enter the + sign. The + sign replaces the international prefix number. 2. Enter the country code, then the area code (without the first 0) and the phone number and press *Call* ***To adjust the earpiece volume during a call*** (MyOrigo Manual at 27.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	• Press the *A* key to increase the volume • Press *B* key to decrease the volume  Low High ***To make a call to a stored contact from the phone application*** **1.** When in standby mode of the phone application, press *ABC* . The number buttons will change to letter buttons. To change the buttons back to numbers press *123* **2.** Enter the first letter for the contact you wish to recall. **3.** Select the contact from the alphabetical list. The contact name will appear in the phone application. **4.** Press *Call*

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	## Speed Dialling You can assign contacts numbers to the number buttons in the phone application, which can then be quickly recalled and dialled. To *set a speed dial number for a contact* See page... ***To make a call to a speed dial number*** • When the phone application is open either: • Press the corresponding speed dialling key for the contact you have assigned that number and press *Call* • Press and hold the number until the call is started. ## Emergency Calls At any time when the phone is switched on you can make an emergency call usually even without a SIM card if there is a GSM network in range. The international emergency numbers that are supported in this device are 112, 911 & 08. It is also possible to make an emergency call when the device is locked. See *Locking and unlocking the device* page... ***To make an emergency call*** 1. Press 2. Enter *112*, the GSM international emergency number. 3. Press *Call* **Call Details** • You can check the details of calls from the device. From the *Details viewer* you can see the following information: • Start time (MyOrigo Manual at 28.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Technical Data

General	
Product Name	MyOrigo
Type Number	Z1

Dimensions	
Size	123 mm x 58 mm x 23 mm
Weight (including standard battery)	171 g
Li-ion Battery	1310 mAh

DRAFT

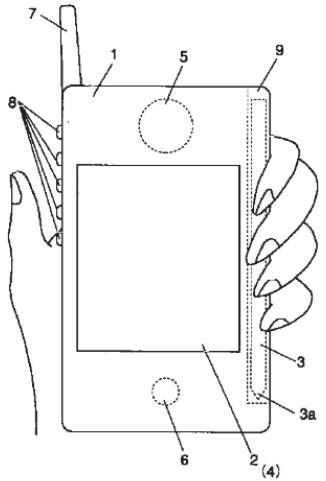
Operation	
E-GSM Class	4 (2 watt)
Frequency	900 MHz
GSM Class	1 (1 watt)
Frequency	1800 MHz
GSM Class	1 (1 watt)
Frequency	1900 MHz
SIM card	3 V
GPRS Class	8 (4 downlink + 1 uplink slots)
Operating temperature	Min. -10 C Max. +55 C
Standby time	130 hrs.
Talk time	220 - 600 mins.

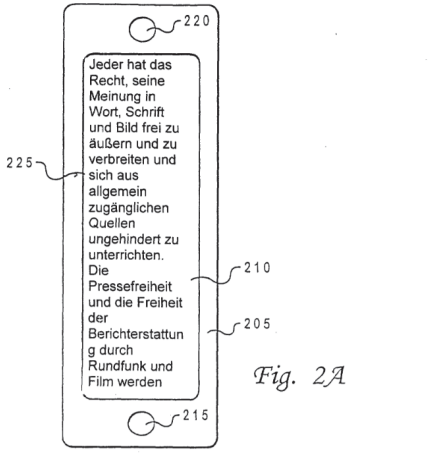
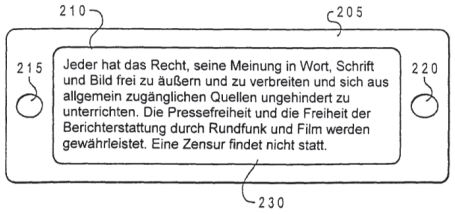
NOTE: Standby time and talk time are subject to the network conditions

(MyOrigo Manual at 113.)

To the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

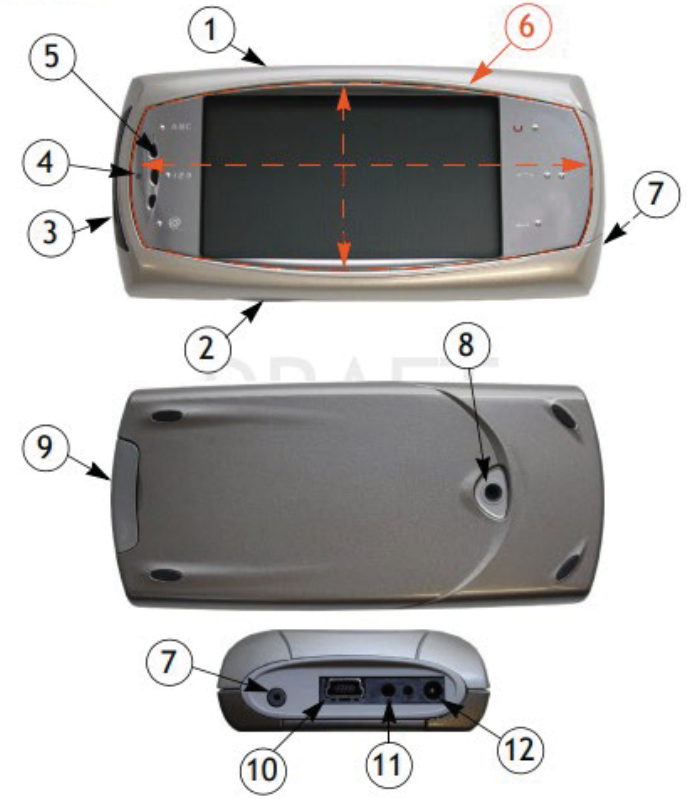
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by MyOrigo Manual such that the length of the front surface of the mobile phone, and correspondingly the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta, [0003].) A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (the mobile phone of MyOrigo Manual with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)
[1c] wherein the width of the front surface is substantially shorter than the length and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length." For example, MyOrigo Manual discloses a mobile phone where the width of the front surface is 58mm and the length is 123mm, such that the width of the phone, including its front surface, is shorter than the length. (MyOrigo Manual at 113.) Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  **1.** Function Key A **2.** Function Key B **3.** Infrared Port **4.** LED Indicator **5.** Earpiece **6.** Haptitouch Screen **7.** Microphone **8.** Camera Lens **9.** Battery Cover Release **10.** Mini USB Data Cable Connector **11.** Headset Connector Port **12.** Charger Connector Port

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

(MyOrigo Manual at 3.)

Technical Data

General	
Product Name	MyOrigo
Type Number	Z1

Dimensions	
Size	123 mm x 58 mm x 23 mm
Weight (including standard battery)	171 g
Li-ion Battery	1310 mAh

DRAFT

Operation	
E-GSM Class	4 (2 watt)
Frequency	900 MHz
GSM Class	1 (1 watt)
Frequency	1800 MHz
GSM Class	1 (1 watt)
Frequency	1900 MHz
SIM card	3 V
GPRS Class	8 (4 downlink + 1 uplink slots)
Operating temperature	Min. -10 C Max. +55 C
Standby time	130 hrs.
Talk time	220 - 600 mins.

NOTE: Standby time and talk time are subject to the network conditions

(MyOrigo Manual at 113.)

See also infra claim [7].

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1d] wherein the housing has a thin thickness; and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the housing has a thin thickness." For example, MyOrigo Manual discloses a mobile phone that is 23mm thick, which is less than the height or width of the phone. (MyOrigo Manual at 113.) Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Technical Data

General	
Product Name	MyOrigo
Type Number	Z1

Dimensions	
Size	123 mm x 58 mm x 23 mm
Weight (including standard battery)	171 g
Li-ion Battery	1310 mAh

DRAFT

Operation	
E-GSM Class	4 (2 watt)
Frequency	900 MHz
GSM Class	1 (1 watt)
Frequency	1800 MHz
GSM Class	1 (1 watt)
Frequency	1900 MHz
SIM card	3 V
GPRS Class	8 (4 downlink + 1 uplink slots)
Operating temperature	Min. -10 C Max. +55 C
Standby time	130 hrs.
Talk time	220 - 600 mins.

NOTE: Standby time and talk time are subject to the network conditions

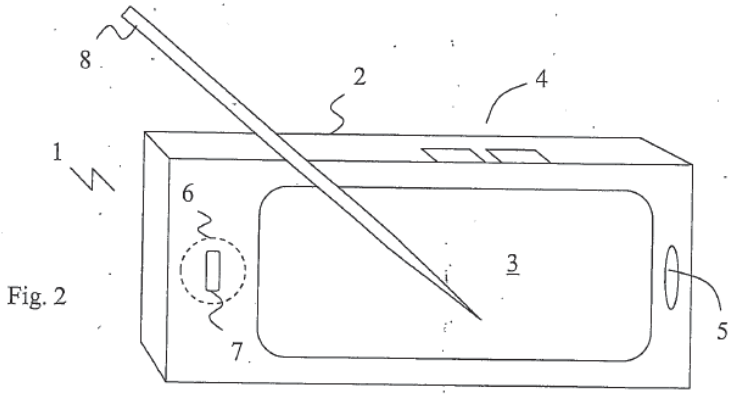
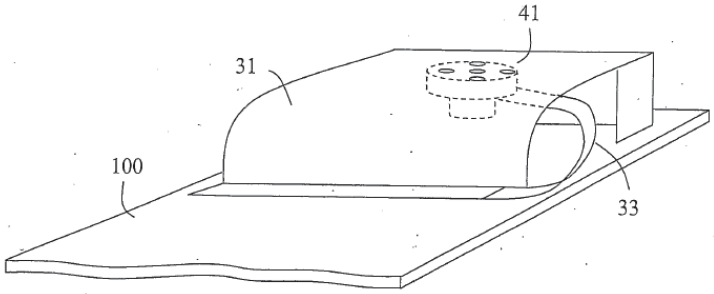
(MyOrigo Manual at 113.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

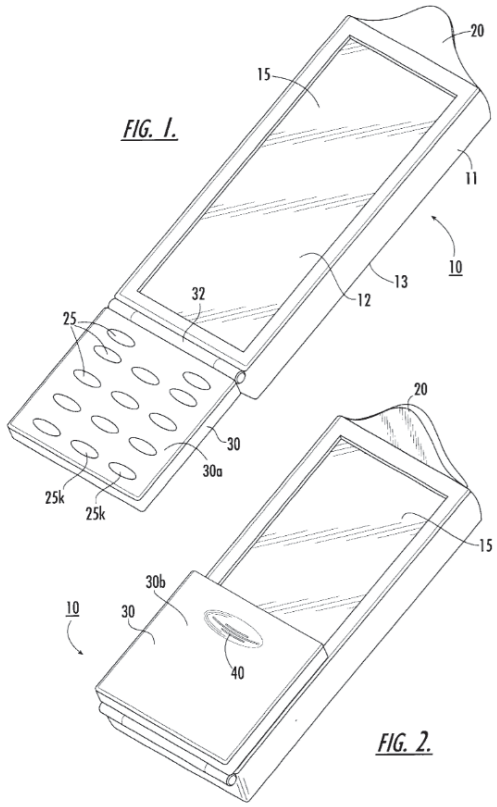
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Manual at 4.) To the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Wedel, Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Wedel, Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone device such that device is compact and can be placed in a user's pocket. Therefore, the mobile phone must have been thin to slip into a pocket. A POSITA would have found it obvious to configure a device to be thin so it could easily be carried and stored by a user in a pocket, or the like. For example, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	teaches reducing the thickness by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) For example, Rydbeck teaches that it is desirable to configure a mobile phone to be small, miniaturized, or "pocket-sized." (Rydbeck at 1:11-19, 2:60-62, 4:39-43, 10:29-30.) In order for a mobile phone to fit in a user's pocket, it must been thin. As another example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi teaches that the mobile phone is 100-150mm in length, 60-75mm in width, and only 15-25mm in depth. (Yamaguchi at [0034], [0036].) Dutta similarly teaches the benefit of reducing the dimensions of portable devices. (Dutta at [0002].) In addition, it is favorable to configure the size of a mobile phone to provide an ergonomically favorable grip, which inherently requires that the device is thin so that a user's hands can wrap around its edges. (Dutta at [0003].) A POSITA would have been motivated to configure a mobile phone to maximize housing thinness to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Wedel, Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to size a phone accordingly in order to improve device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel, Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the portability and operability of a mobile phone); (B) use of a known technique (sizing a mobile phone such that the housing has a thinness as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as taught by Wedel, Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel, Rydbeck, Yamaguchi, and

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include: "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal

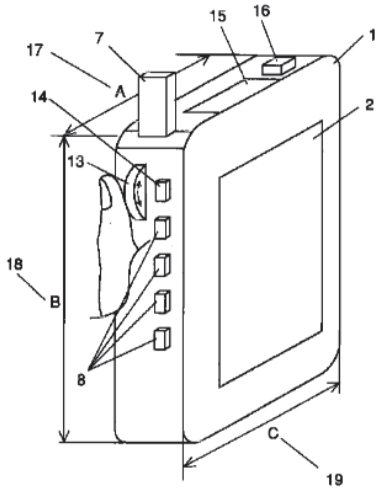
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:  Fig. 2  Fig. 11 "The evolution of wireless communication devices incorporating cellular/digital wireless telephones is undergoing two potentially conflicting trends. One trend is toward miniaturization of the cellular telephone body and the other is toward a demand for larger visual displays thereon. There is, therefore,

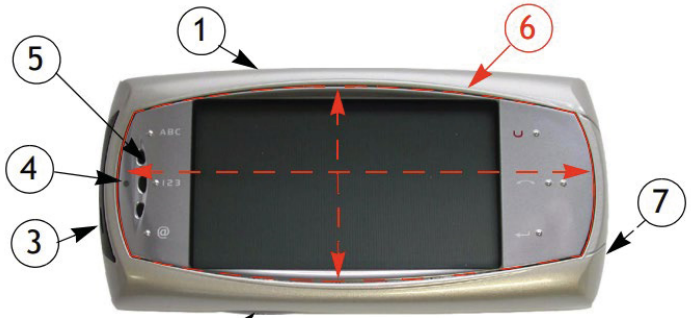
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	a need to configure pervasive computing devices such as smaller, miniaturized, or "pocket-sized" wireless telephones in a manner which allows for larger displays over conventional devices." (Rydbeck at 1:11-19.) "The invention is particularly suitable for pocket-sized wireless telephones or miniaturized pervasive computing devices which include wireless telephones." (Rydbeck at 2:60-62.) "Turning now to the figures, FIG. 1 illustrates a wireless communication device 10 according to one embodiment of the present invention. The wireless communication device 10 includes a primary body 11, a front or forward major surface 12, and an opposing a rear major surface 13 (FIG. 3). (The "forward" and "rear" surface designations are for description purposes only. It will be appreciated that, in practice, each of these surfaces can be the "front" surface or the "back" surface, and that indeed, each will act both as the back and the front, depending on the selected or activity/mode and the corresponding orientation of the device). The wireless communications device 10 also includes a keypad 25, an antenna 20, a speaker 35 (FIG. 3), and a microphone 40 (FIGS. 2, and 3). As shown in FIG. 1, the wireless communications device 10 also includes a flip member 30. The present invention is particularly suited for pocket-sized or palm sized wireless communications devices incorporating remote telephonic communications systems. Typically, these pocket or palm sized devices are less than about 8-10 inches in length and less than about 4 inches in width." (Rydbeck at 4:24-44.) "A method according to claim 20, wherein said wireless communications device is pocket-sized." (Rydbeck at 10:29-30.) Rydbeck discloses the following at FIGS. 1 and 2:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 "Meanwhile, there is a demand for a series of manipulations to be performable with one hand from the perspective of making the mobile-communication-information terminal device 'easy to manipulate', as well as a demand for a size such that the device can fit in a clothing pocket or the like from the perspective of making the device 'easily portable anywhere.'" (Yamaguchi at [0007].) "According to the present invention, the various switches can be manipulated with a finger of one hand in a state in which the device body is held in the one hand, and the device body can be stored in a

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	clothing pocket, thereby resulting in a mobile-communication-information terminal device having good ease of manipulation and portability." (Yamaguchi at [0010].) "The invention according to claim 4 of the present invention is the mobile-communication-information terminal device according to claim 1, wherein: the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top surface of the device body; thus, the invention has the effects that, even if the device body is stored in a clothing breast pocket, wireless status can be confirmed without removing the device from the pocket, and wireless can also be switched ON/OFF, thereby improving ease of manipulation." (Yamaguchi at [0014].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "Wireless status can easily be confirmed from the liquid-crystal part 15 provided on the top surface of the device body 1, even when the device body 1 is stored in a clothing breast pocket or the like. Likewise, it becomes possible to switch wireless ON/OFF by pressing the button 16 provided on the top surface of the device body 1 with the device body 1 still stored in the clothing breast pocket or the like. In addition, a wireless ON state is displayed on the liquid-crystal part 15, and, in a wireless OFF state, wireless ON/OFF status can easily be confirmed by the disappearance of the display on the liquid-crystal part 15." (Yamaguchi at [0031].) "Through the above-mentioned operation, wireless status can be confirmed, and wireless can be switched ON/OFF while leaving the device body 1 stored in the clothing breast pocket without taking the device body 1 out; thereby, improvement in ease of manipulation can be achieved." (Yamaguchi at [0032].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"(Fifth Embodiment) FIG. 6 is an exterior oblique view of a mobile-communication-information terminal device according to a fifth embodiment of the present invention. As shown in FIG. 6, dimension A 17 of the main device 1 is the length-directional dimension thereof in a manipulation state, dimension B 18 is the width-directional dimension, and dimension C 19 is the depth-directional dimension thereof." (Yamaguchi at [0033].) "Dimension A 17, dimension B 18, and dimension C 19 of the mobile-communication-information terminal device according to the fourth embodiment are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, such that a hand can hold a bottom-surface portion and both side-surface portions of the device body 1 when holding the device body 1." (Yamaguchi at [0034].) "As a result, the main device 1 is capable of fitting into a clothing pocket or the like, and various manipulations can be achieved while holding the device body 1 in one hand; thereby, improvement in portability and improvement in ease of manipulation can be achieved." (Yamaguchi at [0035].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) Yamaguchi discloses the following at FIG. 6:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図6】  "A goal in the ongoing further development of portable terminals consists in continuously reducing its dimensions to make its transport as comfortable as possible. Unfortunately, this also means that the displays of these devices are very small. With the ever greater usage of portable devices, such as, for example, personal digital assistants (PDAs) and mobile phones to access the Internet, the limitations that arise due to the small displays are increasingly significant." (Dutta at [0002].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) *See also infra* claim [8].
[1e] a display unit integrated within the front surface of said housing	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit integrated within the front

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
wherein said display unit practically covers the entire front surface of said housing;	surface of said housing wherein said display unit practically covers the entire front surface of said housing." For example, MyOrigo Manual discloses a display 6 integrated into the front surface of a mobile phone. (MyOrigo Manual at 3.) MyOrigo Manual discloses a display 6 that covers the majority of the front surface of the housing. (*Id.*)  (MyOrigo Manual at 3.) Additional exemplary citations include: "The device has a large colour display that is also a touch screen with feed-back when you press the screen. This feedback from the touch screen is referred to as Haptitouch. The device has a built in digital camera which can be used to take photos." (MyOrigo Manual at 2.)

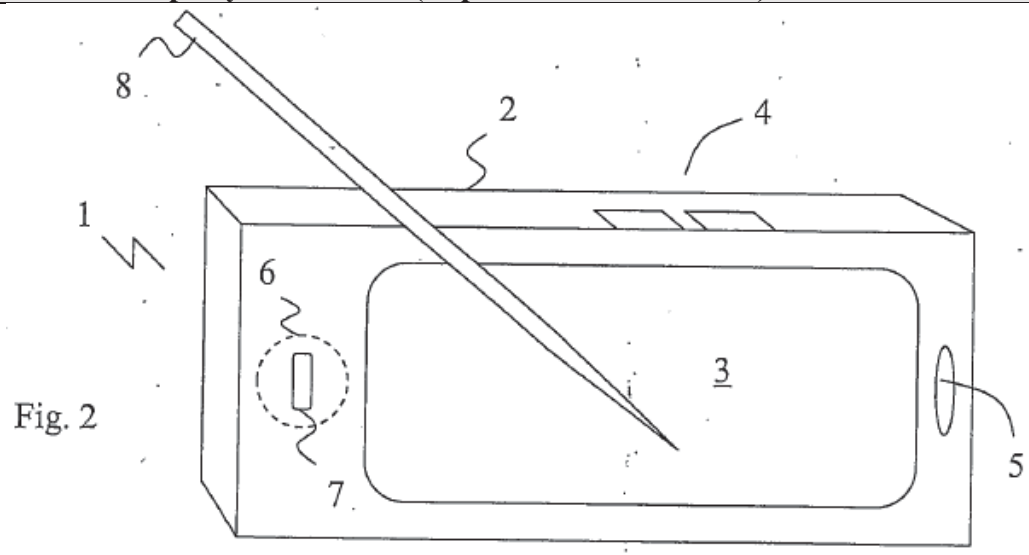
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	The MyOrigo **mydevice** Z1 is a triple band phone and can be operated on E-GSM 900, GSM 1800 and GSM 1900 networks, which means that you are able to use the device in many regions across the world. The device has a large colour display that is also a touch screen with feed-back when you press the screen. This feedback from the touch screen is referred to as Haptitouch. The device has a built in digital camera which can be used to take photos. In the device are motion sensors that can be used to control certain move-ments and functions in the device, like mirroring and zooming the views. The device supports GPRS (General Packet Radio Services) which means that you can make fast data connections. MMS, E-mail messaging and Internet browsing are supported in the device through GPRS connections. (MyOrigo Manual at 2.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Wedel and Gupta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel discloses a mobile phone device with a touch screen display. (Wedel at 1:30-2:14, FIG. 2.) Wedel explains that "[t]he size of a keypad 4 and a display 3 basically sets the limit of how small terminal 1 can be." (Wedel at 1:31-2:1.) Thus, to allow for a larger display while maintaining a small terminal, Wedel proposes removing all physical keys from the front surface of the mobile phone, such that the display may cover more of the front surface of the phone. (Wedel at 2:8-10, FIG. 2.) As another example, Gupta discloses a "full-length touchscreen display." (Gupta at [0015], [0017], [0020], [0023]-[0025], [0030], [0035], [0041], [0042], [0051], FIGS. 2-4, 8.) Additionally, Gupta explains that while the device remains small, the screen should be large enough for "practical information viewing." (Gupta at [0003], [0004], [0020],[0025], [0026], [0049].) A POSITA thus would have understood that the screen would cover the entire front surface of the device, such that it could be as large as possible. A POSITA would have been motivated to configure a mobile phone such that the display unit covers a large portion of the housing. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel and Gupta. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display while maintaining a small device size, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel and/or Gupta into the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (including a display unit that

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) according to known methods to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); (B) use of a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to improve similar devices in the same way (allowing more space for a larger touch display while maintaining a small device size); (C) applying a known technique (including a display unit that covers a large portion of the front surface of a mobile phone as taught by Wedel and Gupta) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display while maintaining a small device size); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel and Gupta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include: "A combined speaker and antenna arrangement for a communication terminal, comprising a support structure (100) carrying a first antenna element (101), and a second antenna element (31) arranged at a predetermined distance from said first antenna element. Said second antenna element is a conductive first portion (31) of a sheet of flexible film, and an elongated second portion (32) of said flexible film, carrying a conductive lead extends from adjacent to said first portion to a speaker (41) connected to an outer end of said elongated second portion. The second, elongated, portion is bent such that said speaker is positioned between said film and said support structure, adjacent to an aperture in said first portion." (Wedel at abstract.) "In order to benefit from the capabilities of the transmission system, the future generation of phones will have a large display in order to perform multimedia input and output, and the picture quality will be of high importance. Still, the keypad or keyboard must be large enough to allow people to press one key at a time." (Wedel at 1:26-29.) "Figure 1 discloses a typical example of a state of the art mobile phone 1, carried by a housing or chassis 2. The size of a keypad 4 and a display 3 basically sets the limit of how small the terminal 1 can be. However, to be able to work as a standard phone for voice interaction, the terminal 1 also includes a microphone 5 and a speaker 6, preferably arranged at opposite ends of the terminal 1. Figure

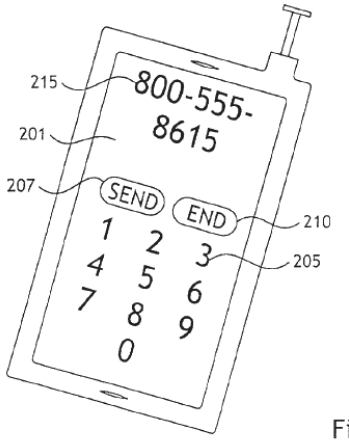
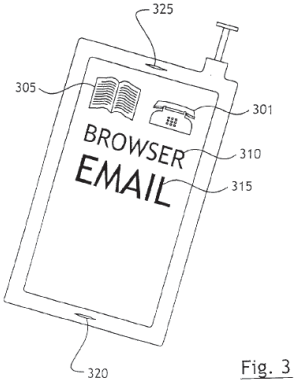
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1. A specific tool 8 may be provided for inputting data on a touch-sensitive screen of the display 3. Figs 1 and 3 show two typical examples of state of the art communication terminals 1, whereas the skilled persons will realise that combinations of the two are also well known as well as other designs, such as a so called clamshell type terminal." (Wedel at 1:30-2:14.) "In the state of the art communication terminal a terminal output 7 is mounted on the front of the terminal above the display with the speaker 6 immediately behind the output 7, as shown in Figs 1 and 2. This means that even with a smallest available speaker used today, with a diameter of about 13 mm, the terminal would be approximately this much longer in its longitudinal extension than what would have been the case if only the display 3 and/or keypad 4 had defined the length of the terminal 1. The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:15-25.) "First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated. Furthermore, even though the antenna cavity 21 has been partly occupied by the speaker, experimental laboratory tests on this design have surprisingly shown that the presence of the speaker will not result in reduced antenna performance if tuned properly. The use of hot bar soldering will not lead to bulging solder pads. Which also contributes to saving space." (Wedel at 13:5-13.) Wedel discloses the following at FIG. 2:

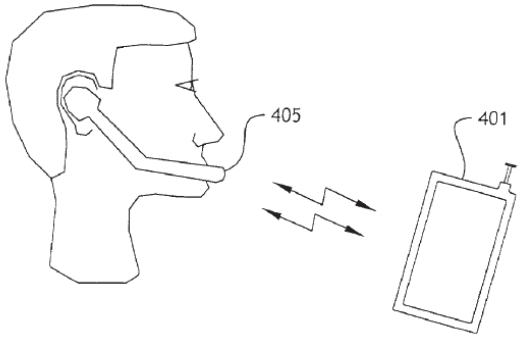
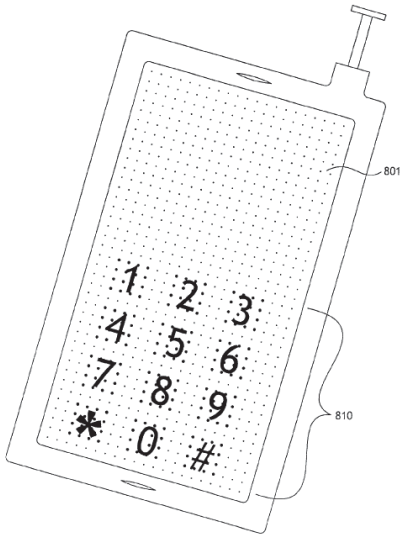
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2 (Wedel at FIG. 2.) "Many cellular telephone manufacturers enable the personal digital assistant and cellular telephone capability by providing a larger display on the telephone. The larger display is able to show multiple lines of information as well as icons for accessing the personal digital assistant functions of the device." (Gupta at [0003].) "In order to keep the telephone small and still provide a reasonably large display for information, the size of the keypads for entering data has been reduced substantially. Individuals with large fingers or users that try to input data while moving may have trouble depressing the small keys properly. There is a resulting unforeseen need for a small communications device that merges the functions of a personal digital assistant and a telephone, cellular or otherwise, while still providing a display that is large enough for practical information viewing and a keypad that is easy to use." (Gupta at [0004].) "FIG. 8 shows a tactile response display screen of the present invention." (Gupta at [0015].)

