Trials@uspto.gov
571-272-7822

Paper 35
Entered: February 13, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TCL CORPORATION, TCL COMMUNICATION TECHNOLOGY HOLDINGS, LTD., TCT MOBILE LIMITED, TCT MOBILE INC., and TCT MOBILE (US), INC.,
Petitioner,

v.

TELEFONAKTIEBOLAGET LM ERICSSON,
Patent Owner.

Case IPR2015-01674
Patent RE43,931 E

Before PATRICK R. SCANLON, BARBARA A. BENOIT, and STACY B. MARGOLIES, *Administrative Patent Judges*.

BENOIT, *Administrative Patent Judge*.

DECISION
Final Written Decision
U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

This *inter partes* review, instituted pursuant to 35 U.S.C. § 314, challenges the patentability of claims 1–12 and 15 of U.S. Patent No. RE43,931 E (Ex. 1001, "the '931 patent" or "the challenged patent"), owned by Telefonaktiebolaget LM Ericsson ("Patent Owner"). We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons discussed herein, Petitioner has shown by a preponderance of the evidence that claims 1–12 and 15 of the '931 patent are unpatentable.

A. Procedural History

TCL Corporation, TCL Communication Technology Holdings, Ltd., TCT Mobile Limited, TCT Mobile Inc., and TCT Mobile (US), Inc. (collectively, "Petitioner") filed a Petition for *inter partes* review of claims 1–12 and 15 ("the challenged claims") of the '931 patent. Paper 2 ("Pet."). We instituted an *inter partes* review of the challenged claims as unpatentable on certain grounds. Paper 7 ("Inst. Dec.").

Patent Owner filed a Patent Owner Response to the Petition (Paper 19, "PO Resp."), to which Petitioner filed a Reply (Paper 24, "Pet. Reply"). Petitioner relies on the Declarations of Andrew Wolfe, Ph.D. (Exhibits 1205 and 1211) in support of its contentions, and Patent Owner relies on the Declaration of Jean Renard Ward (Exhibit 2057) in support of its contentions.

An oral hearing was held on December 15, 2016. A transcript of the oral hearing is included in the record. Paper 34 ("Tr.").

B. Related Matters

As required by 37 C.F.R. § 42.8(b)(2), each party identifies various judicial or administrative matters that would affect or be affected by a decision in this proceeding. Pet. 1–2; Paper 5 (Patent Owner's Related Matters). The parties indicate that the '931 patent is at issue in *Ericsson Inc. v. TCL Commc'n Tech. Holdings, Ltd.*, No. 2:15-cv-11 (E.D. Tex.). Pet. 1–2; Paper 5. In addition, the parties identify *Ericsson Inc. v. TCL Commc'n Tech. Holdings, Ltd.*, No. 2:14-cv-667 (E.D. Tex.) and *Ericsson Inc. v. Apple Inc.*, No. 2:15-cv-289 (E.D. Tex.) as related matters. Pet. 1–2; Paper 5.

Claims of the '931 patent also are subject to *inter partes* review in IPR2015-01602, IPR2015-01637, IPR2015-01641, IPR2015-01646, IPR2015-01676, IPR2015-01761, and IPR2015-01806. With particular regard to the claims at issue in this proceeding, Petitioner filed two Petitions for *inter partes* review of claims 1–12 and 15 of the '931 patent, which were designated as IPR2015-01602 and IPR2015-01674, respectively. The Petition in IPR2015-01602 was filed July 20, 2015,

whereas the Petition for this proceeding was filed August 12, 2015. A final written decision for IPR2015-01602 was issued on January 25, 2017.[1]

Petitioner relies on U.S. Patent No. 5,892,475 ("Palatsi") and U.S. Patent No. 4,566,001("Moore") in IPR2015-01674, IPR2015-01676, IPR2015-01761, and IPR2015-01806. Paper 13 ("Consolidation Order"). Subsequent to institution of these *inter partes* reviews, and after conferring with the parties neither of whom opposed consolidation, we ordered an identical, consolidated patent owner response under 37 C.F.R. § 42.120 be filed in the record of these *inter partes* reviews involving assertions that various claims of the '931 patent were unpatentable over Moore and Palatsi. *Id.* Similarly, we ordered Petitioner's reply, if any, to be an identical, consolidated reply filed in each *inter partes* review. *Id.* We also expanded the permitted length to two-and-a-half times the length limit provided in 37 C.F.R. § 42.24(b)(1) for both the patent owner response and petitioner's reply. *Id.* In addition, we held a consolidated hearing for these four *inter partes* reviews. Tr. at 3:3–5.

C. The '931 Patent

The '931 patent is a reissue of U.S. Patent No. 6,278,888, which issued on August 21, 2001 from an application filed on July 25, 2000.

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[1] Section 315(e)(1) of Title 35 of the United States Code provides that "[t]he petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a) . . . may not . . . maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review." Section 315(e)(1) expressly pertains to the petitioner.

Ex. 1001, [64]. The earliest effective filing date claimed by the '931 patent is December 30, 1997. *Id.* at [63].

1. The Written Description

The '931 patent identifies "a need for improved input devices for radiotelephones." *Id.* at 1:66–67. The patent describes conventional approaches of using one or more keys to control the scrolling of graphical objects on the display or using "a wheel-like input device . . . mounted on the radiotelephone case that may be turned by a user to effect scrolling of graphical objects on the display." *Id.* at 1:48–56. The patent indicates that the use of "[k]eys for scrolling and invoking display selections . . . may consume valuable space on the keypad of the radiotelephone." *Id.* at 1:60–63.

The patent describes radiotelephones "in which control of a radiotelephone's display and/or radiotelephone communications transceiver is effected using a contact-sensitive transducer such as a resistive or capacitive touch strip mounted on the radiotelephone." *Id.* at 2:9–13. Figures 1 and 2 of the '931 patent are reproduced below:

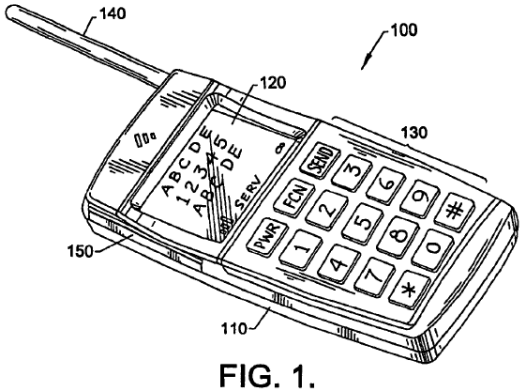

FIG. 1.

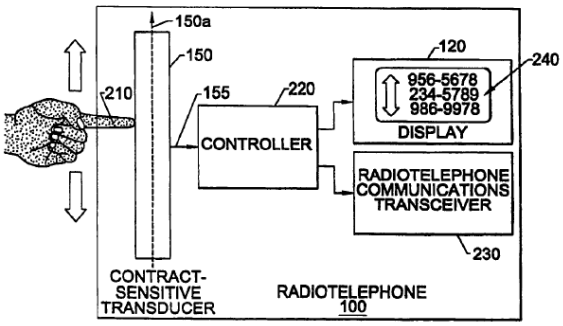

FIG. 2.

Figure 1 illustrates radiotelephone 100, and Figure 2 is a block diagram of the radiotelephone. *Id.* at 4:15–18. Radiotelephone 100 comprises housing 110, supporting display 120, and keys 130. *Id.* at 5:1–3. Mounted on a side surface of housing 110 is contact-sensitive transducer 150. *Id*. at 5:10–11.

As shown in Figure 2, "the contact-sensitive transducer 150 produces an output signal 155 that characterizes contact of an object, such as a user's finger 210, along an axis 150a of the transducer 150." *Id.* at 5:22–25. Controller 220 selectively displays an image, such as one or more rows 240 of alphanumeric characters, on display 120 in response to output signal 155. *Id.* at 5:28–30. Controller 220 also controls radiotelephone communications transceiver 230 according to output signal 155. *Id.* at 5:31–33.

Alternatively, the contact-sensitive transducer can be mounted to the front face of the radiotelephone housing, as shown in Figure 11 reproduced below. *Id.* at 9:61–65, Fig. 11.

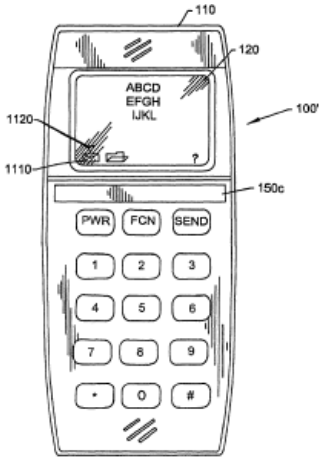

FIG. 11.

As shown in Figure 11, radiotelephone 100' includes horizontally-arranged contact-sensitive transducer 150c mounted on a front face of radiotelephone housing 110, near the display 120. The patent explains that the contact-sensitive transducer 150c can be used to control the display of objects on display 120 "based on contact of an object, e.g., a finger or stylus, with the contact-sensitive transducer 150c." *Id.* at 9:61–10:3.

In addition, the patent describes an embodiment in which "the controller has a first mode wherein the controller is responsive to contact with the contact-sensitive transducer and a second mode wherein the controller is unresponsive to contact with the contact-sensitive transducer." *Id.* at 3:34–38. The controller is placed into the first or second mode in response to an input from a user. *Id.* at 3:38–41.

2. Illustrative Claim

Of the challenged claims in the '931 patent, claim 1 is the sole independent claim and is reproduced below. Italicized text in the claim

indicates language that was added to the claim during prosecution of the reissue application. Bracketed text indicates language that was removed.

