

Petition for *Inter Partes* Review of
U.S. Patent No. 8,836,842

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTOROLA MOBILITY LLC and
GOOGLE LLC,
Petitioners,

v.

MULTIFOLD INTERNATIONAL INCORPORATED PTE. LTD.,
Patent Owner.

Case IPR2025-00038

Patent No. 8,836,842

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 8,836,842**

TABLE OF CONTENTS

	Page
I. Introduction.....	1
II. Mandatory Notices.....	3
A. Real Party-in-Interest	3
B. Related Matters.....	3
C. Notice of Counsel and Service Information.....	4
III. Requirements for IPR	5
A. Standing.....	5
B. Challenge and Relief Requested	5
IV. Discretionary Denial is Unwarranted	7
A. 35 U.S.C. § 314(a).....	7
B. 35 U.S.C. § 325(d).....	9
V. Overview Of The '842 Patent.....	10
A. Relevant Prosecution History.....	11
VI. Prior Art Overview	11
A. Chin	11
B. Whitehorn.....	14
VII. Claim Construction.....	16
A. Level of Ordinary Skill in the Art.....	16
B. “screen”	16
C. “display”	17
VIII. The Challenged Claims Are Unpatentable	17
A. Ground 1: The Challenged Claims are Anticipated by Chin	17
1. Claim 1	17
2. Claim 2	33
3. Claim 3.....	35
4. Claim 4.....	35
5. Claim 5.....	37

TABLE OF CONTENTS

	Page
6. Claim 6.....	38
7. Claim 7.....	39
8. Claim 10.....	39
9. Claim 11.....	40
10. Claim 12.....	47
11. Claim 13.....	48
12. Claim 16.....	49
13. Claim 17.....	51
14. Claim 19.....	51
15. Claim 20.....	51
B. Ground 2: The Challenged Claims Would Have Been Obvious in View of Chin.....	52
C. Ground 3: Claims 1-7 and 11 Are Anticipated by Whitehorn.....	57
1. Claim 1.....	57
2. Claim 2.....	69
3. Claim 3.....	73
4. Claim 4.....	73
5. Claim 5.....	73
6. Claim 6.....	74
7. Claim 7.....	74
8. Claim 11.....	75
D. Ground 4: Claims 1-7 and 11 Would Have Been Obvious in View of Whitehorn.....	80
E. Secondary Considerations of Non-Obviousness.....	84
IX. Conclusion.....	85

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH</i> , IPR2019-01469, Paper 6 (Feb. 13, 2020)	9
<i>Apple Inc. v. Fintiv, Inc.</i> , IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020)	7, 8, 9
<i>Monsanto Tech. LLC v. E.I. Dupont De Nemours & Co.</i> , 878 F.3d 1336 (Fed. Cir. 2018)	52
<i>Multifold International Incorporated Pte. Ltd. v. Google LLC</i> , C.A. No. 23-1323-JLH	3, 7
<i>Multifold International Incorporated Pte. Ltd. v. Motorola Mobility LLC</i> , C.A. No. 23-1173-JLH	3, 7
<i>Multifold International Incorporated Pte. Ltd. v. Samsung Electronics Co., Ltd. et al</i> , Case No. 2-21-cv-00371 (E.D. Tex.)	4
<i>Realtime Data, LLC v. Iancu</i> , 912 F.3d 1368 (Fed. Cir. 2019)	52, 80
<i>Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC</i> , IPR2019-01393, Paper 24, 7 (PTAB June 16, 2020)	7, 8
<i>Thorner v. Sony Computer Entertainment America LLC</i> , 669 F.3d 1362 (Fed. Cir. 2012)	17
<i>Unification Techs. LLC v. Micron Tech. Inc.</i> , No. 2023-1348, 2024 WL 3738401 (Fed. Cir. Aug. 9, 2024)	52
Statutes	
35 U.S.C. § 102	6, 52

Petition for *Inter Partes* Review of
U.S. Patent No. 8,836,842

35 U.S.C. § 103.....	6, 52
35 U.S.C. §112.....	16
35 U.S.C. § 314.....	7
35 U.S.C. § 315.....	4
35 U.S.C. § 325.....	9

Other Authorities

37 C.F.R. § 42.8(b)(1).....	3
-----------------------------	---

LISTING OF EXHIBITS

Exhibit	Description
1001	U.S. Pat. No. 8,836,842 to Sirpal
1002	File History for U.S. Pat. No. 8,836,842 to Sirpal
1003	Declaration of Dr. Jeffrey J. Rodriguez
1004	U.S. Pub. 2009/0190295 A1 to Chin
1005	U.S. Pub. 2005/0078211 A1 to Whitehorn
1006	U.S. Pub. 2012/0139815 A1 to Aono
1007	Scheduling Order in the District Court Actions, dated April 29, 2024
1008	E-mail from counsel for Patent Owner, dated September 27, 2024, identifying the asserted claims in the District Court Actions
1009	U.S. Patent No. 7,471,890 to Lee
1010	U.S. Patent Application Publication No. 2011/0193806 A1 to Kim
1011	U.S. Patent App. Pub. No. 2002/0142810 to Kawasaki
1012	U.S. Patent Publication No. 2010/0048190 to Park
1013	U.S. Patent Application Publication No. 2010/0248788 to Yook
1014	Curriculum Vitae of Dr. Jeffrey J. Rodriguez

LIST OF CHALLENGED CLAIMS

Limitation	Claim Language
[1P]	A method, comprising:
[1A]	providing a device having at least first and second screens;
[1B]	receiving user interface input to execute an image capture function;
[1C]	determining one or more of an image capture function configuration, a device orientation, and a device state; and
[1D]	based on one or more of the image capture function configuration, the device orientation, and the device state, entering one of one or more image capture mode,
	wherein in each image capture mode a display on the first or second screen is different.
[2]	The method of claim 1, wherein the image captures function is configured to capture an outward-facing image.
[3]	The method of claim 2, wherein the device is in a closed state.
[4]	The method of claim 3, wherein the device is in a landscape or portrait orientation.
[5]	The method of claim 4, wherein a lens is associated with either the first or second screen.
[6]	The method of claim 5, wherein, in the image capture mode, the device does not display an image on a first screen and displays a preview on a second screen.
[7]	The method of claim 5, wherein the first screen is disabled and does not receive user interface input while in the image capture mode.
[10]	The method of claim 5, wherein in one or more controls are presented on a second screen.
[11P]	A device, comprising:
[11A]	a first screen, the first screen including a first gesture capture region;
[11B]	a second screen, wherein the second screen faces an opposite direction from the first screen when the device is closed, and wherein an image capture lens is associated with the second screen;
[11C]	a memory;
[11D]	a processor in communication with the memory, the first screen, and the second screen, the processor operable to:

[11E]	receive user interface input to execute an image capture function;
[11F]	determine one or more of an image capture function configuration, a device orientation, and a device state;
[11G]	based on one or more of the image capture function configuration, the device orientation, and the device state, enter one of one or more image capture modes, wherein in each image capture mode a display on the first or second screen is different.
[12]	The device of claim 11, wherein the image capture function is configured to capture an outward-facing image, wherein the device is in a closed state, and wherein the device is in a landscape orientation.
[13]	The device of claim 11, wherein the image capture mode is one of a full and disabled mode, a full and static mode, or a full and live mode, wherein in the full and disabled mode, the first screen displays a preview of an image to be captured and the second screen is disabled, wherein in the full and static mode, the first screen displays a preview of an image to be captured and the second screen is displays a static image, and wherein in the full and live mode, the first screen displays a first preview of an image to be captured and the second screen displays a second preview of the image to be captured.
[16P]	A non-transitory computer readable medium having stored thereon computer-executable instructions, the computer executable instructions causing a processor of a device to execute a method for providing a user interface, the computer-executable instructions comprising:
[16A]	instructions to receive user interface input to execute an image capture function;
[16B]	instructions to determine one or more of an image capture function configuration, a device orientation, and a device state, wherein the device has at least first and second screens, wherein the device is in a closed state, wherein, in the closed state, the first and second screens face opposite directions, wherein the image capture function is configured to capture an outward-facing image, wherein the device is in a landscape orientation, and wherein an image capture lens is associated with the second screen;

Petition for *Inter Partes* Review of
U.S. Patent No. 8,836,842

[16C]	based on one or more of the image capture function configuration, the device orientation, and the device state, instructions to enter one of one or more image capture modes,
[16D]	wherein in each image capture mode a display on the first or second screen is different,
[16E]	wherein the image capture mode is one of a full and disabled mode, a full and static mode, or a full and live mode.
[17]	The non-transitory computer readable medium of claim 16, wherein in the full and disabled mode, the first screen displays a first preview of an image to be captured and the second screen is disabled, wherein in the full and static mode, the first screen displays a first preview of an image to be captured and the second screen is displays a static image, and wherein in the full and live mode, the first screen displays a first preview of an image to be captured and the second screen displays a second preview of the image to be captured
[19]	The non-transitory computer readable medium of claim 17, wherein user interface input for the second screen is disabled.
[20]	The non-transitory computer readable medium of claim 16, wherein the image is one of a picture and a video.

I. Introduction

Petitioners Motorola Mobility LLC (“Motorola”) and Google LLC (“Google”) (collectively, “Petitioners”) respectfully request *inter partes* review of claims 1-7, 10-13, 16-17, and 19-20 (the “Challenged Claims”) of U.S. Patent No. 8,836,842 (Ex. 1001, “’842 patent”), which is assigned to Multifold International Incorporate Pte. Ltd. (“Multifold” or “Patent Owner”).

By September 2011, the earliest claimed priority date of the ’842 patent, handheld devices like cell phones and personal digital assistants had long been known in the art and indeed were ubiquitous. These devices had various functions, typically including being able to take pictures or videos. Many of these devices could have different physical configurations (e.g., open or folded closed) and different image capture function configurations (e.g., taking an outward-facing image or inward-facing image, or self-portrait). And many of these devices has more than one screen.

The ’842 patent relates to just such a device with multiple screens that could capture images in different configurations and be physically configured in different states. The subject matter of the Challenged Claims purportedly differs from the prior art only in that “in each image capture mode a display on the first or second screen is different”; this limitation was cited by the applicant and patent examiner in

securing allowance. But this functionality also was known in the prior art, including in the two principal references discussed in this Petition, Chin and Whitehorn.

Chin teaches a dual-screen handheld device with two different imaging modes (a self-photographing mode and another mode for taking outward-facing images), and the device's two screens each display a preview image or not depending on the mode. Similarly, Whitehorn teaches a multi-screen handheld device with a "first" and "second" image capture mode, with the display on one of the screens changing (either on or off) between the two modes. The Challenged Claims are anticipated by Chin and/or Whitehorn. At the least, any minor differences between the subject matter of the Challenged Claims and the disclosures of Chin and/or Whitehorn would have been obvious to one of ordinary skill in the art.

II. Mandatory Notices

A. Real Party-in-Interest

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioners identify Motorola Mobility LLC¹ and Google LLC² and as the real party-in-interest.

B. Related Matters

The '842 patent is currently the subject of two patent infringement lawsuits brought by Patent Owner, *Multifold International Incorporated Pte. Ltd. v. Motorola Mobility LLC*, C.A. No. 23-1173-JLH pending in the United States District Court for the District of Delaware (“*Motorola Action*”) and *Multifold International Incorporated Pte. Ltd. v. Google LLC*, C.A. No. 23-1323-JLH pending in the United States District Court for the District of Delaware (“*Google Action*”) (collectively, the “District Court Actions”). On October 18, 2023, Multifold served Motorola the

¹ Petitioner Motorola Mobility LLC is a direct, wholly owned subsidiary of Motorola Mobility Holdings LLC, which is indirectly a wholly-owned subsidiary of Lenovo Group Ltd. Motorola Mobility Holdings LLC and Lenovo Group Ltd. are not real parties-in-interest to this proceeding.

² Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

Petition for *Inter Partes* Review of
U.S. Patent No. 8,836,842

complaint in the Motorola Action. On November 20, 2023, Multifold served Google the complaint in the Google Action. Thus, this petition is timely under 35 U.S.C. § 315(b). The '842 patent was previously asserted in *Multifold International Incorporated Pte. Ltd. v. Samsung Electronics Co., Ltd. et al*, Case No. 2-21-cv-00371 (E.D. Tex.), which was dismissed on June 2, 2022, with the court's grant of a joint motion to dismiss.