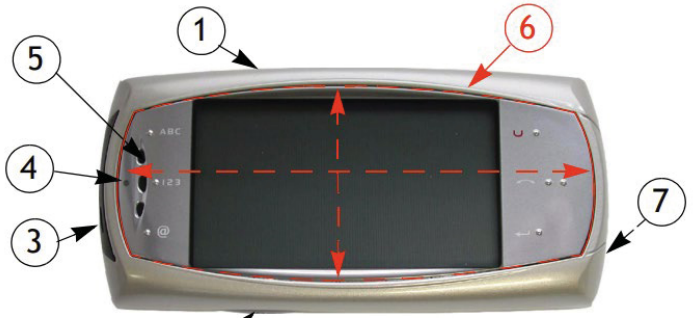
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The communication device of the present invention provides a telephone with a full length, tactile response, touchscreen display. Instead of portions of the telephone being taken up by a fixed keypad, the touchscreen display can display a keypad while in the telephone dialing mode but then replace the keypad with extra display space for data. The display also features dynamically raised keys and buttons in response to what is being displayed." (Gupta at [0017].) "The telephone illustrated in FIG. 2 is comprised of a large touchscreen display (201). FIG. 2 illustrates the present invention in the telephone mode. In this mode, the device displays number icons (205) or other informational symbols (not shown) which form and are used as a telephone keypad for entering telephone numbers. The display also displays a 'SEND' key (207) and an 'END' key (210) (for purposes of this disclosure, the term 'key' does not refer to a physical button or switch but instead refers to an area of the display screen which when contacted or touched causes the generation of a signal to the phone that is representative of the 'button' or 'pad' that was actuated. The functions of a 'SEND' and 'END' key are generally known to start and stop a wireless phone call. A portion of the display (215) is reserved for displaying the telephone number as it is being typed in." (Gupta at [0020].) "In most cases, the user inputs a telephone number, as well as the '*' and '#' keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen (215). Once the entire telephone number has been entered, the user touches the screen over the send key (207) to transmit the number to the system's switch for dialing. For purposes of claim construction, the term 'number' should be construed as including the numerals zero through nine as well as the '*' and '#' keys but also including possibly any other alphanumeric symbol." (Gupta at [0021].) "In the preferred embodiment, the user receives an aural feedback whenever a 'key' is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each 'key'. The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation." (Gupta at [0022].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in FIG. 8), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen." (Gupta at [0023].) "The touch sensor may also be a film layer of the tactile surface itself, or may include touch sensitive elements interspersed adjacent to the tactile dot elements So that neither the touch sensor nor the tactile display elements overlay the other. Other touch screens embodiments use grids of interruptible light beams, capacitive discharge sensors, and conductive grids sensing a circuit made across nearby nodes, all of which are considered herein to be structures (circuits and components) equivalent to each other." (Gupta at [0024].) "The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. FIG. 3 illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in FIG. 2, the user touches the telephone mode icon (301). An address/telephone book icon (305) takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number." (Gupta at [0025].) "The display also has a browser icon (310) that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad." (Gupta at [0026].) "FIG. 4 illustrates an alternate embodiment of the present invention that uses a wireless headset (405) to communicate with the telephone (401) of the present invention. In order to reduce the size and weight of the telephone (401) and also to give more room for the display, this embodiment does not

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	have a built-in speaker and microphone. Instead, the wireless headset (405) performs the same task as a built-in speaker and microphone." (Gupta at [0030].) "The telephone is controlled by a controller (510) that is coupled to the transmitter (501), receiver (505), and the touchscreen display (515) of the present invention. The controller (510), in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use other types of controllers such as microprocessors, application specific integrated circuits (ASIC), or other such controllers." (Gupta at [0035].) "As illustrated in FIG. 8, the display is comprised of a matrix of individually addressable dot or tactile elements. The elements are arranged in an evenly spaced grid covering the entire display. In an alternate embodiment, the tactile portion of the display is only on part of the display, such as the lower half, in order to provide a 'telephone keypad' area when in that particular mode. In the preferred embodiment, the elements are spaced less than 0.10 inch apart in order to allow the sensation of a continuous line." (Gupta at [0041].) "Each tactile element is switchable between an inactive position in which the dot is flush with the surrounding surface and an active position in which the dot is raised above the surrounding surface. The mechanism to provide this may be of any type including: electromechanical, electromagnetic, and switchable dimpled plastic film. In the preferred embodiment, the tactile display is transparent in order to permit the conventional liquid crystal display to be seen below the raised surface." (Gupta at [0042].) "The size of the touchscreen display of the present invention provides the communication device with the ability to display multimedia deliveries from the Internet or other sources. The display could show the presentation along with dynamically changing control buttons such as fast forward, back, review, stop, and pause." (Gupta at [0049].) "In summary, the present invention provides a communication device having a full-length touchscreen display. This enables the display of additional data and information not possible on communication devices having a fixed keypad." (Gupta at [0051].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Gupta discloses the following at FIGS. 2-4 and 8:  Fig. 2 (Gupta at FIG. 2)  Fig. 3 (Gupta at FIG. 3)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 4 (Gupta at FIG. 4)  Fig. 8 (Gupta at FIG. 8)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1f] wherein said mobile phone device does not include a physical key on the front surface, and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said mobile phone device does not include a physical key on the front surface." For example, MyOrigo Manual discloses a device without any physical keys on the front surface. (MyOrigo Manual at 3.) Additionally, MyOrigo Manual discloses a "virtual keyboard" which may be used for entering text. (MyOrigo Manual at 25-26.)  (MyOrigo Manual at 3.) Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Character and Number Input

Character Keyboard

The virtual keyboard is used for entering new text and editing texts in all the applications that require or need text inputs, for example writing a note, an SMS message etc.



The title field notifies the text types. For example this title bar shows the keyboard has been opened in the Messages application, there is an indication that the their is a limit of 160 characters that can be typed to the text field and that the shift button is active, meaning that the first letter typed will be in uppercase followed by lower case letters.



The keyboard consists of 3 main keyboard layouts. The character keyboard is default keyboard.

The keyboard does not rotate to the vertical position

To activate the Shift key

- Whilst you are writing text with the virtual keyboard, press Caps to activate the shift key.

  The Shift key will be active for one key press and then will return to the Caps state.

  When the shift key is active you can enter a letter in Upper case and also the yellow marks ?! ,- .:. *Abc* will appear in the header section of the key pad view.

To activate the Caps lock key

- Whilst you are writing text with the virtual keyboard, press Caps twice or once to activate the Caps lock key.

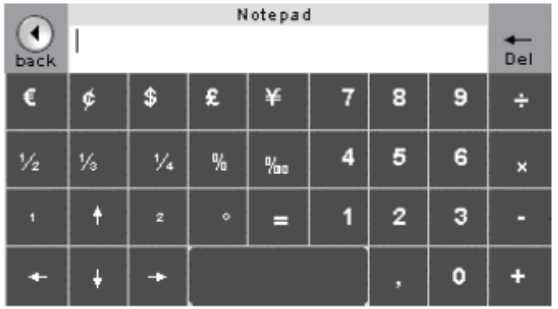
  The Caps lock key Caps will be active until you press Caps to return to the normal state.

  When the Caps lock key is active you can enter all letters in Upper case and also the yellow marks ?! ,- .:. *ABC* will appear in the header section of the key pad view.

(MyOrigo Manual at 25.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Numeric keyboard

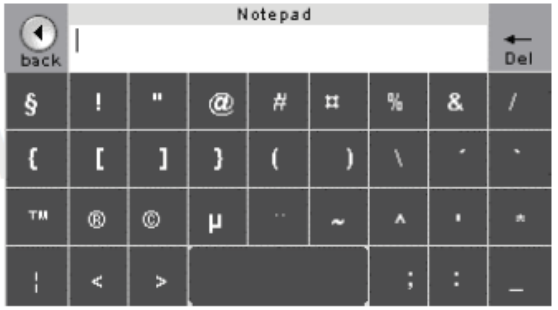


If you want to add a numbers or numeric signs to the text you are entering then you can switch the input keyboard from the character keyboard to the numeric keyboard by pressing the lens *123* key. After entering the symbols you can switch back to the character keyboard by pressing the lens *ABC* key.

Scrolling through the text in the keyboard input area

When writing with the keyboard there are two lines of text visible in the view. When more than two lines of text have been typed in the keyboard input area, you can scroll through the text by using the ← → ↑ ↓ keys which are located in the numeric keyboard. It is also possible to scroll using mirroring.

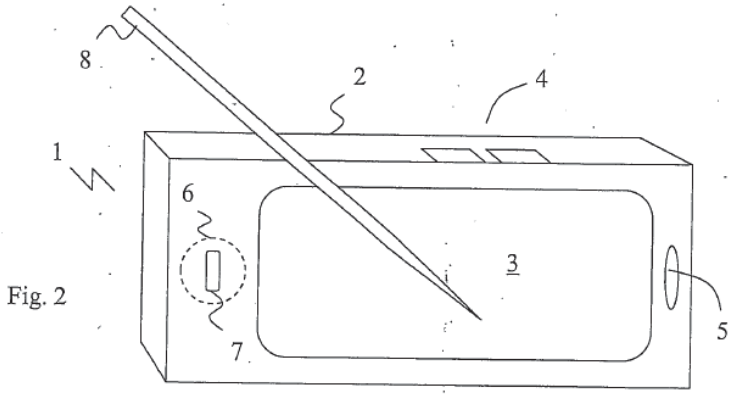
Symbolic Keyboard



If you want to add a symbol to the text you are entering then you can switch the input keyboard from the character keyboard to the symbols keyboard by pressing the lens @ key. After entering the symbols you can switch back to the character keyboard by pressing the lens *ABC* key.

(MyOrigo Manual at 26.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Wedel teaches removing physical buttons from the front surface of a mobile phone so that "the display 3 [can] occupy a larger portion of the front side of terminal 1." (Wedel at 2:8-10.) A POSITA would have been motivated to configure a mobile phone such that the front surface of the phone does not include any physical buttons. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Wedel. A POSITA would have been motivated to configure a phone accordingly in order to allow room for a larger touch display, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Wedel into the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (removing physical buttons from the front surface of a mobile phone as taught by Wedel) according to known methods to yield predictable results (allowing more space for a larger touch display); (B) use of a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to improve similar devices in the same way (allowing more space for a larger touch display); (C) applying a known technique (removing physical buttons from the front surface of a mobile phone as taught by Wedel) to a known device ready for improvement to yield predictable results (allowing more space for a larger touch display); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Figure 2 discloses a different embodiment of a state of the art communication terminal 1, wherein the display 3 occupies a larger portion of the front side of the terminal. Several of the functions of the keypad 4 have been included in a graphical user interface applicable to the display 3, rendering a data input interface having less keys. Those keys 4 may also be moved to the side of the communication terminal in order to allow for the display 3 to occupy a larger portion of the front side of terminal 1." (Wedel at 2:3-10.) Wedel discloses the following at FIG. 2:  Fig. 2
[1g] wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing." For example, MyOrigo Manual discloses a mobile phone that does not include components extended out from its housing. (MyOrigo Manual at 3.) MyOrigo Manual explains that the mobile phone device uses a virtual keyboard to enter text. (*Id*. at 25-26.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include:

Character and Number Input

Character Keyboard

The virtual keyboard is used for entering new text and editing texts in all the applications that require or need text inputs, for example writing a note, an SMS message etc.



The title field notifies the text types. For example this title bar shows the keyboard has been opened in the Messages application, there is an indication that the their is a limit of 160 characters that can be typed to the text field and that the shift button is active, meaning that the first letter typed will be in uppercase followed by lower case letters.



The keyboard consists of 3 main keyboard layouts. The character keyboard is default keyboard.

The keyboard does not rotate to the vertical position

To activate the Shift key

- Whilst you are writing text with the virtual keyboard, press Caps to activate the shift key.

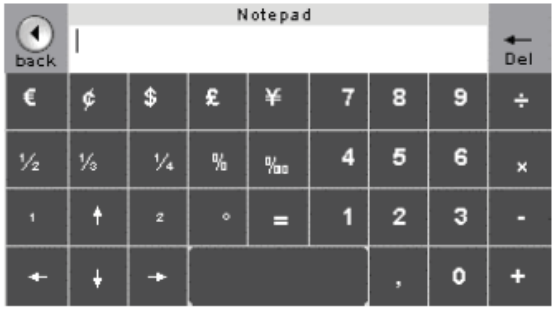
The Shift key will be active for one key press and then will return to the Caps state.

When the shift key is active you can enter a letter in Upper case and also the yellow marks ?! , - . : . *Abc* will appear in the header section of the key pad view.

(MyOrigo Manual at 25.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Numeric keyboard

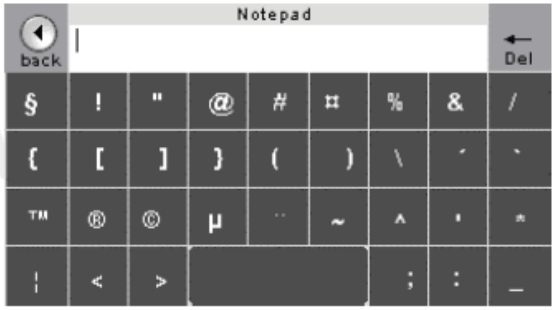


If you want to add a numbers or numeric signs to the text you are entering then you can switch the input keyboard from the character keyboard to the numeric keyboard by pressing the lens *123* key. After entering the symbols you can switch back to the character keyboard by pressing the lens *ABC* key.

Scrolling through the text in the keyboard input area

When writing with the keyboard there are two lines of text visible in the view. When more than two lines of text have been typed in the keyboard input area, you can scroll through the text by using the ← → ↑ ↓ keys which are located in the numeric keyboard. It is also possible to scroll using mirroring.

Symbolic Keyboard



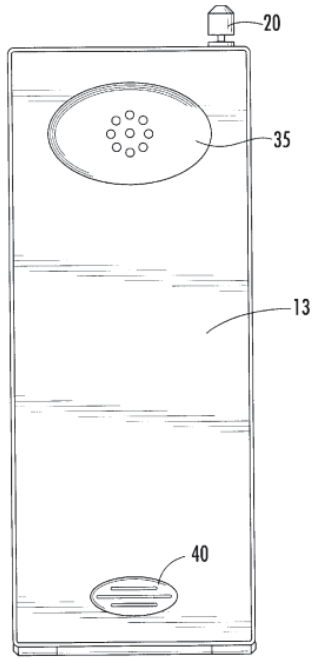
If you want to add a symbol to the text you are entering then you can switch the input keyboard from the character keyboard to the symbols keyboard by pressing the lens @ key. After entering the symbols you can switch back to the character keyboard by pressing the lens *ABC* key.

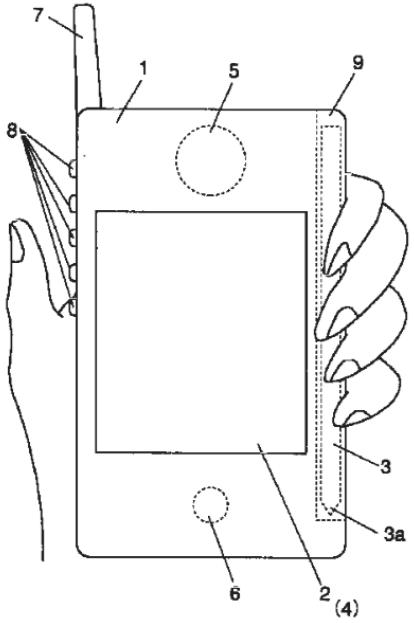
(MyOrigo Manual at 26.)

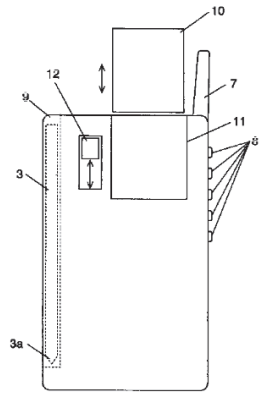
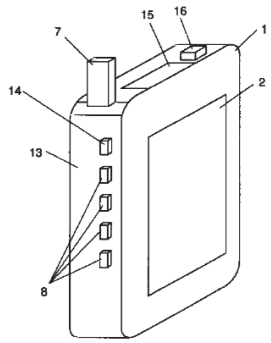
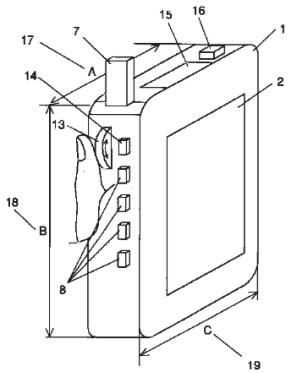
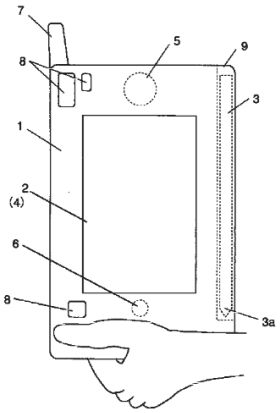
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
[2pre] The device of claim 1,	Claim 2 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 2 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[2a] wherein said practically rectangular shape has rounded corners.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." For example, MyOrigo Manual discloses a housing wherein the corners have slightly rounded edges. (MyOrigo Manual at 3.)

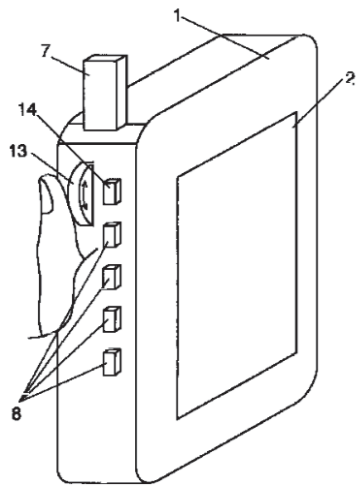
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

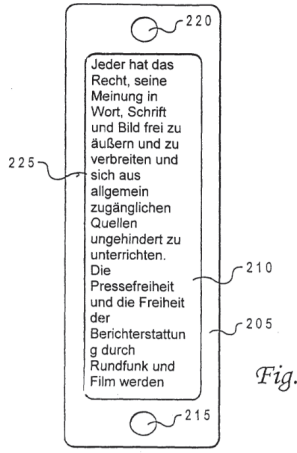
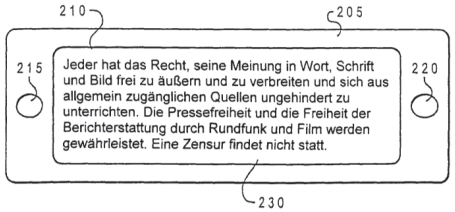
Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	To the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Rydbeck discloses a mobile phone housing that is generally rectangular and includes rounded corners. (Rydbeck at FIG. 3.) As another example, Yamaguchi discloses a mobile phone device having a rectangular housing with rounded corners. (Yamaguchi at FIGS. 1, 3-7). As a further example, Dutta discloses a mobile phone having a rectangular housing with rounded corners. (Dutta at FIGS. 2A-2B.) A POSITA would have been motivated to configure a mobile phone such that the housing has rounded corners to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have been motivated to round the corners to improve user experience and make the design more ergonomical. Thus, a POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta into the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (a housing with rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving the user experience and ergonomics of a mobile phone); (B) use of a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and ergonomics); (C) applying a known technique (forming a housing such that the housing has rounded corners as taught by Rydbeck,

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device ergonomics); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include: Rydbeck discloses the following at FIG. 3:  FIG. 3. Yamaguchi discloses the following at FIG. 1:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  Yamaguchi discloses the following at FIGS. 3 and 5-7:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図３】  【図５】  【図６】  【図７】  Yamaguchi discloses the following at FIG. 4:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図4】  Dutta discloses the following at FIGS. 2A-2B:

Claim 2	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B*

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
[3pre] device of claim 1	Claim 3 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 3 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[3a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." For example, MyOrigo Manual discloses an electronic display that shows a plurality of program and function icons. (MyOrigo Manual at 13.) The icons correspond to various applications that are programmed into the terminal. (*Id.*) **Main Index Pages** The **mydevice** menu structure is set out like a book with chapters, sub chapters and pages. There are 12 application chapters which make up the main index and these are the highest level of the book structure.  It is not possible to change the main index page contents or the order. It is possible to change the background image and colour of the main index. (MyOrigo Manual at 13.) Additional exemplary citations include:

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The mydevice menu structure is set out like a book with chapters, sub chapters and pages. There are 12 application chapter which make up the main index and these are the highest level of the book structure." (MyOrigo Manual at 13.) **Main Index Pages** The **mydevice** menu structure is set out like a book with chapters, sub chapters and pages. There are 12 application chapters which make up the main index and these are the highest level of the book structure.  It is not possible to change the main index page contents or the order. It is possible to change the background image and colour of the main index. (MyOrigo Manual at 13.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Browsing the book There are several methods you can use to browse the book: • By a single half press of the A key to move 1 page forward through the chapters and a single half press of the B key to move 1 page backwards through the chapters. • By sliding you finger across the haptitouch screen from right to left will move 1 page forward and sliding you finger across the haptitouch screen from left to right will move 1 page backwards. • By a continuous half press of the A key and tilting the device to forwards or backwards to view the book contents pages. Depending upon the degree of angle which you tilt the device will have an effect on the speed of the page browsing. ***Using mirroring to browse the book pages*** 1. With the display in the book main index view, partially press and hold the *A* key. 2. If you are at the first page of the book the direction for browsing will only be forward. 3. Move the book browser forward cursor ☞ to a menu in the book and then tilt to view the next page in that chapter. (MyOrigo Manual at 13.)
[3b] wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." For example, MyOrigo Manual discloses an electronic display that shows a plurality of program and function icons. (MyOrigo Manual at 13.) The icons correspond to various applications that are

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	programmed into the terminal. (*Id.*) By sliding (sweeping) a finger across the screen, a user may select and display an additional page of application icons that were not previously visible. (*Id.*)

Main Index Pages

The **mydevice** menu structure is set out like a book with chapters, sub chapters and pages. There are 12 application chapters which make up the main index and these are the highest level of the book structure.



It is not possible to change the main index page contents or the order. It is possible to change the background image and colour of the main index.

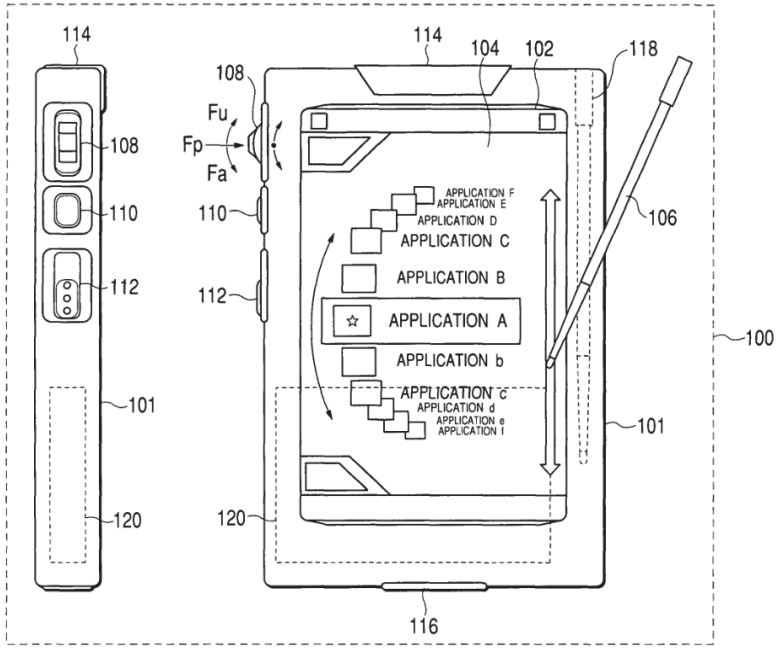
(MyOrigo Manual at 13.)