> 1. A radiotelephone, comprising:
>
> a housing having a front surface, a rear surface and first and second side surfaces adjoining respective opposite edges of the front surface and extending from the respective opposite edges of the front surface to respective opposite edges of the rear surface, the housing configured to be held in a user's hand such that the rear surface confronts the user's palm;
>
> a radiotelephone communications transceiver, supported by the housing;
>
> a display, supported by the housing, that displays an image at the front surface of the housing;
>
> a contact-sensitive transducer, supported by the housing and having a contact-sensitive surface disposed at **[**at least one of the first and second side surfaces**]** *said front surface*, which produces an output signal **[**that characterizes**]** *in response to moving* contact of an object along the contact-sensitive surface of the contact-sensitive transducer; and
>
> a controller, responsive to the output signal and operatively associated with the display and the radiotelephone communications transceiver, which controls at least one of the display and the radiotelephone communications transceiver **[**according to**]** *and which scrolls displayed rows along an axis of the display based upon* the output signal of the contact-sensitive transducer, *the controller having a first mode wherein the controller is responsive to contact with the contact-sensitive transducer and a second mode wherein the controller is unresponsive to contact with the contact-sensitive transducer, the second mode being entered in response to an input from a user*.

Ex. 1001, 10:25–55.

D. Instituted Grounds of Unpatentability

We instituted an *inter partes* review of the '931 patent based on the following grounds set forth by Petitioner that certain claims are unpatentable under 35 U.S.C. § 103:[2]

References	Basis	Claim(s) Challenged
Palatsi[3] and Moore[4]	§ 103	1–11 and 15
Palatsi, Moore, and Tiilikainen[5]	§ 103	12

Inst. Dec. 18.

II. DISCUSSION

A. Principles of Law Concerning Demonstrating Unpatentability

To prevail in challenging Patent Owner's claims, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). "In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v.*

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[2] Section 3(c) of the Leahy-Smith America Invents Act ("AIA") amended 35 U.S.C. § 103. Pub. L. No. 112-29, 125 Stat. 284, 287–288 (2011). Because the '931 patent has a filing date before March 16, 2013 (effective date of section 3), the pre-AIA version of § 103 applies in this proceeding. *See id.*, § 3(n)(1), 125 Stat. at 293.
[3] U.S. Patent No. 5,892,475, issued Apr. 6, 1999 (Ex. 1087, "Palatsi").
[4] U.S. Patent No. 4,566,001, issued Jan. 21, 1986 (Ex. 1012, "Moore").
[5] European Patent Application EP0721272A2, published July 10, 1996 (Ex. 1088, "Tiilikainen").

Avid Tech., Inc., 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review). Furthermore, Petitioner cannot satisfy its burden of proving obviousness by employing "mere conclusory statements." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). "A determination of whether a patent claim is invalid as obvious under § 103 requires consideration of all four *Graham* factors, and it is error to reach a conclusion of obviousness until all those factors are considered." *Apple v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc) (citations omitted). "This requirement is in recognition of the fact that each

of the *Graham* factors helps inform the ultimate obviousness determination." *Id.*

B. Level of Ordinary Skill

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to resolve the level of ordinary skill in the pertinent art at the time of the invention. *Graham,* 383 U.S. at 17. "The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id*. In a given case, one or more factors may predominate. *Id.* Generally, it is easier to establish obviousness under a higher level of ordinary skill in the art. *Innovention Toys, LLC v. MGA Entm't, Inc*., 637 F.3d 1314, 1323 (Fed. Cir. 2011) ("A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.").

Relying on the testimony of Dr. Wolfe, Petitioner submits that a person of ordinary skill in the art "is someone with a bachelor's degree in computer engineering, electrical engineering, or computer science, and two years of experience with touch-based user input systems or equivalent

education and experience on December 30, 1997, the date to which the '931 patent claims priority." Pet. 10 (citing Ex. 1205 ¶¶ 56–58). Patent Owner argues that Petitioner's definition is erroneous because it lacks "specific experience with respect to the art of ***handheld radiotelephones***, mobile phones, cell phones, or ***handheld devices***," to which the claims are directed. PO Resp. 22 (emphasis in original). Relying on the testimony of Mr. Ward, Patent Owner submits that a person of ordinary skill in the art is

> someone with a bachelor's degree in computer engineering, electrical engineering, or computer science having multiple years of hands-on experience working with hand-held contact-sensitive user interface devices, or graphic user interfaces. [One of ordinary skill in the art] had direct knowledge of the types of contact-sensitive user interfaces used in mobile phones or handheld devices as of December 30, 1997 and understood the design and functional tradeoffs with regard to the physical constraints of a hand-held device.

Id. at 21 (citing Ex. 2057 ¶ 22). Petitioner disagrees, arguing that Patent Owner's reliance on the art of radiotelephones or handheld devices is not supported by the claim language and that Patent Owner's definition differs from the definition provided by its declarant, Mr. Ward. Pet. Reply 45.

We agree with Petitioner's second point that Patent Owner has added "graphic user interfaces" "and under[stood] the design and functional tradeoffs with regard to the physical constraints of a hand-held device" to Mr. Ward's testimony. Rather, Mr. Ward opines that one of ordinary skill in the art "would probably have had a bachelor's degree in electrical engineering or computer engineering, at least 2–3 years of hands-

on experience working with hand held contact-sensitive user interface devices, and direct knowledge of the types of user interfaces used in mobile phones and handheld devices in 1997." Ex. 2057 ¶ 22.

In reaching this conclusion, Mr. Ward indicates he "considered the '931 patent, the types of problems encountered in the art of handheld radio telephone devices and handheld devices, the prior art solutions to those problems, and the educational level of workers active in the field." *Id.* In contrast, Dr. Wolfe does not explain the basis for his opinion. 1205 ¶ 58.

We determine that the level of ordinary skill proposed by Mr. Ward is consistent with the challenged patent and the asserted prior art, and we therefore adopt this definition of the level of ordinary skill in the art for the purposes of the analysis below. Our analysis would not differ, however, if we adopted Dr. Wolfe's definition.

C. Claim Construction

In an *inter partes* review, the Board interprets claims in an unexpired patent using the "broadest reasonable construction in light of the specification of the patent in which [they] appear[]." 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of broadest reasonable construction standard). Consistent with the broadest reasonable construction standard, claim terms are presumed to have their ordinary and customary meaning as understood by one of ordinary skill in the art in the context of the entire patent disclosure at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). An inventor may provide a meaning for a term that is

different from its ordinary meaning by defining the term in the specification with "reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Moreover, limitations are not to be read from the specification into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). In addition, the Board may not "construe claims during [an *inter partes* review] so broadly that its constructions are unreasonable under general claim construction principles." *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015). We construe the challenged claims according to these principles.

Prior to our Institution Decision, Petitioner proposed constructions for "contact-sensitive transducer . . . which produces an output signal" and "graphical object(s)." Pet. 11–13. Patent Owner did not propose any express constructions or challenge Petitioner's proposed construction. *See generally* PO Resp.; Paper 6 (Patent Owner's Preliminary Response). In the Institution Decision, we determined that no claim term required express construction. Inst. Dec. 6. In its Response, Patent Owner indicates that it "generally agrees that the constructions proposed by [Petitioner] are in keeping with how a [person of ordinary skill in the art] would have understood those terms." PO Resp. 23.

We determine that no term in the challenged claims requires express construction for this Final Written Decision. *See, e.g., Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) ("[C]laim terms need only be construed 'to the extent necessary to resolve the

controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Asserted Ground of Unpatentability over Palatsi and Moore

Petitioner contends that claims 1–11 and 15 of the '931 patent are unpatentable under 35 U.S.C. § 103 as obvious over Palatsi and Moore. Pet. 3, 14–54. Petitioner provides analysis purportedly explaining how the combination would have conveyed to one of ordinary skill in the art the claim limitations and provides reasons why one of ordinary skill in the art would have combined the teachings of the references. *Id.* Petitioner supports its contentions with citations to the references and with declaration testimony of Dr. Wolfe. *Id.*; Ex. 1205.

Relying on the support of Mr. Ward, Patent Owner opposes Petitioner's contentions. PO Resp. 1–2, 24–45 (citing Ex. 2057). In reply, Petitioner maintains, with further support of Dr. Wolfe, its position that claims 1–11 and 15 would have been obvious over Palatsi and Moore. Pet. Reply 1–36 (citing Ex. 1211).

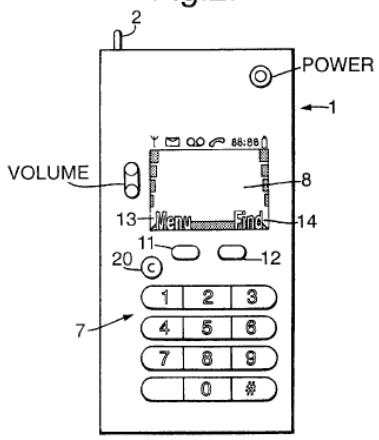
We have reviewed the Petition, Patent Owner's Response, and Petitioner's Reply, as well as the relevant evidence discussed in those papers. For reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence the subject matter of claims 1–11 and 15 would have been obvious over Palatsi and Moore.

1. Summary of Prior Art References

a. Summary of Palatsi

Palatsi issued April 6, 1999 from an application filed June 23, 1997. Ex. 1087, [22], [45]. Palatsi describes a need for portable, hand-held telephones to be smaller, which requires the size of the keypad on the device to be smaller. *Id.* at 1:21–24. As a result, the device may be less easy to use because the keys are small. *Id.* at 1:24–26. Figure 2 of Palatsi, reproduced below, depicts a portable telephone.

Fig.2.