C. Notice of Counsel and Service Information

Petitioners designate the following counsel:

Counsel For Petitioner Motorola: (1) T. Vann Pearce, Jr. (lead counsel) (Registration No. 58,945), (2) Christopher J. Higgins (backup counsel) (Registration No. 66,422), (3) Geoffrey Moss (backup counsel) (*pro hac vice* to be filed), (4) Elaine Ke (backup counsel) (*pro hac vice* to be filed).

Service Information for Petitioner Motorola: Orrick, Herrington & Sutcliffe LLP, 2050 Main Street, Suite 1100, Irvine, CA 92614, Telephone: (949) 567-6700, Facsimile: (949) 567-6710, Email: TVPPTABDocket@orrick.com, 0CHPTABDocket@orrick.com.

Counsel For Petitioner Google: (1) Naveen Modi (backup counsel) (Registration No. 46,224, naveenmodi@paulhastings.com), (2) Joseph E. Palys (backup counsel) (Registration No. 46,508, josephpalys@paulhastings.com), (3) Daniel Zeilberger (backup counsel) (Registration No. 65,349,

Petition for *Inter Partes* Review of
U.S. Patent No. 8,836,842

danielzeilberger@paulhastings.com), (4) Howard Herr (backup counsel) (*pro hac vice* to be filed), (5) Quadeer Ahmed (backup counsel) (Registration No. 60,835, quadeerahmed@paulhastings.com), and (6) David Valente (backup counsel) (Reg. No. 76,287, davidvalente@paulhastings.com).

Service Information for Petitioner Google: Paul Hastings LLP, 2050 M Street NW, Washington, D.C. 20036, Tel.: 202.551.1700, Fax: 202.551.1705, email: PH-Google-Multifold-IPR@paulhastings.com.

Petitioners consent to service by electronic mail at the addresses listed above. Petitioners' Powers of Attorney are filed herewith.

The USPTO is authorized to charge the filing fee and any other fees incurred by Petitioners to the deposit account of Orrick, Herrington, & Sutcliffe LLP: 15-0665.

III. Requirements for IPR

A. Standing

Petitioners certify that the '842 patent is available for IPR, and that Petitioners are not barred or estopped from requesting this review.

B. Challenge and Relief Requested

Petitioners rely on the following references: U.S. Patent Appl. No.

Petition for *Inter Partes* Review of
U.S. Patent No. 8,836,842

2009/0190295 A1 (Ex. 1004, “Chin”)³, published on July 30, 2009; and U.S. Patent Appl. No. 2005/0078211 A1 (Ex. 1005, “Whitehorn”)⁴, published on April 14, 2005. These references were published more than one year before the ’842 patent’s earliest priority claim (September 27, 2011)⁵, thus, these references are prior art at least under pre-AIA 35 U.S.C. §102(b).

Petitioners request that the Challenged Claims be determined unpatentable and canceled on the following grounds:

Ground 1: The Challenged Claims are unpatentable under pre-AIA 35 U.S.C. § 102 as being anticipated by Chin.

Ground 2: The Challenged Claims are unpatentable under pre-AIA 35 U.S.C. § 103 as being obvious in view of Chin.

³ Chin was assigned to Samsung Techwin Co., Ltd. Chin issued as U.S. Patent No. 8,208,249 on June 26, 2012.

⁴ Whitehorn was assigned to Hewlett Packard Company.

⁵ Petitioners do not concede that the ’842 patent is entitled to such a priority date and reserve the right to challenge such priority claim in this proceeding and other proceedings.

Ground 3: Claims 1-7 and 11 are unpatentable under pre-AIA 35 U.S.C. § 102 as being anticipated by Whitehorn.

Ground 4: Claims 1-7 and 11 are unpatentable under pre-AIA 35 U.S.C. § 103 as being obvious in view of Whitehorn.

This Petition is supported by the Declaration of Dr. Jeffrey J. Rodriguez (Ex. 1003).

IV. Discretionary Denial is Unwarranted

A. 35 U.S.C. § 314(a)

The factors set forth in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”) factors strongly favor institution and weigh against discretionary denial here.

1. *Possibility of a Stay*

Motorola and Google may request a stay of the *Motorola* Action and *Google* Action, respectively, if institution is granted. Thus, this factor is neutral. *See, e.g., Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24, 7 (PTAB June 16, 2020) (“*Sand Revolution*”) (the Board will not attempt to predict how the district court litigation will proceed).

2. *The Courts’ Trial Dates*

This factor favors institution. Trial in the *Motorola* Action is scheduled for August 3, 2026. Ex. 1007, ¶23. Trial in the *Google* Action is scheduled for

November 16, 2026. *Id.* This IPR should conclude months before either trial. Accordingly, this factor weighs heavily against a discretionary denial.

3. *Investment in the Parallel Proceedings*

This factor favors institution. To date, the parties and Court have invested relatively little in the District Court Actions, particularly as to invalidity. Discovery recently commenced and the parties have served their respective initial contentions. Ex. 1007, ¶7. The claim construction process has not begun, and the claim construction hearing is not until June 27, 2025, after the expected date of the institution decision. Ex. 1007, ¶14. No depositions have occurred, no expert discovery has been conducted, and no summary judgment motions have been filed. *See Sand Revolution*, 11.

Moreover, Petitioners proceeded with reasonable diligence. Patent Owner has asserted sixteen patents and initially asserted over 100 asserted claims in the litigation. Petitioners filed this Petition within three months of receiving Patent Owner's initial infringement contentions and just two weeks after Patent Owner was required to narrow the number of Asserted Claims from 100 to 40. Ex. 1007, ¶8. "[I]t is often reasonable for a petitioner to wait to file its petition until it learns which claims are being asserted against it in the parallel proceeding." *Fintiv* at 11.

4. *Overlap of Issues with the Parallel Proceeding*

This factor favors institution and should be given significant weight because Petitioners challenge claims not currently at issue in the District Court Actions, specifically, Patent Owner does not assert Claims 2, 5-7, 10, 12-13, 16-17, and 19-20. Ex. 1008.

5. *Overlap of Parties*

Petitioners and Patent Owner are the parties in the District Court Actions. This, however, is of little moment as the parties overlap in most situations where the patent-at-issue is both the subject of an IPR petition and asserted in district court.

6. *Other Circumstances That Impact the Board's Exercise of Discretion, Including the Merits*

The merits of this Petition strongly favors institution. *See Fintiv* at 14-15 (instituting particularly meritorious petitions is favored because it “may serve the interest of overall system efficiency and integrity”). This petition is premised on prior art not previously considered by the Patent Office that plainly teaches and renders obvious what the Challenged Claims require.

B. 35 U.S.C. § 325(d)

This Petition relies on prior art references that were not of record during the prosecution of the '842 patent. *See generally* Ex. 1001, 1002. The arguments presented here also differ substantially from those presented during prosecution. The Examiner determined that the prior art of record failed to teach “[w]herein in each

image capture mode a display on the first or second screen is different.” Ex. 1002, p. 56-57. Both Chin and Whitehorn disclose this limitation. Thus, denial under Section 325(d) would be inappropriate. *See Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (Feb. 13, 2020) (precedential).

V. Overview Of The '842 Patent

The '842 patent recognizes that “[t]he small form factor of handheld computing devices requires a careful balancing between the displayed graphics and the area provided for receiving inputs.” Ex. 1001, 1:26-28. Many such devices use “a touch screen display not only to deliver display information to the user but also to receive inputs from user interface commands.” *Id.*, 1:16-19. The '842 patent considers conventional single-display touch screen devices to be “crippled” by space constraints. *Id.*, 1:37-41.

The '842 patent is instead directed to a “dual multi-display handheld computing device.” *Id.*, 1:45-48. Relevant here, the '842 patent describes devices, with at least two screens, capable of image capture functions. *Id.*, 1:63-67. The screens may face opposite directions when the device is closed. *Id.*, 1:56-57. These devices are further capable of different image capture modes or configurations depending on image function configuration, device orientation, or device state. *Id.*, 1:67-2:3.

A. Relevant Prosecution History

The examiner only issued one rejection during prosecution of the '842 patent's application. In relevant part, the examiner rejected pending claims 1-10 as anticipated by U.S. Patent No. 7,626,630, but allowed pending claims 11-15. Ex. 1002, 82-84. The applicant responded by amending claim 1 to include the language, "wherein in each image capture mode a display on the first or second screen is different," which was cited by the examiner in allowing claims 11-15. *Id.*, 54, 84. A notice of allowance followed. *Id.*, 40.

VI. Prior Art Overview

A. Chin

Chin describes as background art how "[p]ortable information terminals" like cellular phones and PDAs "perform various functions in an all-in-one type module" including a "digital camera function." Ex. 1004, [0005-0006]. Chin notes some drawbacks to the image capture capabilities of these devices. When photographing, "to stand the conventional portable information terminal in a folded state, a separate stand or rest ... is required." *Id.*, [0010]. And, "[w]hen a user performs a self-photographing function ... it is desirable for the user to be able to view him or herself," but it is "difficult and complex to design the portable information terminal" having a rotatable display apparatus to make this possible. *Id.*, [0012].

To address these shortcomings, Chin is directed to a portable electronic device (*i.e.*, an information terminal) “with two panels that are each hingably coupled with a connecting unit for moving the panels between first and second folded states.” Ex. 1004, [0003]. Figures 1, 5, and 6 illustrate a device in various folded states, two display units **51** and **52**, and a digital camera **40** and a second button unit **33a** that includes a camera operating button:

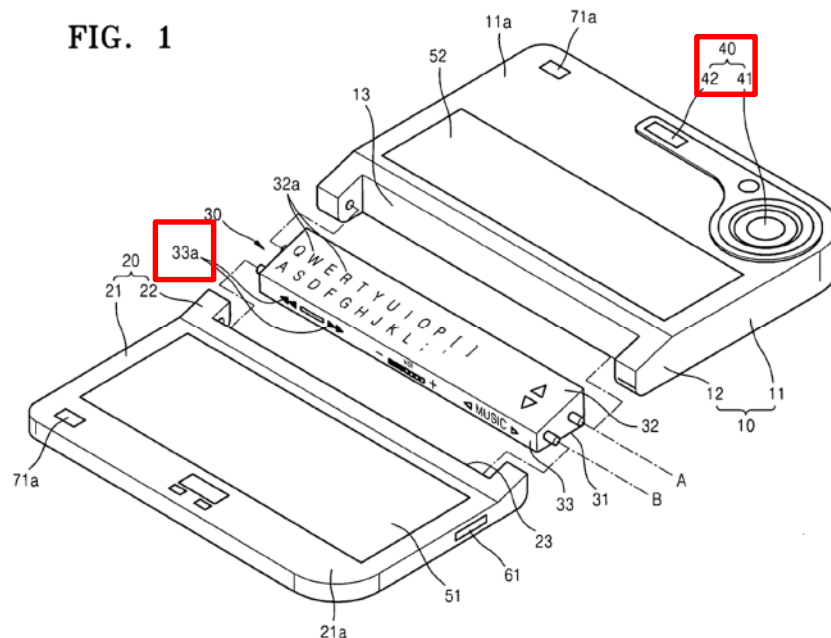


FIG. 5

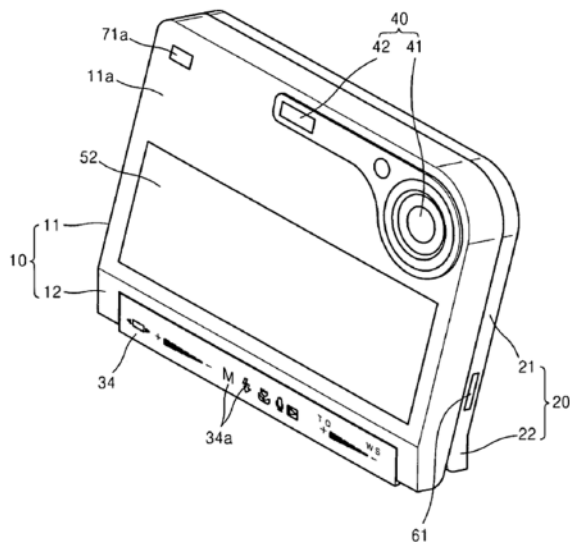
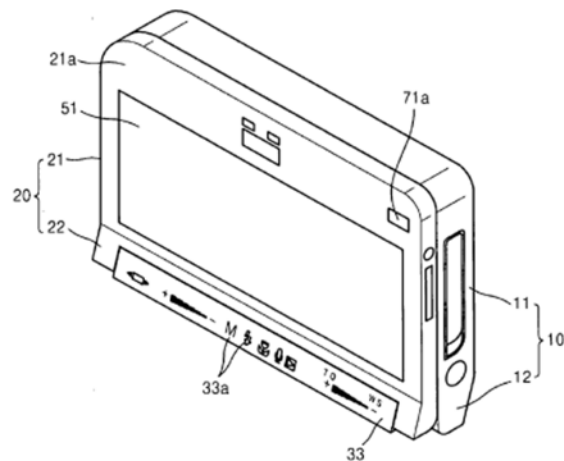


FIG. 6



Id., [0044], [0052]-[0053].