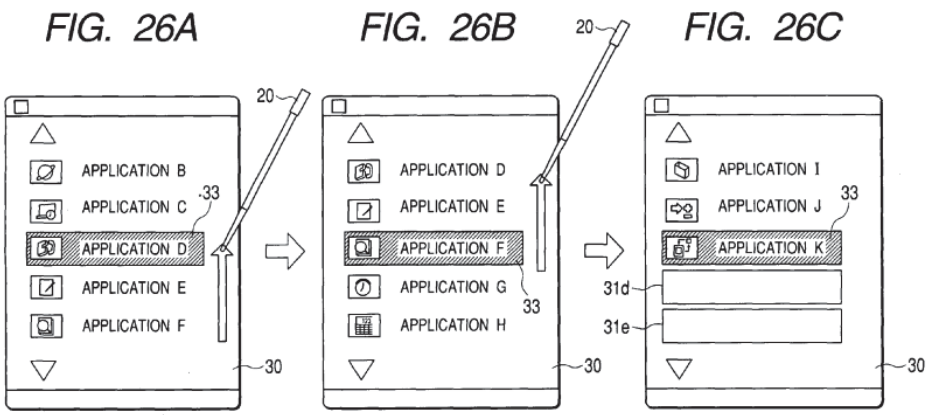
Additional exemplary citations include:

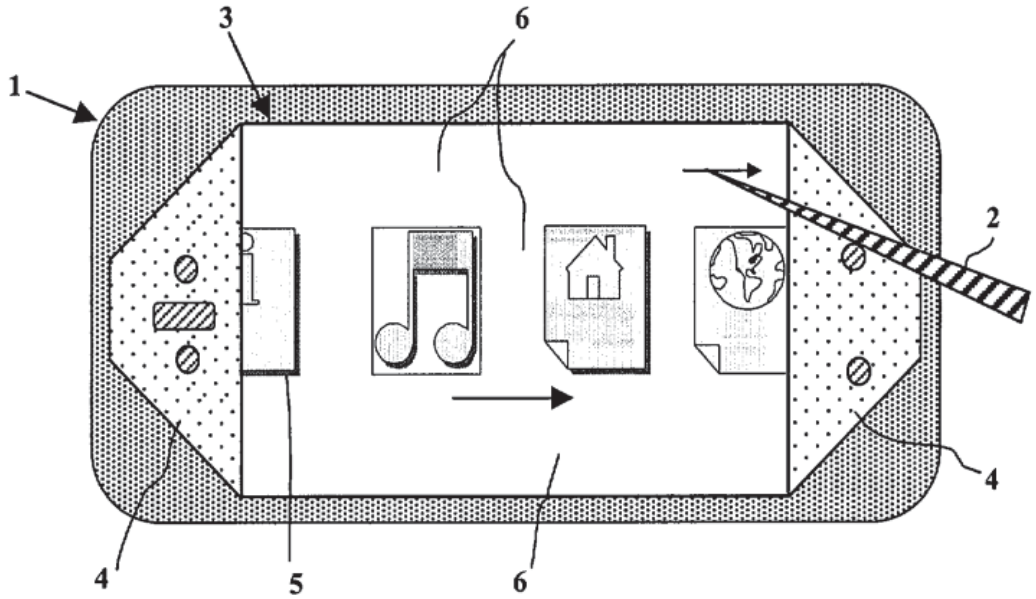
"The mydevice menu structure is set out like a book with chapters, sub chapters and pages. There are 12 application chapters which make up the main index and these are the highest level of the book structure." (MyOrigo Manual at 13.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	Browsing the book There are several methods you can use to browse the book: • By a single half press of the A key to move 1 page forward through the chapters and a single half press of the B key to move 1 page backwards through the chapters. • By sliding you finger across the haptitouch screen from right to left will move 1 page forward and sliding you finger across the haptitouch screen from left to right will move 1 page backwards. • By a continuous half press of the A key and tilting the device to forwards or backwards to view the book contents pages. Depending upon the degree of angle which you tilt the device will have an effect on the speed of the page browsing. ***Using mirroring to browse the book pages*** 1. With the display in the book main index view, partially press and hold the *A* key. 2. If you are at the first page of the book the direction for browsing will only be forward. 3. Move the book browser forward cursor ☞ to a menu in the book and then tilt to view the next page in that chapter. (MyOrigo Manual at 13.) To the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Nakano and/or Benoit to display a plurality of other applications upon a user action on the display unit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Nakano discloses a mobile phone that includes a touch panel 104. (Nakano at 2:49-51, FIG. 1) Nakano teaches a method of improving the control of a menu display by using said touch panel. (*Id*.) The touch panel is integrated into the display of the portable device disclosed by Nakano, which may be a mobile phone. (Nakano at 7:20-39.) Nakano teaches using a drag operation to control the display of various entities shown on the display. (Nakano 7:40-52.) The drag operation taught by Nakano may comprise drawing a finger across the display panel or using a stylus to do the same. (Nakano at 7:57-8:16). Nakano teaches that programming a device, display, and touch panel in this way allows for improved control of display entities that are shown on the display. (Nakano at 8:50-54). The display entities disclosed by Nakano may correspond to programs, also known as applications, that can be activated and executed by the device. (Nakano at 8:65-9:6.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	FIG. 1  (Nakano at FIG. 1) Thus, Nakano teaches programming a device, such as a mobile phone, so that is operative to allow a user to slide a finger or stylus pen across a menu screen, displaying a plurality of application icons in the form of menu items. (Nakano at 15:66-16:10). A dragging operation, also known as a sliding operation, allows a user to move the menu items displayed in various directions across the screen. (Nakano at 25:40-47, FIGS. 19A-19B.) As shown in FIGS. 26A-C, menu items, also known as application icons, that are not originally shown on the display may be displayed based on a dragging or sliding input from a user. (Nakano at 28:36-29:10, FIGS. 26A-C.)

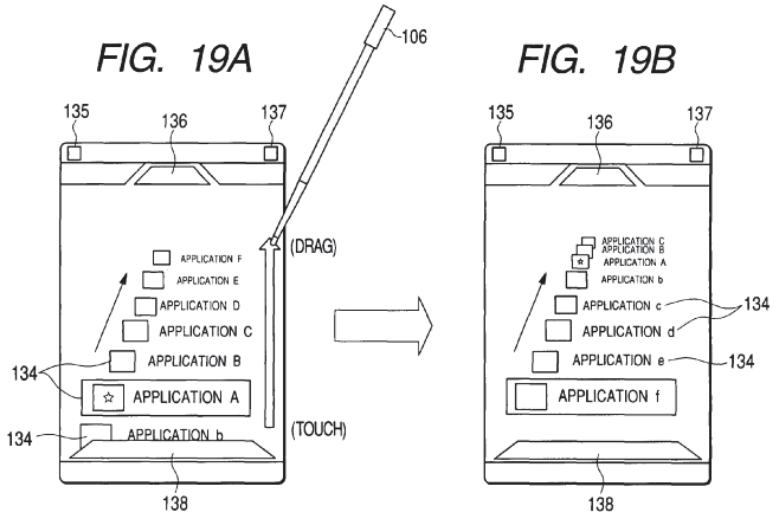
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Nakano at FIGS. 26A-26C.) As another example, Benoit teaches a display used in a mobile phone that can display a series of icons that correspond to programs and respond to a sweeping input to display a plurality of additional icons. (Benoit at (cover page, 57).) Benoit further teaches that it is desirable to display large icons corresponding to applications, making them easily distinguishable. (Benoit at 2:17-18.) And the dexterity needed to control the display of application icons is reduced because the control input can be made across the entire screen, including the area where the application icons are shown. (*Id*.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (Benoit at FIG. 1) A POSITA would have been motivated to configure a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit. Configuring a mobile phone such that upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit was routine and conventional to a POSITA, as shown by Nakano and Benoit. A POSITA would have been motivated to configure a display unit in this way to improve operability and functionality of the device. Thus, a POSITA would have considered the combination of Nakano and/or Benoit's teachings into the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (combining display unit operative to display a plurality of additional application icons in response to a sweeping action into the mobile phone disclosed by MyOrigo Manual, which is operative to display a plurality of application

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	icons) according to known methods to yield predictable results (improved operability and functionality of the device); (B) use of a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to improve similar devices in the same way (improved operability and functionality of the device); (C) applying a known technique (programming display unit such that it is operative to display a plurality of additional application icons in response to a sweeping action as taught by Nakano and Benoit) to a known device ready for improvement to yield predictable results (improved operability and functionality of the device); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Nakano and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. In one exemplary combination, the mobile phone of MyOrigo Manual may be combined with the display, touch panel, and control method disclosed by Nakano would resemble the device shown below. In this combination, MyOrigo Manual is modified to include the touch display and control method taught by Nakano, while retaining the housing, microphone, and speaker disclosed and taught by MyOrigo Manual. Additional exemplary citations include: "The invention also aims at enhancing the operability of menu display used for a portable information terminal equipped with a touch panel." (Nakano at 2:49-51.) "The invention provides a display control method for causing, a portable information terminal comprising a display integral with a touch panel, a drag operation being available across the predetermined display area of the display, to display, in whole or in part, the information display entities arranged in a predetermined arrangement in the predetermined display area, characterized in that the method comprises: a setting step of setting a position of a candidate for selection in the predetermined display area; a scroll step of scrolling through information display entities in case a drag operation is made; and a first determination step of determining as a candidate for selection the information display entity displayed in the position of a candidate for selection." (Nakano 7:40-52.)

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The drag operation refers to operation of drawing a line on a touch panel with a stylus pen of a finger of the user. In the drag operation, a moment a stylus pen comes into contact with a touch panel is referred to as a "tap-in" and a moment a stylus pen is released from a touch panel after moving the stylus pen with the stylus pen kept in contact with the touch panel is referred to as a "tap-out". The operation of causing a stylus pen to come into contact with a touch panel instantaneously and release the stylus pen is called a "tap". According to this invention, a drag operation is available across a predetermined display area where a plurality of information display entities are displayed. Scroll display of information display entities is executed by a drag operation. Thus, the user has only to perform a drag operation like drawing an arbitrary line in order to perform scroll operation. The display screen of a personal information terminal device is small so that the predetermined display area may be set to the entire display screen of the display. For example, a menu display entity may be used as an information display entity and in case a menu screen is to be displayed, the entire display screen may be used to display the menu screen, and a scroll operation (or a drag operation) is allowed across the screen. Further, as a result of scroll, an information display entity (menu display entity) displayed in the position of a candidate for selection is selected as a candidate for selection. Thus, a single drag operation serves as a scroll operation instruction and selection of an information display entity (menu display entity)." (Nakano at 7:57-8:16). "According to the invention, the following advantage is obtained. Information display entities are arranged on a virtual face. Scroll display is allowed by moving a virtual camera whose line of sight faces the virtual face, thus more readily allowing scroll control in a virtual space." (Nakano at 8:50-54). "The invention provides a portable information terminal characterized by further comprising: storage means (for example a storage section 400 in FIG. 41) for storing a plurality of programs corresponding to, in whole or in part, the plurality of information display entities; and activation means (for example an application activation controller 320 in FIG. 41) for activating, if any, a program corresponding to the information display entity determined as a candidate for selection by the first determination means." (Nakano at 8:65-9:6.) "The third method is an input in accordance with a drag with the stylus pen 106. By causing the stylus pen 106 to touch the touch panel 104 and dragging the stylus pen 106, or sliding the stylus

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	pen 106 with its tip in contact with the touch panel 104 in the upward/downward direction deselects the menu items currently in the selection state. The user can specify a menu item distant by the number of items according to the travel amount of the drag in the upward or downward direction according to the drag direction. Once the menu is under moving display and the specified menu item is in the selection state, the user releases the stylus pen 106 to determine the selection." (Nakano at 15:66-16:10). "In FIG. 19A, a menu item in the middle of the menu is in the selection state. Menu items preceding and following the item are three-dimensionally represented in one-point perspective in the upward direction in the screen. Dragging with the stylus pen 106 in the upward direction so as to slide the menu display in the upward direction causes the menu panel 134 to move in the upward direction along the one-point perspective, for example, as shown in FIG. 19B." (Nakano at 25:40-47.) "In FIG. 26A, the menu display area 31 a displays "Application B", the menu display area 31 b displays "Application C", the menu display area 31 c displays "Application D", the menu display area 31 d displays "Application E", and the menu display area 31 e displays "Application F", respectively. In the selection candidate display area 32, that is, in the menu display area 31 c, the focus 33 is overlaid on Application D. The Application D is a candidate for selection. In the menu screen 30, dragging the stylus pen 20 in the upward direction scrolls through the menu display entities in the menu screen 30 as shown in FIG. 26B. In FIG. 26B, the menu display area 31 a displays "Application D", the menu display area 31 b displays "Application E", the menu display area 31 c displays "Application F", the menu display area 31 d displays "Application G", and the menu display area 31 e displays "Application H", respectively. The menu display entities on the screen are scrolled though in the upward direction by two rows. On the menu display entity displayed in the selection candidate display area 32, that is, on Application F, is overlaid the focus 33. The Application F is a candidate for selection. Dragging with the stylus pen 20 refers to an operation (including standstill state) of sliding the stylus pen 20 on the LCD panel 11 with the tip of the stylus pen 20 in contact with the LCD panel 11. In FIG. 26B, further dragging in the upward direction further scrolls through the menu entities on the screen in the upward direction. As shown in FIG. 26C, when the lowermost menu display entity (Application K in the figure) reaches the selection candidate display area 32, the scroll comes to a halt. In FIG. 26C, the menu display area 31 a displays "Application I", the menu display area 31 b displays "Application J", and the menu display area 31 c displays "Application K", respectively. On the menu

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	display entity displayed in the selection candidate display area 32, that is, on Application K, is overlaid the focus 33. The Application K is a candidate for selection. While a drag is made in the upward direction in FIGS. 26A through 26C, the same applies to a drag in the downward direction. That is, as shown in FIG. 27A, dragging in the downward direction scrolls through the menu display entities in the downward direction. As shown in FIG. 27B, when the uppermost menu display entity (Application A in the figure) reaches the selection candidate display area 32, that is, the menu display area 31 c, the scroll comes to a halt. While the drag operation is made in the rightmost area of the menu screen 30 for clarity in FIGS. 26A through 26C and FIGS. 27A and 27B, the drag operation is allowed across the menu screen 30 as shown in FIG. 31 in practice." (Nakano at 28:36-29:10.) Nakano discloses the following at FIGS. 19A-B:  "The invention relates to a human-machine interface on a touch screen, for example on a personal digital assistant (PDA). To launch a program, one scrolls through a series of icons on the screen and then highlights the suitable icon for launching that program. Scrolling is achieved by using the PDA's

Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	stylus (or a finger) in the control area to indicate a move in the direction of the scroll. The invention is remarkable by the fact that the control area is not defined restrictively and can cover the entire touch screen." (Benoit at (57).) "In addition, the use of a touch screen generates another serious problem. That is, because the icons and drop-down menus are generally fixed, the user always uses their finger or a stylus to point at the same small areas of the touch screen. This leads, therefore, to local damage, decalibration, and premature wear of the touch screen. The object of this invention is to ameliorate the disadvantages of the aforementioned systems and to propose a human-machine interface with a touch screen in which navigation is simplified. Another object of the invention is to limit the premature decalibration of touch screens. The aforementioned objectives are achieved with a novel method of navigating a computer program by means of a touch screen. To do this, by a touch command on a control area of the touch screen, one scrolls a series of icons linked to predefined programs to highlight at least one given icon. Preferably, the control area is extended so as to distribute the touch points and prevent the premature wear of the touch screen over the defined areas. The entire surface of the touch screen not covering an icon can be expected to constitute the control area. Thus, the control is no longer localized in a limiting manner. Unlike the prior art, the scrolling of icons allows these icons to be shown at a large size such that they are easily distinguishable. With such a method according to the invention, the fact of having an extended control area prevents the constant use of certain small areas of the screen. According to an advantageous characteristic of the invention, the touch command for scrolling the series of icons comprises a touch followed by a directional movement. The scrolling speed and direction are defined by the point of contact and the projection into the scrolling direction of a vector

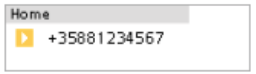
Claim 3	Exemplary Disclosures (Express and/or Inherent) and Citations
	obtained as a result of the directional movement. The point of contact can be anywhere over the entire extended control area. The icons can be shown independently of each other, whether attached or embedded in a scrolling banner, and representing, for example, a landscape. Advantageously, the control area can be distinct from the icons. However, according to one variant of the invention, the control area includes the icons, and a brief touch on an icon launches an application linked to the icon. This variant makes it possible to obtain an extended control area over the entire surface of the touch screen. These icons can be scrolled to show the icon representing the application intended to be launched in the foreground in the center of the screen. According to a preferred embodiment of the invention, the icons scroll along a virtual circle inscribed in a plane perpendicular to the plane of the screen. Scrolling then makes it possible to show each icon on the screen successively, with the other icons remaining in the background. In this case, it is possible to envisage that only the icon shown on the touch screen is capable of launching an application. It is also possible to envisage that all the icons remain permanently visible on the touch screen during scrolling. As such, all the icons may be active. According to an advantageous embodiment of the invention, the scrolling of a series of icons may exhibit inertia as a function of the scrolling speed. Consequently, when a user lifts their finger or stylus from the touch screen, the scrolling continues for a few short moments based on the movement made by that user to carry out the scrolling. According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 2:1-3:24.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
[4pre] The device of claim 3	Claim 4 depends from claim 3. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 3 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 3 to show the additional limitations of claim 4 are anticipated and/or obvious for the same reasons set out in claim 3. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 3." *See supra* claim [3].
[4a] wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit." For example, MyOrigo Manual discloses a display that is operative to display a plurality of application icons. (MyOrigo Manual at 13.) And MyOrigo Manual discloses a touch screen that is operative to respond to interactions from a user. (MyOrigo Manual at 3.) A user may select an application by pressing an icon, a predefined action, causing the application to open on the device. (MyOrigo Manual at 39.) Additional exemplary citations include: "The device has a large colour display that is also a touch screen with feedback when you press the screen. This feedback from the touch screen is referred to as Haptitouch. The device has a built in digital camera which can be used to take photos."

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Main Index Pages The **mydevice** menu structure is set out like a book with chapters, sub chapters and pages. There are 12 application chapters which make up the main index and these are the highest level of the book structure.   It is not possible to change the main index page contents or the order. It is possible to change the background image and colour of the main index. (MyOrigo Manual at 13.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Browsing the book There are several methods you can use to browse the book: • By a single half press of the A key to move 1 page forward through the chapters and a single half press of the B key to move 1 page backwards through the chapters. • By sliding you finger across the haptitouch screen from right to left will move 1 page forward and sliding you finger across the haptitouch screen from left to right will move 1 page backwards. • By a continuous half press of the A key and tilting the device to forwards or backwards to view the book contents pages. Depending upon the degree of angle which you tilt the device will have an effect on the speed of the page browsing. ***Using mirroring to browse the book pages*** 1. With the display in the book main index view, partially press and hold the *A* key. 2. If you are at the first page of the book the direction for browsing will only be forward. 3. Move the book browser forward cursor ☞ to a menu in the book and then tilt to view the next page in that chapter. (MyOrigo Manual at 13.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Action Fields An action field is a field that can contain a specific text format and the play icon and when pressed it will launch a specific action or an application dependant upon the data in the field. An action field for a phone number when pressed will open the phone application with the number already inputted and only needs to be pressed to make a call to that number. See the example of a phone number action field.  Action fields for the following formats may be possible: • Calls - • E-mail - (MyOrigo Manual at 15.) "With a long press on an application chapter a fast menu will appear with icons that will show you options for that specific function or will show you the details viewer if there are no functions available for that specific menu." (MyOrigo Manual at 16.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Commands and Icons

Status bar icons

	GPRS connection active		GPRS connection inactive
	Circuit Switched Dialling		Sound on
	Irda connection		Sound off
	USB cable attached		Aeroplane mode
	Headset attached		Missed call
	Call active		Divert call on
	Message received		Message in outbox
	Sending message in outbox		Alarm on
	Playing music		

(MyOrigo Manual at 17.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Generic commands

	Opens keyboard to type or edit		Find
	Delete		Save
	Reset value		Save to target
	Copy		Sort
	Paste		Select all
	Details Viewer		Set Default
	Send Irda		OK
	Yes		No
	Cancel		Close
	Next		Previous
	Back		

General icons

	Add to: on		Default
	Add to: off		Link
	Action		Index

(MyOrigo Manual at 17.)

DRAFT

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Standby menu commands

	Power off		Device is locked
	Sounds on		Device is unlocked
	Mute on		Flight mode

Contact application commands

	Contact		Save to SIM
	Contact Group		Copy from SIM to device
	Contact Chooser		Move to SIM
	Synchronize contacts		Move from SIM
	Delete contact from device		Delete from SIM

Contact application icons

	Contact in device		Contact on SIM

DRAFT

(MyOrigo Manual at 19.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

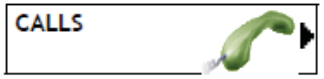
Calls application commands

	Call		Close call
	Conference call		Close all calls
	On hold		DTMF call
	Private call		Mute microphone
	Divert call		Turn on microphone
	Reset counter		

Messages application commands

	Create SMS		Reply to SMS
	Send SMS		Forward SMS
	Create MMS		Reply to MMS
	Send MMS		Forward MMS
	Create E-mail		Send E-mail
	Attachment		Reply to E-mail

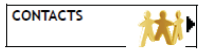
(MyOrigo Manual at 19.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	Call Functions The phone application can be activated in several ways, from the Phone key on the lens , though the Fast menu or from the *Calls/New call* field. Depending on how you are using the device you can choose the most appropriate way to access the phone application. The Calls chapter contains call management features for this device, dialled, received and missed calls lists.  (MyOrigo Manual at 27.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Contacts

The contacts application allows you to save phone numbers, e-mail addresses and other contact information and manage your contacts.



Creating a new contact

When creating a new contact you must always give the contact a name or the name will automatically be *New Contact 1* or the next available number. When text has been entered into a new contact field the new contact will then be stored and the message *Contact created!* will be briefly displayed.

If nothing has been entered in the *Create Contact page* then pressing *C* or *Back* will exit the page and will not create a new contact.

To create a new contact

1. Select *Contacts*
2. Press *Create contact*
3. Press *Name* to activate the keyboard.
4. Enter the contacts name and press *OK*

   The name will then be displayed also in the header row. The contact is now saved to the contacts list in the device memory. All other contact details can be either filled or left empty.

- To add a phone number to a contact
  - Press *Phone*
  - Press a number type field, e.g. *Mobile:* to enter the contacts telephone number and press *OK*

  The first number that you enter will automatically be the default number for that contact. The default indicator will be shown besides that number. The default number will also be displayed in the main contact page in the *Phone* field.
- To add a e-mail address to a contact
  - Press *E-mail*
  - Press a number type field, e.g. *Work:* to enter the contacts telephone number and press *OK*

  The first e-mail address that you enter will automatically be the default e-mail address for that contact. The default indicator will be shown

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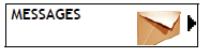
(MyOrigo Manual at 35.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations
	"To view your contacts 1. Select Contacts 2. Press Contact list 3. Press the appropriate alphabetic grouping to view a specific contact." (MyOrigo Manual at 39.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Messages

You can send and receive messages with the device in a number of ways and formats. You can send message using the Short Message Service (SMS), by Multimedia Messaging Service (MMS) or though E-mail.



SMS Messages

SMS messages are messages that contain a text message.

In order to send or receive an SMS text message you need to ensure that the number for your SMS service centre is stored on the device. The service centre number is provided by your service provider and may be already stored on the SIM card.

NOTE: This service is network / service provider dependent. Please check you subscription features with your network / service provider.

Checking the number for your service centre

- See SMSC number in SMS Settings, page...

To send an SMS message

1. *Select Messages/Create SMS*
2. Press the *Message* field to activate the keyboard.
3. Enter the message and press *OK*

   See Entering Characters and Numbers.....
4. Press *Recipient:*
5. Either enter the number of the recipient by pressing the *Recipient* field or press *Add from contacts*, select a contact by pressing the add check box ☐ and press *OK*
6. Press *Send*

   When *Send* is pressed:
   - - sending of the message in progress appears in status bar.
   - Message Sent - after message has been successfully sent.
   - Transmission Failed - if the message has failed to be sent to the desired recipient. The message will be moved to Outbox.

NOTE: If you wish to send the message later then exit without sending the message and the message will be saved to the SMS Drafts folder

(MyOrigo Manual at 43.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

E-mail Messages

E-mail messages can be sent and received through the device

In order to send or receive E-mail messages you need to ensure that you have a data connection set in the device. When you have a data connection ongoing, the network connection icon will be displayed in the status menu.

See E-mail settings, page...

To send an E-mail message

1. *Select Messages/Create E-mail*
2. Press *Message* field to activate the keyboard.
3. Enter the message and press *OK*

   See Entering Characters and Numbers.....
4. Press *Subject* to enter a subject header for the message.
5. Press *Recipient*
6. Either enter the number of the recipient by pressing the *Recipient* field or press *Add from contacts*, select a contact by pressing the add check box ☐ and press *OK*
7. Press *Send*

   When *Send* is pressed:

   You will be asked if you want to *Connect to Network, Send e-mail now?*

- Pressing *Yes* will open a data connection and send the e-mail message.
  - **Sending e-mail** - sending of the e-mail message in progress appears in the header row.
  - **E-mail sent** - will be briefly displayed after the message has been successfully sent and the message will be moved from the Outbox to the Sent folder.
  - **Transmission failed** - will be briefly displayed if unable to send and the e-mail and it will be moved to the Outbox folder.
- Pressing *No* will move the e-mail to the *Outbox* so that is can be sent at a later time.
- Pressing *Cancel* will return back to the e-mail state before *Send* was pressed.