As shown in Figure 2, portable telephone 1 has antenna 2, keypad 7, display 8, and a volume control (not identified by a reference numeral). *Id.* at 2:17–26. Keypad 7 includes two "soft" keys 11, 12. *Id.* at 2:26. "The two soft keys are located close together to minimi[z]e finger movement." *Id.* at 2:38–39. "The functions of the 'soft' keys vary from time to time." *Id.* at 2:34–35. In one example, a user may press soft key 11 to move a displayed cursor to the first displayed menu item and then may press soft key 11 twice again to toggle between "off" and "on" to change the setting of

the first displayed menu item. *Id.* at 3:20–26; Fig. 4. In another example, Palatsi describes using soft key 11 to scroll through menu items. *Id.* at 2:63–66, 3:34–42. Palatsi also indicates that keys can be replaced with touch sensors. *Id.* at 4:17–19 ("Rather than having one or more keys as the input means[,] the telephone could have, for example, one or more touch sensors."). Palatsi also indicates that "[e]ach input device is preferably a binary input device having two states: actuated and not actuated." *Id.* at 4:21–23.

b. Summary of Moore

Moore, titled "Touch Strip Input for Display Terminal," issued January 21, 1986. Ex. 1012, [45], [54]. Moore describes a display terminal that includes "a position sensitive touch strip extending along an edge of the screen," the output of which is "dependent on the distance along the strip of the position touched by a terminal user." *Id.* at 1:42–48. Figure 1 of Moore, reproduced below, depicts a display terminal.

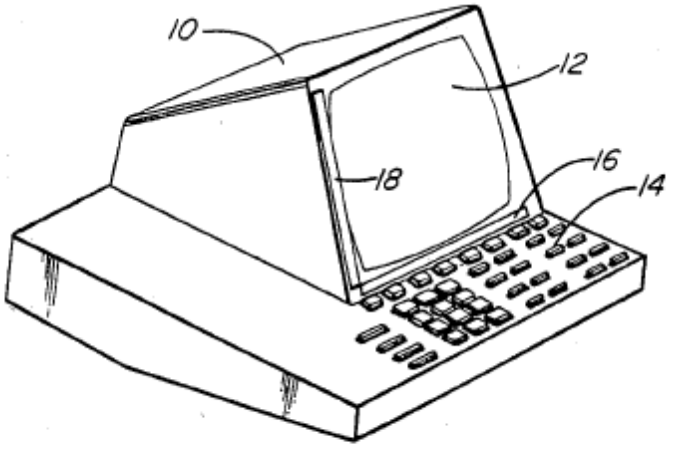


FIG. 1

As shown in Figure 1, the display terminal includes "a cathode ray tube (CRT) unit 10 with a rectangular screen 12" and keyboard 14. *Id.* at 2:15–19. Along respective adjacent edges of display screen 12 are two touch strips 16, 18. *Id.* at 2:20–26, 4:30–31. One touch strip is horizontal and the other vertical. *Id.* Each touch strip "has a voltage output which is representative of the distance along it at which it is touched." *Id.* at 2:20–26. Moore also describes an alternative embodiment in which "a bank of such touch strips [is] mounted along each edge" of the display screen. *Id.* at 4:33–34. In this embodiment "keys associated with the . . . keyboard must permit switching between different ones of the banks of strips." *Id.* at 4:34–36.

Moore also describes that "soft keys . . . can be given any of a number of functional designations," which can be "changed if and when desired during use." *Id.* at 1:9–14. Soft keys are advantageous because they "limit the keyboard size." *Id.* at 1:9–12. Moore indicates that "touch strips can be made to present a series of programmable or soft keys" that "can be used to provide a menu selection, scrolling and cursor generation and movement for word processing." *Id.* at Abstract.

2. Petitioner's Contentions: Independent Claim 1

Relying on citations to the references and declaration testimony of Dr. Wolfe, Petitioner provides analysis purportedly explaining how the combination would have conveyed to one of ordinary skill in the art the limitations of independent claim 1. Pet. 22–40 (citing Ex. 1205). Petitioner, again relying on citations to the references and the declaration testimony of

Dr. Wolfe, provides reasons why one of ordinary skill in the art would have combined the teachings of the references in the manner proposed by Petitioner. *Id.* at 18–22 (citing Ex. 1205).

In general, Petitioner relies on Palatsi's portable telephone for many of the apparatus elements (including a housing, a radiotelephone communications transceiver, a display, a controller, and soft keys for input) and further relies on Moore's touch strips as an alternative input method for improving Palatsi's push-key user interface for conveying "a contact-sensitive transducer" and "a controller" with a second mode, as recited in independent claim 1. *Id.* at 17–18; *see also id.* at 21–36. Petitioner's specific contentions regarding elements of claim 1 are discussed below.

a. Preamble

Petitioner contends that Palatsi's portable telephone is an apparatus. Pet. 22 (citing Ex. 1087, 2:17; Ex. 1205 ¶ 153).

b. Housing

Claim 1 recites "a housing having a front surface, a rear surface and first and second side surfaces adjoining respective opposite edges of the front surface and extending from the respective opposite edges of the front surface to respective opposite edges of the rear surface, the housing configured to be held in a user's hand such that the rear surface confronts the user's palm." Petitioner contends that Palatsi would have conveyed to one of ordinary skill in the art the recited housing. *Id.* at 22–23. Specifically, Petitioner contends that "Fig. 2 of Palatsi . . . illustrates the front surface of the radiotelephone" and

also would have conveyed to one of ordinary skill in the art "a housing having a front surface, a rear surface and first and second side surfaces adjoining respective opposite edges of the front surface and extending from the respective opposite edges of the front surface to respective opposite edges of the rear surface," as recited in claim 1. *Id.* at 22–23 (citing Ex. 1087, Fig. 2; Ex. 1205 ¶ 155–56).

With regard to the limitation that "the housing configured to be held in a user's hand such that the rear surface confronts the user's palm" ("the handheld limitation"), Dr. Wolfe testifies that Palatsi's Figure 2 and teaching that "[t]here is a need for portable telephones (especially hand-portable telephones) to be smaller to make them more convenient to carry" would have conveyed to one of ordinary skill in the art the handheld limitation. Ex. 1205 ¶¶ 155, 157 (citing Ex. 1087, 1:21–24, Fig. 2); *see* Pet. 23 (citing Ex. 1087, 1:21–24; Ex. 1205 ¶¶ 155, 157). Dr. Wolfe testifies that "[b]y virtue of the radiotelephone housing of Palatsi being small enough to be held in a user's hand, a [person of ordinary skill in the art] would have understood that the housing would be held with the rear surface confronting the palm of the user's hand in order to interact with the keys and/or display on the front surface." Ex. 1205 ¶ 157; *see* Pet. 23 (discussing Ex. 1205 ¶¶ 155–57). Dr. Wolfe cites to other prior art references to further support his testimony. Ex. 1205 ¶ 156 (discussing Ex. 1035 (Nokia's 1996 annual report illustrating various mobile telephones (similar to Palatsi's mobile telephone) that are held in a user's hand); Ex. 1010 (U.S. Patent 5,615,384 illustrating a mobile telephone similar to Palatsi's mobile telephone)).

c. Radiotelephone Communications Transceiver

Claim 1 further recites a radiotelephone communications transceiver for which Petitioner relies on Palatsi's radio transceiver unit in its combination of Palatsi and Moore. *Id.* at 24 (citing Ex. 1087, 2:17–18, Figs. 1–2; Ex. 1205 ¶¶ 158–60).

d. Display

Claim 1 recites "a display, supported by the housing, that displays an image at the front surface of the housing." For this limitation, Petitioner relies on Palatsi's "portable telephone 1" shown in Figures 1–4 and Palatsi's disclosure that "portable telephone 1 has . . . an LCD display 8." Pet. 25–27 (citing Ex. 1205 ¶¶ 161–64; Ex. 1087 2:24, 2:40–59, Figs. 1–4).

e. Contact-Sensitive Transducer

Claim 1 also recites "a contact-sensitive transducer, supported by the housing and having a contact-sensitive surface disposed at said front surface, which produces an output signal in response to moving contact of an object along the contact-sensitive surface of the contact-sensitive transducer." Petitioner contends that Palatsi's portable telephone, with Moore's touch strips replacing Palatsi's soft keys would have conveyed to one of ordinary skill in the art "a contact-sensitive transducer, supported by the housing and having a contact-sensitive surface disposed at said front surface, which produces an output signal in response to moving contact of an object along the contact-sensitive surface of the contact-sensitive transducer," as

recited in claim 1. *Id.* at 18, 25; *id.* at 18, 24–26 (citing Ex. 1205 ¶¶ 142, 165–71).

Specifically, Petitioner relies on Palatsi's telephone with soft keys and Moore's teachings that (i) the voltage output of a position-sensitive touch strip is "representative of the distance along it at which it is touched" and (ii) "to cause scrolling of displayed text or graphics, 'the user merely strokes the touch strips along their length in the direction in which the displayed field is to move.'" *Id.* at 28–29 (quoting Ex. 1012, 2:22–26, 4:21–28; citing Ex. 1205 ¶ 167). Petitioner, relying on Dr. Wolfe's testimony, explains how the combination of Moore's touch strips replacing Palatsi's soft keys would have conveyed to one of ordinary skill in the art "the output signal is produced 'in response to moving contact of an object along the contact-sensitive surface of the contact-sensitive transducer,'" as required by claim 1. *Id.* at 30–31 (citing Ex. 1205 ¶¶ 171, 173).

Petitioner further contends that the proposed combination of Palatsi and Moore, which relies on Moore's touch strips replacing Palatsi's soft keys shown on the front surface of the telephone housing, would have conveyed to one of ordinary skill in the art that each contact-sensitive transducer is supported by the housing and is disposed on the front surface of the housing, as required by claim 1. *Id.* at 29–30 (citing Ex. 1087, Fig. 2; Ex. 1012, 1:53–59; Ex. 1205 ¶¶ 169–70).