The device has sensors to determine the folded state of the device. *Id.*, [0023], [0050], [0054]. In one embodiment, “[w]hen the positions of the first and second panels are in a state in which a digital camera can be used, it is judged in step S150 whether the portable information terminal is set or otherwise being used in a self-photographing mode.” *Id.*, [0077]. The device enters one of two image capture modes based on whether it is in self-photographing mode or not, with each display unit displaying images to perform a preview function, or not, depending on the mode. *Id.*, [0077]-[0079].

B. Whitehorn

Like Chin, Whitehorn describes as background “PDAs” that may include a cell phone, touch pads, and a camera, the latter of which Whithorn describes as a “must have” feature. Ex. 1005, [0004]-[0006]. But cameras in these handheld devices “often are very awkward to use and/or have limited capabilities.” *Id.*, [0006].

Whitehorn is directed to a “handheld device with integral axial camera” **116** with top and bottom covers **106** and **108** that rotate about an axis defined by a hinge **104**. *Id.*, [0008], [0020], [0022]. The top and bottom covers each include a “large screen interface” **128** and **124**. *Id.*, [0023]-[0024]. Figures 1, 2, 3, and 5 illustrate.

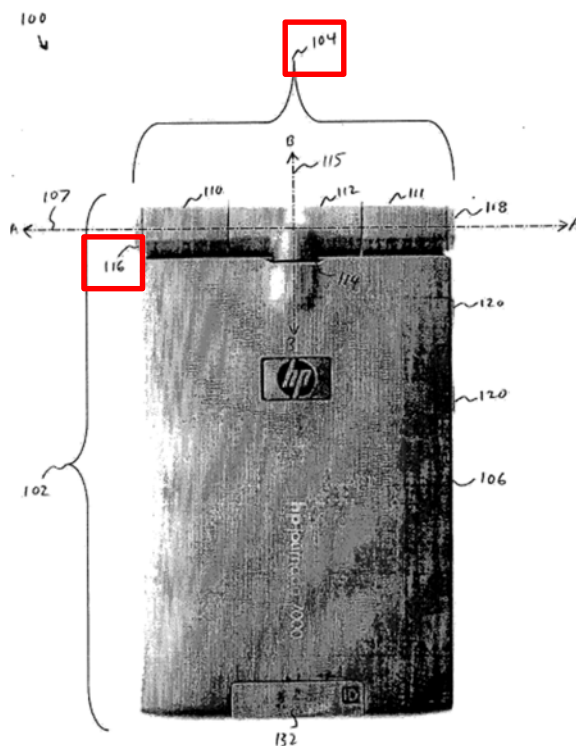


Fig. 1

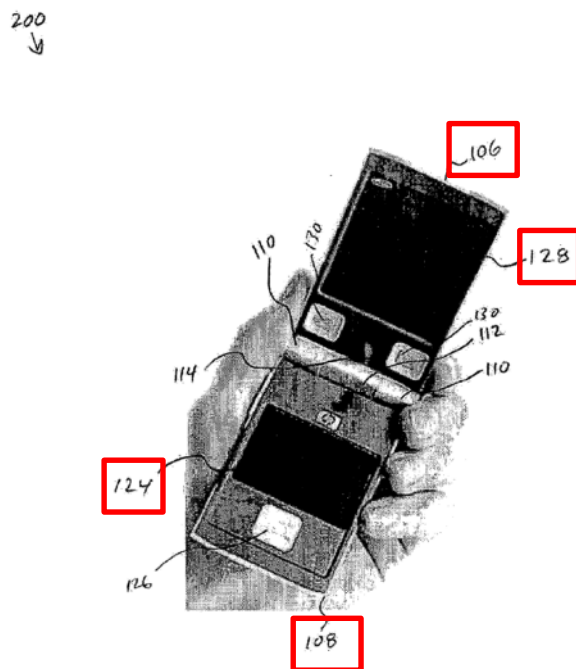


Fig. 2

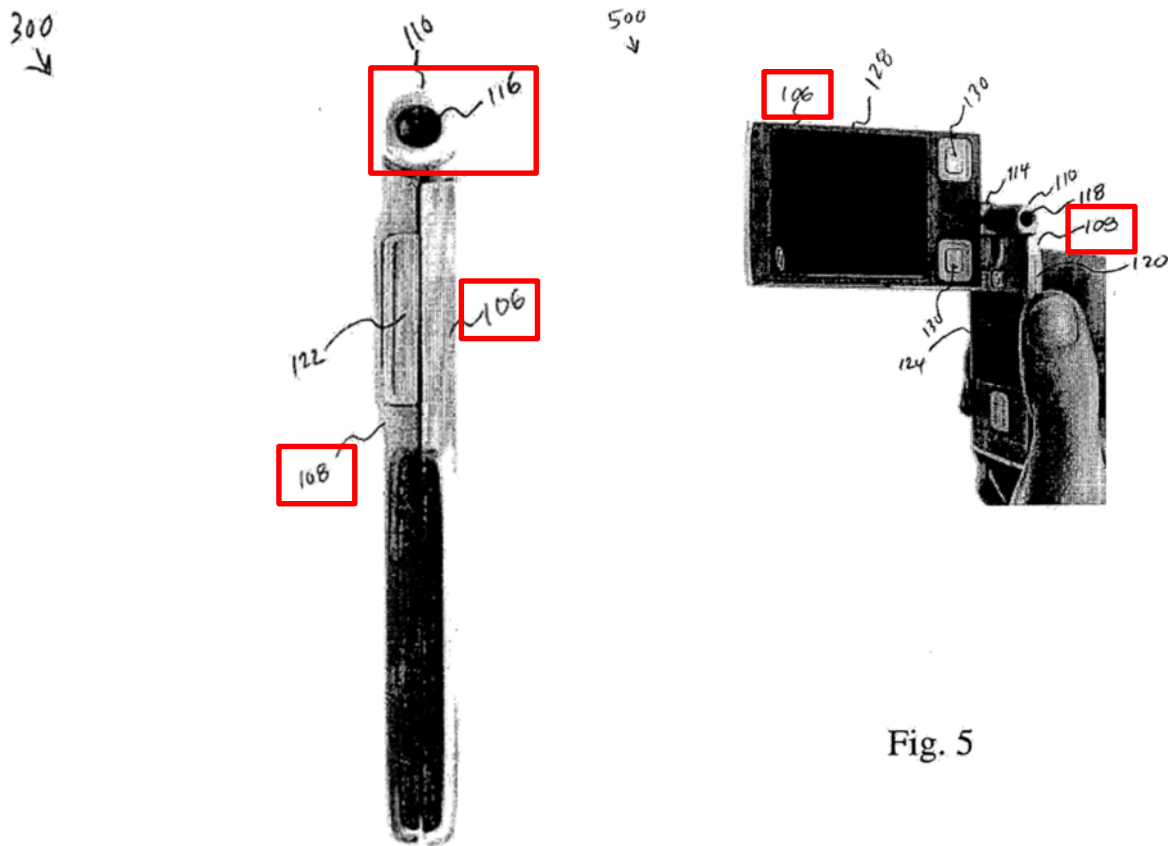


Fig. 3

Fig. 5

Id., [0008], [0020], Figs. 1, 2, 3, 5.

“Rotation of the top and bottom covers **106** and **108** with respect to each other automatically determines a mode in which the device **102** operates” including, in one embodiment, a “first image capture mode,” and a “second image capture mode.” *Id.*, [0021]. In the two modes, the top large screen interface is either closed and not displaying anything, as shown in Figures 1 and 3, or is displaying what the camera is capturing, as shown in Figure 5. *Id.*, [0027], [0029].

VII. Claim Construction⁶

A. Level of Ordinary Skill in the Art

A person of ordinary skill in the art at the time of the alleged invention of the '842 patent (“POSITA”) would have had at least a bachelor’s degree in electrical engineering, computer engineering, computer science, or a related field plus at least two years of work or post-graduate experience in image capture, image processing, image display, user interfaces, or a related field. Additional education could offset a lesser amount of experience and vice versa.

B. “screen”

The '842 patent expressly defines the term “screen”: “The term ‘screen,’ ‘touch screen,’ or ‘touchscreen’ refers to a physical structure that includes one or more hardware components that provide the device with the ability to render a user interface and/or receive user input.” Ex. 1001, 2:63-65. A POSITA would have understood the term “screen” in the claims to have this meaning expressly set forth

⁶ Petitioners reserve all rights to raise claim construction and other arguments, including challenges under 35 U.S.C. §112, in district court as relevant to those proceedings. A comparison of the claims to any accused products in litigation may raise controversies that are not presented here given the similarities between the references and the Challenged Claims.

in the specification. Ex. 1003 ¶¶ 55-56; *see also Thorner v. Sony Computer Entertainment America LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (a patentee acts as a lexicographer by “clearly set[ting] forth a definition of the disputed claim term.”

C. “display”

The ’842 patent also expressly defines “display” when used as a noun: “The term ‘display’ refers to a portion of one or more screens used to display the output of a computer to a user.” Ex. 1001, 3:28-29. A POSITA likewise would have understood the term “display” in the claims to have this meaning expressly set forth in the specification. Ex. 1003 ¶¶ 55-56; *see also Thorner*, 669 F.3d at 1365.

VIII. The Challenged Claims Are Unpatentable

A. Ground 1: The Challenged Claims are Anticipated by Chin

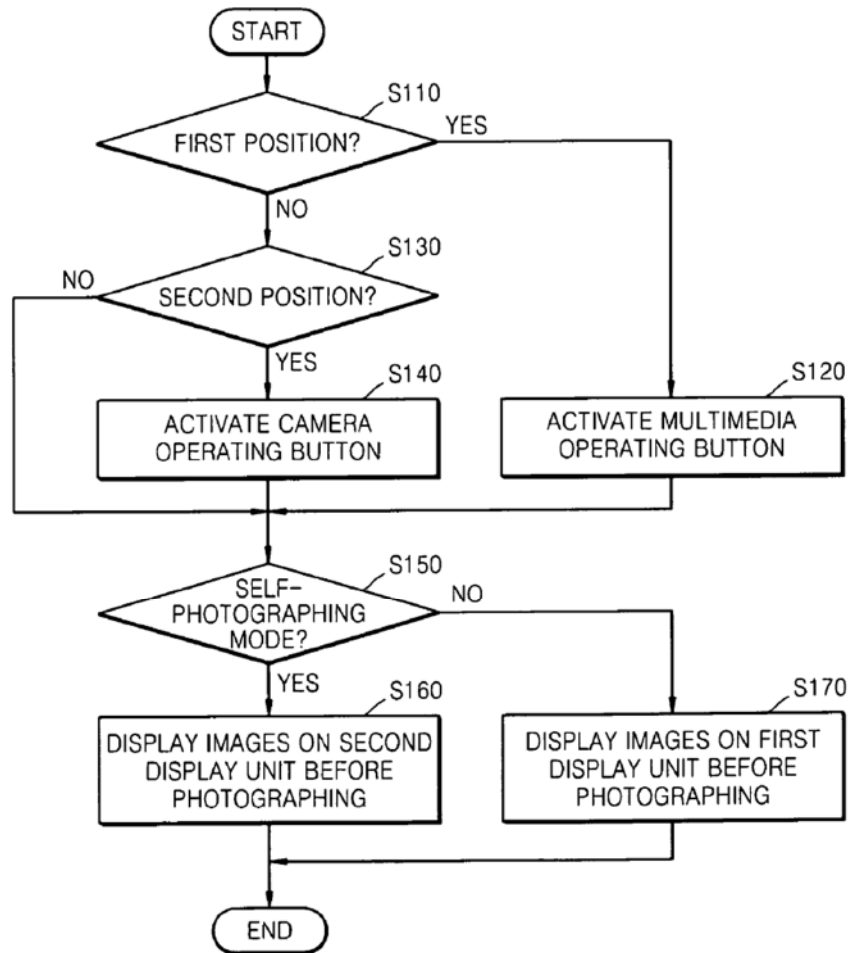
1. Claim 1

Chin discloses all the limitations of claim 1, as set forth below, and thus anticipates claim 1.