NOTE: Automatic check mail can be set to a specified period from Settings/E-mail settings.

(MyOrigo Manual at 48.)

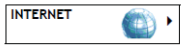
DRAFT

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Internet

The device allows you to surf the internet through the web browser. In order to browse the web you need to ensure that the data connection settings are correct. See Settings/Connection settings...

Navigation of the web pages is done by using the mirroring and zooming functions See.....



When you open the internet browser to start a web session and there is no data connection already open, you will be asked if you want to *Connect to Network?*. Pressing *Yes* will open a data connection and take you to the desired page, pressing *No* will return you to the previous menu page.

When you have a data connection ongoing, the network connection icon will be displayed in the status menu. When the browser is open and a data connection ongoing, the network connection icon will be displayed at the bottom of the display next to the loading bar.

When exiting the browser you will be asked if you want to *Close network connection?* The following options are available.

- Pressing *Yes* will exit the browser and close the data connection.
- Pressing *No* will exit the browser but keep the data connection open.
- Pressing *Cancel* will not close the browser and not close the data connection.

Using the Internet browser

To open the internet browser

1. Select *Internet/Open browser*
2. Press the address field to enter a web address
3. Enter a web URL using the keyboard. The address can be typed starting with *http:* but can also be entered just by starting with *www.*

Picture needed

4. Press *OK* to go to that page.

   The web page will start loading and the status of the loading can be seen at the bottom of the screen.

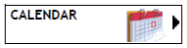
   If you do not want to enter the address press *Close* to return to the browser page and *Book* to return to the *Internet* index.

(MyOrigo Manual at 51.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Calendar

The calendar function in **mydevice** allows you to keep track of your appointments and events, tasks that you need. You can also set the various alarms and time functions to remind you.



Viewing your Calendar

You can view the calendar in a number of ways, by a monthly, weekly or daily view.

To view your calendar contents

1. Select *Calendar.*
2. Select the desired view.

To find a day in the calendar

1. With a long press select the Calendar index page to activate the Fast menu and select *Find*
2. Enter a date and press *OK* to open that daily view.

Daily View

To view the current day from your calendar

1. Select *Calendar*
2. Press *Today View.*

   Any events and tasks for that day will be shown in this section.

Weekly View

To view the current week from your calendar

1. Select *Calendar*
2. Press *Weekly View*

   Any events and tasks for that week will be shown under the days in this section.

Monthly View

Days with events have bold numbers and the current selected day is coloured.

To view the month from your calendar

1. Select *Calendar*
2. Press *Monthly view*

- To navigate in the monthly view:

(MyOrigo Manual at 59.)

DRAFT

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Camera

Your device has a built in camera, the camera lens is located on the reverse side of the display, see Overview..... You can take pictures to view in the display, store the picture in the devices memory and on a Secure Digital (SD card) or Multimedia card (MMC) and you can send them to others either through Multimedia messaging or by e-mail.



Using the Device Camera

Before taking a picture using the devices integral camera, ensure that the camera lens is free from any marks or dust, so to ensure that the picture quality remains high. If the camera lens is dirty then gently wipe the lens with a soft cloth.

DRAFT

To take a picture using the device camera

1. Select *Camera*.
2. When opened the real-time view is shown in the display.
3. Press *Take picture* to capture the image that is displayed on the screen.

   The still image will now be shown in the display with the question *Save image?*
4. Select *Yes* to store in the Image gallery or *No* to discard the picture.

Image Gallery

Depending on the amount of memory you have available in the device you can store your pictures in the image gallery. The image gallery is a folder which contains links from the Camera index to the images that are stored in the *Files* index

There are some pre-installed pictures in your device which you can edit and delete.

To view the images in the Image gallery

1. Select *Camera*.
2. Press *Image gallery*

(MyOrigo Manual at 67.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Files

The *Files* chapter in **mydevice** is where all the user files for the various device applications are stored. The files stored in this chapter are linked to various application indexes for ease of use. If the files are deleted from this folder then the linked file in an application index will be deleted and vice-versa.



Notes

Notes stored in the Files chapter are linked to the Programs chapter where the Notepad application can be accessed. See Programs...

To sort the notes in Notes

1. Select *Files*
2. With a long press select the Notes folder to activate the Fast menu and select *Sort by Subject/Sort by Date*

To view the details of a note

1. Select *Files/Notes*
2. With a long press select the note to activate the Fast menu and select *Show details*

My Documents

Any user files can be stored in My Documents.

Files

Downloaded pages

Files from the Internet are saved to the *Downloaded pages* folder. The Downloaded pages stored in *Files* can be viewed from the Internet chapter as the Internet chapter contains the linked folder. See Internet...

Attachments

Files from mail messages are saved to the *Attachments* folder.

Image Gallery

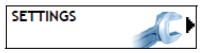
Files from the Camera are saved to the *Image Gallery* folder. The Images stored in *Files* can be viewed from the Camera chapter as the Camera chapter contains the linked folder. See Camera...

(MyOrigo Manual at 71.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Settings

The Settings chapter in **mydevice** allows you to adjust or change the devices many settings so that you can tailor the device to your individual preferences.



Sounds and Alerts

Ring Tone

To set the tone volume

1. Select *Settings/Sounds and alerts.*
2. Use your finger to slide the button to adjust the *Volume:* level  .

The volume is represented as a percentage. When it set to zero percent then the volume is turned off.

To select a different ring tone

1. Select *Settings/Sounds and alerts.*
2. Press *Ring tone* field
3. Press the sound clip you wish to use for the ring tone.

Message Tone

To select a different message tone

1. Select *Settings/Sounds and alerts.*
2. Press *Message tone* field
3. Press the sound clip you wish to use for the message tone.

Alarm Tone

To select a different alarm tone

1. Select *Settings/Sounds and alerts.*
2. Press *Alarm tone* field
3. Press the sound clip you wish to use for the alarm tone.

Increasing Volume

You can set the tone volume to progressively increase from the lowest volume setting through to the highest volume setting.

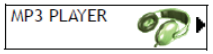
(MyOrigo Manual at 75.)

DRAFT

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

MP3 Player

Your **mydevice** has a MP3 player which allows you to play MP3's stored in the device memory. The sales package contains a stereo headset so that the music can be played discreetly in public places. The player allows you to make playlist from the music files stored in the device so that custom personal music albums can be made.



MP3 Player

To open the player

1. Select MP3 Player
2. Press *Start player*

MP3 player keys

- Pressing if there is no music clip already open in the player, the player will play the first clip from the playlist.
- Pressing when a music clip is playing will pause the clip.
- Pressing when a music clip is paused will play the clip.
- Pressing when a music clip is playing will stop the clip.
- Pressing to skip to the next music clip in the playlist.
- Pressing to skip to the previous music clip in the playlist.
- Pressing will fast forward through the music clip that is playing.
- Pressing will rewind through the music clip that is playing.

To adjust the MP3 player volume

1. Select MP3 Player
2. Press *Start player*
3. Slide your finger to move the volume slider to adjust the volume.

Playlists

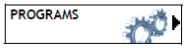
You can create playlists to compile your own music albums to suit your personal music tastes and moods.

(MyOrigo Manual at 95.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Programs

The Programs chapter contains downloaded programs, the calculator, games, accessories and notepad.



Calculator

The calculator in the device allows basic calculating, with square root and memory recall.

To open the calculator in the device

1. Select *Programs*
2. Press *Calculator*

To close the calculator press *Close*

Notepad

The note pad allows you to type notes and are stored as a text file in the *Files/Notes* index. The text in the notes can be copied and pasted and the note can be sent as an SMS, MMS or E-mail message or as an attachment in E-mail.

To create a note

1. Select *Programs*
2. Press *Create Note*
3. Enter the text for the note and press to save.

The note is now saved to the *Notes* index in the *Files* Chapter and a short-cut is made to the *Notes* folder in the *Programs* index, see *Notes...*

If *Close* or *C* is pressed in the keyboard before typing anything then the note will not be created.

Notes

The notes folder contains links to the notes stored in the *Files* index. A note is indicated by the note icon

To edit a note

1. Select *Programs/Notes*
2. Press the note to open the note
3. With a long press select the text to edit to activate the Fast menu and select *Edit*

(MyOrigo Manual at 99.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

To delete a note

1. Select *Programs/Notes*
2. With a long press select the note to delete to activate the Fast menu and select *Delete*

Downloads

The downloads folder contains links to the *Programs* folder stored in the *Files* index. A program is indicated by the program icon.

To launch a program in downloads

1. Select *Programs*
2. Press *Downloads*
3. Press the desired downloaded program field to launch the application.

Games

Your **mydevice** contains? device games and it is possible to play Java games from the Internet.

Accessories

DRAFT

(MyOrigo Manual at 100.)

Claim 4	Exemplary Disclosures (Express and/or Inherent) and Citations

Info

The Info chapter contains information on using **mydevice**, including the user guide help function, a tutorial on how to use some of the innovative features of the device and the device system properties.



Help

The help function will allow you to access the user guide for the device so that you can check the functionality of the devices features and applications.

To open the user guide in the device

1. Select *Info*
2. Press *Help*

The user guide will open in the browser as HTML pages.

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Tutorial

The tutorial function will guide you through a short demonstration of how to use the devices innovative features.

To view the tutorial in the device

1. Select *Info*
2. Press *Show Tutorial*
   - To move forward through the tutorial press *Next*
   - To move forward through the tutorial press *Back*
   - To exit the tutorial press *Close*

About System

Information stored in this chapter is read only information and the only functions that are available are to copy the information stored here using the *Copy* function from the Fast menu.

Product Version

The information contains the product version number and the date of when the device software was last updated.

(MyOrigo Manual at 101.)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
[5pre] The device of claim 1	Claim 5 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 5 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[5a] wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." For example, MyOrigo Manual discloses that its display is operative to automatically switch from portrait mode to landscape mode when the device is held in each mode, respectively. (MyOrigo Manual at 25.) MyOrigo Manual further discloses a virtual keyboard used to enter text. (*Id.*)

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations

Character and Number Input

Character Keyboard

The virtual keyboard is used for entering new text and editing texts in all the applications that require or need text inputs, for example writing a note, an SMS message etc.



The title field notifies the text types. For example this title bar shows the keyboard has been opened in the Messages application, there is an indication that the their is a limit of 160 characters that can be typed to the text field and that the shift button is active, meaning that the first letter typed will be in uppercase followed by lower case letters.



The keyboard consists of 3 main keyboard layouts. The character keyboard is default keyboard.

The keyboard does not rotate to the vertical position

To activate the Shift key

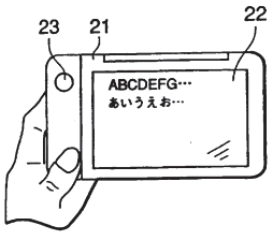
- Whilst you are writing text with the virtual keyboard, press Caps to activate the shift key.

The Shift key will be active for one key press and then will return to the Caps state.

When the shift key is active you can enter a letter in Upper case and also the yellow marks ?! ,- .:. *Abc* will appear in the header section of the key pad view.

(MyOrigo Manual at 25.)

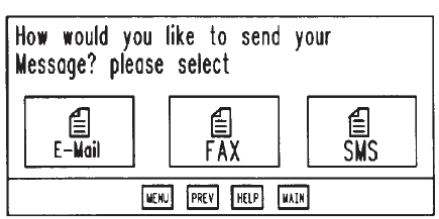
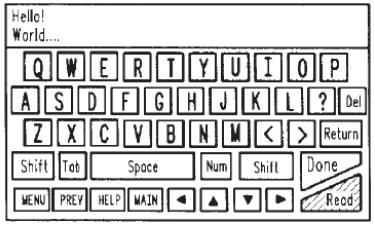
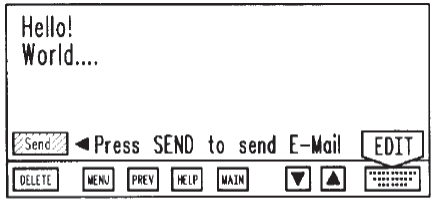
To the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Kobayashi. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least

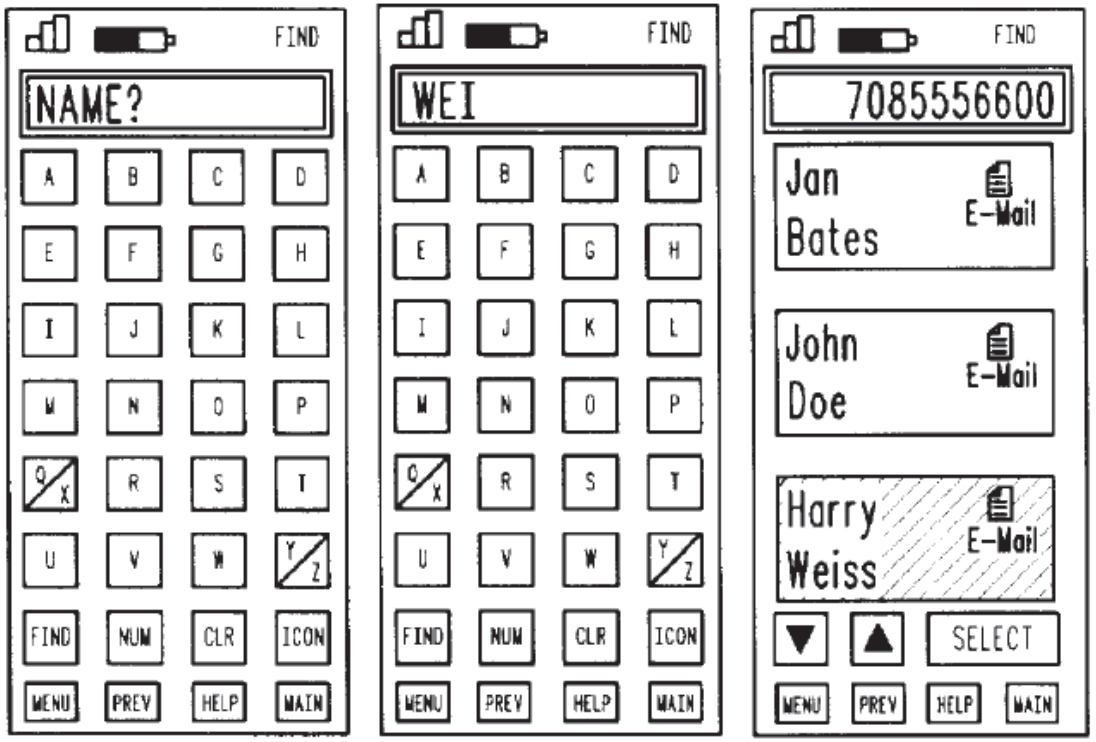
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Kobayashi discloses a similar device to that disclosed by MyOrigo Manual and provides relevant teachings. Kobayashi teaches that is beneficial to have display which is operative to automatically adjust to the orientation it is being held in by the user. (Kobayashi at 2:5-23; see also *id*. at 19:25-20:4, FIGS. 4A, 4B.) Fig.4a  Fig.4b 

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	"In this manner, the display screen on the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:25-20:4.) A POSITA would have been motivated to configure a mobile phone to display text in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Kobayashi. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily read text regardless of phone orientation, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Kobayashi into the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (aligning the display orientation to the phone orientation, as taught by Kobayashi) according to known methods to yield predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (reorienting the display based on device orientation as taught by Kobayashi) to improve similar devices in the same way (a mobile phone that allows a user to easily review text); (C) applying a known technique (reorienting the display based on device orientation as taught by Kobayashi) to a known device ready for improvement to yield predictable results (a mobile phone); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Kobayashi) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include: "The orientation at which data is displayed on portable terminal device is altered by detecting where the device is being held by a user. Pressure sensors or photo cells along two edges of the device may be used to alter the orientation by 90‹. The orientation of data on the display may also be altered according to which function is being used or by operating a switch. Alternatively the device may have a plurality of displays at different orientations which may be used according to the way in which the

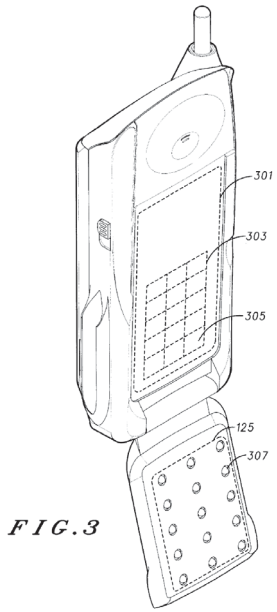
Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	terminal is being used. The portable terminal device may be a selective call receiver or a mobile telephone." (Kobayashi at Abstract.) "in view of the above-mentioned problems, in a preferred embodiment the present invention enhances an operability by controlling the direction of screen display on the display in accordance with whether or not the user's fingers and palm come into contact with a pressure sensor or a photo-detection sensor on any surface of a portable terminal device body." (Kobayashi at 13:14-19.) "When the mobile information terminal 31 is longitudinally used and held, the pressure sensors 33 and 34 are disposed on both the side surfaces of the mobile information terminal 31. The user's fingers and palm ca-ne into contact with the pressure sensor 33 and/or the pressure sensor 34, whereby the direction of screen display on the display 32 is controlled. That is, when the user uses and holds the mobile information terminal 31 laterally as shown in Figs. 8a and 8b, the user's fingers and palm 10 do not c-cm into contact with the pressure sensors 33 and 34. Thus, the screen is displayed along the long side on the display 32. On the other hand, when the user uses and holds the mobile information terminal 31 longitudinally as shown in Figs. 9a and 9b, the user's fingers and palm come into contact with the pressure sensors 33 and/or 15 34. Thus, the screen is displayed along the short side on the display 32. In this way, the direction of display can be automatically changed in accordance with the direction in which the user views the display." (Kobayashi at 18:2-19.) "The direction of screen display on the display 32 is controlled by the controller 36 in accordance with whether or not the signal from. the pressure sensors 33 and 34 is detected. That is, when the user's fingers and palm do not cane into contact with the pressure sensors 33 and 34, the signal is not outputted from the pressure sensors 33 and 34. Thus, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm come into contact with the pressure sensors 33 and 34, the signal is outputted from the pressure sensors 33 and 34. When the signal is inputted from the pressure sensors 33 and/or 34, the controller 36 controls the display 32 so that the direction of screen display is set to the direction of the short side. The direction of screen display can be controlled in accordance with, for example, whether a binary signal has me value or the other value, instead of whether or not the signal is detected. When the telephone function is used, the telephone number to be called is inputted from the input section 35. The telephone number to be called inputted from, the input section 35 is translated/received from an

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	antenna 42 through the controller 36 and a radio section 41. When the voice is transmitted/received, an audio amplifier 40, a receiver 38 and a microphone 39 are used as the input/output unit. When the data other than the voice is transmitted/received, the input section 35 and the display 32 are used. 2 5 In this manner, the display screen m the display 32 can be automatically controlled between the direction of the short side and the direction of the long side in response to how the user holds the mobile information terminal 31, without necessity of any operation. Since it is unnecessary to provide the controlling button 23 shown in Fig. 4, a miniaturization can be realized without addition of a new space for the provision of the controlling button." (Kobayashi at 19:2-20:4.) "The direction of screen display on the display 52 is controlled by the controller 56 in accordance with whether or not the signal from the photo-detection sensor 54 is detected. That is, when the user's fingers and palm are not put on the photo-detection sensor 54, the signal is not outputted from the photo-detection sensor 54. Thus, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the long side. On the other hand, when the user's fingers and palm are put on the photo-detection sensor 54, the signal is outputted from the photo-detection sensor 54. When the signal is inputted from the photo-detection sensor 54, the controller 56 controls the display 52 so that the direction of screen display is set to the direction of the short side." (Kobayashi at 22:14-25.) "Moreover, the direction of screen display in the display can be 26 controlled in accordance with whether or not the user's finger and palm came into contact with the pressure sensor or the photo-detection sensor on any surface of the portable terminal device body. Thus, the direction of display screen on the display can automatically controlled in response to how the user holds the portable terminal device, without needing any user's operation. The operability can be thus enhanced." (Kobayashi at 25:27-26:6.) *See also* Kobayashi at Figs. 6, 7. Further, to the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Jambhekar. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Jambhekar discloses that data, including text and a virtual keyboard to input text, can be entered through a keyboard in either a portrait or landscape configuration. (Jambhekar at 4:22-25, 4:41-52, 7:41-54, FIGS. 8A-8F.)  FIG.8A  FIG.8B  FIG.8C

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	 ***FIG.8D FIG.8E FIG.8F*** A POSITA would have been motivated to configure a mobile phone to include a virtual keyboard that allowed a user to input text in either portrait or landscape mode. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Jambhekar. A POSITA would have been motivated to configure a phone accordingly in order to allow a user to easily input text, improving device performance and user experience. Thus, a POSITA would have considered the combination of the teachings of Jambhekar into the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) according to known methods to yield

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	predictable results (a mobile phone that allows a user to easily input text); (B) use of a known technique (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) to improve similar devices in the same way (a mobile phone that allows a user to easily input text); (C) applying a known technique (allowing a user to input text using a virtual keyboard in either portrait or landscape mode as taught by Jambhekar) to a known device ready for improvement to yield predictable results (a mobile phone that allows a user to easily input text); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Jambhekar) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include: "FIG. 3 is a detailed illustration of the radio communication device 103 of FIG. 1 in the opened position. Information displayed in the data display area may be oriented vertically in a portrait mode, or horizontally in a landscape mode." (Jambhekar at 4:22-25.) "The advanced radiotelephone functions include a menu for storing and recalling telephone numbers as well as programming the user's preferences for controlling the radiotelephone. All of the radiotelephone control functions, including the advanced and the limited radiotelephone control functions, are displayed in a radiotelephone display configuration. This configuration includes orienting the display in the portrait mode. All of the messaging functions including electronic mail, faxing and short message service are displayed in a messaging display configuration. This configuration includes orienting the display in the horizontal direction." (Jambhekar at 4:41-52.) "Turning now to FIG. 8, the preferred steps for sending messages according to the present invention are shown. After entering the main menu and deciding to send a message at a step 802, the user selects a message type icon (FIG. 8-1) at a step 804. The user then enters a message (FIG. 8-2) at a step 806. After completing the message and pressing SEND (FIG. 8-3), the user is preferably prompted with a request for a name (FIG. 8-4) The user then enters a portion or all of the recipient's name (FIG. 8-5) at a step 808. A list of potential recipients having numbers associated with the selected icon, such as an e-mail, is then displayed (FIG. 8-6) at a step 810. The user then selects a recipient from the displayed list

Claim 5	Exemplary Disclosures (Express and/or Inherent) and Citations
	at a step 812 and automatically sends the message by pressing SELECT at a step 814." (Jambhekar at 7:41-54.) Jambhekar discloses the following at FIG. 3:  FIG.3 (Jambhekar at FIG. 3)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
[7pre] The device of claim 1	Claim 7 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 7 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[7a] wherein the width of the device is approximately half of said length.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the device is approximately half of said length." For example, MyOrigo Manual discloses a mobile phone having a width of 58 mm and a length of 123 mm. (MyOrigo Manual at 3, 113.)

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations

Technical Data

General	
Product Name	MyOrigo
Type Number	Z1

Dimensions	
Size	123 mm x 58 mm x 23 mm
Weight (including standard battery)	171 g
Li-ion Battery	1310 mAh

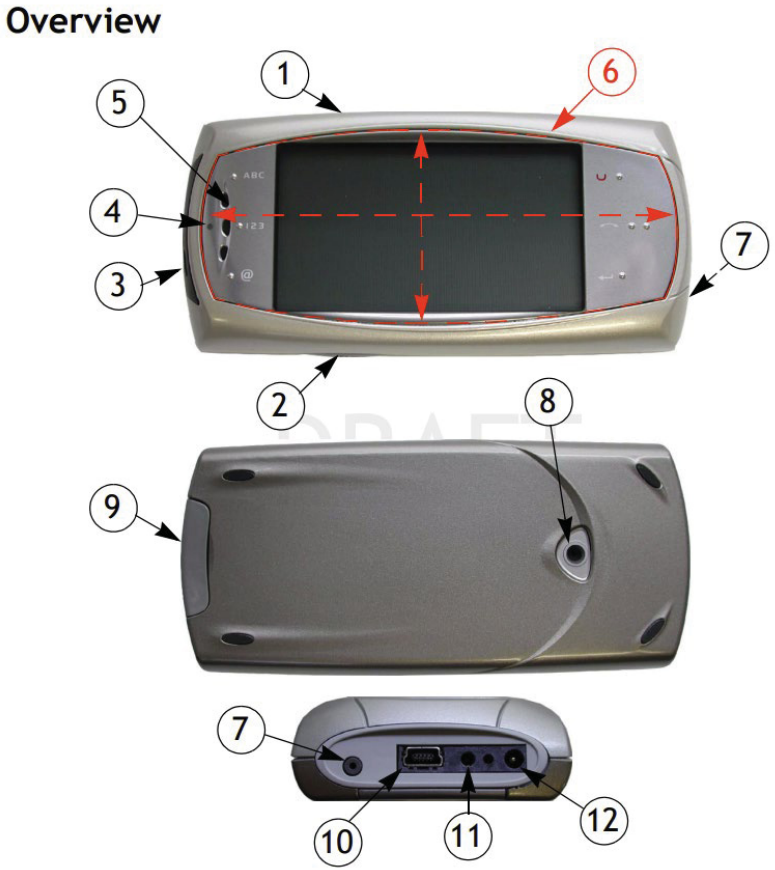
DRAFT

Operation	
E-GSM Class	4 (2 watt)
Frequency	900 MHz
GSM Class	1 (1 watt)
Frequency	1800 MHz
GSM Class	1 (1 watt)
Frequency	1900 MHz
SIM card	3 V
GPRS Class	8 (4 downlink + 1 uplink slots)
Operating temperature	Min. -10 C Max. +55 C
Standby time	130 hrs.
Talk time	220 - 600 mins.