Based on these contentions, Petitioner concludes that its proposed combination of Palatsi and Moore would have conveyed to one of ordinary skill in the art the recited "contact-sensitive transducer, supported by the housing and having a contact-sensitive surface disposed at said front surface, which produces an output signal in response to moving contact of an object along the contact-sensitive surface of the contact-sensitive transducer." *Id.* at 31 (citing Ex. 1205 ¶ 173).

Petitioner also contends one of ordinary skill in the art would have had reasons to replace the soft keys on Palatsi's portable telephone with Moore's touch strips. Pet. 18–22 (Ex. 1205 ¶¶ 135, 142–48). According to Petitioner, user interface improvements (such as using a touch strip of Moore to cover functionality provided by multiple push-type keys of Palatsi and using a touch strip of Moore to provide for a more intuitive method of scrolling) would have been reasons one of ordinary skill in the art would have substituted Moore's touch strip for Palatsi's soft keys. *Id.* at 18–20 (citing Ex. 1087, 1:21–29, 4:15–23; Ex. 1012, 3:45–53, 4:20–29; Ex. 1205 ¶¶ 141–44). Petitioner also contends that the proposed combination would fulfill the need identified by Palatsi of providing efficient input mechanisms that increase functionality while reducing the consumption of space. *Id.* at 19 (citing Ex. 1087, 1:21–29 (Palatsi indicating that "[t]here is a need for portable telephones (especially hand-held portable telephones) to be smaller, to make them more convenient to carry," while still maintaining ease of use by not making the input keys too small"); Ex. 1205 ¶ 143).

Petitioner further contends that one of ordinary skill in the art would have looked to Moore's touch strips as an alternative input because "Palatsi already contemplates substituting 'one or more touch sensors' to replace 'one or more keys' used for input to the telephone." *Id.* at 18–19 (citing Ex. 1205 ¶ 135, 142; Ex. 1087, 4:15–23). Similarly, Petitioner indicates that Moore teaches that the use of a touch sensor acts like a soft-key. Pet. Reply 14 (citing Ex. 1012, Abstract ("By selecting an appropriate programming mode the touch strips can be made to present a series of programmable or soft keys.")). Finally, Petitioner contends that substituting Moore's touch strips for Palatsi's soft keys "amounts to nothing more than employing a 'predictable use of' touch strip sensors, as known in the art, to accomplish their 'established function[].'" Pet. 22 (quoting *KSR*, 550 U.S. at 417); *see KSR*, 550 U.S. at 417 (In evaluating an obviousness challenge, "a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.").

Petitioner also contends that it would have been obvious to one of ordinary skill in the art to modify Palatsi "by replacing the horizontally-arranged soft keys 11, 12 located below the display 8 with a first touch strip of Moore, and to replace the vertically-arranged volume control keys located to the left of the display 8 with a second touch strip of Moore." *Id.* at 20 (citing Ex. 1205 ¶ 145). This modified arrangement, according to Petitioner, would minimize finger movement when using the touch strips, a desirable feature according to Palatsi. *Id.* at 20–21 (citing Ex. 1205 ¶ 146;

Ex. 1087, 2:38–39 ("The two soft keys are located close together to minimi[z]e finger movement when using those keys.")).

f. Controller

Claim 1 also recites "a controller, responsive to the output signal and operatively associated with the display and the radiotelephone communications transceiver, which controls at least one of the display and the radiotelephone communications transceiver and which scrolls displayed rows along an axis of the display based upon the output signal of the contact-sensitive transducer, the controller having a first mode wherein the controller is responsive to contact with the contact-sensitive transducer and a second mode wherein the controller is unresponsive to contact with the contact-sensitive transducer, the second mode being entered in response to an input from a user." Petitioner contends that the proposed combination of Palatsi and Moore would have conveyed to one of ordinary skill in the art this limitation. Pet. 31 (citing Ex. 1205 ¶¶ 174–75); *id.* at 31–40.

Petitioner relies on Palatsi's description of the telephone depicted in Figure 1 that includes a processor, a keypad having two soft keys and providing input to the processor, and an LCD display controlled by the processor. *Id.* at 31 (citing Ex. 1087, 2:20–25, Fig. 1). Petitioner further relies on Palatsi's transceiver unit. *Id.* at 31 (citing Ex.1087, 2:20–25, Fig. 1). Petitioner further relies on Palatsi's description of using soft keys to control a "scroll-and-select menu system" and contends that, in the proposed combination, Palatsi would have been responsive to the output signal from

the touch strip of Moore in the same way it is responsive to the output signal from Palatsi's soft keys. *Id.* at 31–32 (citing Ex. 1087, 2:40–3:19, 3:11–14; Ex. 1012, 2:38–56, 3:1–4, 3:22–25, Fig. 3; Ex. 1205 ¶¶ 175–76). Petitioner, with support of Dr. Wolfe, also explains how Palatsi and Moore would have conveyed to one of ordinary skill in the art that the controller is operatively associated with the display and transceiver, and that the controller performs the scrolling as required by the claim. Pet. 32–37 (citing Ex. 1087, 2:24–25 ("display 8 [is] controlled by the processor"); *id.* at 2:63–3:2, 3:29–39, Figs. 3–4 (describing scrolling and selecting menu items); Ex. 1012 4:21–28 (describing scrolling through rows by "stroking" touch strips in a certain direction); Ex. 1205 ¶¶ 177–82).

Regarding the first and second controller modes, Petitioner contends that Moore's description of using keys of a keyboard to switch between banks of touch strips would have conveyed to one of ordinary skill in the art enabling or disabling banks of touch strips by using keys. *Id.* at 37–39 (citing Ex. 1012, 4:33–36 ("Moreover, if desired, a bank of such touch strips can be mounted along each edge. In this latter case keys associated with the functional keyboard must permit switching between different ones of the banks of strips."); Ex. 1205 ¶ 185). We also note that, in contemplating the combination of Palatsi and Moore, Petitioner cites Palatsi's disclosure that "[e]ach input device is preferably a binary input device having two states: actuated and not actuated" (Ex. 1087, 4:21–23). *See* Pet. 18–19 (citing Ex. 1087, 4:15–23).

3. Analysis

We agree with Petitioner's analysis described above and adopt it as our own. We, therefore, determine that the combination of Palatsi and Moore as set forth by Petitioner would have conveyed to one of ordinary skill in the art all the limitations recited by independent claim 1.

Our inquiry continues because "[a] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR*, 550 U.S. at 418. Rather, "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *Apple*, 839 F.3d at 1058 (quoting *KSR*, 550 U.S. at 418–19); *see also KSR*, 550 U.S. at 418 ("[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.") (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Here, as Petitioner indicates, Palatsi states that touch sensors may be used as an input device in place of soft keys, which Palatsi uses in a "scroll-and-select"[6] system for a portable telephone. Ex. 1087, 4:14–23; 1:15–20, 2:26–29, 2:57–59; *see* Pet. 18–19 (citing Ex. 1087, 4:15–23) ("Rather than having one or more keys as the input means the telephone could have, for example, one or more touch sensors. . . ."). Additionally, as Petitioner notes in its Reply, Moore teaches the use of a touch sensor acting like a soft key.

[6] Palatsi explains that a scroll-and-select menu allows the user to scroll through menu items and then select the desired one. Ex. 1087, 2:41–43.

Pet. Reply 14 (quoting Ex. 1012, Abstract); Ex. 1012, Abstract ("By selecting an appropriate programming mode the touch strips can be made to present a series of programmable or soft keys."). We agree with Petitioner that these express teachings of Palatsi and Moore would have been a reason to prompt one of ordinary skill in the art to replace Palatsi's soft keys with Moore's touch strips.

Furthermore, we agree with Petitioner that, because both Palatsi and Moore address improving user input methods for a user interface, one of ordinary skill in the art would have looked to Moore's touch strips as an alternative input method for improving Palatsi's push-key user interface. Pet. 18 (citing Ex. 1205 ¶ 141). As Petitioner correctly indicates (Pet. 19), Palatsi identifies a need for portable, hand-held telephones to be smaller, which requires the size of the keypad on the device to be smaller. Ex. 1087, 1:21–29 (describing "a need for portable telephones (especially hand-held portable telephones) to be smaller, to make them more convenient to carry," while still maintaining ease of use by not making the input keys too small). Moore describes the conventional use of soft keys to limit keyboard size (Ex. 1012, 1:6–12) and, as Petitioner notes, Moore presents an invention of a position-sensitive touch strip that can be used for menu selection, scrolling, and cursor generation/control with a display terminal. Pet. 16 (citing Ex. 1012, Abstract, 1:27–35, 3:18–25, 3:54–4:28, Fig. 1; Ex. 1205 ¶ 137).

These arguments, supported by citations to the references and reasoned testimony by Dr. Wolfe, weigh toward a determination of obviousness because both Palatsi and Moore address the problem of making

keyboards smaller within the field of user input methods for electronic devices. "[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR*, 550 U.S. at 417.