[1P] A method, comprising:

If the preamble is limiting, Chin discloses this limitation. Chin discloses a method with the steps set forth in the following sections. Chin illustrates an example method of controlling the disclosed device in Figure 9:

FIG. 9



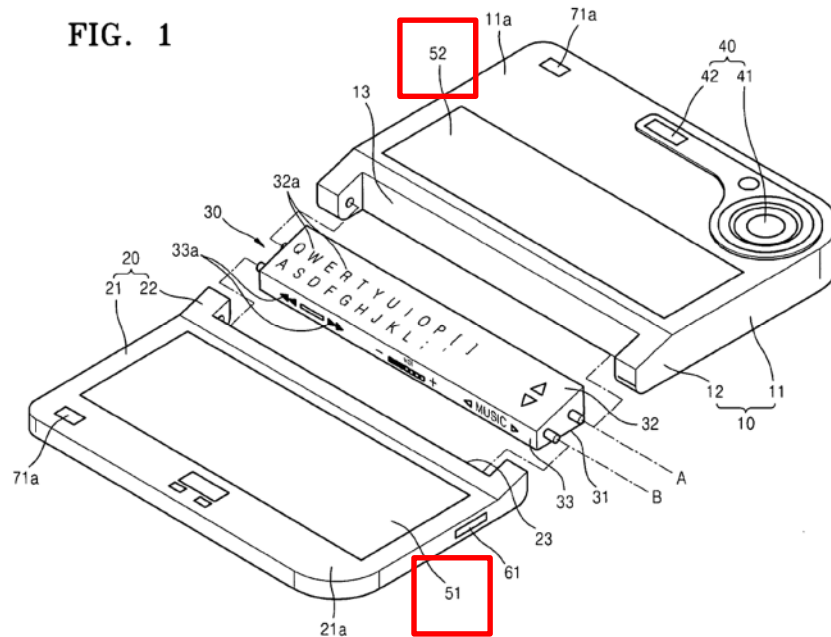
Ex. 1004, Fig. 9, [0036], [0074]-[0079].

[1A] providing a device having at least first and second screens;

Chin discloses this limitation. Ex. 1003, ¶¶ 96-100.

Chin discloses “a portable information terminal with two panels that are each hingably coupled with a connecting unit for moving the panels between first and second folded states.” Ex. 1004, [0003]. The panels may have one or more display units and a digital camera. *Id.*, [0022], [0024]-[0027].

Chin illustrates first and second display units:



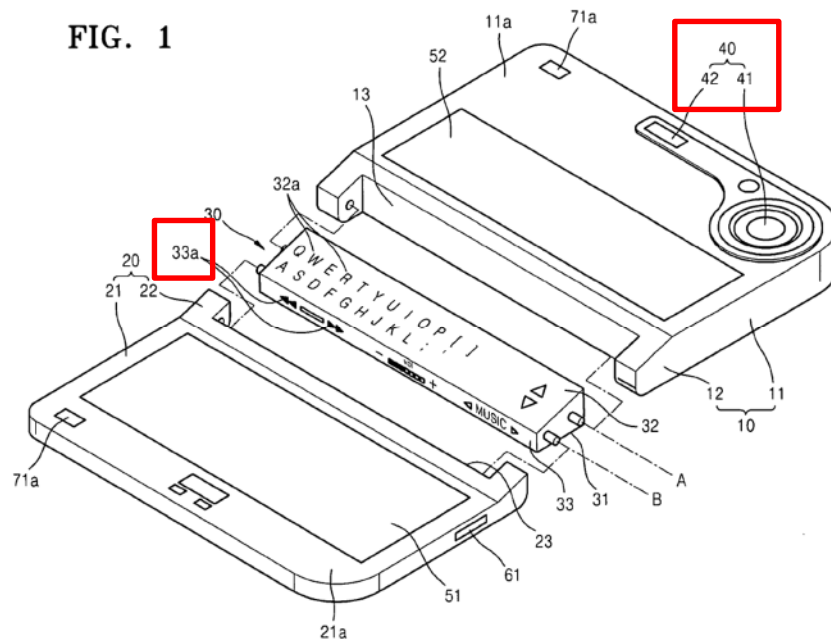
Id., Fig. 1. The “first display unit **51** may be a display apparatus such as a color liquid crystal display (LCD) apparatus and the like for **displaying** web pages, text, or images,” *Id.*, [0045].⁷ The “second display unit **52** may cooperate with the camera 40 for facilitating a preview function in which images are **displayed** before the images are captured by the digital camera.” *Id.*, [0046]. Chin’s displays also may be of a “touch screen-type.” *Id.*, [0061]; *see infra* Section VIII.A.9 with respect to limitation [11A].

⁷ All italicized or bold italicized emphasis or color in figures in this Petition is added unless otherwise noted.

Accordingly, the first and second display units taught by Chin are the claimed “screens,” that is, hardware components that provide the device with the ability to render a user interface and/or receive user input. Ex. 1003, ¶ 100.

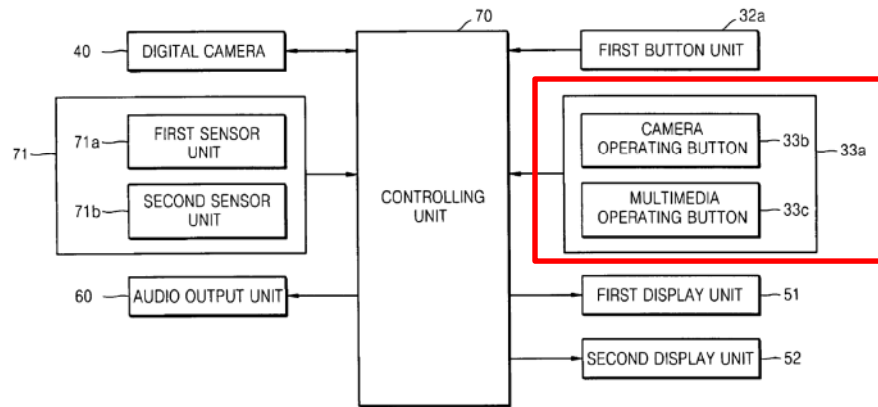
[1B] receiving user interface input to execute an image capture function;

Chin discloses this limitation. Ex. 1003, ¶¶ 101-107. Chin’s device has a digital camera that may be operated using buttons on the device:



Ex. 1004, Fig. 1, [0044] (“A digital camera **40** is configured on a first generally planar surface **11a** of the first flat board unit **11**. The digital camera **40** as shown includes a lens **41** and a flash **42**.”), [0048] (“A *user can operate* electronic apparatuses of the first panel **10** or the second panel **20**, such as the first and second display units **51** and **52** or *the digital camera 40*, by using the button unit (i.e., *pressing a button* or buttons thereof).”). Figure 2 also illustrates this:

FIG. 2



Ex. 1004, Fig. 2, [0052] (“The portable information terminal may include a controlling unit **70** for controlling various electronic apparatuses by sending and receiving electric controlling signals.”), [0053] (“The controlling unit **70** is electrically connected to a first button unit **32a** and a second button unit **33a**, so that the controlling unit **70** receives signals by a user manipulating the buttons. As shown, the second button unit **33a** includes a camera operating button **33b** . . . so that the user can operate a camera”).

Thus, Chin teaches having an “image capture function” (*i.e.*, a digital camera that captures images) that is executed when the device “receiv[es] user interface input” (*i.e.*, pressing a button to operate the digital camera). Ex. 1003, ¶ 100.

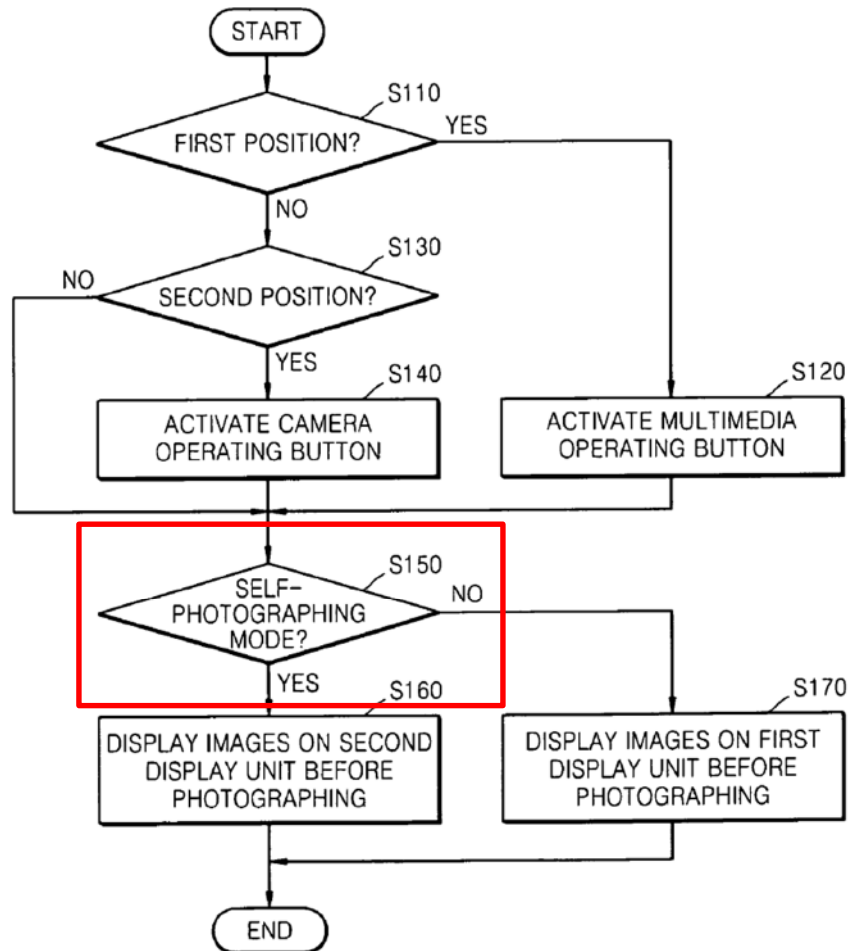
[1C] determining one or more of an image capture function configuration, a device orientation, and a device state; and

Chin discloses this limitation. Ex. 1003, ¶¶ 108-121.

“Determining . . . an image capture function configuration”: Chin teaches determining an image capture function configuration, specifically, whether the device is configured to be used in a “self-photographing” configuration or another image capture function configuration. Ex. 1003, ¶¶ 110-116.

Chin illustrates and describes this with respect to Figure 9, a “flowchart of an example method of controlling the portable information terminal of Figure 1.” Ex. 1004, [0036]:

FIG. 9



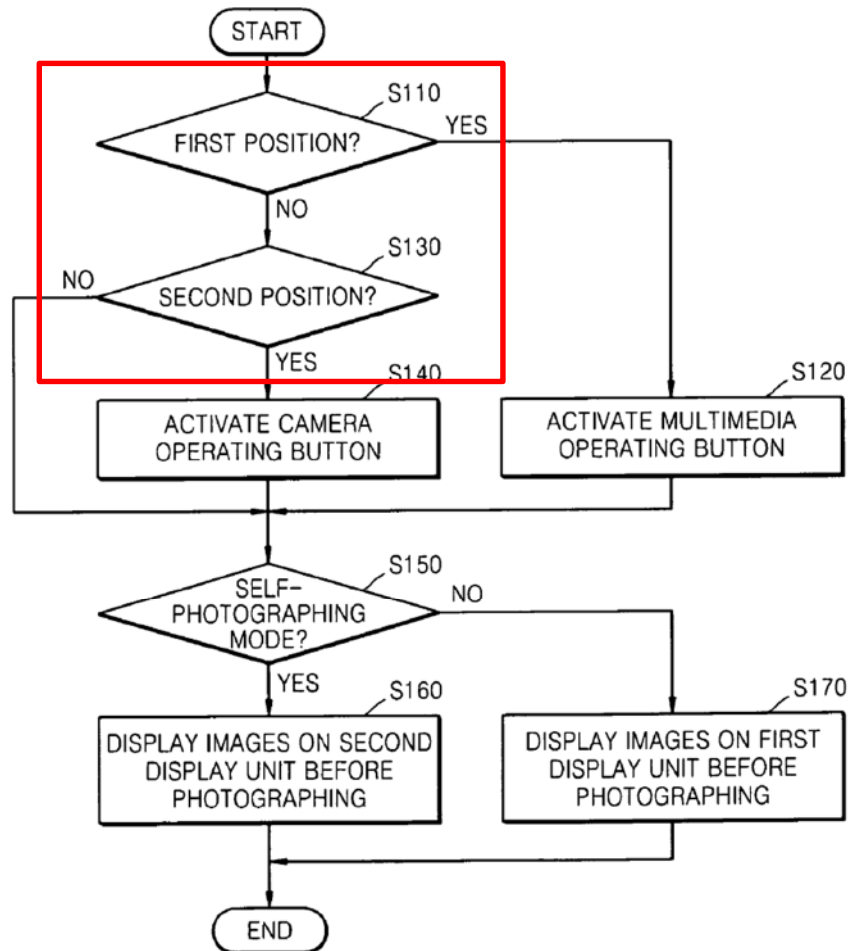
At Step **S150**, an image capture function configuration is determined. This can be done by the user or automatically by the device. “The self-photographing mode in which a user photographs him or herself can be set by allowing the user to operate the portable information terminal in order to select the mode.” Ex. 1004, [0077]. Alternatively, the image capture function configuration can be determined “*by allowing a controlling unit to automatically select the mode when the first and*

second panels are in the second position,” *i.e.*, a device state where the first and second panels are folded and the camera is available for use. *Id.*

Whether by user input or automatically, the determination of whether or not the device is in “self-photographing mode” is “determining ... an image capture function configuration.” Self-photographing is an example of an image capture function configuration, as is the alternative configuration “[w]hen the self-photographing mode is not selected.” Ex. 1004, [0079]. Of note, Chin’s disclosure mirrors that of the ’842 patent: “For example, the device **100** may determine an image capture function **1100** configuration, in step **1712**. The image capture function **1100** configuration may be a self-portrait mode.” Ex. 1001, 34:28-31.