NOTE: Standby time and talk time are subject to the network conditions

(MyOrigo Manual at 113.)

Additional exemplary citations include:

Claim 7	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Manual at 3.)

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
[8pre] The device of claim 1	Claim 8 depends from claim 1. Defendants incorporate all the prior art disclosures from claim 1 here, which anticipate and/or render claim 1 obvious as set out above. Defendants reserve the right to rely on

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	any of the prior art disclosures and obviousness rationale and evidence set out for claim 1 to show the additional limitations of claim 8 are anticipated and/or obvious for the same reasons set out in claim 1. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 1." *See supra* claim [1].
[8a] wherein the thickness of the device is less than 20 percent of said width.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the thickness of the device is less than 20 percent of said width." For example, MyOrigo Manual discloses a mobile phone that is 23mm thick, which is less than the height or width of the phone. (MyOrigo Manual at 113.) Additional exemplary citations include:

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations

Technical Data

General	
Product Name	MyOrigo
Type Number	Z1

Dimensions	
Size	123 mm x 58 mm x 23 mm
Weight (including standard battery)	171 g
Li-ion Battery	1310 mAh

DRAFT

Operation	
E-GSM Class	4 (2 watt)
Frequency	900 MHz
GSM Class	1 (1 watt)
Frequency	1800 MHz
GSM Class	1 (1 watt)
Frequency	1900 MHz
SIM card	3 V
GPRS Class	8 (4 downlink + 1 uplink slots)
Operating temperature	Min. -10 C Max. +55 C
Standby time	130 hrs.
Talk time	220 - 600 mins.

NOTE: Standby time and talk time are subject to the network conditions

(MyOrigo Manual at 113.)

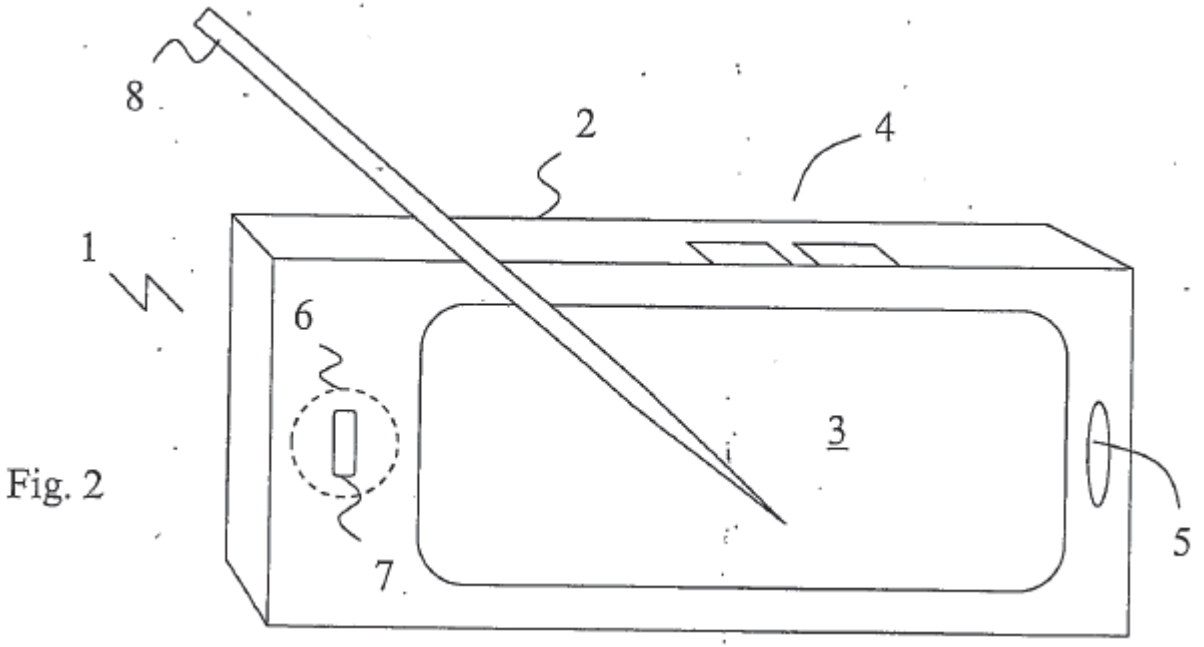
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

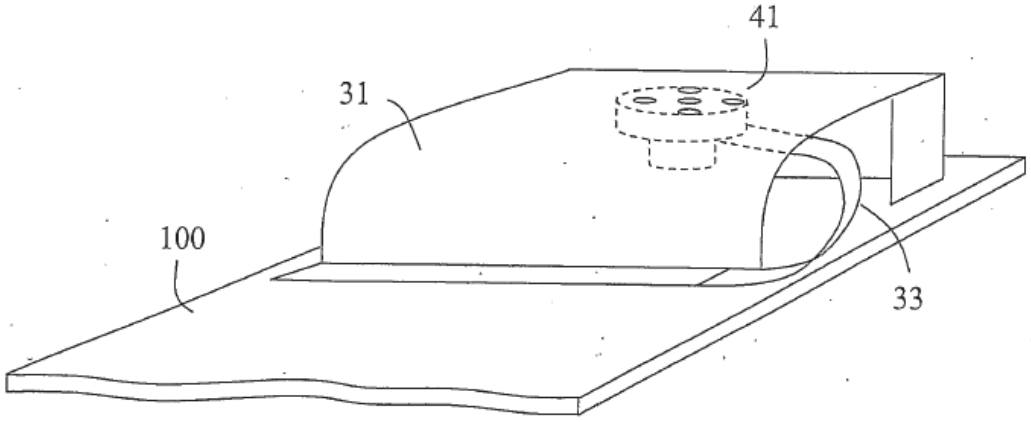
Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Manual at 4.) It would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Yamaguchi and/or Wedel. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, Yamaguchi teaches that it is desirable to configure a mobile phone so it can be stored in a pocket of a user's clothing. (Yamaguchi at [0007], [0010], [0014], [0015], [0031], [0032], [0035].) In order to fit in a pocket, Yamaguchi discloses a mobile phone that is 100-150mm in length, 60-75mm in width, and 15-25mm in depth. (Yamaguchi at [0034], [0036].) Thus, the mobile phone disclosed by Yamaguchi has a thickness that is 20 percent of its width. Further, Wedel teaches that mobile phones "are getting smaller and smaller" and are now "pocket size." (Wedel at 1:14-21.) Wedel explains that the small size "is generally considered to be an important factor for the end customer," and there is "general market demand for small size and light weight terminals. (Wedel at 1:14-21, 3:19-21.) In order to reduce the size of the terminal, Wedel

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	teaches reducing the thickness of the phone by, for example, mounting the speaker inside the antenna cavity. (Wedel at 1:6-9, 2:21-25, 3:19-21, 9:28-31, 13:1-8.) A POSITA would have found it obvious to configure the mobile phone as disclosed by MyOrigo Manual with width and thickness dimensions as claimed. Yamaguchi teaches configuring a mobile phone such that the thickness of the device is 20 percent of its width, which improves portability and operability by allowing the phone to be easily held in one hand, stored in a pocket, and provides a display that is as large as possible. Wedel simultaneously teaches that there is demand for ever smaller, lighter phones. A POSITA would thus have been motivated to configure a mobile phone with a thickness to width ratio less than Yamaguchi's to gain market advantage. (Wedel at 1:14-21, 3:19-21.) A POSITA would be motivated to configure a mobile phone with these dimensions to improve the ease of use and portability of the phone. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Yamaguchi. A POSITA would have been motivated to size a phone accordingly in order to improve user experience and market demand as suggested by Wedel. Thus, a POSITA would have considered the combination of the teachings of Yamaguchi and/or Wedel into the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (the relative dimensions of a mobile phone as suggested by Yamaguchi and Wedel according to known methods to yield predictable results (improving the portability and marketability of a mobile phone); (B) use of a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone as suggested by Yamaguchi and Wedel) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Yamaguchi and/or Wedel) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include: "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "EFFECTS OF THE INVENTION According to the present invention, as is clear from the description above, an antenna part and various manipulable switches of a mobile-communication-information terminal device are provided on a same-side surface portion of a device body, a pen-housing part is provided on an opposite side-surface portion, a memory-card-housing part is provided on a rear-surface portion of the device body, and a card EJECT button is provided adjacent to the memory-card-housing part and near the pen-housing part; a rotary switch, which has a function of selecting data, is provided on the same side surface as the various manipulable switches, and a push button, which has a function of confirming selected data, is provided perpendicular to the rotational direction of the rotary switch and on the same side surface near a front-surface portion of the device body; a liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are further provided on a same top-surface portion of the device body; and the dimensional ratios of the device body are length 100–150 mm, width 60–75 mm, and depth 15–25 mm, thereby enabling a series of manipulations to be performed with one hand and enabling the device body to fit in a clothing pocket or the like; thus, improvement in ease of manipulation and improvement in portability can be achieved." (Yamaguchi at [0036].) "More specifically the invention relates to a communication terminal including a component which integrates said speaker and an antenna element, and to said component as such." (Wedel at 1:6-9.) ". . . at the same time the dimensions of the communication terminals have gone from briefcase size to the pocket size phones of today. Still today, mobile phones are getting smaller and smaller and the size is generally considered to be an important factor for the end customer. The development in electronics has made it possible to miniaturise the components of the terminals, at the same time making the terminals capable of performing more advanced functions and services." (Wedel at 1:14-21.) "The antenna of the terminal is generally located at the upper portion of the terminal, and a lower portion of the terminal being occupied by a battery. Placing the speaker 6 behind the display 3 would

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	therefore increase the thickness of the terminal 1 since it would have to compete with the antenna for the relevant space." (Wedel at 2:21-25.) "It is an object of the present invention to provide a novel speaker arrangement for a communication terminal, meeting the general market demand for small size and light weight terminals." (Wedel at 3:19-21.) "Fig. 6 illustrates an embodiment of a spacer element 61, adapted for use with the combined speaker and antenna element according to the invention. In a low profile, built in, radio antenna for mobile communication, such as a PIFA, the antenna comprises a substantially planar active antenna element and a ground plane." (Wedel at 9:28-31.) "The present invention brings about several advantages, thanks to the inventive idea to mount the speaker inside the antenna cavity, where one antenna element and the speaker are carried by a common structure provided by a flexible film. First of all, the invention brings about space savings. A terminal or housing, implementing the invention, may be designed with a thickness basically defined by the distance between the flexible film and the support structure, e.g. a PCB, since the thickness contribution from the speaker has been eliminated." (Wedel at 13:1-8.) Wedel discloses the following at FIGS. 2 and 11:

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 2

Claim 8	Exemplary Disclosures (Express and/or Inherent) and Citations
	 Fig. 11

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9pre] A mobile phone, comprising:	To the extent that the preamble is held to be limiting, MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone." For example, MyOrigo Manual discloses a triple band phone that can operate on various GSM networks. (MyOrigo Manual at 2.) MyOrigo Manual discloses a "phone mode" that allows the phone to make voice calls and data calls. (*Id*. at 9).

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

The MyOrigo **mydevice** Z1 is a triple band phone and can be operated on E-GSM 900, GSM 1800 and GSM 1900 networks, which means that you are able to use the device in many regions across the world.

The device has a large colour display that is also a touch screen with feedback when you press the screen. This feedback from the touch screen is referred to as Haptitouch. The device has a built in digital camera which can be used to take photos.

In the device are motion sensors that can be used to control certain movements and functions in the device, like mirroring and zooming the views.

The device supports GPRS (General Packet Radio Services) which means that you can make fast data connections. MMS, E-mail messaging and Internet browsing are supported in the device through GPRS connections.

(MyOrigo Manual at 2.)

Phone Mode

The phone mode allows you to use the device normally with all the data connections so that it is possible to make voice calls, data calls, etc.



You may be asked to enter a PIN code, if so this is supplied by the operator with your subscription. To change this code, switch this function off see...

1. Enter your PIN number and press *OK*.
   Press *Clear* if you make a mistake whilst entering the PIN number.
   If you enter the PIN code incorrectly *Wrong code, Enter PIN code again* is displayed.
   If a PIN code is entered incorrectly 3 times in a row then the SIM card will be blocked and the message *Wrong code, SIM use blocked. Enter PUK code* is displayed. See SIM card locking...

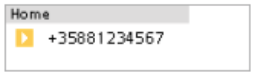
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	MyOrigo Manual at 9. Additional exemplary citations include: "The MyOrigo Manual mydevice Z1 is a triple band phone and can be operated on E-GSM 900, GSM 1800 and GSM 1900 networks, which means that you are able to use the device in many regions across the world." (MyOrigo Manual at 2.) "The phone mode allows you to use the device normally with all the data connections so that it is possible to make voice calls, data calls, etc." (MyOrigo Manual at 9.) *See also* MyOrigo Manual at 11 (describing a virtual phone application) 27-33 (explaining that the telephone disclosed by MyOrigo Manual is operative as a phone and can place calls).

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Attaching the battery 1. Place the battery into the back of the phone, with the golden connectors facing down. 2. Push the battery down at the bottom and then slide up so that the battery is locked into position by means of the battery locking pins.  ***Removing the battery*** 1. With your finger nail pull down and lift out the battery.  **NOTE:**Always switch the phone off before removing the battery. (MyOrigo Manual at 5.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Action Fields

An action field is a field that can contain a specific text format and the play icon and when pressed it will launch a specific action or an application dependant upon the data in the field.



An action field for a phone number when pressed will open the phone application with the number already inputted and only needs to be pressed to make a call to that number. See the example of a phone number action field.

Action fields for the following formats may be possible:

- Calls -
- E-mail -

(MyOrigo Manual at 15.)

- you unlock the key lock
- you receive an incoming call
- you receive a message

To turn on the key lock

1. Full click the A & B keys simultaneously to access the standby menu.
2. Press *Lock*

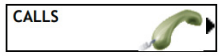
   When the device is key locked the virtual phone will be displayed with *Screen locked* displayed.

   To turn off the key lock

- Press Unlock in the display.

  NOTE: With the key lock on you can still access the phone to make an emergency number call. See....

(MyOrigo Manual at 24.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	# Call Functions The phone application can be activated in several ways, from the Phone key on the lens , though the Fast menu or from the *Calls/New call* field. Depending on how you are using the device you can choose the most appropriate way to access the phone application. The Calls chapter contains call management features for this device, dialled, received and missed calls lists.  (MyOrigo Manual at 27.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Making Calls ***To make a call*** 1. Press 2. Enter the phone number with the area code if needed. If you enter the incorrect number press *Clear* to delete it. Pressing and holding *Clear* will delete the whole number. 3. Press Call Press *End* to end the call. 4. To exit the phone application press *Close* when in standby mode to return to the previous menu. ***To create a new contact from the entered number in the phone application*** • Press *Create contact* to create a new contact with that number. See *Creating a contact* page..... ***To answer a call*** • Press *Answer* to answer the incoming call. ***To reject an incoming call*** • Press *Reject* to reject the incoming call. ***To mute the audio alert for an incoming call*** • Press *Mute Tone* to mute the audio for the incoming call. ***To make international calls*** 1. Press and hold to enter the + sign. The + sign replaces the international prefix number. 2. Enter the country code, then the area code (without the first 0) and the phone number and press *Call* ***To adjust the earpiece volume during a call*** (MyOrigo Manual at 27.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Speed Dialling

You can assign contacts numbers to the number buttons in the phone application, which can then be quickly recalled and dialled. To *set a speed dial number for a contact* See page...

To make a call to a speed dial number

- When the phone application is open either:
  - Press the corresponding speed dialling key for the contact you have assigned that number and press *Call*
  - Press and hold the number until the call is started.

Emergency Calls

At any time when the phone is switched on you can make an emergency call usually even without a SIM card if there is a GSM network in range. The international emergency numbers that are supported in this device are 112, 911 & 08.

It is also possible to make an emergency call when the device is locked. See *Locking and unlocking the device* page...

To make an emergency call

1. Press
2. Enter *112*, the GSM international emergency number.
3. Press *Call*

Call Details

- You can check the details of calls from the device. From the *Details viewer* you can see the following information:
- Start time

(MyOrigo Manual at 28.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations

Call Management

The call management menu is a dynamic menu which contains the in-call options through the menus. The following in-call options may be available.

- Hold Call
- Activate Call
- Send DTMF
- End all calls
- Mute
- Swap

To turn off the microphone

1. Select a call from the *Call Management* menu with a long press to activate the Fast menu.
2. Select *Mute Mic*  .
   To turn the microphone back on repeat this process and press *Mic On*  .

Dialled Calls

The device stores the 12 last dialled calls.

To view your received calls

- Select *Calls/Dialled calls*.

Calling a previously dialled number

1. Select *Calls/Dialled calls*.
2. Select the number or name that you wish to redial.
3. Press *Call* 

TIP: Dialled calls can also be reached by pressing *Dialled*  when in the phone application and no numbers have been entered in the phone.

Received Calls

The device stores the 12 last received calls.

To view your received calls

- Select *Calls/Received calls*.

(MyOrigo Manual at 29.)

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Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Call Holding ***To put a call on hold*** 1. Press *Manage Call* 2. Select *Hold call* To take the call off hold, repeat steps 1 and 2 and select the call *Activate Call* ***To hold a call and make a new call*** 1. Press *Manage Call* 2. Select *Hold Call* 3. Select *Open Phone* Either: • Enter the new number and press *Call* • Press *Main Index* and select a contact from the contacts list, with a long press on the number to activate the Fast Menu and press Call (MyOrigo Manual at 31.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Receiving a second call If Call waiting is activated.... ***To answer the second call and put the ongoing call on hold*** • Press *Answer* to answer the second call. The current call will now be put on hold. ***To reject the waiting call and continue with the ongoing call*** • Press *Busy* to reject the second call ***To switch between calls*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Select the call indicated as *Activate* This call is now switched to *Hold Call*. ***To end the ongoing call and return to the call on hold*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Long press the to activate the Fast menu on the call indicated as Online 3. Select *End* to end the ongoing call The previously held call is now active. ***To end all calls*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Long press the to activate the Fast menu on the call indicated as Online 3. Select *End All* to end all calls. (MyOrigo Manual at 31.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Receiving a third call It is not possible to answer a third call without ending one of the other two calls first. ***To handle a third call*** When the a third call is displayed as *Waiting* the following options are available: • Press *Release and Answer* to release the online call and answer the waiting call. • Press *Busy* to send a busy tone to the waiting call • Press *End* to end the online call (MyOrigo Manual at 32.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Conference Calls The device will allow you up to "x" people to be in a conference call. In order to make a conference call, one call must already be active. ***To make a conference call*** When two calls are ongoing you can then make a conference call... 1. Press *Manage Call* to move to the *Call management* menu. 2. Select *Conference Call*. The two calls are now joined into a conference call. ***To add a new member to an active conference call*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Select *New call*. Enter the new number and press *Call*. When answered the new call is active and the conference call is on hold. 3. Press *Manage Call* to move to the *Call management* menu. 4. Select *Add to Conference*. ***To remove a member from a conference call*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Select the member *At conference:* in the conference call with a long press to activate the Fast menu. 3. Select *End* to remove that member. ***To enable a private conversation with a member of a conference call*** The device allows you to have a private conversation with one of the members in the conference call. This will put the rest of the conference call members on hold. 1. Select the member *At conference:* in the conference call with a long press to activate the Fast menu. 2. Select *Private*. (MyOrigo Manual at 32.)

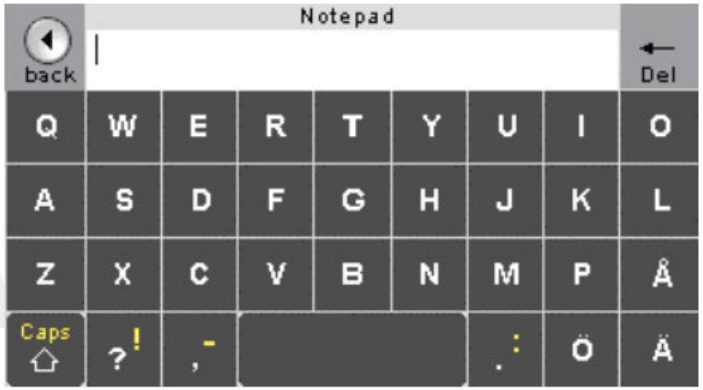
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	The conference call is now on hold. ***To rejoin a private conversation member to a conference call*** Follow steps 3 & 4 of *To add a new member to an active conference call.* ***To end the conference call*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Select the conference call with a long press to activate the Fast menu. 3. Press *End All* **Call Account** The call account menu contains timers which will show you the total time for calls, this means both incoming and outgoing call and outgoing time only. The call timers can be reset at any time. ***To view the total time for all calls*** • Select *Calls/Call Account*. ***To view the total time for outgoing calls*** • Select *Calls/Call Account*. ***To reset the call timers*** 1. Select *Calls/Call Account*. 2. Long press to activate the Fast menu on the call timer you wish to reset. 3. Press to reset that counter. 4. Press to confirm you wish to reset the counter. (MyOrigo Manual at 33.)
[9a] a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces,	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape, said body having a front surface, a back surface and four side surfaces." *See supra* claim [1a] (discussing limitation "a practically rectangular-shaped housing . . . , said housing having a front surface, a back surface and four side surfaces").

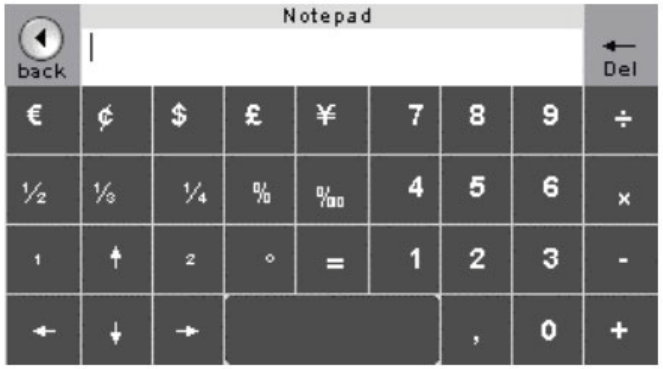
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9b] wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface of the mobile phone corresponds to the distance between the ear and the mouth of a user." *See supra* claim [1b] (discussing limitation "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user").
[9c] wherein the width of the front surface of the mobile phone is significantly shorter than the length, and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the width of the front surface of the mobile phone is significantly shorter than the length." *See supra* claim [1c] (discussing limitation "wherein the width of the front surface is substantially shorter than the length").
[9d] wherein said body has a thin thickness	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said body has a thin thickness." *See supra* claim [1d] (discussing limitation "wherein the housing has a thin thickness").
[9e] a touch sensitive display unit	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a touch sensitive display unit." For example, MyOrigo Manual discloses a large touch screen 6 that is integrated into the housing of the mobile phone. (MyOrigo Manual at 3.)

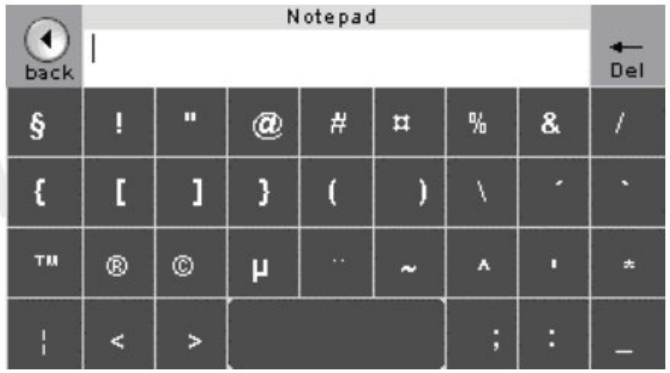
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port MyOrigo Manual at 3. Additional exemplary citations include:

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The device has a large colour display that is also a touch screen with feed-back when you press the screen. The feedback from the touch screen is referred to as Haptitouch. The device has built in a digital camera which can be used to take photos." (MyOrigo Manual at 2.) "By sliding you [sic] finger across the haptitouch screen from right to left will move 1 page forward and sliding you [sic] finger across the haptitouch screen from left to right will move 1 page backwards." (MyOrigo Manual at 13.) "When the alarm clock is set and the alarm time is reached then a message will appear stating the alarm time with an alarm tone playing. If no action is made then the alarm will play for 1 minute then stop. Pressing anywhere on the screen will bring up the message *Turn off the alarm?*" (MyOrigo Manual at 65.) **Startup Screen** ***To change the start-up image or animation*** 1. Select *Settings/Themes/Edit own theme.* 2. Press *Start-up Screen*  3. Press the image you wish to use for the start-up screen image. (MyOrigo Manual at 77.)