Moreover, we also credit Dr. Wolfe's testimony of how using Moore's touch strips would improve the user interface of Palatsi. Ex. 1205 ¶¶ 143–44; *see* Pet. 19–20. Dr. Wolfe opines that using a touch strip of Moore to cover functionality provided by multiple push-type keys of Palatsi and using a touch strip of Moore to provide for a more intuitive method of scrolling would improve Palatsi's user interface. Ex. 1205 ¶¶ 141–44; *see* Pet. 18–20 (citing Ex. 1087, 1:21–29, 4:15–23; Ex. 1012, 3:45–53, 4:20–29; Ex. 1205 ¶¶ 141–44). Dr. Wolfe concludes that these improvements would have been reasons one of ordinary skill in the art would have substituted Moore's touch strip for Palatsi's soft keys. Ex. 1205 ¶¶ 141–44; *see* Pet. 18–20 (citing Ex. 1087, 1:21–29, 4:15–23; Ex. 1012, 3:45–53, 4:20–29). Dr. Wolfe provides sufficient explanation and factual corroboration to support his opinion. 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Dr. Wolfe's testimony further supports a conclusion of obviousness. *KSR*, 550 U.S. at 420 ("One of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention

a known problem for which there was an obvious solution encompassed by the patent's claims.").

a. Purportedly No Controller with a Second Mode

Patent Owner contends that Moore does not disclose the second mode of independent claim 1 (PO Resp. 24–30). As described above, for the second mode, Petitioner and Dr. Wolfe rely on Moore's description that when two banks of touch strips are used, "keys associated with the functional keyboard must permit switching between different ones of the banks of strips." Ex. 1012, 4:33–36; *see* Pet. 37–40 (citing Ex. 1012, 4:33–36; Ex. 1205 ¶¶ 183–87); Ex. 1205 ¶ 185 (discussing Ex. 1012, 4:33–36). Dr. Wolfe's position is that Moore's description of using keys of the keyboard to switch between different ones of the banks of strips would mean "enabling or disabling banks of touch strips." Ex. 1205 ¶ 187 (indicating "Moore describes that . . . user input on the 'functional keyboard' on the touch strips permit[s] switching between different ones of the banks of strips' (i.e., enabling or disabling banks of touch strips). (Ex. 1012, at 3:22–25, 4:33–36.)"). On this basis, Dr. Wolfe concludes that "it would have been obvious to combine Moore with Palatsi to render obvious a second mode wherein the controller is unresponsive to contact with one of the banks of touch strips. Moore further discloses that this second mode may be entered in response to user input." Ex. 1205 ¶ 187; *see* Pet. 38–39.

Arguing as though Petitioner would be required to show the claimed elements in a single reference as arranged in the claim, Patent Owner asserts (with support of its declarant Mr. Ward) "switching between different

physical entities is not at all the same as providing a second mode of operation of a single component." PO Resp. 24 (citing Ex. 2057 ¶ 71). Patent Owner continues along these lines in asserting that Moore never discusses "deactivating" or "disabling" a touch strip. *Id.* at 25. Patent Owner also points out that Dr. Wolfe acknowledges that Moore does not explicitly describe that a touch strip is disabled or made unresponsive to contact and further that Moore teaches "functionality-switching among the strips, nothing more." *Id.* at 25 (citing Ex. 2003, 101:1–9), 30; *see id.* at 25–30.

We do not agree with Patent Owner. First, the claim requires the controller to be responsive and have two modes (i.e., where the controller is responsive or unresponsive to contact with the contact-sensitive transducer). The claim does not require disabling or deactivating the contact-sensitive transducer or switching the contact-sensitive transducer itself to be unresponsive. We, therefore, do not agree, as Patent Owner's arguments seem to suggest, that an express teaching that Moore's touch strips are disabled is necessary. *See, e.g.*, PO Resp. 25–26 ("Moore never discloses disabling a touch strip and nothing in Moore even suggests rendering its controller unresponsive to either set of strips."). The question is whether the combination of Palatsi's telephone with a processor and soft keys and Moore's switchable touch strip banks would have conveyed to one of ordinary skill in the art the subject matter of the second mode of the controller recited in claim 1.

Second, and more importantly, we credit Dr. Wolfe's testimony that the express disclosure of Moore would have conveyed enabling or disabling the touch strips and, which in combination with Palatsi's processor, would have conveyed to one of ordinary skill in the art "a second mode wherein the controller is unresponsive to contact with one of the banks of touch strip" (Ex. 1205 ¶¶ 185–87). Dr. Wolfe's testimony relies on an express disclosure of Moore (switching touch strip banks) and explains how one of ordinary skill in the art would understand that teaching. 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

We accord Mr. Ward's testimony less weight than Dr. Wolfe's testimony because Dr. Wolfe's testimony better comports with the express description of Moore of switching between banks of touch strips. *In re Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) ("[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations."). Dr. Wolfe's testimony also addresses what the combined teachings of Palatsi and Moore would have conveyed to one of ordinary skill in the art (*see* Ex. 1205 ¶¶ 185–86), whereas Mr. Ward's testimony unduly focuses on Moore's isolated disclosures (*see, e.g.*, Ex. 2057 ¶ 78 ("Again, I simply cannot find any disclosure in Moore of the controller ever being rendered unresponsive or the touch strips being rendered disabled or deactivated upon 'switching between different ones of the banks of strips.' Ex. 1012 at 4:33–36.")).

Thus, having reviewed the Petition, Patent Owner's Response, and Petitioner's Reply, as well as the relevant evidence discussed in those papers, we find that Petitioner's combination—Palatsi's telephone having a processor and soft keys with Moore's capability to switch between different touch strip banks—would have conveyed to one of ordinary skill in the art the recited controller having a second mode, as Petitioner contends.

b. Purported Improper Hindsight

Patent Owner further contends Petitioner's combination is based on hindsight. PO Resp. 30–32. Specifically, Patent Owner contends that the reason articulated by Petitioner that one of ordinary skill in the art would have used the second mode of the controller is flawed. *Id.* Petitioner, with support of Dr. Wolfe, contends that one of ordinary skill in the art "would have appreciated that switching a non-used bank of touch strips off . . . would intuitively solve" the problem of "accidentally activating an unintended touch strip." Pet. 38–39 (citing Ex. 1205 ¶ 185). According to Patent Owner, the problem of accidental activation of a touch strip in the combination "did not exist at all in the prior art and thus the solution" of the combination is only based on hindsight from the disclosure of the challenged patent. PO Resp. 31.

We do not agree with Patent Owner because, as Petitioner points out in its Reply, Moore itself identifies the benefit of avoiding input from unintended contact. Ex. 1012, 2:64–68 ("The time constant of the filter circuit is appropriately set so as to register most strip actuations which are deliberate and so as not to register most of the touch strip contacts which are

unintended."); *see* Pet. Reply 18 (quoting Ex. 1012, 2:64–68). Rather, we agree with Petitioner that, because "Palatsi expressly teaches substituting touch strips as input devices and additionally because Moore teaches the added benefit from using touch strips for avoiding responses from unintended contacts with the input device," the combination of Palatsi and Moore set forth by Petitioner does not impermissibly rely on hindsight. *See, e.g.*, Pet. Reply 20.

c. Purportedly Not Obvious to Incorporate Dedicated Hardware

Patent Owner contends that it would not have been obvious to "incorporate Moore's dedicated hardware required to implement the touch strips into the handheld Palatsi device." PO Resp. 32 (citing Ex. 2057 ¶ 83); *see id.* at 32–43. Patent Owner juxtaposes the requirement of claim 1 that the apparatus be handheld with the implied size and other physical characteristics of Moore's terminal "having a cathode ray tube unit with a rectangular screen and touch sensitive strips extending horizontally and vertically along two edges of a bezel surrounding the rectangular screen." *Id.* at 33 (citing Ex. 1012, 2:15–22). Patent Owner argues, with support of Mr. Ward, that modifying Palatsi's portable telephone to use Moore's four touch strips "would have resulted in unpredictable technical challenges." *Id.* at 32–42 (citing Ex. 2057 ¶¶ 84, 85, 87–92, 94, 95, 97, 99). Patent Owner identifies a variety of hardware elements that would have been required by each of four touch strips—a power supply, a filter/buffer, an analog-to-digital converter, a select/control logic circuit driven by timing impulses from a clock circuit, an interface circuit, and a microprocessor unit—that

would have precluded a handheld apparatus. *Id.* at 34–36 (citing Ex. 1012, 2:37–47; Ex. 2057 ¶ 89). Patent Owner also contends that Petitioner's proposed combination would have required "significantly more modification" than discussed in the Petition. *Id.* at 36–37.

Patent Owner also contends that because "Moore only discloses touch-sensitive strips integrated into a computer terminal device large enough to support a cathode ray tube display" and "[g]iven the size and power constraints of mobile phone technology compared to display terminal technology in the 1997 timeframe," one of ordinary skill in the art would not have had a "reasonable expectation that four new hardware elements (which each require four sets of dedicated hardware circuitry) could be successfully implemented" in Palatsi's portable telephone without undue experimentation. *Id.* at 37–39. Patent Owner identifies various hardware elements that, because of their size, would not be suitable for use in a portable telephone. *Id.* at 39–40. Patent Owner concludes that appropriate hardware elements were not available and one of ordinary skill in the art would have had to design a microprocessor. *Id.* at 41.

In reply, Petitioner and Dr. Wolfe contest that "significantly more" modification would have been required than that discussed in the Petition and that the state of the technology at the time would have resulted in unpredictable technical challenges requiring undue experimentation to add touch strips to Palatsi's portable telephone. Pet. Reply 21–30. Petitioner and Dr. Wolfe disagree with the number of hardware components needed in Patent Owner's proposed bodily incorporation of Moore's four touch strips

into Palatsi's portable telephone. *Id.* at 22–25 (indicating separate power supply would not be needed and various hardware elements need not be discrete elements). Petitioner provides evidence that various hardware elements were available integrated in "one chip." *Id.* at 23 (citing Ex. 1212; Ex. 1213) (discussing an 8XC552/562 microcontroller and an 11-input TLC1541 analog-to-digital converter).

On balance, after weighing the arguments and evidence presented by both parties and both declarants, we accord Dr. Wolfe's testimony more weight than that of Mr. Ward. Dr. Wolfe's testimony describes prior art evidence of hardware suitable for mobile phones that would enable adding touch strips to Palatsi's portable telephone. *Id*. at 23–24 (citing Ex. 1211 ¶¶ 26–29; Ex. 1212 (describing a TLC1541 analog-to-digital converter); Ex. 1213, 1, 50–53 (describing a 80C552/83C552 microcontroller)); *see, e.g.*, *Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (holding the Board has discretion to give more weight to one item of evidence over another "unless no reasonable trier of fact could have done so"). This undercuts Patent Owner's and Mr. Ward's position based on adding discrete hardware elements from Moore to Palatsi's portable telephone.