“*Determining . . . a device state*”: Chin teaches the device determining the physical configuration and positions of the first and second panels, which is determining a “device state.” Ex. 1003, ¶¶ 117-120. Chin illustrates this in the flowchart shown in Figure 9 (showing steps for detecting whether the device is in a first or second position), with reference to Figures 3 (showing first position) and 5 (showing second position):

FIG. 9



Ex. 1004, Fig. 9, [0075]-[0077].

FIG. 3

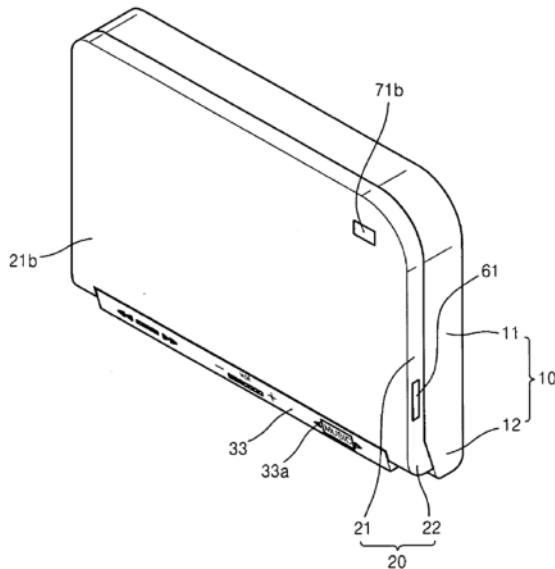
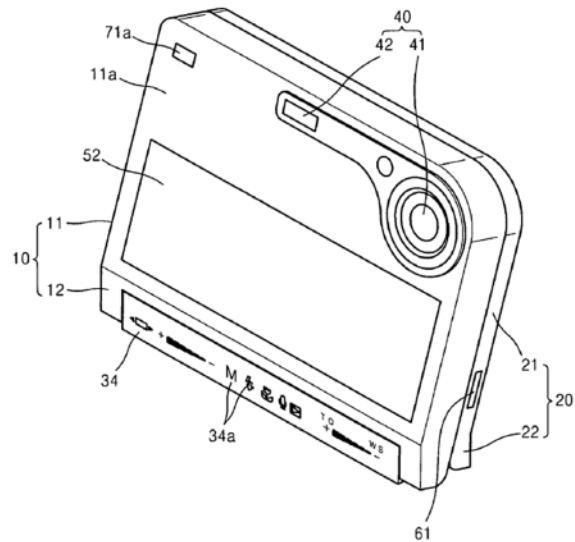


FIG. 5



Ex. 1004, Figs. 3 and 5, [0030], [0032]. Chin discloses that the device “may include a sensor unit **71** for detecting positions of the first panel **10** and the second panel **20**.” *Id.*, [0050]. This may include a “first sensor unit” which can detect whether the device is “folded closed with the first surfaces **11a** and **21a** facing each other,” *i.e.*, in the disclosed “first position,” and a “second sensor unit” that facilitates detecting if the device “is in a second folded closed state or orientation with the first surfaces **11a** and **21a** facing outwardly and opposite to each other,” *i.e.* in the disclosed “second position.” *Id.* Through these sensor units, the device detects the device state (*i.e.*, the positions of the first and second panel) “so as to control (*e.g.*, enable or disable) . . . the digital camera **40**.” *Id.*, [0054].

Thus, Chin teaches “determining one or more of [i] an ***image capture function configuration***, a device orientation, and [ii] a ***device state***” at least by [i] determining whether or not the device is configured to take a self-photograph and [ii] determining that the first and second panels of the device are folded in specific configurations. Ex. 1003, ¶ 121.

[1D] based on one or more of the image capture function configuration, the device orientation, and the device state, entering one of one or more image capture modes

Chin discloses this limitation. Ex. 1003, ¶¶ 122-129. *First*, as discussed in connection with limitation [1C], Chin teaches determining the device to be in a particular image capture function configuration (self-photographing mode or not) or device state (*e.g.*, closed in a second position). *See* Ex. 1004, Figs. 3, 5, 9, [0030], [0032], [0050], [0054], [0056], [0062], [0075]-[0077], Fig. 9, [0075]-[0077]; Ex. 1003 ¶ 124.

Second, Chin discloses that the device enters one of one or more image capture modes. Chin teaches that the device can enter into a mode where “[t]he user can perform the self-photographing function while viewing him or herself displayed on the second display unit.” Ex. 1004, [0078]. This mode is called “self-photographing mode.” *Id.*

Third, Chin teaches that the device enters “self-photographing mode” *based on* the “image capture function configuration.” Ex. 1003, ¶ 126. As noted above with

respect to limitation [1C], the “image capture function configuration” is selected either manually or automatically. “When the self-photographing mode is selected” in either way, the device enters the “self-photographing mode” (image capture mode) whereby “the portable information terminal displays images on a second display unit before a photograph is taken, so that the second display unit can perform a preview function.” *Id.* A POSITA would have understood that the disclosures of Figure 9, [0074], and [0078] of Chin collectively teach that transitioning from step **S150** to step **S160** of Chin is entering a self-photographing mode. Ex. 1003, ¶ 127.

Notably, Chin’s disclosure mirrors the ’842 patent’s disclosure of entering a “self-portrait” image capture mode: “From these different determinations the device **100** may then determine that the image capture mode is for a self-portrait, in step **1724**. Based on the determination that the device is [i]n a self-portrait mode, the device **100** may enter the self-portrait configuration, in step **1728**.” Ex. 1001, 34:34-39.

Accordingly, Chin discloses limitation [1D].

Although the foregoing disclosure satisfies this limitation, Chin also discloses this limitation in other ways:

First, the device also can enter the “self-photographing” image capture mode “based on” the device state. This happens when the device automatically determines the “self-photographing” image capture function configuration when the device is in

the “second position”; thus, the image capture mode is based on the image capture function configuration which in turn is based on the device state. Ex. 1004, [0077].

Second, Chin also teaches that the device can enter a second image capture mode, where “the portable information terminal in step **S170** displays images on a first display unit before a photograph is taken, so that the first display unit can perform a preview function.” Ex. 1004, [0079]. A POSITA would have understood this mode to be one where the device takes an outward-facing image, as opposed to the self-photographing mode. Ex. 1003, ¶¶ 126-127; *see infra* Section VIII.A.2 (regarding claim 2). This outward-facing image capture mode likewise is entered based on the “image capture function configuration,” specifically, the determination that “the self-photographing mode is not selected.” Ex. 1004, [0079].

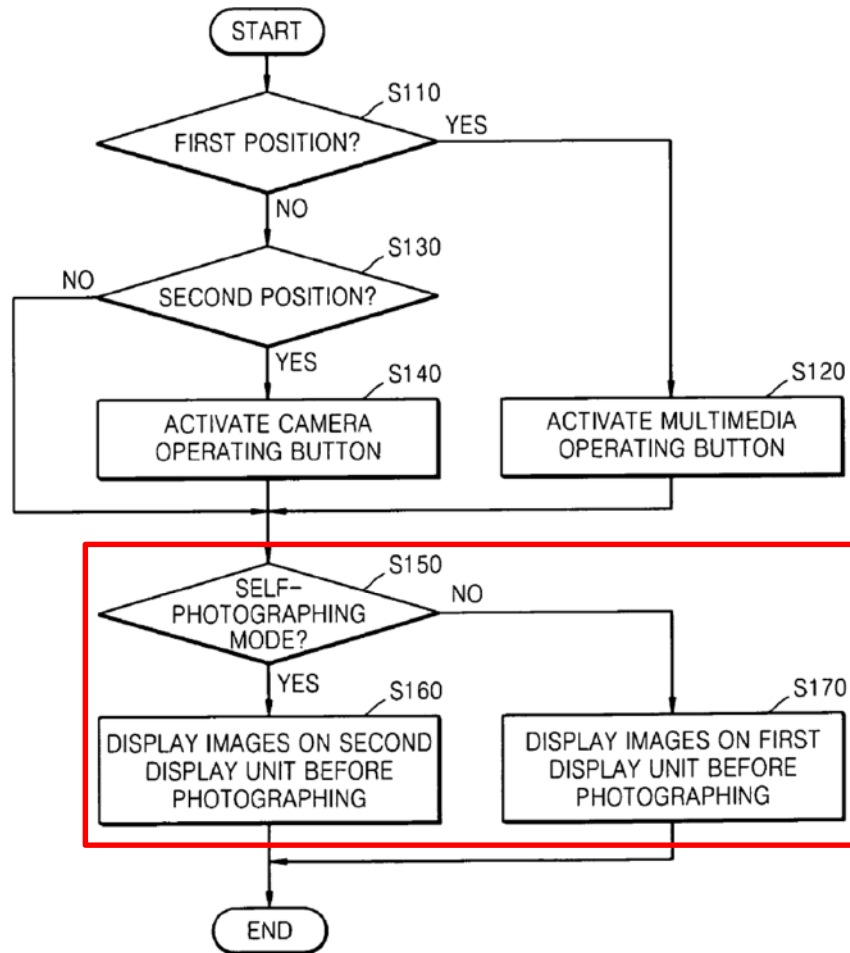
[1E] wherein in each image capture mode a display on the first or second screen is different.

Chin teaches that in each image capture mode a display on the first or second screen is different. Ex. 1003, ¶¶ 130-135. As explained above with respect to limitation [1C], the Figure 9 embodiment of Chin teaches two image capture modes: the “self-photographing mode” and the mode designed to take an outward-facing image.