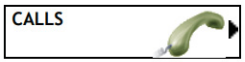
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Touch Screen ***To calibrate the device Haptitouch screen*** 1. Select *Settings/Control settings/Device control/Touch screen* 2. Press Calibrate  3. Press the points as directed in the display to calibrate the device touch screen. **NOTE:** The calibration should be carried out when the device display is in the horizontal view. ***To set the use calibration On*** 1. Select *Settings/Control settings/Device control/Touch screen* 2. Press *Use calibration*. The *Use calibration* option will be displayed with the checked indication ☒ when switched On. (MyOrigo Manual at 82.)
[9f] a virtual keyboard to enter text; and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a virtual keyboard to enter text." For example, MyOrigo Manual discloses a keyboard with virtual keys to enter and edit text. (MyOrigo Manual at 25.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 MyOrigo Manual at 25. Additional exemplary citations include: "The virtual keyboard is used for entering new text and editing texts in all the applications that require or need text inputs, for example writing a note, an SMS message etc. The title field notified the text types. For example this title bar shows the keyboard has been opened in the Messages application, there is an indication that their [sic] is a limit of 160 characters that can be typed to the text field and that the shift button is active, meaning that the first letter typed will be in uppercase followed by lower case letters. The keyboard consists of 3 main keyboard layouts. The character keyboard is default keyboard." (MyOrigo Manual at 25.) "While you are writing text with the virtual keyboard, press [caps symbol] to activate the shift key." (MyOrigo Manual at 25.) "If you want to add a numbers [sic] or numeric signs to the text you are entering then you can switch the input keyboard from the character keyboard to the numeric keyboard by pressing the lens 123 key. After entering the symbols you can switch back to the character keyboard by pressing the lens ABC key." (My Origo at 26.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	"Scrolling through the text in the keyboard input area…When writing with the keyboard there are two lines of text visible in the view. When more than two lines of text have been typed in the keyboard input area, you can scroll through the text by using the [up down left right] keys which are located in the numeric keyboard. It is also possible to scroll using mirroring." (MyOrigo Manual at 26.) "Symbolic keyboard…If you want to add a symbol to the text you are entering then you can switch the input keyboard from the character keyboard to the symbols keyboard by pressing the lens @ key. After entering the symbols you can switch back to the character keyboard by pressing the lens ABC key." (MyOrigo Manual at 26.)  (MyOrigo Manual at 26.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (MyOrigo Manual at 26.)
[9g] a microphone and a speaker	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a microphone and a speaker." For example, MyOrigo Manual discloses that the housing includes a microphone 7 and a speaker 5 located at the bottom and top of the front surface of the housing, respectively. (MyOrigo Manual at 3.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include: **Call Functions** The phone application can be activated in several ways, from the Phone key on the lens , though the Fast menu or from the *Calls/New call* field. Depending on how you are using the device you can choose the most appropriate way to access the phone application. The Calls chapter contains call management features for this device, dialled, received and missed calls lists.  (MyOrigo Manual at 27.)

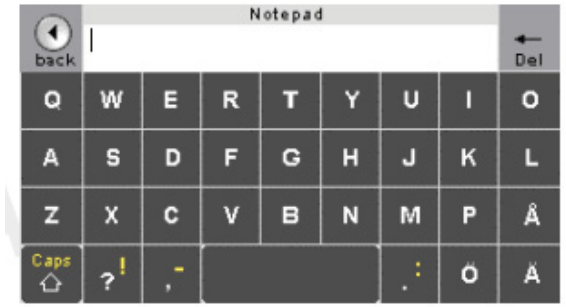
Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Making Calls ***To make a call*** 1. Press 2. Enter the phone number with the area code if needed. If you enter the incorrect number press *Clear* to delete it. Pressing and holding *Clear* will delete the whole number. 3. Press Call Press *End* to end the call. 4. To exit the phone application press *Close* when in standby mode to return to the previous menu. ***To create a new contact from the entered number in the phone application*** • Press *Create contact* to create a new contact with that number. See *Creating a contact* page..... ***To answer a call*** • Press *Answer* to answer the incoming call. ***To reject an incoming call*** • Press *Reject* to reject the incoming call. ***To mute the audio alert for an incoming call*** • Press *Mute Tone* to mute the audio for the incoming call. ***To make international calls*** 1. Press and hold to enter the + sign. The + sign replaces the international prefix number. 2. Enter the country code, then the area code (without the first 0) and the phone number and press *Call* ***To adjust the earpiece volume during a call*** (MyOrigo Manual at 27.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Call Management The call management menu is a dynamic menu which contains the in-call options through the menus. The following in-call options may be available. • Hold Call • Activate Call • Send DTMF • End all calls • Mute • Swap ***To turn off the microphone*** 1. Select a call from the *Call Management* menu with a long press to activate the Fast menu. 2. Select *Mute Mic*  . To turn the microphone back on repeat this process and press *Mic On*  . **Dialled Calls** The device stores the 12 last dialled calls. ***To view your received calls*** • Select *Calls/Dialled calls*. ***Calling a previously dialled number*** 1. Select *Calls/Dialled calls*. 2. Select the number or name that you wish to redial. 3. Press *Call*  **TIP:**Dialled calls can also be reached by pressing *Dialled* when in the phone application and no numbers have been entered in the phone. **Received Calls** The device stores the 12 last received calls. ***To view your received calls*** • Select *Calls/Received calls*. (MyOrigo Manual at 29.)

DRAFT

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
[9h] wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit, practically occupying the entire front surface of the mobile phone, is integrated within said mobile phone." *See supra* claim [1e] (discussing limitation "a display unit integrated within the front surface of said housing wherein said display unit practically covers the entire front surface of said housing").
[9i] wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text, and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said front surface of the mobile phone does not have a physical button and wherein said mobile phone does not have a physical keyboard to enter text." *See supra* claim [1f]. For example, MyOrigo Manual discloses a mobile phone omitting any physical buttons on the front surface and omitting a physical keyboard to enter text. (MyOrigo Manual at 3, 25.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
	 MyOrigo Manual at 25. Additional exemplary citations include: "The virtual keyboard is used for entering new text and editing texts in all the applications that require or need text inputs, for example writing a note, an SMS message etc. The title field notified the text types. For example this title bar shows the keyboard has been opened in the Messages application, there is an indication that their [sic] is a limit of 160 characters that can be typed to the text field and that the shift button is active, meaning that the first letter typed will be in uppercase followed by lower case letters. The keyboard consists of 3 main keyboard layouts. The character keyboard is default keyboard." (MyOrigo Manual at 25.) "While you are writing text with the virtual keyboard, press [caps symbol] to activate the shift key." (MyOrigo Manual at 25.)
[9j] wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position." *See supra* claim [5a] *See supra* claim [5a] (discussing limitation "wherein said display unit is adapted to display text, entered through the virtual keyboard, in landscape direction and in portrait direction when the mobile phone is used, respectively, in landscape position and in portrait position"). For the reasons discussed

Claim 9	Exemplary Disclosures (Express and/or Inherent) and Citations
position and in portrait position.	in connection with claim [5a], a POSITA would have been motivated to implement this limitation in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [5a], irrespective of whether the claimed keyboard was virtual or physical.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
[10pre] The mobile phone of claim 9	Claim 10 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 10 are anticipated and/or obvious for the same reasons set out in claim 9. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[10a] wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the distance between said microphone and said speaker corresponds to the distance between the ear and the mouth of a user." *See supra* claim [9b]. MyOrigo Manual discloses a mobile phone, including a microphone 7 and a speaker (earpiece 5) at the top and bottom of the device, respectively. (MyOrigo Manual at 3.) MyOrigo Manual discloses a mobile phone that is 123mm in length. (MyOrigo Manual at 113.) Further, MyOrigo Manual teaches placing the mobile phone "at your ear." (MyOrigo Manual at 106.) It would have been obvious to a POSITA that the length of the MyOrigo Manual would correspond to the distance between the ear and mouth of the user to allow the user to hold an end of the device containing a speaker against their ear and an end of the device containing a microphone near their mouth.

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	Overview  1. Function Key A 2. Function Key B 3. Infrared Port 4. LED Indicator 5. Earpiece 6. Haptitouch Screen 7. Microphone 8. Camera Lens 9. Battery Cover Release 10. Mini USB Data Cable Connector 11. Headset Connector Port 12. Charger Connector Port (MyOrigo Manual at 3.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations

Technical Data

General	
Product Name	MyOrigo
Type Number	Z1

Dimensions	
Size	123 mm x 58 mm x 23 mm
Weight (including standard battery)	171 g
Li-ion Battery	1310 mAh

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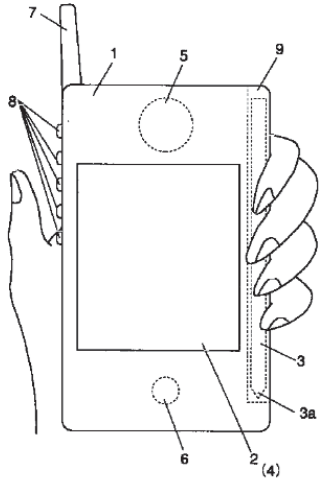
Operation	
E-GSM Class	4 (2 watt)
Frequency	900 MHz
GSM Class	1 (1 watt)
Frequency	1800 MHz
GSM Class	1 (1 watt)
Frequency	1900 MHz
SIM card	3 V
GPRS Class	8 (4 downlink + 1 uplink slots)
Operating temperature	Min. -10 C Max. +55 C
Standby time	130 hrs.
Talk time	220 - 600 mins.

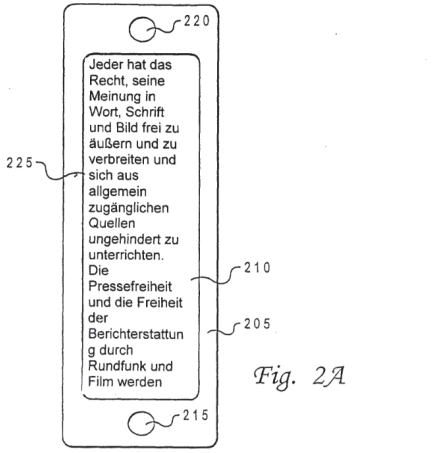
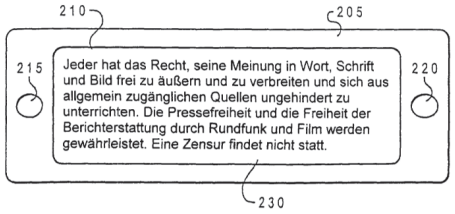
NOTE: Standby time and talk time are subject to the network conditions

(MyOrigo Manual at 113.)

To the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the distance between the ear and mouth of a user corresponds to the distance between the ear and the mouth of a user. For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	【図１】 1 装置本体　6 マイク部 2 液晶表示部　7 アンテナ部 3 ペン　8 各種操作スイッチ 4 タッチパネル部　9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.) As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	 *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by MyOrigo Manual such that the distance between the microphone and speaker of the device corresponds to the distance between a user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance. A POSITA would have been motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (the mobile phone of MyOrigo Manual with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (positioning the microphone and speaker of a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.) "The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.)

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].) "MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data

Claim 10	Exemplary Disclosures (Express and/or Inherent) and Citations
	storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
[11pre] The mobile phone of claim 9	Claim 11 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 11 are anticipated and/or obvious for the same reasons set out in claim 9.

Claim 11	Exemplary Disclosures (Express and/or Inherent) and Citations
	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[11a] wherein said practically rectangular shape has rounded corners.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said practically rectangular shape has rounded corners." *See supra* claim [2a].

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
[12pre] The mobile phone of claim 9	Claim 12 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the additional limitations of claim 12 are anticipated and/or obvious for the same reasons set out in claim 9. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[12a] wherein plurality of icons corresponding to plurality of applications are displayed on said display unit, and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to plurality of applications are displayed on said display unit." *See supra* claim [3a].
[12b] wherein upon providing a sweeping	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 12	Exemplary Disclosures (Express and/or Inherent) and Citations
action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit.	Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit." *See supra* claim [3b].

Claim 13	Exemplary Disclosures (Express and/or Inherent) and Citations
[13pre] The mobile phone of claim 12	Claim 13 depends from claim 12. Defendants incorporate all the prior art disclosures from claim 12 here, which anticipate and/or render claim 12 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 12 to show the additional limitations of claim 13 are anticipated and/or obvious for the same reasons set out in claim 12. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 12." *See supra* claim [12].
[13a] wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefine interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a].

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
[14pre] The mobile phone of claim 9	Claim 14 depends from claim 9. Defendants incorporate all the prior art disclosures from claim 9 here, which anticipate and/or render claim 9 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 9 to show the

Claim 14	Exemplary Disclosures (Express and/or Inherent) and Citations
	additional limitations of claim 14 are anticipated and/or obvious for the same reasons set out in claim 9. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he mobile phone of claim 9." *See supra* claim [9].
[14a] wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is significantly extended out from the body." *See supra* claim [1g] (discussing the limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
[15pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, MyOrigo Manual discloses a triple band phone that can operate on various GSM networks. (MyOrigo Manual at 2.) MyOrigo Manual discloses a "phone mode" that allows the phone to make voice calls and data calls. (*Id*. at 9).

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	The MyOrigo **mydevice** Z1 is a triple band phone and can be operated on E-GSM 900, GSM 1800 and GSM 1900 networks, which means that you are able to use the device in many regions across the world. The device has a large colour display that is also a touch screen with feed-back when you press the screen. This feedback from the touch screen is referred to as Haptitouch. The device has a built in digital camera which can be used to take photos. In the device are motion sensors that can be used to control certain move-ments and functions in the device, like mirroring and zooming the views. The device supports GPRS (General Packet Radio Services) which means that you can make fast data connections. MMS, E-mail messaging and Internet browsing are supported in the device through GPRS connections. (MyOrigo Manual at 2.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

Phone Mode

The phone mode allows you to use the device normally with all the data connections so that it is possible to make voice calls, data calls, etc.



You may be asked to enter a PIN code, if so this is supplied by the operator with your subscription. To change this code, switch this function off see...

1. Enter your PIN number and press *OK*.
   Press *Clear* if you make a mistake whilst entering the PIN number.
   If you enter the PIN code incorrectly *Wrong code, Enter PIN code again* is displayed.
   If a PIN code is entered incorrectly 3 times in a row then the SIM card will be blocked and the message *Wrong code, SIM use blocked. Enter PUK code* is displayed. See SIM card locking...

MyOrigo Manual at 9.

Additional exemplary citations include:

"The MyOrigo mydevice Z1 is a triple band phone and can be operated on E-GSM 900, GSM 1800 and GSM 1900 networks, which means that you are able to use the device in many regions across the world." (MyOrigo Manual at 2.)

"The phone mode allows you to use the device normally with all the data connections so that it is possible to make voice calls, data calls, etc." (MyOrigo Manual at 9.)

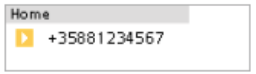
See also MyOrigo Manual at 11 (describing a virtual phone application) 27-33 (explaining that the telephone disclosed by MyOrigo Manual is operative as a phone and can place calls).

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Attaching the battery 1. Place the battery into the back of the phone, with the golden connectors facing down. 2. Push the battery down at the bottom and then slide up so that the battery is locked into position by means of the battery locking pins.  ***Removing the battery*** 1. With your finger nail pull down and lift out the battery.  **NOTE:**Always switch the phone off before removing the battery. (MyOrigo Manual at 5.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

Action Fields

An action field is a field that can contain a specific text format and the play icon and when pressed it will launch a specific action or an application dependant upon the data in the field.



An action field for a phone number when pressed will open the phone application with the number already inputted and only needs to be pressed to make a call to that number. See the example of a phone number action field.

Action fields for the following formats may be possible:

- Calls -
- E-mail -

(MyOrigo Manual at 15.)

- you unlock the key lock
- you receive an incoming call
- you receive a message

To turn on the key lock

1. Full click the A & B keys simultaneously to access the standby menu.
2. Press *Lock*

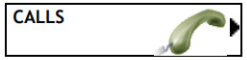
   When the device is key locked the virtual phone will be displayed with *Screen locked* displayed.

   To turn off the key lock

- Press Unlock in the display.

  NOTE: With the key lock on you can still access the phone to make an emergency number call. See....

(MyOrigo Manual at 24.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	# Call Functions The phone application can be activated in several ways, from the Phone key on the lens , though the Fast menu or from the *Calls/New call* field. Depending on how you are using the device you can choose the most appropriate way to access the phone application. The Calls chapter contains call management features for this device, dialled, received and missed calls lists.  (MyOrigo Manual at 27.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Making Calls ***To make a call*** 1. Press 2. Enter the phone number with the area code if needed. If you enter the incorrect number press *Clear* to delete it. Pressing and holding *Clear* will delete the whole number. 3. Press Call Press *End* to end the call. 4. To exit the phone application press *Close* when in standby mode to return to the previous menu. ***To create a new contact from the entered number in the phone application*** • Press *Create contact* to create a new contact with that number. See *Creating a contact* page..... ***To answer a call*** • Press *Answer* to answer the incoming call. ***To reject an incoming call*** • Press *Reject* to reject the incoming call. ***To mute the audio alert for an incoming call*** • Press *Mute Tone* to mute the audio for the incoming call. ***To make international calls*** 1. Press and hold to enter the + sign. The + sign replaces the international prefix number. 2. Enter the country code, then the area code (without the first 0) and the phone number and press *Call* ***To adjust the earpiece volume during a call*** (MyOrigo Manual at 27.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

Speed Dialling

You can assign contacts numbers to the number buttons in the phone application, which can then be quickly recalled and dialled. To *set a speed dial number for a contact* See page...

To make a call to a speed dial number

- When the phone application is open either:
  - Press the corresponding speed dialling key for the contact you have assigned that number and press *Call*
  - Press and hold the number until the call is started.

Emergency Calls

At any time when the phone is switched on you can make an emergency call usually even without a SIM card if there is a GSM network in range. The international emergency numbers that are supported in this device are 112, 911 & 08.

It is also possible to make an emergency call when the device is locked. See *Locking and unlocking the device* page...

To make an emergency call

1. Press
2. Enter *112*, the GSM international emergency number.
3. Press *Call*

Call Details

- You can check the details of calls from the device. From the *Details viewer* you can see the following information:
- Start time

(MyOrigo Manual at 28.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

Call Management

The call management menu is a dynamic menu which contains the in-call options through the menus. The following in-call options may be available.

- Hold Call
- Activate Call
- Send DTMF
- End all calls
- Mute
- Swap

To turn off the microphone

1. Select a call from the *Call Management* menu with a long press to activate the Fast menu.
2. Select *Mute Mic*  .

   To turn the microphone back on repeat this process and press *Mic On*  .

Dialled Calls

The device stores the 12 last dialled calls.

To view your received calls

- Select *Calls/Dialled calls*.

Calling a previously dialled number

1. Select *Calls/Dialled calls*.
2. Select the number or name that you wish to redial.
3. Press *Call* 

   TIP: Dialled calls can also be reached by pressing *Dialled* when in the phone application and no numbers have been entered in the phone.

Received Calls

The device stores the 12 last received calls.

To view your received calls

- Select *Calls/Received calls*.

(MyOrigo Manual at 29.)

DRAFT

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Call Holding ***To put a call on hold*** 1. Press *Manage Call* 2. Select *Hold call* To take the call off hold, repeat steps 1 and 2 and select the call *Activate Call* ***To hold a call and make a new call*** 1. Press *Manage Call* 2. Select *Hold Call* 3. Select *Open Phone* Either: • Enter the new number and press *Call* • Press *Main Index* and select a contact from the contacts list, with a long press on the number to activate the Fast Menu and press Call (MyOrigo Manual at 31.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Receiving a second call If Call waiting is activated.... ***To answer the second call and put the ongoing call on hold*** • Press *Answer* to answer the second call. The current call will now be put on hold. ***To reject the waiting call and continue with the ongoing call*** • Press *Busy* to reject the second call ***To switch between calls*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Select the call indicated as *Activate* This call is now switched to *Hold Call*. ***To end the ongoing call and return to the call on hold*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Long press the to activate the Fast menu on the call indicated as Online 3. Select *End* to end the ongoing call The previously held call is now active. ***To end all calls*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Long press the to activate the Fast menu on the call indicated as Online 3. Select *End All* to end all calls. (MyOrigo Manual at 31.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	Receiving a third call It is not possible to answer a third call without ending one of the other two calls first. ***To handle a third call*** When the a third call is displayed as *Waiting* the following options are available: • Press *Release and Answer* to release the online call and answer the waiting call. • Press *Busy* to send a busy tone to the waiting call • Press *End* to end the online call (MyOrigo Manual at 32.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations

Conference Calls

The device will allow you up to "x" people to be in a conference call. In order to make a conference call, one call must already be active.

To make a conference call

When two calls are ongoing you can then make a conference call...

1. Press *Manage Call* to move to the *Call management* menu.
2. Select *Conference Call*.

The two calls are now joined into a conference call.

To add a new member to an active conference call

1. Press *Manage Call* to move to the *Call management* menu.
2. Select *New call*.

   Enter the new number and press *Call*. When answered the new call is active and the conference call is on hold.
3. Press *Manage Call* to move to the *Call management* menu.
4. Select *Add to Conference*.

To remove a member from a conference call

1. Press *Manage Call* to move to the *Call management* menu.
2. Select the member *At conference:* in the conference call with a long press to activate the Fast menu.
3. Select *End* to remove that member.

To enable a private conversation with a member of a conference call

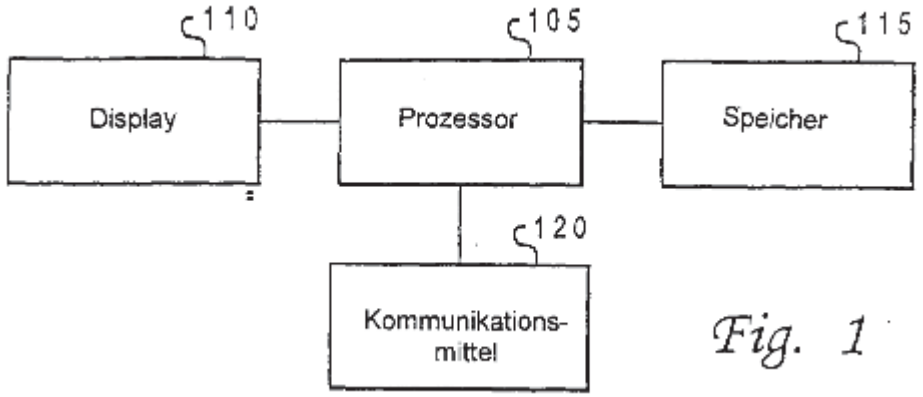
The device allows you to have a private conversation with one of the members in the conference call. This will put the rest of the conference call members on hold.

1. Select the member *At conference:* in the conference call with a long press to activate the Fast menu.
2. Select *Private*.

(MyOrigo Manual at 32.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	The conference call is now on hold. ***To rejoin a private conversation member to a conference call*** Follow steps 3 & 4 of *To add a new member to an active conference call.* ***To end the conference call*** 1. Press *Manage Call* to move to the *Call management* menu. 2. Select the conference call with a long press to activate the Fast menu. 3. Press *End All* **Call Account** The call account menu contains timers which will show you the total time for calls, this means both incoming and outgoing call and outgoing time only. The call timers can be reset at any time. ***To view the total time for all calls*** • Select *Calls/Call Account.* ***To view the total time for outgoing calls*** • Select *Calls/Call Account.* ***To reset the call timers*** 1. Select *Calls/Call Account.* 2. Long press to activate the Fast menu on the call timer you wish to reset. 3. Press to reset that counter. 4. Press to confirm you wish to reset the counter. (MyOrigo Manual at 33.)
[15a] a body having a practically rectangular shape;	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a body having a practically rectangular shape." *See supra* claim [1a].
[15b] a processor; and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a processor."

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	MyOrigo Manual discloses a mobile phone, which must include a processor in order to process user input and operate. (MyOrigo Manual at 2.) Without a processor, the mobile phone disclosed by MyOrigo Manual would not be operative. The MyOrigo **mydevice** Z1 is a triple band phone and can be operated on E-GSM 900, GSM 1800 and GSM 1900 networks, which means that you are able to use the device in many regions across the world. The device has a large colour display that is also a touch screen with feed-back when you press the screen. This feedback from the touch screen is referred to as Haptitouch. The device has a built in digital camera which can be used to take photos. In the device are motion sensors that can be used to control certain move-ments and functions in the device, like mirroring and zooming the views. The device supports GPRS (General Packet Radio Services) which means that you can make fast data connections. MMS, E-mail messaging and Internet browsing are supported in the device through GPRS connections. (MyOrigo Manual at 2.) To the extent Keyless argues that MyOrigo Manual does not disclose or render obvious this limitation, it would have been obvious in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of MyOrigo Manual combined with Dutta and/or Benoit. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways.

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Dutta discloses a mobile phone that includes a processor 105 capable of writing data to a display 110. (Dutta at [0015], FIG. 1) In addition, the processor can read and write data to memory and communicate with a wireless network. (Id.)  Fig. 1 (Dutta at FIG. 1) As another example, Benoit discloses a communication tool including a "data processing unit," or "central processing unit," which is a processor. (Benoit at 1:6-7, 3:22-24, claim 10.) A POSITA would have been motivated to configure a mobile phone to include a processor. Configuring a mobile phone in this way was routine and conventional to a POSITA, as shown by Dutta and Benoit. A POSITA would have been motivated to include a processor to allow the phone to execute instructions, improving operation for the user. Thus, a POSITA would have considered the combination of the teachings of Dutta and/or Benoit into the mobile phone architecture disclosed by MyOrigo Manual to be an example of (A) combining prior art elements (including a processor in a mobile phone as taught by Dutta and Benoit) according to known methods to yield predictable results (proving computing and/or processing capability); (B) use of a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to improve similar devices in the same way (providing computing and/or processing capability); (C) applying a known technique (including a processor in a mobile phone as taught by Dutta and Benoit) to a known device ready for improvement

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	to yield predictable results (providing computing and/or processing capability); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Dutta and Benoit) that would have led one of ordinary skill to modify the mobile phone disclosed by MyOrigo Manual to arrive at the claimed invention. Additional exemplary citations include: "With reference to the figures, in particular with reference to Fig. 1, a block diagram of a portable device according to the preferred embodiment is depicted. The portable device, which can be a mobile phone, a PDA, a pager, or a similar device with an integrated display, comprises a processor 105 that can write data onto a display 110. In addition, the processor 105 can read data from a storage 115 and write data into this storage 115. Using a communication unit 120, the processor can communicate over a wireless network, in which the preferred embodiment is a wireless telephone network. It should be noted that the communication unit 120 is not necessarily integrated into the portable device, but rather can also be connected therewith via a cable. The portable device can be, for example, a PDA that is connected to a mobile phone via a cable, in which the phone functions as communication unit 120." (Dutta at [0015].) "The present invention relates to a method for navigating a computer program by means of a touch screen. It has a particularly interesting application in a personal digital assistant (PDA) for launching an application or even for general navigation within a program or between multiple programs. However, the invention has a broader scope because it can be applied to any communication tool comprising a touch screen and a data processing unit. In current communication tools, such as microcomputers, there is an operating system capable of managing all the programs present in the computer. In general, the human-machine interface of such an operating system presents a set of active areas." (Benoit at 1:3-10.) "According to another aspect of the invention, a communication tool equipped with a touch screen and a central processing unit is proposed to implement a method according to the invention. Advantageously, this tool can be a personal digital assistant." (Benoit at 3:22-24.)