We also credit Dr. Wolfe's testimony in this regard because of his experience working on touchscreen prototypes for the prior art IBM Simon portable telephone, which allowed users to tap on a contact-sensitive transducer and scroll by both tapping on virtual scroll arrows and to pan (scroll) through a fax by swiping a stylus across a screen. *See* Pet. Reply 30

n.10 (citing Ex. 2003, 26:11–23 (testifying regarding Ex. 1205 ¶ 84[7]); Ex. 2013, 41, 45–46 (Simon User's Guide); *see also* Ex. 1209, 108:12–109:18).

Furthermore, Petitioner is correct that Patent Owner's argument is based on bodily incorporating Moore's four touch strips to Palatsi's portable telephone. Pet. Reply 22. The test for obviousness is not whether the features of a reference may be bodily incorporated into another reference to produce the claimed subject matter; rather, it is what the combination of references makes obvious to one of ordinary skill in the art. *See In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) ("It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.").

Palatsi's express indication that touch sensors may be used as an input device in place of soft keys in its portable telephone (Ex. 1087, 4:14–23) further undercuts Patent Owner's and Mr. Ward's position, based on a physical substitution of elements, that one of ordinary skill in the art would not have had a reasonable expectation of success without undue experimentation and that Petitioner's purported combination would have unpredictable technical challenges (PO Resp. 32–42).

For these reasons, we do not agree with Patent Owner that it would not have been obvious to "incorporate Moore's dedicated hardware required

[7] Petitioner's Reply refers to Ex. 1201 ¶ 84, which is an obvious error.

to implement the touch strips into the handheld Palatsi device." PO Resp. 32 (citing Ex. 2057 ¶ 83); *see id.* at 32–42.

d. Purportedly Unexpected Results

Patent Owner contends that the invention of claim 1 as a whole provides unexpected results because of the presence of the unexpected property of "the ability to do one-handed swipe scrolling on a handheld device" ("one-handed swipe-to-scroll ability"). PO Resp. 43; *id.* at 43–44.

Secondary considerations (also called objective indicia of non-obviousness), including unexpected results and commercial success, must always be considered when present and guard against reading the teaching of the invention into the prior art. *Apple*, 839 F.3d at 1052 (citing *Graham*, 383 U.S. at 36); *WBIP, LLC v. Kohler, Co.*, 829 F.3d 1317, 1328 (Fed. Cir. 2016) (citing *Transocean Offshore Deepwater Drilling Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012)) ("[O]bjective considerations of non-obviousness must be considered in *every* case."). There must be "a nexus between the evidence and the merits of the claimed invention." *WBIP*, 829 F.3d at 1331 (quoting *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995)). In other words, "[e]vidence of secondary considerations must be reasonably commensurate with the scope of the claims." *In re Huai-Hung Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (citing *In re Hiniker*, 150 F.3d 1362, 1369) (Fed. Cir. 1998)). For example, objective evidence may be tied to a specific claim element or to the inventive combination of known elements. *WBIP*, 829 F.3d at 1332. "To be particularly probative, evidence of unexpected results must establish that

there is a difference between the results obtained and those of the closest prior art, and that the difference would not have been expected by one of ordinary skill in the art at the time of the invention." *Bristol-Myers Squibb Co. v. Teva Pharm. USA, Inc.*, 752 F.3d 967, 977 (Fed. Cir. 2014) (citing *Kao Corp. v. Unilever U.S., Inc.*, 441 F.3d 963, 970 (Fed. Cir. 2006)). Unexpected properties often arise in the context of pharmaceuticals and determining a particular chemical compound has an unexpected property. *See, e.g., Bristol-Myers Squibb*, 752 F.3d at 977; *Hoffman-Lawton Roche Inc. v. Apotex, Inc.*, 748 F.3d 1326, 1333–34 (Fed. Cir. 2014); *In re Eli Lilly & Co.*, 902 F.2d 943, 948 (Fed. Cir. 1990); *In re Merck*, 800 F.2d 1091, 1099 (Fed. Cir. 1986).

Here, Patent Owner contends that the ability to perform a one-handed swipe-to-scroll was an unexpected result of the invention. PO Resp. 43. Patent Owner contends that the description in the challenged patent that "a user can swipe a contact-sensitive transducer to achieve scrolling while the radiotelephone is held in a one-handed fashion" is an unexpected property that "would not have been apparent to [one of ordinary skill in the art] from either Palatsi or Moore." *Id.* at 43 (citing Ex. 1001, 5:44–48; Ex. 2057 ¶¶ 101–02). The cited portion of the '931 patent, however, states:

> Preferably, only one of the strips 150a, 150b is active at any given time, i.e., one of the strips is inactivated to prevent inadvertent generation of signals to the controller caused by gripping of the radiotelephone.

Ex. 1001, 5:44–48; *see* PO Resp. 43 (citing Ex. 1001, 5:44–48). The patent describes activating only one of the device's touch strips at a time. The cited

portion does not describe providing an ability of a one-handed swipe-to-scroll gesture or that such a gesture would be unexpected. Neither Patent Owner nor Mr. Ward explains why a one-handed swiping gesture would have been an unexpected property if touch strips were provided on both sides of a radiotelephone housing so that the radiotelephone "may be used in either a right-handed or left-handed fashion," as described by the '931 patent. Ex. 1001, 5:42–44.

Mr. Ward characterizes the ability to do a one-handed swipe-to-scroll gesture as an unexpected result that would not be apparent from either Palatsi or Moore. Ex. 2057 ¶¶ 102–03; PO Resp. 43 (citing Ex. 2057 ¶¶ 102–03). Because Mr. Ward explains his reasoning, we credit his testimony that a difference exists between the purported results obtained (one-handed swipe-to-scroll gesture) and the closest prior art (Palatsi and Moore). Ex. 2057 ¶ 103 (indicating "Palatsi uses single touch inputs to effectuate scrolling and thus does not envision the swipe gesture at all" and a swipe gesture using a single hand "would not be apparent at all" in Moore because "Moore provides touch strips on a large desktop device.").

Patent Owner also presents evidence and testimony regarding post-invention devices providing a "scroll wheel" and "the ability to use a flicking gesture to scroll" to support its position of unexpected results. PO Resp. 43–44 (citing Ex. 1001, 5:44–48; Ex. 2057 ¶¶ 101–05, 107; Ex. 2034; Ex. 2039, 3).

Patent Owner's argument and Mr. Ward's testimony regarding unexpected results of a one-handed swipe-to-scroll gesture, however, are

untethered to the claim language. PO Resp. 43–44; Ex. 2057 ¶¶ 102–03; Ex. 1001, 10:25–55 (claim 1). Patent Owner does not identify any language in claim 1 requiring a one-handed gesture, much less a one-handed gesture to scroll; nor are we able to discern any such language. Because Patent Owner has not provided argument or evidence of the required nexus between elements of independent claim 1 and any unexpected property or results at the time of the invention, we determine Patent Owner has not provided sufficient credible evidence to support its allegations of nonobviousness of independent claim 1 based on secondary considerations. *See* PO Resp. 43 (asserting unexpected results with regard to independent claims 16 and 33). We need not consider evidence of post-invention devices providing a "scroll wheel" and "the ability to use a flicking gesture to scroll," as Patent Owner contends, because independent claim 1 does not require a scroll wheel, scrolling, or a flicking gesture.

e. Conclusion Regarding Independent Claim 1

We determine that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of independent claim 1 would have been obvious over Palatsi and Moore.

4. Dependent Claims 2–11 and 15

Each of claims 2–11 and 15 depends, directly or indirectly, from independent claim 1. Petitioner contends that the combination of Palatsi and Moore would have conveyed the additional limitations recited in these dependent claims to one of ordinary skill in the art. Pet. 40–54. Petitioner provides detailed explanations supported by the testimony of Dr. Wolfe

and specific citations to Palatsi and Moore indicating where in the references the limitations of claims 2–11 and 15 are taught. *Id.* (citing Exs. 1012, 1087, 1205).

Claim 2 additionally recites "the contact-sensitive surface, when the housing is held within the user's hand such that the rear surface confronts the user's palm, confronts a finger or a thumb of the holding hand."[8] Petitioner contends, relying on testimony of Dr. Wolfe, that replacing the soft keys of Palatsi, which are on the front surface of the housing of the telephone, with the touch strips of Moore (i.e., contact-sensitive transducers) would have enabled a user to "hold the radiotelephone of

[8] Patent Owner does not contend that claim 2 would have been nonobvious in light of the purported unexpected property of a one-handed swipe. *See* PO Resp. 43–44 (contending that "claims 1, 16, 30, 33, 58, and 64, as a whole, provides unexpected results over the combination of Palatsi and Moore"). Even if we were to apply Patent Owner's two-page contentions regarding unexpected results to claim 2, Patent Owner's arguments would be unavailing for the same reason discussed previously—Patent Owner does not link any claim language to the purportedly unexpected property and result. For example, Patent Owner does not explain a nexus between the evidence of unexpected results of a "one-handed swipe scrolling on a handheld device" with the claim language requiring that contact-sensitive surface, under certain conditions, confronts a finger or thumb of the holding hand (as recited in claim 2). Claim 2 requires a certain position (i.e., the contact-sensitive surface to confront a finger or thumb of the holding hand) but does not require any movement of the finger or thumb of the holding hand, much less a certain type of movement (i.e., a "swipe" as opposed to a press or other contact similar to pressing a key). Petitioner correctly indicates that Patent Owner has not provided any nexus between the claims and the secondary consideration of unexpected results. Pet. Reply 37–38.