Chin teaches that a display on the first or second screen is different in these two modes. “When the user performs a self-photographing function ... it is desirable

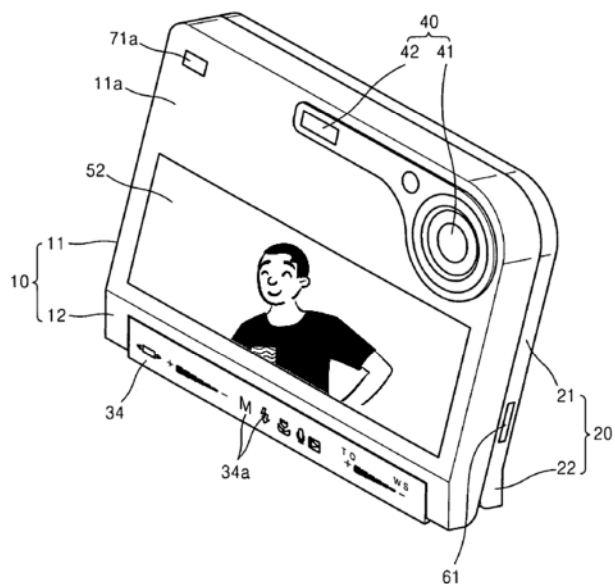
for the user to be able to preview him or herself. Thus, *the **second** display unit 52* configured on a surface **11a** of the first flat board unit **11** *can display live/preview and/or captured images* obtained by the digital camera **40**.” Ex. 1004, [0068]; [0078]. In contrast, in the other, outward-facing mode, “the portable information terminal in step **S170** *displays images on a **first** display* unit before a photograph is taken, so that the first display unit can perform a preview function.” *Id.*, [0079]. Thus, *both* the first and second screens have different displays in the two image capture modes, because which screen displays the preview or images changes between the two modes. Ex. 1003, ¶¶ 134-135. This is further shown in Figure 9:

FIG. 9



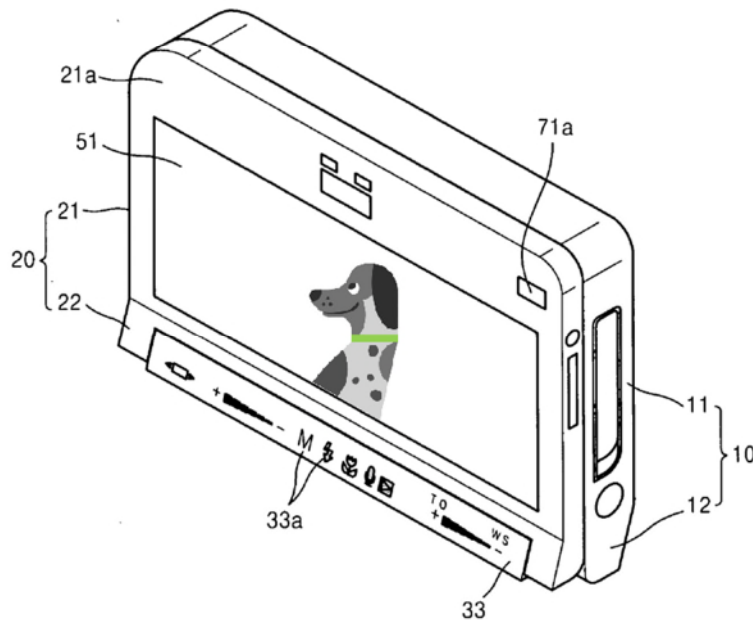
Ex. 1004, Fig. 9, [0078]-[0079]. Below are annotations to Chin's Figures 5 and 6 illustrating, for ease of reference, how the image display changes between screens based on the mode:

FIG. 5



“Self-Photographing” Mode

FIG. 6



“Outward-Facing” Mode

Ex. 1003, ¶ 135.

2. Claim 2

[2] **The method of claim 1, wherein the image captures function is configured to capture an outward-facing image.**

Chin discloses the additional limitations of claim 2 and thus anticipates claim 2. Ex. 1003, ¶¶ 136-143. As explained above with respect to limitation [1C], Chin discloses the device’s digital camera can be used to capture images in two different configurations, when a “self-photographing mode” is either selected or *not* selected.

“The self-photographing mode [is one] in which a user photographs him or herself,” Ex. 1004, [0077], *i.e.*, where the camera is directed towards the user. In this mode, the device “displays images on a *second* display unit before a photograph is taken, so that the second display unit can perform a preview function.” *Id.*, [0078]. “The user can perform the self-photographing function while viewing him or herself displayed on the second display unit.” *Id.*

In contrast, “[w]hen the self-photographing mode is not selected,” the first display performing the preview function faces the user, and the camera is not directed towards the user, but rather outward. The device “displays images on a *first* display unit before a photograph is taken, so that the first display unit can perform a preview function.” Ex. 1004, [0079]. As shown in Figures 5 and 6, the first (51) and second (52) display units face in opposite directions when the device is in the closed “second position” (*i.e.*, the configuration used for the image capture modes as described with respect to Figure 9). This is shown in the annotated Figure 6 above with respect to limitation [1E].

Thus, Chin discloses that the image capture function is configured to capture an outward-facing image.

3. Claim 3

[3] The method of claim 2, wherein the device is in a closed state.

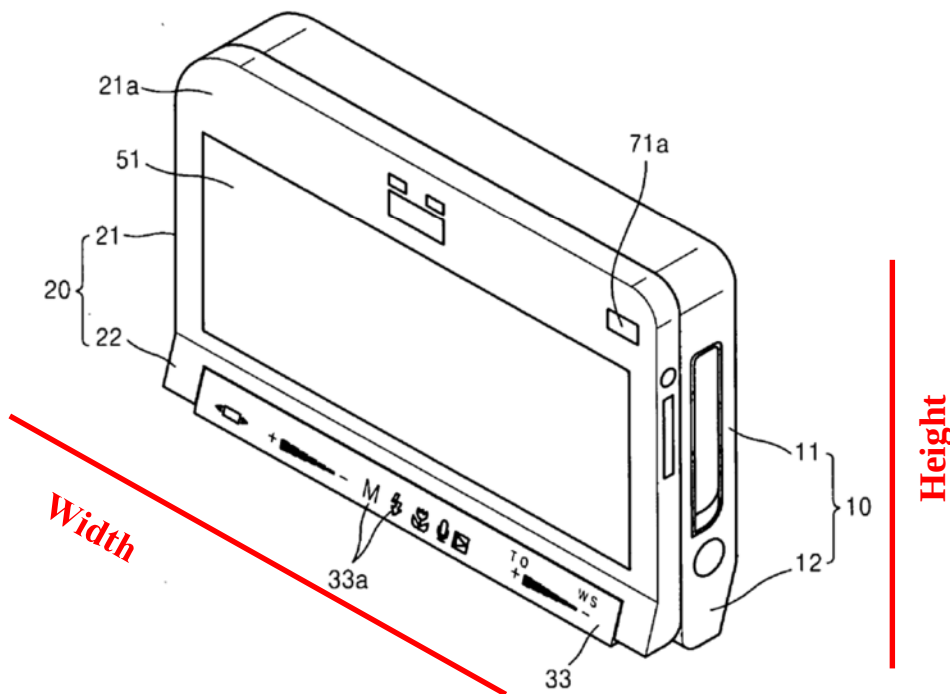
Chin discloses the additional limitations of claim 3 and thus anticipates claim 3. Ex. 1003, ¶¶ 144-147. When the Chin device is configured to capture an outward-facing image, the device is in a closed state, as shown and described with respect to Figures 5 and 6. *See supra* Sections VIII.A.1 and 2; Ex. 1004, [0050].

4. Claim 4

[4] The method of claim 3, wherein the device is in a landscape or portrait orientation.

Chin discloses the additional limitations of claim 4 and thus anticipates claim 4. Ex. 1003, ¶¶ 148-153. Chin discloses the device may be operated in “various orientations.” Ex. 1004, [0041]. Chin specifically discloses the device in a landscape orientation (*i.e.*, the device is oriented such that the width of the device is greater than the height of the device) when the device is closed and configured to take an outward-facing image (and thus meeting the limitations of claims 2 and 3, from which claim 4 depends).

FIG. 6



Ex. 1004, Fig. 6 (with annotations showing a landscape orientation with width greater than height).

Chin also makes clear that Figure 6 is in a “landscape” orientation because it teaches that, in this “second position,” the device’s bottom surface **32** (shown from a side view in Figure 7) “is in contact with the object surface, so that the portable information terminal can be supported on the object.” Ex. 1004, [0062]. This is consistent with how “landscape” and “portrait” orientations are used in the ’842 patent and how the terms are generally understood in the art. Ex. 1001, 3:44-56

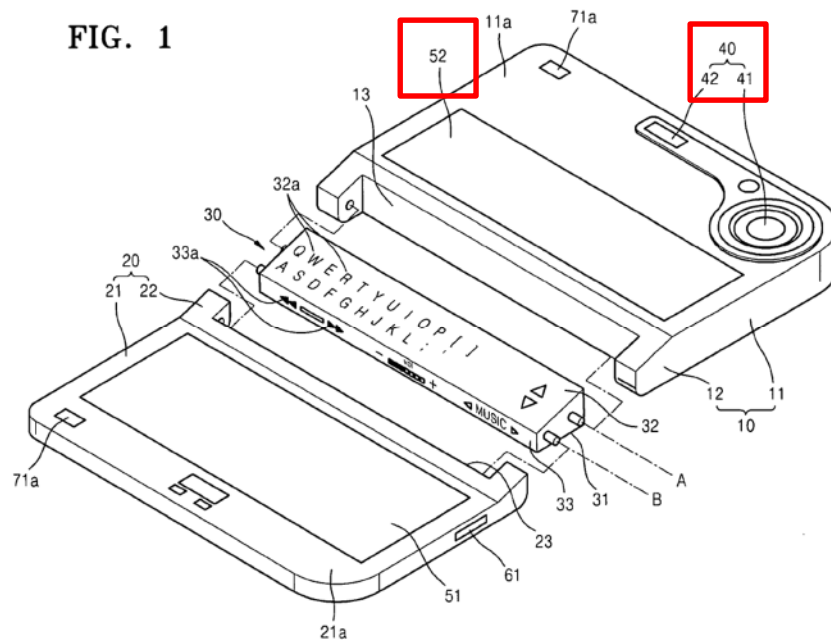
(describing, with reference to displays, that “landscape” is where “the display is oriented such that the width of the display is greater than the height of the display” and “portrait” is where “the display is oriented such that the width of the display is less than the height of the display.” Ex. 1003 ¶ 152.

5. Claim 5

[5] The method of claim 4, wherein a lens is associated with either the first or second screen.

Chin discloses the additional limitations of claim 5 and thus anticipates claim 5. Ex. 1003, ¶¶ 154-158. In Chin, the lens **41** of the digital camera **40** is associated with a screen, the second display unit **52**, in that it is on the same surface and next to display unit **52**. The lens of the camera also is associated with the second display unit in that “[t]he second display unit **52** may cooperate with the camera **40** for facilitating a preview function in which images are displayed before the images are captured by the digital camera **40**, particularly when a user uses a self-photographing function in which the user photographs him or herself by using the digital camera **40**.” Chin illustrates this in Figure 1:

FIG. 1



These disclosures of Chin mirror the disclosure of a lens associated with a screen in the '842 patent. Ex. 1001, 34:40-52, Fig. 11.

6. Claim 6

[6] The method of claim 5, wherein, in the image capture mode, the device does not display an image on a first screen and displays a preview on a second screen.

Chin discloses the additional limitations of claim 6 and thus anticipates claim 6. Ex. 1003, ¶ 159-162. In the outward-facing “image capture mode,” the device “displays images on a first display unit ... so that the first display unit can perform a preview function.” Ex. 1004, [0079]. Thus, the device “displays a preview on a second screen” as claimed, with the “first display unit” serving as the claimed “second screen.” In this mode, Chin does not describe displaying an image on the other display unit, the “second display unit,” which serves as the claimed “first

screen,” therefore meeting the claimed requirement that “the device does not display an image on a first screen.” *Id.*; Ex. 1003, ¶¶ 161-162.

7. Claim 7

[7] The method of claim 5, wherein the first screen is disabled and does not receive user interface input while in the image capture mode.

Chin discloses the additional limitations of claim 7 and thus anticipates claim 7. Ex. 1003, ¶¶ 163-164. As noted immediately above with respect to Claim 6, the “second display unit” in the outward-facing mode (which serves as the claimed “first screen”) does not display an image; nor does Chin describe that screen as being enabled or receiving any user interface input. Ex. 1004, [0077]. Thus, the second display unit is disabled and does not receive user interface input while in the outward-facing mode. Ex. 1003, ¶ 164.

8. Claim 10

[10] The method of claim 5, wherein in one or more controls are presented on a second screen.

Chin discloses the additional limitations of claim 10 and thus anticipates claim 10. Ex. 1003, ¶¶ 165-166. Chin discloses that the display units can be a liquid crystal display apparatus. Ex. 1004, [0045]-[0046]. Chin further teaches that liquid crystal displays may be of a “touch screen-type,” and that the buttons for controlling the device can be implemented as a touch-screen. *Id.*, [0061]. Accordingly, a POSITA would have understood that one or more controls are presented on the second screen

in the disclosed embodiment of Chin where the button(s) (“controls”) are implemented as a touch-screen. Ex. 1003, ¶ 166.

9. Claim 11

Chin discloses all the limitations of claim 11, as set forth below, and thus anticipates claim 11.