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
	"A communication tool equipped with a touch screen and a central processing unit for carrying out a method according to any one of the preceding claims." (Benoit at claim 10.)
[15c] a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device;	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device." *See supra* claim [1e] (discussing the limitation "a display unit, said display unit occupying practically the entire surface of the front surface of said device is integrated within said device").
[15d] wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit; and	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein plurality of icons corresponding to a plurality of applications are displayed by said processor on said display unit." *See supra* claim [3a] (discussing limitation "plurality of icons corresponding to plurality of applications are displayed on said display unit"). For the reasons discussed in connection with claim [3a], a POSITA would have been motivated to implement this limitation in view of MyOrigo Manual, POSITA's pre-existing knowledge, and/or the teachings of the references cited *supra* claim [3a]. A POSITA would have expected the displayed icons to be displayed by a processor as discussed *supra* claim [15b].
[15e] wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon identifying an input corresponding to a sweeping action provided on a touch sensitive surface of said device, said processor displays plurality of other icons corresponding to plurality of other applications on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit").A POSITA would have understood that on the touch-screen, the display is a touch-sensitive surface. *See also supra* claim [9e].

Claim 15	Exemplary Disclosures (Express and/or Inherent) and Citations
of other applications on said display unit.	

Claim 16	Exemplary Disclosures (Express and/or Inherent) and Citations
[16pre] The device of claim 15,	Claim 16 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 16 are anticipated and/or obvious for the same reasons set out in claim 15. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[16a] wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is touch sensitive and wherein said sweeping action is provided on said display unit." *See supra* claim [3b] (discussing limitation "and wherein upon providing a sweeping action on said display unit, plurality of other icons corresponding to plurality of other applications are displayed on said display unit"), claim [9e] (discussing limitation "a touch sensitive display unit").

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
[17pre] The device of claim 15	Claim 17 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 17 are anticipated and/or obvious for the same reasons set out in claim 15.

Claim 17	Exemplary Disclosures (Express and/or Inherent) and Citations
	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[17a] wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein upon providing a predefined interaction with an icon, the corresponding application is opened on the screen." *See supra* claim [4a] (discussing limitation "wherein upon providing a predefine interaction with an icon, said corresponding application is opened on the display unit").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations
[18pre] The device of claim 15	Claim 18 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 18 are anticipated and/or obvious for the same reasons set out in claim 15. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[18a] wherein said device does not include a physical key on the front surface of the device.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said device does not include a physical key on the front surface of the device." *See supra* claim [1f] (discussing limitation "wherein said mobile phone device does not include a physical key on the front surface").

Claim 18	Exemplary Disclosures (Express and/or Inherent) and Citations

Claim 19	Exemplary Disclosures (Express and/or Inherent) and Citations
[19pre] The device of claim 15	Claim 19 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 19 are anticipated and/or obvious for the same reasons set out in claim 15. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[19a] wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said components of the mobile phone are integrated within the body such that none of said components is noticeably extended out from said the body." *See supra* claim [1g] (discussing limitation "wherein said components of the mobile phone are integrated within said housing such that none of said components is noticeably extended out from said housing").

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
[20pre] The device of claim 15	Claim 20 depends from claim 15. Defendants incorporate all the prior art disclosures from claim 15 here, which anticipate and/or render claim 15 obvious as set out above. Defendants reserve the right to rely on any of the prior art disclosures and obviousness rationale and evidence set out for claim 15 to show the additional limitations of claim 20 are anticipated and/or obvious for the same reasons set out in claim 15. MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and

Claim 20	Exemplary Disclosures (Express and/or Inherent) and Citations
	Keyless's apparent interpretation of this limitation, discloses "[t]he device of claim 15." *See supra* claim [15].
[20a] wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position.	MyOrigo Manual, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein said display unit is adapted to display text entered through a keyboard in landscape direction and in portrait direction on said display unit when the device is used, respectively, in landscape position and in portrait position." *See supra* claim [5a].

Appendix C9

Exhibit C9
Invalidity of Asserted Claims of the '144 Patent
in view of Sony Ericsson P800

The Sony Ericsson P800 ("P800") was publicly available, sold, offered for sale, and/or used in the United States and was thus available to and known or used by others, at least as early as October 15, 2002. The P800 is described in at least the following documents and other materials cited in this chart:

- Federal Communications Commission (FCC) *ID: PY77130501 – Sony Ericsson's Application for Equipment Authorization*, (pub. on October 15, 2002), https://apps.fcc.gov/oetcf/eas/reports/ViewExhibitReport.cfm?mode=Exhibits&RequestTimeout=500&calledFromFrame=N&application_id=hQVP%2FxLeGYo1cxPa9htugg%3D%3D&fcc_id=PY77130501:
    - *Exhibit 1 Label* ("FCC P800 Exhibit 1"), SAM-KEY_00984833-00984837.
    - *Exhibit 3 External photos* ("FCC P800 Exhibit 3"), SAM-KEY_00984876-00984880.
    - *Exhibit 8 New User Manual*, First edition (September 2002) ("P800 09/2002 Manual"), SAM-KEY_00985089-00985283.
    - *Exhibit 9 Internal Photograph* ("FCC P800 Exhibit 9 Internal Photograph"), SAM-KEY_00984882-00984891.
    - *Exhibit 9 Antennas* ("FCC P800 Exhibit 9 Antennas"), SAM-KEY_00984881.
    - *Exhibit 11 Specific Absorption Rate (SAR) Report* ("FCC P800 Exhibit 11 SAR Report"), SAM-KEY_00984852-00984875.
    - *Exhibit 11 Additional SAR Report* ("FCC P800 Exhibit 11 Additional SAR Report"), SAM-KEY_00984838-00984851.
- Sony Ericsson *P800 User Manual, First ed.* (Nov. 2002), http://wedophones.com/Manuals/CellPhones/Sony%20Ericsson%20P800%20manual.pdf ("P800 11/2002 Manual"), SAM-KEY_00984892-00985088.

- Sony Ericsson, *P800/P802 White Paper* (Jan. 2003), https://archive.org/details/manualsbase-id-62476 ("P800/P802 White Paper"), SAM-KEY_00985284-00985411.
- Walter S. Mossberg, *Sony Ericsson P800 Focuses On Phone Over E-Mail Tool*, The Wall Street Journal (Feb. 20, 2003), https://www.wsj.com/articles/SB1045703676862005263, SAM-KEY_00993648-00993652.
- Joni Blecher, *Sony Ericsson P800 review: Sony Ericsson P800*, CNET (March 12, 2003), https://www.cnet.com/reviews/sony-ericsson-p800-review/, SAM-KEY_00993659-00993672.
- Iarla Kilbane-Dawe, *Sony-Ericsson P800 smartphone*, The Register (May 29, 2003), https://www.theregister.com/2003/05/29/sonyericsson_p800_smartphone/, SAM-KEY_00993673-00993676.
- Documents produced in this litigation, as cited herein.
- Physical products acquired in this litigation, including but not limited to a P800 device.
- Expected testimony and evidence regarding development, design, and/or use of P800.

Citations to the above-listed references are exemplary, and Defendants Reserve the right to rely on additional passages, prior art, and information regarding the operation and functionality of the P800 obtained through fact, expert, and third-party discovery, which is ongoing.

P800 qualifies as prior art to U.S. Patent No. 11,503,144 ("'144 patent") at least under pre-AIA 35 U.S.C. § 102(a) and/or AIA 35 U.S.C. § 102(a)(1).[1] P800 was publicly available, sold, offered for sale, and/or used before the priority date to which the '144 patent claims are entitled, if any.

P800 anticipates or, alone or with other references, renders obvious one or more of asserted claims 1-5 and 7-20 of the '144 patent. To the extent Keyless contends P800 does not disclose one or more limitations of the claims, it would have been obvious to combine P800 with the knowledge of a person of ordinary skill in the art ("POSITA") and/or with one or more of the following references to render the claims at issue in the '144 patent invalid. The chart below illustrates how the asserted claims of the '144 patent are invalid

[1] Keyless Licensing LLC ("Keyless") alleges that the asserted claims of the '144 patent are entitled to priority as early as April 18, 2003. However, as explained in the cover pleading, the asserted claims of the '144 patent are not entitled to Keyless's claimed priority date due to inadequate written description support.

in view of P800 and/or additional secondary references listed below, including but not limited to the prior art identified in Defendants' Invalidity Contentions.

- European Patent Application Publication No. EP1336949A1 to Bast ("Bast"), filed on February 18, 2003, and published on August 20, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C1.

- PCT Application Publication No. WO 2004/070871 to Wedel ("Wedel"), filed on February 4, 2004, and published on August 19, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- United States Patent No. 6,751,487 to Rydbeck et. al ("Rydbeck"), filed on February 2, 2000, and granted on June 15, 2004, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- Japanese Patent Publication No. 2000-151774 to Yamaguchi ("Yamaguchi"), filed on November 9, 1998, and published on May 30, 2000, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. §102(a)(1).

- German Patent Application Publication No. 10122229 to Dutta ("Dutta"), filed on May 8, 2001, and published on December 13, 2001, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a) and (b) and AIA 35 U.S.C. §§102(a)(1). *See also* Ex. C6.

- United States Patent No. 8,375,334 to Nakano et. al ("Nakano"), filed on May 9, 2003, and granted on February 12, 2013, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. §102(e) and AIA 35 U.S.C. §102(a)(1) and (a)(2). *See also* Ex. C4.

- United Kingdom Patent Application Publication No. 2331204 to Kobayashi ("Kobayashi"), filed on November 5, 1998, and published on May 12, 1999, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. §102(a) and (b) and AIA 35 U.S.C. §102(a)(1).

- French Patent Application Publication No. 2830093 to Benoit et al. ("Benoit"), filed on September 25, 2001, and published on March 28, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. §§102(a) and AIA 35 U.S.C. §102(a)(1).

- European Patent Application Publication No. 1229428 to Pensjo ("Pensjo"), filed on February 2, 2001, and published on July 8, 2002, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. §102(a) and (b) and AIA 35 U.S.C. §102(a)(1). *See also* Ex. C2.

- United States Patent No. 5,848,356 to Jambhekar et al. ("Jambhekar"), filed on October 2, 1995, and granted on December 8, 1998, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2).

- U.S. Patent Application Publication No. 2003/0022701 to Gupta ("Gupta"), filed July 25, 2001, and published January 30, 2003, qualifies as prior art to the '144 patent at least under pre-AIA 35 U.S.C. § 102(a), (b), and (e) and AIA 35 U.S.C. § 102(a)(1) and (a)(2). *See also* Ex. C5.

- The Apple Newton MessagePad 2000 was, on information and belief, publicly available in the United States on or about March 1997. The Apple Newton qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a). (b) as well as AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C10.

- The Moto E 2nd Generation was, on information and belief, publicly available on or about February 25, 2015. The Moto E qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C11.

- The Microsoft Lumia 640 was, on information and belief, publicly available on or about March 2, 2015. The Lumia 640 qualifies as prior art under at least AIA 35 U.S.C. § 102(a)(1). *See also* Ex. C12.

With respect to the proposed modifications to P800, such modifications would have been obvious to try, an obvious combination of prior art elements according to known methods to yield predictable results, a simple substitution of one known element for another to obtain predictable results, a use of known techniques to improve a similar devices or method in the same way, an application of a known technique to a known device or method ready for improvement to yield predictable results, a variation of a known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces with variations that are predictable to a POSITA, and/or obvious in view of teachings, suggestions, and motivations in the prior art that would have led a POSITA to modify or combine the prior art references.

The excerpts cited herein are exemplary. For any claim limitation, Samsung may rely on excerpts cited for any other limitation and/or additional excerpts not set forth fully herein to the extent necessary to provide further explanation for a reference's disclosure of a limitation. Where an excerpt refers to or discusses a figure or figure items, that figure and any additional descriptions of that figure

should be understood to be incorporated by reference as if set forth fully herein. Samsung reserves the right to further supplement this chart.

To the extent that these Invalidity Contentions rely on or otherwise embody particular interpretations of terms or phrases in the asserted claims, Samsung is not proposing any such interpretations as proper interpretations or constructions of those terms or phrases. Various positions put forth in this document are predicated on Keyless's interpretation of its claims as evidenced by its Infringement Contentions. Those positions are not intended to and do not necessarily reflect Samsung's interpretation of the true and proper scope of the asserted claims. Samsung further incorporates by reference all reservations of rights set forth in the Invalidity Contentions, as if fully set forth herein.

Defendants' arguments throughout these invalidity contentions are based on Keyless's apparent interpretation of the claims in its infringement contentions. Defendants do not agree that such interpretation is proper and reserves the right to argue that the mapped actions do not infringe any claims of the '144 patent. In the alternative, should the Court or factfinder construe and/or apply the claims in a manner consistent with Keyless's interpretations in its infringement contentions for the '144 patent, the claims are invalid for at least the reasons set forth herein.

In some instances, the referenced prior art includes priority applications that provide adequate §112 support for the claim(s) in the referenced prior art. *See, e.g.*, Wedel-EP03445020.5. In those instances, the consistent disclosures in those earlier applications are incorporated herein by reference. As such, those earlier disclosures apply equally in terms of their application to the elements of the asserted claims, and thus provide even earlier dates in terms of prior art, state of the art, and the knowledge base of those of ordinary skill in the art. *See Dynamic Drinkware LLC v. National Graphics Inc.*, 800 F.3d 1375 (Fed. Cir. 2015).

To the extent any of the art describes different embodiments of its inventions, a POSITA would have found it obvious to combine the teachings regarding these embodiments. A POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the embodiments and would have a reasonable expectation of success in doing so, at least because the embodiments use known variations of existing technology to solve routine and well understood problems in predictable ways. A POSITA would have recognized that the embodiments describe related advancements for mobile devices, and a POSITA would have been motivated to combine elements of the embodiments to achieve the art's goals.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
[1pre] A mobile phone device, comprising:	To the extent that the preamble is held to be limiting, P800, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "[a] mobile phone device." For example, "[t]he P800 is a full-featured mobile phone, fully integrated with the other functions of the device, including third party applications." (P800 09/2002 Manual at 6, 8; P800 11/2002 Manual at 42; P800/P802 White Paper at 24.) **Overview** You have bought a very advanced smartphone. To learn to use the features, you should start by reading *Getting started*. The P800 is a full-featured mobile phone, fully integrated with the other functions of the device, including third party applications. Like a computer, the P800 has a flexible and simple way of organizing applications and data. The built-in memory is available for photos, music, messages or applications. When space becomes limited, you can move files to a Memory Stick. You can also send data to another P800, e-mail, upload it to a website, or transfer it to a PC. (P800 09/2002 Manual at 6.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	P800 outline  **A** Connector for stereo headphones **B** Jog Dial for navigating through menus and more **C** Infrared port for communication **D** On/Off button **E** Flip with Keypad (in closed position) **F** Connector for accessories  **A** External antenna connector (on the rear side) **B** CommuniCam lens (on the rear side) **C** Battery compartment (on the rear side) **D** Touchscreen **E** Flip (in open position) **F** Shutter release for the CommuniCam **G** Internet button for activation of the browser **H** Slot for Sony Memory Stick Duo™ (under the stylus) **I** Stylus for writing on the screen (P800 09/2002 Manual at 8.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Phone The P800 is a full-featured mobile phone having full integration with the other functions of the device, including third party applications. The phone includes useful features such as: • Personalized ringtones. • Picture Phone Book • Quick access back to the entry in Contacts, making it easy to try an alternative number or send an E-Mail if the contact is unavailable or busy. • Voice dialing – make a call by speaking the contact's name. • Voice answer – an incoming call may be answered or sent busy signal, using the words recorded for 'answer' and 'busy'. • Access to most other applications whilst talking on the phone. • Office handsfree (speakerphone) which is enabled when the flip is open, making it easy to access applications such as Calendar and Jotter whilst talking. (P800 11/2002 Manual at 42.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Phone and PIM Applications

Phone

The P800 is a full-featured mobile phone having full integration with the other functions of the device, including third party applications.

The phone includes useful and fun features such as:

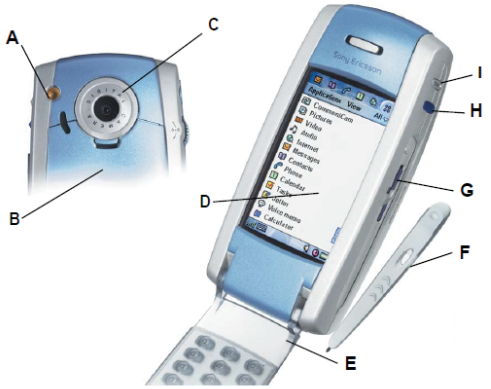
- Personalised ringtones – conventional or polyphonic ringtones can be set in Contacts, giving audible indication of who is calling. Supported formats are AMR, Au, iMelody, MIDI, RMF (Beatnik) and WAV.
- Picture Phone Book – if there is a picture of the person in Contacts, it will be displayed when making outgoing calls and when receiving the CLI with an incoming call.
- Quick access back to the entry in Contacts, making it easy to try an alternative number or send an E-Mail if the contact is unavailable or busy.
- Voice dialling – make a call by speaking the contact's name. The contact's name may be recorded when entering/editing the entry in Contacts. The call is made by pressing the OK button on the flip or the button on the headset. If a 'magic word' is recorded, contacts may be dialled by saying the magic word followed by the contact name. It is then not necessary to press any buttons.
- Voice answer – an incoming call may be answered or sent busy signal, using the words recorded for 'answer' and 'busy'. There is 40 seconds of storage space allocated for voice dialling and voice answer. This is enough for approximately 50 words (contact names plus 'magic word', 'answer' and 'busy')
- Access to most other applications whilst talking on the phone.
- Office handsfree (speakerphone) which is enabled when the flip is open, making it easy to access applications such as Calendar and Jotter whilst talking.
- Flight mode enables the P800 to be used as a PDA in situations where radio transmitters may not be used. The GSM and Bluetooth transmitters (and receivers) are switched off.

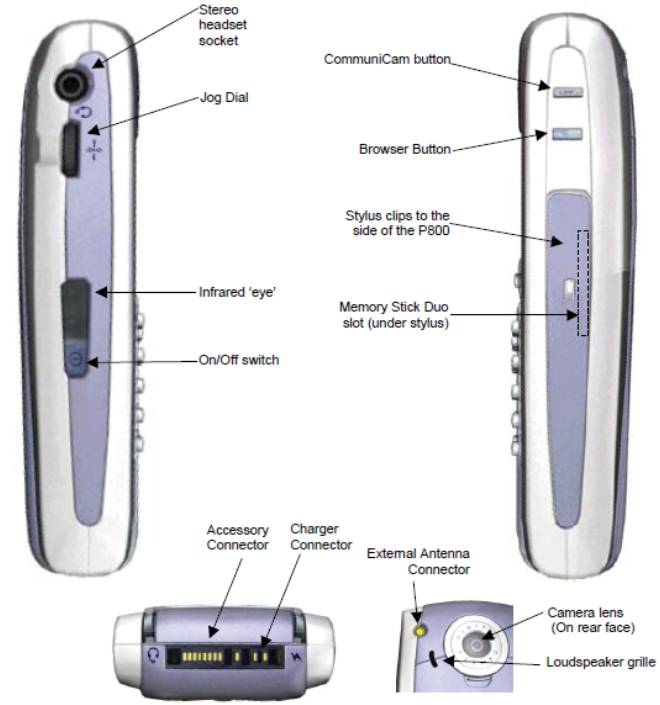


In FC mode, the phone is driven by the keypad, like a conventional mobile phone.

(P800/P802 White Paper at 24.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Additional exemplary citations include:  (P800 09/2002 Manual at 122.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	P800 overview  **A** Indicator light for Bluetooth wireless technology (blue) **B** Connector for stereo head phone **C** Jog Dial **D** Infrared port **E** On/Off button **F** Flip with Keypad (in closed position) **G** Connector for accessories and charger **H** Indicator light for network and battery (green/red)  **A** External antenna connector **B** Battery compartment **C** CommuniCam **D** Touchscreen **E** Flip (in open position) **F** Stylus **G** Slot for Sony Memory Stick Duo (under the stylus) **H** Internet button for activation of the browser **I** CommuniCam activation and shutter release (P800 11/2002 Manual at 11.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	P800 Controls and Operation The P800 has a large touch-screen and a flip. This provides fast and convenient one-handed operation with the flip closed plus large touch-screen sophistication with the flip open.  (P800/P802 White Paper at 12.)

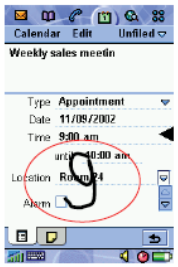
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

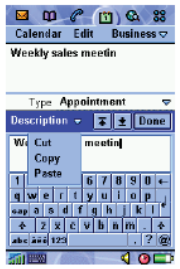
Flip Open (FO mode)

When the flip is opened, the large touch-screen is revealed. In 'flip open' mode, the stylus may be used to navigate and enter data. The Jog Dial provides further navigation and selection capability. The User Interface is Symbian's established UIQ design, adapted for the narrower 208 pixel screen.



The stylus is used to operate the touch-screen and enter text:





Text may be entered using natural handwriting over the whole screen. Lower case letters are entered below the ◀ symbol, uppercase in line with it and numbers above it.

An on-screen keyboard is also available at all times by tapping on the keyboard icon in the status bar. Symbol and special character keyboards may be selected when required. Cut, Copy and Paste functions are available here.

In FO mode, the P802 offers Stroke, Pinyin and Bopomofo input methods plus Chinese character recognition. Numeric and English characters can also be entered using the character recognition.

(P800/P802 White Paper at 14.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	   (FCC P800 Exhibit 3, Photograph Nos. 1-5.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (a) (b) **Front view of the Sony Ericsson P800 mobile phone with flip (a) and without flip (b).** (FCC P800 Exhibit 11 SAR Report at Sheet 10.)

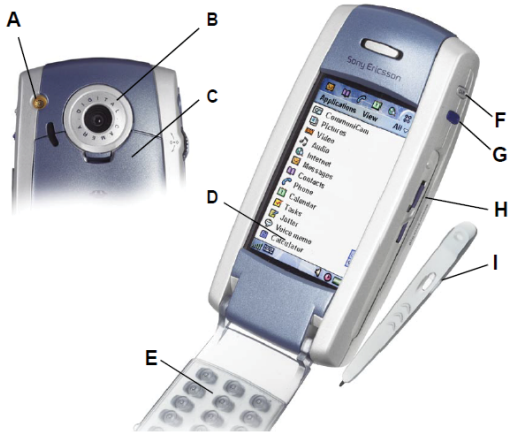
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (a) (b) Side view of the Sony Ericsson P800 mobile phone with flip (a) and without flip (b). (FCC P800 Exhibit 11 SAR Report at Sheet 11.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (P800 Device)
[1a] a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces,	P800, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "a practically rectangular-shaped housing within which the components of a mobile phone are integrated, said housing having a front surface, a back surface and four side surfaces." For example, P800 has a rectangular housing that contains the components of a mobile phone, such as the touchscreen and battery. (P800 09/2002 Manual at 8.) The housing includes a front surface, a back surface, and four side surfaces. (*Id.*)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

P800 outline



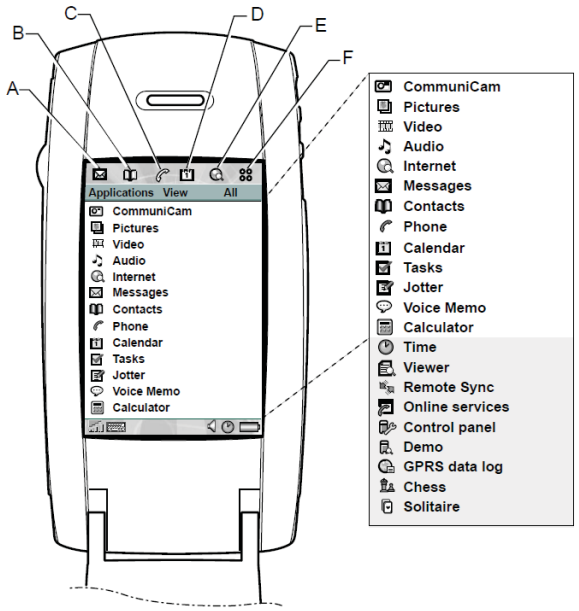


A Connector for stereo headphones
B Jog Dial for navigating through menus and more
C Infrared port for communication
D On/Off button
E Flip with Keypad (in closed position)
F Connector for accessories

A External antenna connector (on the rear side)
B CommuniCam lens (on the rear side)
C Battery compartment (on the rear side)
D Touchscreen
E Flip (in open position)
F Shutter release for the CommuniCam
G Internet button for activation of the browser
H Slot for Sony Memory Stick Duo™ (under the stylus)
I Stylus for writing on the screen

(P800 09/2002 Manual at 8.)

Additional exemplary citations include:

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Applications - Flip open  (P800 09/2002 Manual at 6.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Flip open This chapter describes what functions are available with the flip open.  (P800 09/2002 Manual at 27.)