Palatsi by wrapping a finger(s) or thumb of the holding hand around the side of the phone and onto the front surface of the housing to operate the soft keys." Pet. 40–41. Petitioner contends, relying on testimony of Dr. Wolfe, that replacing the soft keys of Palatsi, which are on the front surface of the housing of the telephone, with the touch strips of Moore would have enabled a user to "hold the portable telephone of Palatsi such that the rear surface of the housing opposes the user's palm while a thumb wraps around the phone to confront or engage the contact-sensitive surface of the touch strip." *Id.* at 41 (citing Ex. 1205 ¶ 191).

Claims 3–6 each additionally limit what the controller selectively displays—"an image" (claim 3), "a graphical object" (claim 4), "a row" (claim 5), and "a plurality of graphical objects" (claim 6). Petitioner relies on Palatsi's display of various items for these limitations in its combination of Palatsi and Moore. Pet. 41–43.

In general claims 6–9 recite additional limitations related to the controller operation—"to identify one of the displayed plurality of graphical objects" (claim 6), "to determine a position of contact of an object along the axis of the contact-sensitive transducer" (claim 7), "to highlight one of a plurality of displayed graphical objects" (claim 8), and "to display a cursor that indicates one of a plurality of displayed graphical objects" (claim 9). Petitioner, relying on testimony of Dr. Wolfe, explains how the combination of Palatsi and Moore would have conveyed to one of ordinary skill in the art the additional limitations recited by claims 6–9. *Id.* at 44–49 (citing Ex. 1205 ¶¶ 194–201).

Claim 10 additionally recites "the controller is operative to cause at least one of the display or the radiotelephone communications transceiver to perform a plurality of actions, wherein an action of the plurality of actions is associated with the identified graphical object and wherein the controller is further operative, responsive to the contact-sensitive transducer, to initiate the action associated with the identified graphical object." Petitioner, relying on Dr. Wolfe's testimony providing reasonable explanations, contends that its combination of Palatsi and Moore would have conveyed these limitations to one of ordinary skill in the art. *Id.* at 49–51. For example, Petitioner contends that Palatsi's description of a user scrolling through options on a menu and pressing the soft key again after a pause would have conveyed the required "plurality of actions (i.e., either scroll through the menu options or display the next menu level)" and taking an action associated with an identified graphical object; and initiating the action. *Id.* at 50–51 (citing Ex. 1205 ¶¶ 203–05; Ex. 1087, 3:7–10, 3:20–43, Figs. 3–4).

Claim 11, which depends from claim 10, recites "the controller is operative, responsive to the contact-sensitive transducer to detect a momentary contact with the contact-sensitive transducer and to initiate the action associated with the identified graphical object responsive to detection of the momentary contact." In general, relying on testimony of Dr. Wolfe, Petitioner contends that one of ordinary skill in the art would have understood, based on Palatsi's description of pressing a soft key to "select the currently-displayed menu item and cause the processor to take

the appropriate action corresponding to that item" (Ex. 1087, 3:7–9), that "the equivalent operation would be performed using the touch strip of Moore" and that one of ordinary skill in the art also would have understood pressing a key "to be a momentary contact with the touch strip." Pet. 52 (citing Ex. 1087, 3:7–9, Figs. 3–4; Ex. 1205 ¶ 208). Thus, Petitioner contends that its combination of Palatsi and Moore would have conveyed to one of ordinary skill in the art the additional limitations recited in claim 11. *Id.* at 51–53 (citing Ex. 1087, 3:7–9, Figs. 3–4; Ex. 1012, 3:45–52; Ex. 1205 ¶¶ 207–08).

Patent Owner, however, contends that "Palatsi is only responsive to momentary contacts" and, therefore, Palatsi does not determine an identified graphical object based on a moving contact. PO Resp. 45–46. Petitioner, however, does not rely on Palatsi as disclosing a moving contact but rather relies on Moore's touch strips, as discussed previously with respect to claims 1 and 10. Pet. 27–28 (discussing Moore's touch strips with respect to the claimed contact-sensitive transducer producing an output signal in response to moving contact); *id.* at 51 (discussing the combination of "the mobile telephone of Palatsi using the moving contact-based touch strips of Moore" as conveying to one of ordinary skill in the art a user identifying a graphical object associated with a "desired action by scrolling using the touch strip (i.e., stroking the surface of the touch strip in the desired direction)" (citing Ex. 1205 ¶ 205)).

Patent Owner also contends that, because "[t]he touch strips of Moore have a particular function (such as scrolling) unless deliberately

switched to another function by pressing a key on the keyboard," Moore "does not allow for determining an identified graphical object based on a moving contact and then using a momentary contact to initiate an action with respect to the identified graphical object." PO Resp. 46–47 (citing Ex. 2057 ¶ 113); *id.* at 47 ("Moore simply does not provide for the scrolling function and the menu function to work in conjunction."); *id.* at 48 ("Moore does not teach a contact-sensitive transducer which, when a graphical object that is displayed while the touch strips are used for scrolling, can then become a selectable menu item using 'momentary contact' at the same touch strip while it is being used for menu selection.") (citing Ex. 2057 ¶ 118)).

Patent Owner's contentions, however, do not take into consideration what the combination of Palatsi and Moore set forth by Petitioner would have conveyed to one of ordinary skill in the art. *See, e.g.*, Pet. 52 (after discussing Ex. 1087, 3:7–9, Figs. 3–4 and Ex. 1012, 3:45–52, contending "it would have been apparent to [one of ordinary skill in the art] to initiate the scroll-and-select menu selection functions described with respect to Figs. 3 and 4 of Palatsi (e.g., enter the 'Lights' menu or the 'Messages' menu) associated with the graphical object (the row of text indicating 'Lights" or 'Messages'), by pressing the touch strip location corresponding to a programmed menu selection function key, as described in Moore."). Rather, Patent Owner addresses Palatsi and Moore individually. *Compare* PO Resp. 45–46 (describing purported failing with regard to Palatsi), *with id.* at 46–48 (describing purported failing with regard to Moore); *see id.* at

48–49 (concluding "[t]herefore, Palatsi and Moore do not disclose determining an identified graphical object based on 'moving contact,' received at a contact-sensitive transducer and then initiating an action associated with the identified graphical object responsive to detection of a momentary contact at the same contact-sensitive transducer."); *see also* Pet. Reply 32–34 (indicating Patent Owner does not address the combination relied on by Petitioner), 34 (indicating "the combination provides a scrolling function and menu function that work in conjunction"). One cannot show nonobviousness by attacking references individually where the contentions are based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *In re Keller*, 642 F.2d 413, 426 (CCPA 1981) ("But one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.")).

Claim 15 additionally recites that "the contact-sensitive transducer comprises one of a resistive transducer, a capacitive transducer, and a semiconductive transducer." Petitioner relies on Dr. Wolfe's explanation of how Moore's touch strip is a resistive contact-sensitive transducer. Pet. 53–54 (citing Ex. 1205 ¶ 211; Ex. 1012, 1:60–2:5, 2:38–67, 4:37–41). On this basis, Petitioner and Dr. Wolfe conclude that Petitioner's proposed combination of Palatsi and Moore would have conveyed to one of ordinary skill in the art a resistive contact-sensitive transducer and so meets the requirements of claim 15. *Id.* (citing Ex. 1205 ¶ 211).

We agree with Petitioner's analyses of claims 2–11 and 15 and adopt them as our own. Although the burden remains on the Petitioner to demonstrate by a preponderance of the evidence that the claims are unpatentable (35 U.S.C. § 326(e); 37 C.F.R. § 42.1(d)), we note, for clarity of the record, that Patent Owner does not separately argue dependent claims 2–10 and 15 (*see generally* Patent Owner Response). *See Dynamic Drinkware*, 800 F.3d at 1378.

Based on the full record before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 2–11 and 15 are unpatentable under 35 U.S.C. § 103 as directed to subject matter that would have been obvious to a person of ordinary skill in the art over Palatsi and Moore as set forth by Petitioner.

E. Asserted Ground of Unpatentability over Palatsi, Moore, and Tiilikainen

Petitioner contends that claim 12 is unpatentable under 35 U.S.C. § 103 as obvious over Palatsi, Moore, and Tiilikainen. Pet. 54–59.

1. Summary of Tiilikainen

Tiilikainen describes "a mobile telephone [that] is equipped with an alphanumerical display . . . and a scrolling key." Ex. 1088, 1:19–22, Fig. 1 (showing mobile phone 10 with alphanumerical display 11 and scrolling key 12). Tiilikainen also indicates that a mobile phone may be a "pocket-size phone." *Id.* at 1:4–10.

Tiilikainen further describes "a method of quick-dialing a telephone number" that includes a user making "a selection [of a telephone number

on the mobile telephone's display] by double-pressing, i.e. pressing the required column quickly two subsequent times." Ex. 1088, 1:3–4, 3:22–24; *see id.* at 3:8–19 (describing scrolling to display a telephone number on the mobile telephone's display).

2. Analysis

Claim 12, which depends directly from claim 11 and indirectly from independent claim 1, additionally recites "the controller is operative to initiate the action in response to detection of a plurality of momentary contacts occurring within a predetermined time interval." Petitioner labels "momentary contacts occurring within a predetermined time interval" as "double-tapping." *See* Pet. 58.

Petitioner contends that Tiilikainen's description of making a selection by double-pressing part of a mobile telephone's display would have conveyed to one of ordinary skill in the art the additionally recited limitation in claim 12. *Id.* at 59 (quoting Ex. 1088, 3:22–24) (indicating "the selection can be thought to be activated by double-pressing, i.e. pressing the required column quickly two subsequent times"); *see id.* at 54–55 (describing Tiilikainen's disclosure). Because Tiilikainen describes pressing twice "quickly," Petitioner contends, relying on Dr. Wolfe's testimony, that "quick" is a predetermined time interval and, as such, "the double-pressing of Tiilikainen would occur within a predetermined (i.e., quick) time interval." *Id.* at 59 (citing Ex. 1205 ¶ 210).