[11P] A device, comprising:

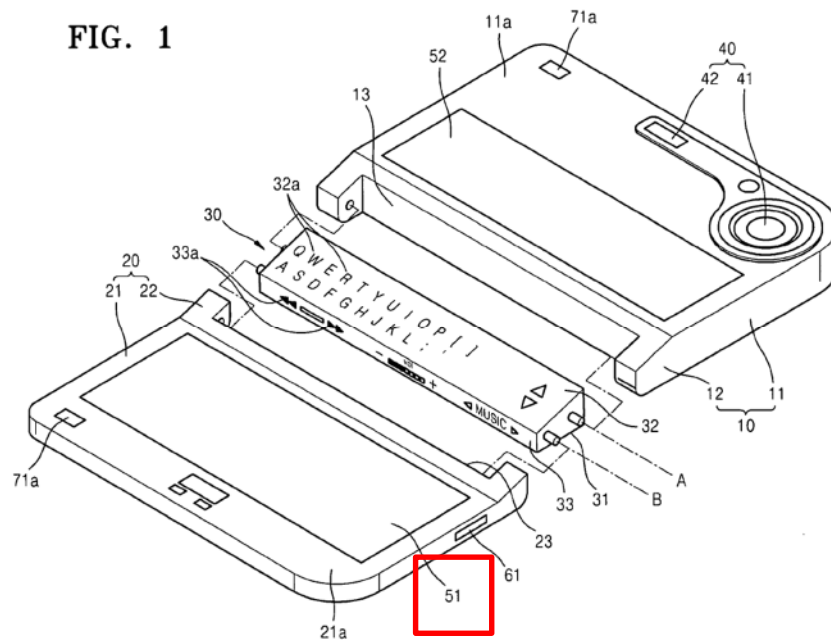
If the preamble is limiting, Chin discloses this limitation. Chin discloses a “device,” “a portable information terminal with two panels that are each hingably coupled with a connecting unit for moving the panels between first and second folded states.” Ex. 1004, ¶ [0003].

[11A] a first screen, the first screen including a first gesture capture region;

Chin discloses this limitation. Ex. 1003, ¶¶ 170-174.

For example, Chin discloses configuring the device with a “first display unit 51” that can be a liquid crystal display apparatus. Ex. 1004, Fig.1, [0045]:

FIG. 1



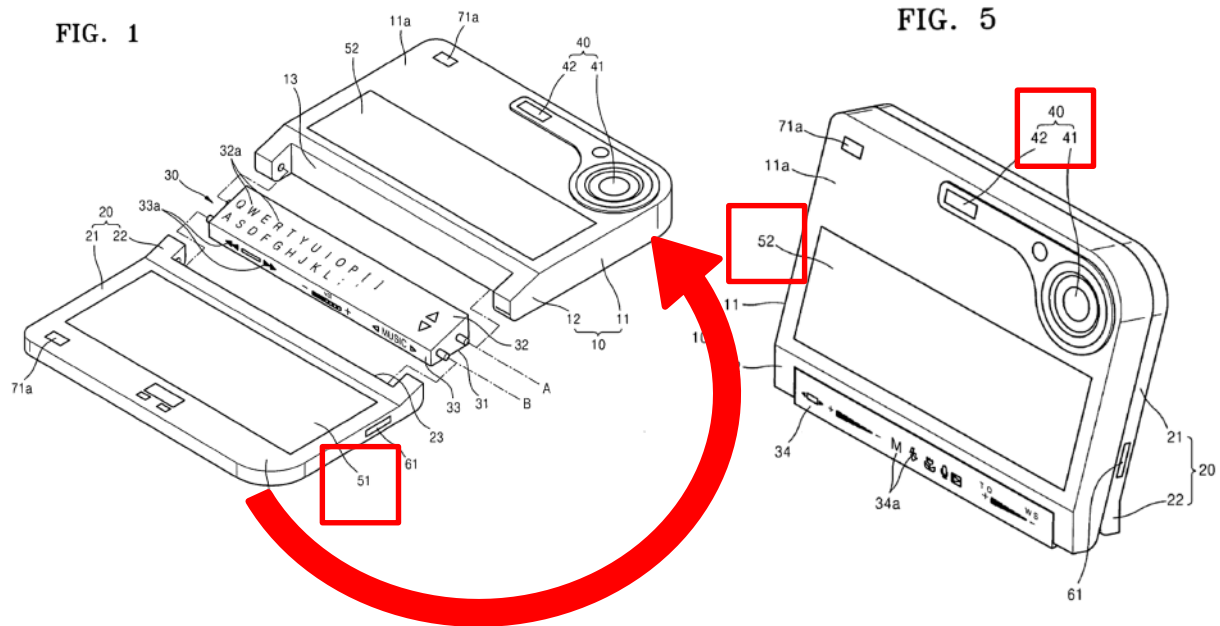
Chin further discloses that liquid crystal displays may be of a “touch screen-type.” *Id.*, [0061]. Chin also discloses that the device includes “push-type buttons” in a “button unit **33a**,” for example, a “camera operating button **33b**,” and further discloses that the button unit **33a** “may be embodied” as a “touch-screen type liquid crystal display.” *Id.* Thus, the touch-screen display 51 of Chin includes a “gesture capture region,” that is, the touch-sensitive elements of the display, at least in the disclosed embodiment of Chin where the liquid crystal display is a “touch-screen type.” Ex. 1003, ¶ 173.

Chin’s disclosure is consistent with the ’842 patent’s description. The ’842 patent explains that a “gesture” is “a user action that expresses an intended idea, action, meaning, result, and/or outcome.” Ex. 1001, 3:63-64. Further, the “touch

sensitive screens” comprise “liquid crystal display devices ... capable of providing visual output to a user, and a capacitive input matrix over those ***regions of the touch sensitive screens*** ... that are ***capable of receiving input from the user.***” *Id.*, 10:67-11:11; *see also* 3:6-9 (“the screen can enable the user to interact with the device by touching areas ... and provides information to a user through a display”). Thus, touch-screen liquid crystal display devices comprise regions capable of receiving input from the user, that is, gesture capture regions. Ex. 1003, ¶¶ 173-174.

[11B] a second screen, wherein the second screen faces an opposite direction from the first screen when the device is closed, and wherein an image capture lens is associated with the second screen;

Chin discloses this limitation. Ex. 1003, ¶¶ 175-177. As explained above with respect to claim elements [1A], [2], and [5], Chin’s device has two screens, including “second display unit 52” and the image capture lens 41 of the digital camera 40 is associated with that screen (the “second screen” for purposes of claim 11). *Supra* Sections VIII.A.1, 2, 5. When the Chin device is rotated into a closed “second position”—illustrated in Figures 5 and 6—the first display unit 51 faces an opposite direction from the second display unit 52:



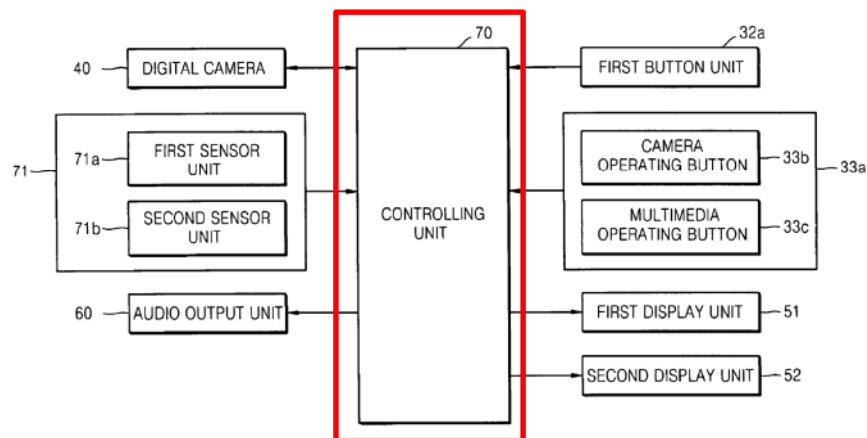
Ex. 1004, Figs. 1, 5, 6, [0032], [0056], [0063], [0065]. Chin's devices also may be rotated into a closed "first position," in which the first and second display units are facing each other, such that the second display unit faces an opposite direction from the first display unit. *Id.*, Fig. 3, [0015], [0057].

[11C] a memory;

Chin discloses this limitation. Ex. 1003, ¶¶ 178-181. Chin's device includes controlling unit **70**, which "may be embodied as a semiconductor chip (not shown) including controlling software, or a circuit board including the semiconductor chip."

Ex. 1004, [0052], Figure 2:

FIG. 2



A POSITA would have understood that such a controlling unit **70** necessarily would include a memory to store the disclosed controlling software. Ex. 1003, ¶ 181.

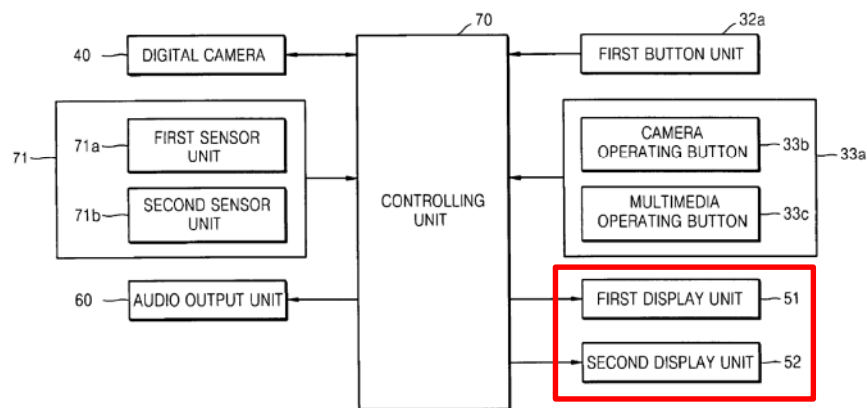
[11D] a processor in communication with the memory, the first screen, and the second screen, the processor operable to:

Chin discloses this limitation. Ex. 1003, ¶¶ 182-193. As noted, Chin discloses “controlling unit **70**” for “controlling various electronic apparatuses by sending and receiving electric controlling signals,” which is or includes a “semiconductor chip” including “controlling software.” Ex. 1004, [0052]. Chin provides more details on how the controlling unit sends/receives signals with other components of the device and controls the device’s operations. *Id.*, [0053]-[0055], [0060]-[0061], [0067], [0075]. A POSITA would have understood that such a controlling unit **70**—a chip using software to control a portable electronic device—necessarily would include a processor. Ex. 1003, ¶ 191. A POSITA further would have understood that the

processor and memory, both components of controlling unit **70**, would be in communication with each other. *Id.*, ¶ 192.

Moreover, Chin discloses the controlling unit **70**—containing the processor—communicates with a first and second screen, represented by the first display unit **51** and second display unit **52**, as illustrated in Figure 2. Ex. 1004, [0054]:

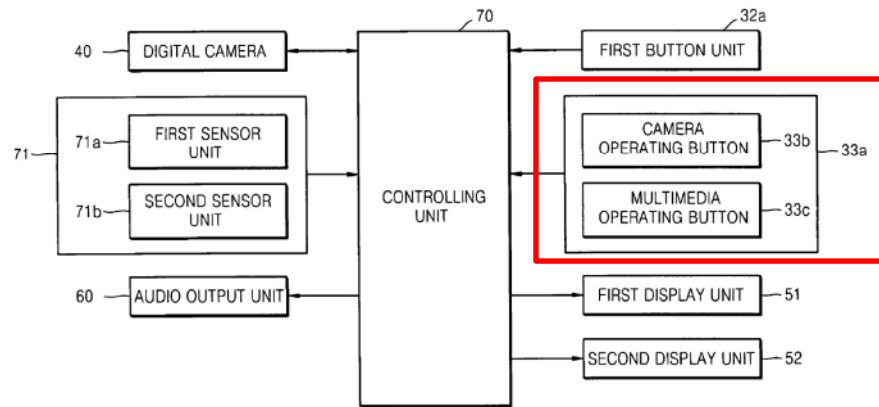
FIG. 2



[11E] receive user interface input to execute an image capture function;

Chin discloses this limitation for the same reasons discussed above with respect to the limitation in Claim 1, limitation [1B]. *Supra* Section VIII.A.1; Ex. 1003, ¶¶ 101-107, 194-196. Chin further discloses that the “processor” (part of “controlling unit **70**”) is operable to receive the user interface input to execute an image capture function. Figure 2 illustrates this:

FIG. 2



Ex. 1004, Fig. 2, [0052], [0053] (“the controlling unit **70** receives signals by a user manipulating the buttons” including “the second button unit **33a** [that] includes a camera operating button **33b**.”)

[11F] determine one or more of an image capture function configuration, a device orientation, and a device state:

Chin discloses this limitation for the same reasons discussed above with respect to the limitation in Claim 1, limitation [1C]. *Supra* Section VIII.A.1; Ex. 1003, ¶¶ 199-204.