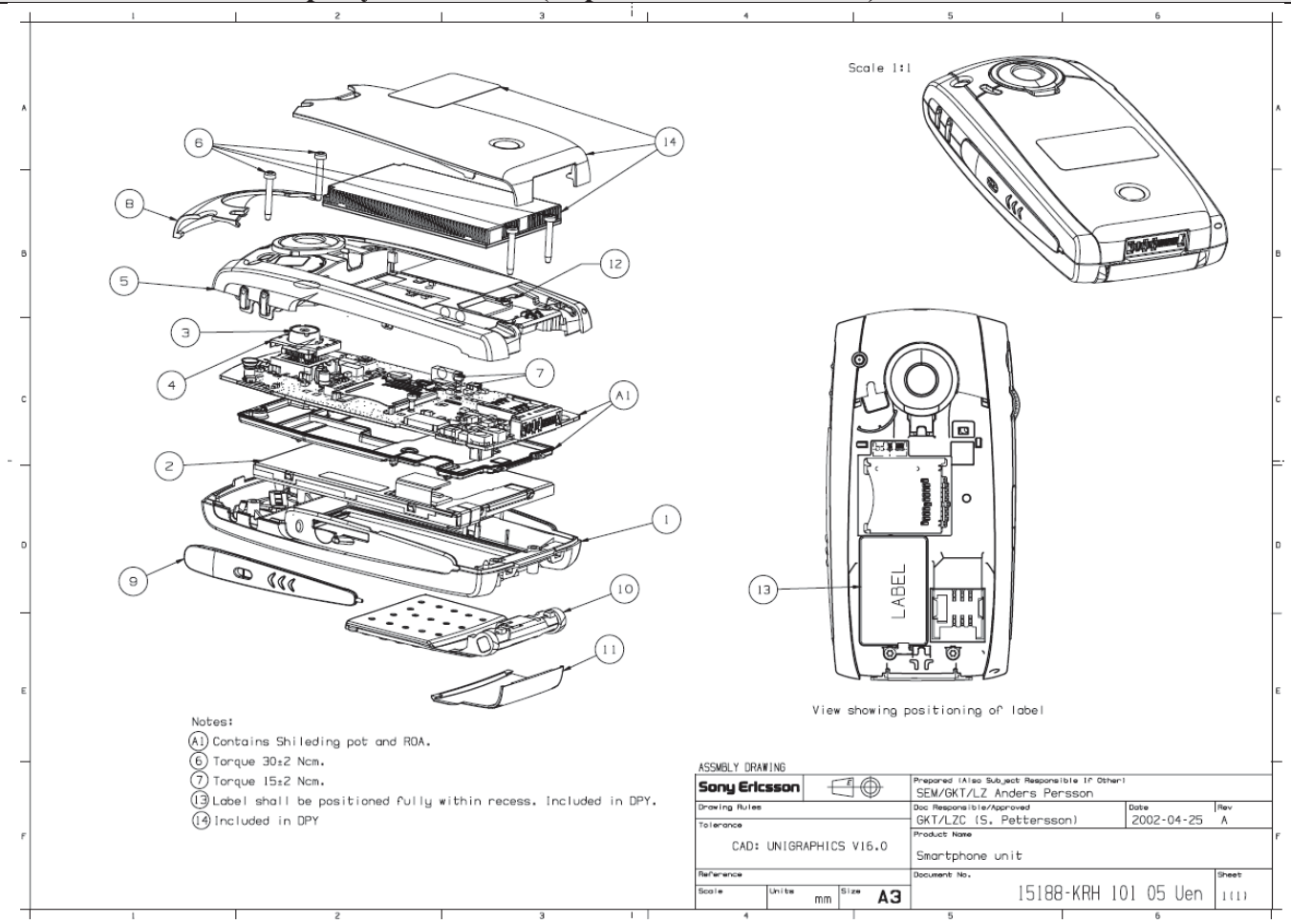
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

General

Product name P800	Standard version, latin character set
Size	117 x 59 x 27 mm
Weight	158 grams with battery and flip, 148 grams with battery, flip removed.
System and power class	E-GSM 900 Class 4 GSM 1800 Class 1 GSM 1900 Class 1
SIM Card	Small plug-in card, 3V or 5V type
Operating System	Symbian OS v7.0 with UIQ user interface and applications environment
Processor	ARM 9
User storage	For settings, user data (for example images, contacts, messages) and third party applications: 12Mbyte
Battery life, standard battery	Talk Time: up to 13 hours Stand-by time: up to 400 hours
Operating temperature	–15° to +55° C

(P800 09/2002 Manual at 187.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations



(FCC P800 Exhibit 1 at 1.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Photographs of the equipment

Photograph no.: 3



(FCC P800 Exhibit 3, Photograph No. 3.)

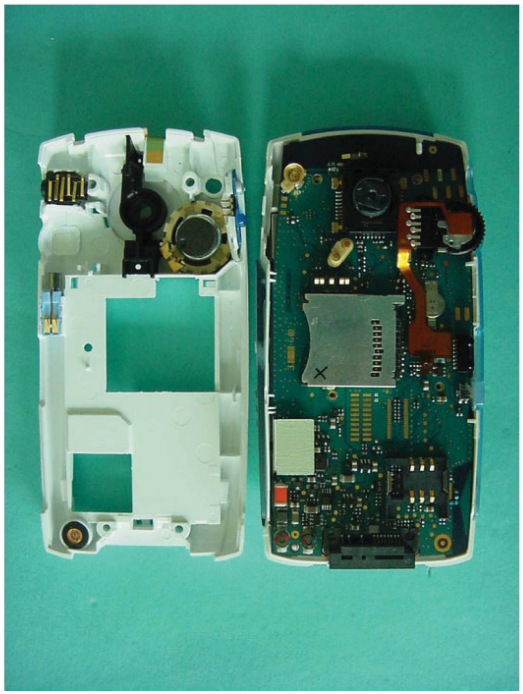
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Photographs of the equipment

Photograph no.: 4



(FCC P800 Exhibit 3, Photograph No. 4.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	CETECOM ICT Services GmbH Test report nr.:2_2885-01-03/02 Issue date: 2002-06-13 Page 57 (65) Photographs of the equipment Photograph no.: 8  (FCC P800 Exhibit 9 Internal Photograph, Photograph No. 8.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

ERICSSON

OPEN INFORMATION
Dokument - *Document*
REPORT

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10 (24)

Datum – *Date*	Rev	Dokumentnr – *Document no*
2002-06-13	A	TF-02:061

APPENDIX 1: Photographs of the DUT



(a) (b)

Front view of the Sony Ericsson P800 mobile phone with flip (a) and without flip (b).

(FCC P800 Exhibit 11 SAR Report at Sheet 10.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

ERICSSON

OPEN INFORMATION
Dokument - *Document*: REPORT
Blad - *Sheet*: 11 (24)

Datum – *Date*	Rev	Dokumentnr – *Document no*
2002-06-13	A	TF-02:061



(a) (b)

Side view of the Sony Ericsson P800 mobile phone with flip (a) and without flip (b).

(FCC P800 Exhibit 11 SAR Report at Sheet 11.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (P800 Device)  (P800 Device)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (P800 Device)
[1b] wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user and	P800, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "wherein the length of the front surface approximately corresponds to the distance between the ear and the mouth of a user." For example, P800 was 117mm in length. (P800 09/2002 Manual at 187.) The P800 was configured such that the user's mouth was positioned near the phone's microphone at the bottom of the phone and the user's ear was positioned near the speaker at the top of the phone in the "cheek" and "tilt" positions. (FCC P800 Exhibit 11 SAR Report at Sheet 19; P800/P802 White Paper at 8, 12.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

Technical data

General

Product name P800	Standard version, latin character set
Size	117 x 59 x 27 mm
Weight	158 grams with battery and flip, 148 grams with battery, flip removed.
System and power class	E-GSM 900 Class 4 GSM 1800 Class 1 GSM 1900 Class 1
SIM Card	Small plug-in card, 3V or 5V type
Operating System	Symbian OS v7.0 with UIQ user interface and applications environment
Processor	ARM 9
User storage	For settings, user data (for example images, contacts, messages) and third party applications: 12Mbyte
Battery life, standard battery	Talk Time: up to 13 hours Stand-by time: up to 400 hours
Operating temperature	–15° to +55° C

Screen

Screen type	TFT
Screen size	Flip closed: 208 x 144 pixels, 40 x 28 mm Flip open: 208 x 320 pixels, 40 x 61 mm
Pixel size	0.192 x 0.192 mm, or 132 ppi (Pixels Per Inch)
Colour resolution	12-bit (4096 colours)
Screen surface	Touch-sensitive
Illumination	Front-light

Integrated CommuniCam

Picture Size	640 x 480 pixels (VGA) 320 x 240 pixels (QVGA) 160 x 120 pixels (QQVGA)
Colour depth	24 bit (16 million colours)
Storage format	JPEG/JFIF, 3 quality (compression) levels, user-selectable.

(P800 09/2002 Manual at 187.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations

ERICSSON

OPEN INFORMATION
Dokument - *Document*
REPORT

Blad - *Sheet*
19 (24)

Datum – *Date*	Rev	Dokumentnr – *Document no*
2002-06-13	A	TF-02:061

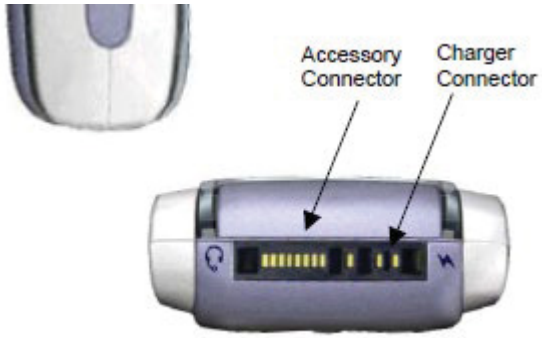


The P800 without flip on head phantom in the cheek position.

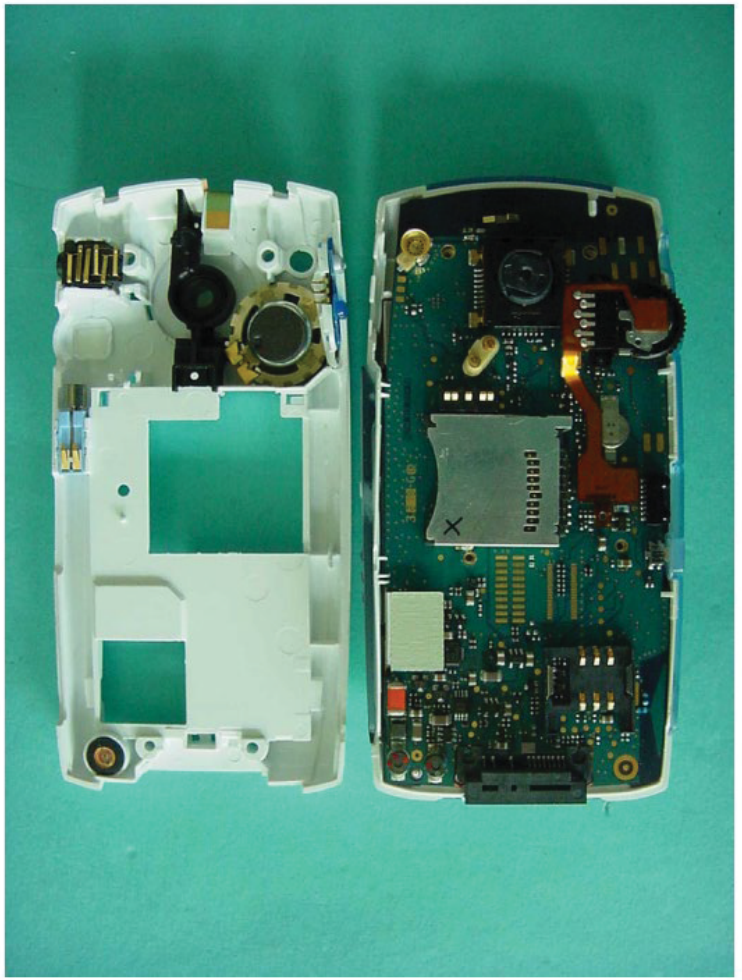


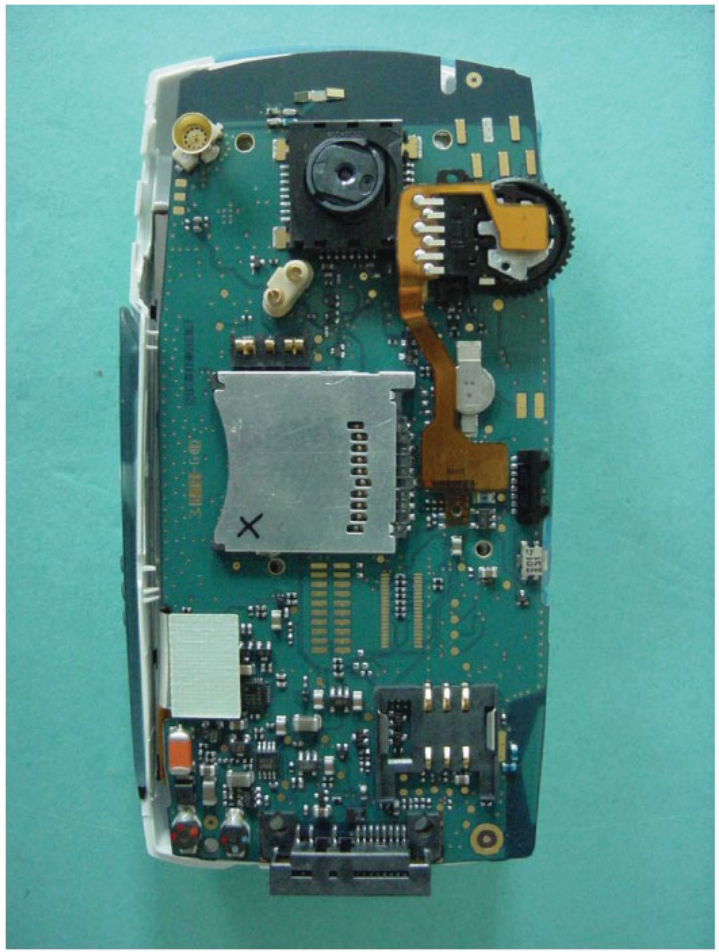
The P800 without flip on head phantom in the tilt position.

(FCC P800 Exhibit 11 SAR Report at Sheet 19.)

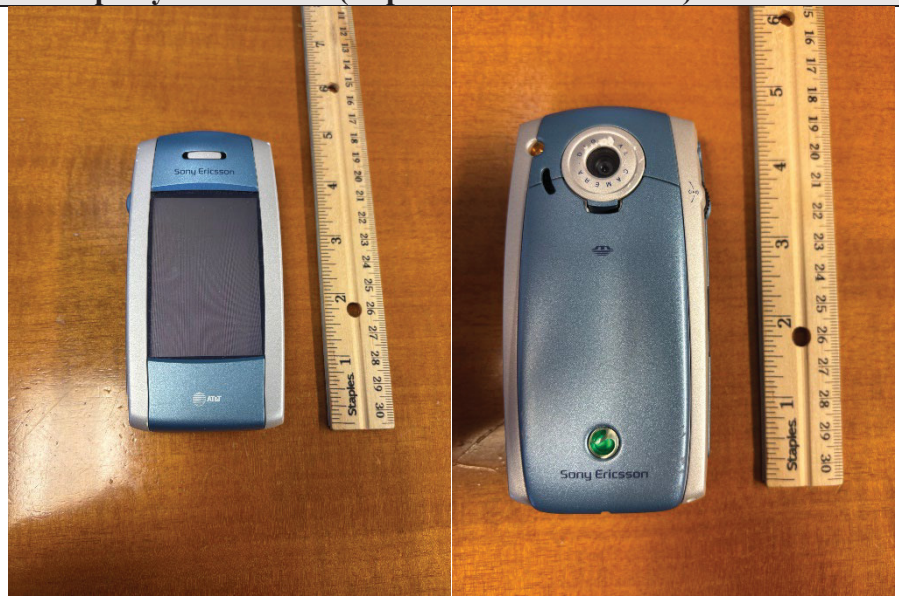
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 P800 – Standard Version  (P800/P802 White Paper at 8, 12.) Additional exemplary citations include:  (P800 09/2002 Manual at 122.)

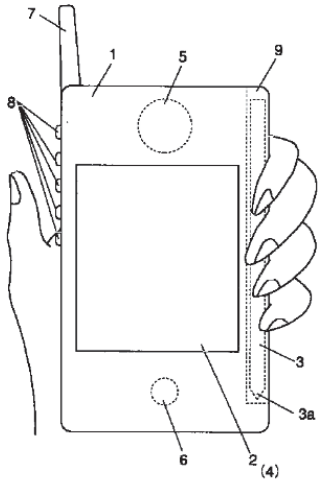
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (FCC P800 Exhibit 11 SAR Report at Sheet 10.)

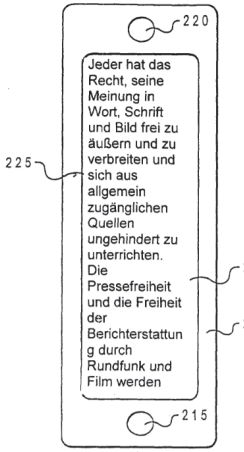
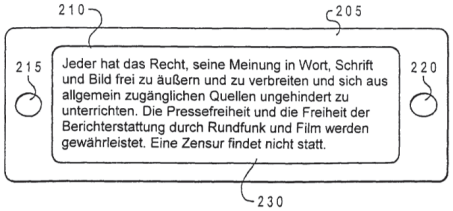
Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Photographs of the equipment **Photograph no.: 8**  (FCC P800 Exhibit 9 Internal Photograph, Photograph No. 8.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	Photographs of the equipment **Photograph no.: 9**  (FCC P800 Exhibit 9 Internal Photograph, Photograph No. 9.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (P800 Device)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	 (P800 Device) To the extent Keyless argues that P800 does not disclose or render obvious this limitation, it would have been obvious in view of P800, POSITA's pre-existing knowledge, and/or the teachings of P800 combined with Rydbeck, Yamaguchi, and/or Dutta. For example, a POSITA would find the combination obvious to try, due at least to the similarity of the technical teachings of the art. As another example, a POSITA would find that the teachings could be predictably interchanged by, for example, simple substitution, at least because of the predictability of the art and the known interchangeability of the various elements. As another example, a POSITA would be motivated to combine the references, and would have a reasonable expectation of success in doing so, at least because the references use known variations of existing technology to solve routine and well understood problems in predictable ways. For example, each of Rydbeck, Yamaguchi, and Dutta teaches that the ideal configuration for a mobile phone is such that the length of the device corresponds to the distance between the ear and mouth of a user.

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	For example, Rydbeck discloses a mobile phone device configured such that during operation, a speaker is adjacent to a user's ear and a microphone is adjacent to the user's mouth. (Rydbeck at 8:57-60; *see also id*. at 2:1-6, 2:15-18, 8:21-27, 9:13-20, Fig. 10.) As another example, Yamaguchi discloses a mobile phone device having a speaker 5 and microphone 6 such that during operation, the speaker is positioned close to the mouth of a user and the microphone is positioned close to the ear of a user. (Yamaguchi at [0005].) Further, Yamaguchi discloses a mobile phone that is 100-150mm in length. (Yamaguchi at [0009], [0015], FIG. 1) 【図１】 1 装置本体 6 マイク部 2 液晶表示部 7 アンテナ部 3 ペン 8 各種操作スイッチ 4 タッチパネル部 9 ペン収納部 5 スピーカー部  (Yamaguchi at FIG. 1.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	As another example, Dutta teaches that the ideal size of a mobile phone is based on the distance from a user's ear to a user's mouth. (Dutta at [0003], FIGS. 2A-2B.) Accordingly, mobile phones were commonly designed to be long and narrow. (Dutta at [0004].)  *Fig. 2A*  *Fig. 2B* (Dutta at FIGS. 2A and 2B) A POSITA would have found it obvious to configure the mobile phone disclosed by P800 such that both the length of the front surface of the mobile phone and, correspondingly, the distance between the microphone and speaker of the device, correspond to the distance between the user's ear and mouth. Each of Rydbeck, Yamaguchi, and Dutta teaches configuring a mobile phone in this way in order to improve operability and device performance while achieving the "ideal" phone size. (Dutta at [0003].) A POSITA would have been

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	motivated to configure a mobile phone in this way to provide the user with an ergonomically comfortable interface, wherein the microphone could easily detect speech from a user's mouth and the user could easily detect sound produced by the speaker during a phone call. As explained by Rydbeck, a mobile phone "preferably includes a microphone which can be positioned…proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) A POSITA would be motivated to configure a mobile phone such that the microphone and speaker were proximate to a user's mouth and ear, respectively, to improve the performance of the phone by improving the call quality and clarity of voice transmission while making phone calls. Accordingly, a mobile phone such that its length corresponds to the distance between a user's mouth and ear was routine and conventional to a POSITA, as shown by each of Rydbeck, Yamaguchi, and Dutta. A POSITA would have considered the combination of the teachings of Rydbeck, Yamaguchi, and/or Dutta with the mobile phone architecture disclosed by P800 to be an example of (A) combining prior art elements (the mobile phone of P800 with the teaching of the optimal mobile phone size as taught by Rydbeck, Yamaguchi, and Dutta) according to known methods to yield predictable results (improving user experience and device performance); (B) use of a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to improve similar devices in the same way (improving user experience and device performance); (C) applying a known technique (sizing a mobile phone based on the distance between the mouth and ear of a user as taught by Rydbeck, Yamaguchi, and Dutta) to a known device ready for improvement to yield predictable results (improving user experience and device performance); and/or (D) some teaching, suggestion, or motivation in the prior art (e.g., the teachings of Rydbeck, Yamaguchi, and Dutta) that would have led one of ordinary skill to modify the mobile phone disclosed by P800 to arrive at the claimed invention. Additional exemplary citations include: "In a preferred embodiment, the device includes an antenna connected to a top portion of the primary body. The antenna is configured to extend away from the rear major surface such that, when a user orients the device with the speaker adjacent his or her ear, the antenna is oriented away from the user." (Rydbeck at 2:1-6.)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"The device also preferably includes a microphone which can be positioned on the rear major surface (on a bottom portion), or on a flip, such that it is proximate to the mouth of a user during telephone operation." (Rydbeck at 2:15-18.) "A turnaround wireless communications device according to claim 1, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said front surface when a user orients said turnaround wireless communications device such that said speaker is adjacent the user's ear during operation." (Rydbeck at 8:21-27.) "a microphone located such that it is positioned proximate a user's mouth when the user has said speaker adjacent his or her ear…" (Rydbeck at 8:57-60.) "A turn around wireless communications device according to claim 11, further comprising an antenna connected to a top portion of said primary body, and wherein said antenna is configured to extend away from said rear major surface toward said forward major surface when a user orients said turnaround wireless communications device such that said speaker is adjacent his or her ear during operation." (Rydbeck at 9:13-20.) "As for outputs to the liquid-crystal display part 2, image data processing is performed in the device body 1, and text, graphics data, and wireless status are displayed on the liquid-crystal display part 2. When inputting text on a desktop, text and line strokes are inputted by pressing, with a pen tip 3a, the front surface of the touch panel part 4 disposed on the front surface of the liquid-crystal display part 2. To input text other than on a desktop, a side-surface portion of the device body 1 is held in one hand, and input is performed by the other hand with the pen 3. Apart from icon manipulations, manipulation via the various manipulable switches 8 is performed by a fingertip of the hand holding the pen 3. In addition, by adjusting one's grip on the main device 1, an ear is placed near the speaker part 5 or the mouth is placed near the microphone part 6 to perform audio input/output operations. Furthermore, to EJECT the memory card from the card-housing part, the card EJECT button is slid with a fingertip of the hand holding the pen 3, and the memory card is removed." (Yamaguchi at [0005].)

Claim 1	Exemplary Disclosures (Express and/or Inherent) and Citations
	"MEANS FOR SOLVING THE PROBLEMS To solve these problems, the present invention has a configuration such that: an antenna part of a wireless part and various manipulable switches are disposed on a same surface of a side-surface portion of the device body; a pen-housing part is disposed on an opposite side-surface portion of the device body; a housing part for a memory card having a data storage function is disposed on a rear-surface portion; a card EJECT button is disposed on the rear-surface portion near the pen-housing part; a rotary switch, which has a function of selecting data displayed on a liquid-crystal part, a push button, which has a function of confirming data that has been selected using the rotary switch, and the various switches are disposed on a same surface of a side-surface portion of the device body; furthermore, the liquid-crystal part, which has a function of displaying wireless status, and a button, which has a wireless ON/OFF switching function, are disposed on a same top-surface portion of the device body; and the dimensions of the device body have dimensional ratios of height 100–150 mm, width 60–75 mm, and depth 15–25 mm." (Yamaguchi at [0009].) "The invention according to claim 5 of the present invention is the mobile-communication-information terminal device according to any one of claims 1, 2, 3, and 4, wherein: the device body has dimensional ratios of length 100–150 mm, width 60–75 mm, and depth 15–25 mm; thus, the invention has the effect of improved portability and ease of manipulation, such as when storing the device in a clothing pocket, holding the device with one hand, and manipulating the various buttons." (Yamaguchi at [0015].) "For example, more and more mobile phones are equipped with a browser for the world wide web (web or www). Unfortunately, the ideal size of a mobile phone is determined by the typical ear-to-mouth distance of the average user and by ergonomically favorable grippability." (Dutta at [0003].) "Consequently the displays of mobile phones must be adapted to the long, narrow shape of the phone itself." (Dutta at [0004].)
[1c] wherein the width of the front surface is substantially shorter than the length and	P800, alone or in combination with other references identified in this chart or elsewhere in Defendants' invalidity contentions, and/or further in light of the knowledge of a POSITA and Keyless's apparent interpretation of this limitation, discloses "the width of the front surface is substantially shorter than the length."