According to Dr.Wolfe, one of ordinary skill in the art would have understood that the "double-pressing" described in Tiilikainen "would strongly suggest . . . two momentary contacts with the contact-sensitive transducer (i.e., the touch strip) within a predetermined timeframe." Ex. 1205 ¶ 210 (citing Ex. 1075,[9] 13–15, 22, 24); *see* Pet. 59 (citing Ex. 1205 ¶ 210). Dr. Wolfe testifies how touch sensors used "'land-on-lift-off' strategies (i.e., a momentary contact), as opposed to just a land-on strategy . . . to provide confirmation that a selection is intended prior to initiating an action." Ex. 1205 ¶ 210 (citing Ex. 1075, 13–15, 22, 24). We credit Dr. Wolf's testimony because it comports with Tiilikainen's disclosure and relies on an additional prior art reference for factual support.

We agree with Petitioner's analysis and adopt it as our own. On this basis, we agree with Petitioner's conclusion that the combination of Palatsi, Moore, and Tiilikainen would have conveyed to one of ordinary skill in the art "the controller is operative to initiate the action in response to detection of a plurality of momentary contacts occurring within a predetermined time interval," as recited in claim 12. Pet. 58–59. For these reasons, in addition to the reasons discussed above with respect to independent claim 1 and claim 11, we determine that the combination of Palatsi, Moore, and Tiilikainen as set forth by Petitioner would have

[9] Andrew Sears, et al., *A New Era for Touchscreen Applications: High Precision, Dragging Icons, and Refined Feedback*, 83 Human-Computer Interactions Laboratory, University of Maryland (1990).

conveyed to one of ordinary skill in the art the limitations required by claim 12.

Petitioner relies on the testimony of Dr. Wolfe for reasons that would have prompted one of ordinary skill in the art to combine Tiilikainen's quick-dialing method with the combination of Palatsi and Moore described previously with respect to independent claim 1. *Id.* at 55–58. More specifically, Petitioner further contends one of ordinary skill in the art would have combined Tiilikainen with the combination of Palatsi and Moore to enhance the "user-friendliness" of a mobile telephone, which purportedly would have been consistent with a stated goal of Palatsi. *Id.* at 56–57 (citing Ex. 1087, 1:24–29; Ex. 1205 ¶ 151). Petitioner also contends that one of ordinary skill in the art would have combined the references because both Palatsi and Tiilikainen are patents directed to improving the same manufacturer's mobile telephones. *Id.* (citing Ex. 1205 ¶ 151). In addition, Petitioner asserts combining Tiilikainen with the combination of Palatsi and Moore "amounts to nothing more than employing a 'predictable use of' a method of selecting information displayed on [a] mobile telephone [graphical user interface], as known in the art, to accomplish its 'established function.'" *Id.* at 57–58 (citing Ex. 1205 ¶ 152; quoting *KSR*, 550 U.S. at 417).

These arguments, supported by citations to the references and reasoned testimony by Dr. Wolfe, weigh toward a determination of obviousness. As noted by Petitioner (Pet. 56), Palatsi's disclosure identifies the need for portable telephones to be smaller and easier to carry,

while maintaining functionality by requiring "more basic" and "user friendly" user interface control systems. Ex. 1087, 1:21–29. As Dr. Wolfe explains, this would have been a reason to prompt one of ordinary skill in the art to combine Tiilikainen's quick-dialing method with the combination of Palatsi and Moore—"to further simplify the user interface, [m]aking it both 'more basic' and 'user-friendly,' in line with the stated goal of Palatsi." Ex. 1205 ¶ 151 (citing Ex. 1087, 1:24–29); *see* Pet. 56 (citing Ex. 1205 ¶ 151; Ex. 1087, 1:24–29).

Dr. Wolfe also contends that one of ordinary skill in the art would have combined the references because both Palatsi and Tiilikainen are patents directed to improving the same manufacturer's mobile telephones. Pet. 56 (citing Ex. 1205 ¶ 151). This also weighs toward a determination of obviousness because "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR*, 550 U.S. at 417.

In addition, Dr. Wolfe's testimony—that combining Tiilikainen with the combination of Palatsi and Moore "amounts to nothing more than employing a 'predictable use of' a method of selecting information displayed on [a] mobile telephone [graphical user interface], as known in the art, to accomplish its 'established function'" (Ex. 1205 ¶ 152 (quoting *KSR*, 550 U.S. at 417)) also weighs toward a conclusion of obviousness. *KSR*, 550 U.S. at 417 (In evaluating an obviousness challenge, "a court

must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.").

Patent Owner contends that "the scrolling key of Tiilikainen operates in the same way as the 'soft' keys of Palatsi, in which a single touch operation on the scroll button causes the scrolling operation." PO Resp. 49. Thus, according to Patent Owner, "Tiilikainen is deficient for failing to describe scrolling by way of a ***moving contact*** of an object along the surface of the touch screen" and so Palatsi, Moore, and Tiilikainen fail to render obvious claim 12. *Id.* at 49–50.

As Petitioner correctly notes in its Reply, the arguments in its Petition do not rely on Tiilikainen for teaching scrolling based on moving contact. Pet. Reply 37 (citing Ex. 1012 (Moore), 4:20–28 ("By pressing the scrolling key, the terminal is programmed to permit the displayed text or graphics to be moved vertically or laterally. . . . The user merely strokes the touch strips along their length in the direction in which the displayed [field] is to move.")). Rather, for this feature, Petitioner relies on Moore's teaching of scrolling based on moving contact with (i.e., "stroking") the touch strips in its combination of Palatsi's portable telephone with Moore's touch strips. *Id.*; *see* Pet. 28 (relying on Moore's teaching of stroking touch strips to cause scrolling for the limitation the output signal is produced "in response to moving contact of an object along the contact-sensitive surface of the contact-sensitive transducer"). Notably, Petitioner relies on Tiilikainen in the combination of Palatsi, Moore, and Tiilikainen for teaching "double tapping as a selection mechanism," a feature not

addressed by Patent Owner. *Compare* Pet. 58–59 (indicating "Tiilikainen discloses double tapping"; concluding "Tiilikainen with Palatsi and Moore, therefore, renders obvious double tapping as a selection mechanism"), *with* PO Resp. 50 ("Tiilikainen is deficient for failing to describe scrolling by way of a ***moving contact*** of an object along the surface of the touch screen.").

Accordingly, Patent Owner's contentions regarding claim 12 are unavailing. First, Patent Owner's argument does not address Petitioner's combination that relies on Moore for disclosing "moving contact." Second, one cannot show nonobviousness by attacking references individually where the contentions are based on combinations of references. *Merck*, 800 F.2d at 1097 (citing *Keller*, 642 F.2d at 426).

For these reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claim 12 would have been obvious over Palatsi, Moore, and Tiilikainen.

F. Petitioner's Motion to Exclude

Petitioner moves to exclude Exhibits 2005–2010, 2014–2035, 2038–2041, 2043–2045, 2047–2054, and 2060–2076. Paper 28 (Petitioner's Motion to Exclude), 1. Patent Owner filed an Opposition (Paper 29) to Petitioner's Motion, and Petitioner filed a Reply (Paper 30).

In *inter partes* reviews, documents are admitted into evidence subject to an opposing party asserting objections to the evidence and moving to exclude the evidence. 37 C.F.R. § 42.64. As movant, Petitioner

has the burden of showing that an exhibit is not admissible. 37 C.F.R. § 42.20(c).

Our Final Written Decision does not rely on evidence contained in any of the objected-to exhibits. Accordingly, Petitioner's Motion to Exclude is dismissed as moot.

III. CONCLUSION

We have considered (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. Based on the evidence and arguments, Petitioner has demonstrated by a preponderance of the evidence that (i) the subject matter of claims 1–11 and 15 is unpatentable under 35 U.S.C. § 103 over Palatsi and Moore and (ii) the subject matter of claim 12 is unpatentable under 35 U.S.C. § 103 over Palatsi, Moore, and Tiilikainen.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1–12 and 15 of U.S. Patent No. RE43,931 E have been shown to be unpatentable;

FURTHER ORDERED that Petitioner's Motion to Exclude is denied; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceedings seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

FOR PETITIONER:

Jeffrey Killian
John D Zele
Bradford A. Cangro
Jeremy D. Peterson
Adam Brooke
Robert J. Gaybrick
Leeger Yu
MORGAN LEWIS & BOCKIUS LLP
jeffrey.killian@morganlewis.com
john.zele@morganlewis.com
bradford.cangro@morganlewis.com
jeremy.peterson@morganlewis.com
adam.brooke@morganlewis.com
robert.gaybrick@morganlewis.com
leeger.yu@morganlewis.com

Martin R. Bader
Stephen S. Korniczky
Nam H. Kim
Hector A. Agdeppa
Daniel N. Yannuzzi
David E. Heisey
Jesse Salen
SHEPPARD MULLIN RICHTER & HAMPTON LLP
mbader@sheppardmullin.com
skorniczky@sheppardmullin.com
nkim@sheppardmullin.com
hagdeppa@sheppardmullin.com
LegalTm-TCL-IPRs@sheppardmullin.com
dheisey@sheppardmullin.com
jsalen@sheppardmullin.com

FOR PATENT OWNER:

W. Todd Baker
Sameer Gokhale
Lisa Mandrusiak
Alex Kuo
OBLON, MCCLELLAND, MAIER & NEUSTADT, LLP
CPDocketBaker@Oblon.com
CPDocketGokhale@oblon.com
CPDocketMandrusiak@oblon.com
CPDocketKuo@oblon.com