Chin further discloses that the “processor” (part of “controlling unit **70**”) is operable to determine one or more of an image capture function configuration, a device orientation, and a device state. As noted above with respect to limitation [1C], Chin describes the “determining” with reference to Figure 9. Chin also explains that the steps of Figure 9 are performed under the control of “controlling unit **70**”: “The controlling unit **70** (FIG. 2) of the portable information terminal **determines**, relative

to the sensor unit **71**, *whether the first panel and the second panel are in a first position or in a second position*, and activates a multimedia operating button or a camera operating button of a second button unit *according to the determination result.*” Ex. 1004, [0075]; *see also* [0052]-[0054], [0067]; Ex. 1003, ¶ 204.

[11G] based on one or more of the image capture function configuration, the device orientation, and the device state, enter one of one or more image capture modes,

Chin discloses this limitation for the same reasons discussed above with respect to the limitation in Claim 1, limitation [1D]. *Supra* Section VIII.A.1; Ex. 1003, ¶¶ 205-210.

Chin further discloses that the “processor” (part of “controlling unit **70**”) is operable to perform this action; as explained above with respect to limitation [11F], control of the method in Figure 9 and of the two display units is performed by the controlling unit **70**. Ex. 1003, ¶ 210; Ex. 1004, [0052]-[0054], [0067], [0075], [0078], [0079].

[11H] wherein in each image capture mode a display on the first or second screen is different.

Chin discloses this limitation for the same reasons discussed above with respect to the limitation in Claim 1, limitation [1E]. *Supra* Section VIII.A.1; Ex. 1003, ¶ 211-213.

10. Claim 12

[12] The device of claim 11, wherein the image capture function is configured to capture an outward-facing image, wherein the device is in a closed state, and wherein the device is in a landscape orientation.

Chin discloses this limitation, and thus anticipates claim 12, for the same reasons discussed above with respect to the limitations in Claims 2, 3, and 4. *Supra* Sections VIII.A.1, 2, 3, and 4.

11. Claim 13

[13] The device of claim 11, wherein the image capture mode is one of a full and disabled mode, a full and static mode, or a full and live mode, wherein in the full and disabled mode, the first screen displays a preview of an image to be captured and the second screen is disabled, wherein in the full and static mode, the first screen displays a preview of an image to be captured and the second screen displays a static image, and wherein in the full and live mode, the first screen displays a first preview of an image to be captured and the second screen displays a second preview of the image to be captured.

Chin discloses this limitation and thus anticipates claim 13. Claim 13 recites three alternative options for the “image capture mode.” Chin discloses at least one of these options, “a full and disabled mode,” and thus meets the claim. The claim specifies this mode as one where “the first screen displays a preview of an image to be captured and the second screen is disabled.” As explained above with respect to Claims 6 and 7, in Chin’s outward-facing mode, “the first display unit can perform a preview function,” displaying a preview of an image to be captured, and the second display unit displays nothing and is disabled. *Supra* Sections VIII.A.6 and 7; Ex. 1004, [0079].

12. Claim 16

Chin discloses all the limitations of claim 16, as set forth below, and thus anticipates claim 16.

[16P] A non-transitory computer readable medium having stored thereon computer-executable instructions, the computer executable instructions causing a processor of a device to execute a method for providing a user interface, the computer-executable instructions comprising:

If the preamble is limiting, Chin discloses this limitation. Claim 16 refers to a “computer-readable medium.” The substance of Claim 16 largely tracks that of other claims addressed above.

Chin discloses a “non-transitory computer readable medium” (a memory, part of “controlling unit 70”) “having stored thereon computer-executable instructions” (the “controlling software”) and a “processor” (part of “controlling unit 70”) for the reasons explained above as to claim elements 11[C] and 11[D]. *Supra* Section VIII.A.8. A POSITA would have understood that the “controlling software” would comprise “instructions.” Ex. 1003, ¶¶ 229-230. A POSITA further would have understood that the instructions, when executed, would cause the processor to execute a method for providing a user interface, namely, the method carried out by the instructions set forth in the rest of claim 16. *Id.*

[16A] instructions to receive user interface input to execute an image capture function;

Chin discloses this limitation for the reasons explained as to claim limitations [1B] and [11E]. *Supra* Sections VIII.A.1 and 8.

[16B] instructions to determine one or more of an image capture function configuration, a device orientation, and a device state, wherein the device has at least first and second screens, wherein the device is in a closed state, wherein, in the closed state, the first and second screens face opposite directions, wherein the image capture function is configured to capture an outward-facing image, wherein the device is in a landscape orientation, and wherein an image capture lens is associated with the second screen;

Chin discloses this limitation for the reasons explained as to claim limitations [1A], [1B], [2], [3], [4], [5], [11A], and [11B]. *Supra* Sections VIII.A.1, 2, 3, 4, 5, and 8.

[16C] based on one or more of the image capture function configuration, the device orientation, and the device state, instructions to enter one of one or more image capture modes;

Chin discloses this limitation for the reasons explained as to claim limitations [1D] and [11G]. *Supra* Sections VIII.A.1 and 8.

[16D] wherein in each image capture mode a display on the first or second screen is different;

Chin discloses this limitation for the reasons explained as to claim limitations [1E] and [11H]. *Supra* Sections VIII.A.1 and 8.

[16E] wherein the image capture mode is one of a full and disabled mode, a full and static mode, or a full and live mode.

Chin discloses this limitation for the reasons explained as to claim [13]. *Supra* Sections VIII.A.10.

13. Claim 17

[17] The non-transitory computer readable medium of claim 16, wherein in the full and disabled mode, the first screen displays a first preview of an image to be captured and the second screen is disabled, wherein in the full and static mode, the first screen displays a first preview of an image to be captured and the second screen is displays a static image, and wherein in the full and live mode, the first screen displays a first preview of an image to be captured and the second screen displays a second preview of the image to be captured.

Chin discloses this limitation, and thus anticipates claim 17, for the reasons explained as to claim [13]. *Supra* Sections VIII.A.10.

14. Claim 19

[19] The non-transitory computer readable medium of claim 17, wherein user interface input for the second screen is disabled.

Chin discloses this limitation, and thus anticipates claim 17, for the reasons explained as to claims [7] and [13]. *Supra* Sections VIII.A.7 and 10.

15. Claim 20

[20] The non-transitory computer readable medium of claim 16, wherein the image is one of a picture and a video.

Chin discloses this limitation, and thus anticipates claim 20, because Chin discloses that the displayed image can be, *e.g.*, a “photograph.” Ex. 1004, [0046], [0068], [0069], [0078], [0079]; Ex. 1003, ¶¶ 242-244.

B. Ground 2: The Challenged Claims Would Have Been Obvious in View of Chin

The Challenged Claims are anticipated by Chin. Because Chin anticipates the Challenged Claims, Chin also would have rendered those claims obvious to a POSITA. “[A] disclosure that anticipates under § 102 also renders the claim invalid under § 103, for anticipation is the epitome of obviousness.” *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1373 (Fed. Cir. 2019) (internal quotations omitted).

To the extent Patent Owner argues that Chin does not anticipate, then at minimum Chin, considered in view of the knowledge of a POSITA, would have rendered the Challenged Claims obvious to a POSITA for the reasons set forth in Section VIII.A and for the additional reasons discussed below. Ex. 1003, ¶¶ 94-270. *See Unification Techs. LLC v. Micron Tech. Inc.*, No. 2023-1348, 2024 WL 3738401, at *6 (Fed. Cir. Aug. 9, 2024) (affirming obviousness over a single reference that taught every limitation in view of expert’s testimony about what a POSITA would have understood from the reference’s disclosures); *Monsanto Tech. LLC v. E.I. DuPont De Nemours & Co.*, 878 F.3d 1336, 1347 (Fed. Cir. 2018) (affirming PTAB’s determination “that a PHOSITA would have been motivated to combine elements of [a single prior art reference]” to find claim obvious).

Initially, Chin is analogous art to the ’842 patent. The ’842 patent concerns multi-display handheld computing devices. Ex. 1001, 1:45-48. So does Chin. *See*,

e.g., Ex. 1004, [0003]. Chin’s disclosures also are reasonably pertinent to the problem purportedly addressed by the ’842 patent; both Chin and the ’842 patent address the limitations of single-display devices and how to present information in different image capture modes in a rotatable or foldable handheld electronic device. *See. e.g.*, Ex. 1001, Abstract; Ex. 1004, [0012]-[0027]; Ex. 1003, ¶¶ 246-247.

First, any differences in terminology between Chin and the ’842 patent are, at most, no more than obvious variants of Chin and not patentable distinctions. For example, a POSITA would have understood that although Chin uses the term “display unit” instead of “screen,” this difference in terminology is not a meaningful distinction. Ex. 1003, ¶ 250. The same is true for other terminology differences between Chin and the ’842 patent. *Id.*

Second, if Multifold argues that claim 1 requires a “touch screen,” it would be incorrect. Ex. 1003, ¶¶ 251-252. Nonetheless, even under this incorrect interpretation, Chin discloses that its “display units” (the claimed “screens”) may be liquid crystal displays that may be of a “touch-screen type.” Ex. 1004, [0061]. A POSITA would have understood Chin to at least suggest and render obvious a “user interface” in the form of a touch screen and further using that touch screen to execute an image capture function. By the time of the ’842 patent’s earliest priority date, it was well known in the art to use touch screens as a user interface for portable electronic devices, including using a touch screen input to take a picture. The ’842

patent itself admits as “Background” that “[a] substantial number of handheld computing devices, such as cellular phones, tablets, and E-Readers, make use of a touch screen display not only to deliver display information to the user but also to receive inputs from user interface commands.” Ex. 1001, 1:15-19. Several other references taught this functionality as well. *See, e.g.*, Ex. 1009, 5:15-30; Ex. 1010, [0068]-[0069]; Ex. 1006, [0235]; Ex. 1003, ¶¶ 254. A POSITA would have been motivated to add this functionality to Chin, to the extent any modification were deemed necessary, as a known technique to improve Chin’s device by adding another input option that some users may have deemed desirable, and a POSITA would have reasonably expected success in doing so as the modification would have just required programming Chin’s device within the skill of a POSITA. Ex. 1003, ¶ 254.

For the same reasons, if Multifold argues that Chin fails to disclose the “one or more controls [] presented on a second screen” limitation of claim 10, or the “gesture capture region” limitation of claim 11, those too would have at least been obvious to a POSITA in view of Chin. *Id.*, ¶ 255. As noted above with respect to claim 11, limitation [11A] (*supra* Section VIII.A.9), a touch-screen type display, implemented in Chin’s disclosed devices, would include a “gesture capture region.”

Third, if Multifold argues that Chin does not disclose “wherein in each image capture mode a display on the first or second screen is different,” as in claim

limitations [1E], [11H], and [16D], then Multifold would be wrong for the reasons explained above. *Supra* Section VIII.A.1, 8, 11. But at minimum, this limitation would have been obvious to a POSITA in view of Chin. As noted, Chin teaches that images are displayed on either the first or second screen to perform a preview function, depending on the image capture mode. Ex. 1004, Fig. 9, [0078]-[0079]. Because Chin specifies that the preview is shown on one screen or the other, and not on both screens in both modes, it is at least suggested and would have been obvious to a POSITA that the display on each of the screens changes between modes. Indeed, a POSITA would have understood that the screen not described as showing the preview would either be on or off. Ex. 1003, ¶¶ 257-258. And a POSITA would have been motivated to turn off (disable) that other screen, as the screen would not be facing the user and doing so would save power and avoid inadvertent inputs on the other touch screen during the image capture process. Ex. 1003, ¶ 258. Turning off power to one screen in a multi-screen device was a known design option and well within the ability of a POSITA. *Id.* For the same reasons, the limitations of claims 6, 7, 13, [16E], and 17 teaching disabling or not displaying an image on a screen at least have been obvious to a POSITA in view of Chin. *Id.*, ¶ 259.

Fourth, if Multifold argues that Chin does not disclose “image captures function is configured to capture an outward-facing image,” as in claim limitations [2], [12], and [16B], then Multifold would be wrong for the reasons explained above.

Supra Section VIII.A.1, 8, 11. But at minimum, this limitation would have been obvious to a POSITA in view of Chin. Chin teaches that its disclosed devices can be used in “various orientations or configurations,” of which the specific examples are only exemplary. Ex. 1004, [0041]. A POSITA would have understood this limitation could be met either by reconfiguring or reorienting Chin’s device, to the extent necessary, such that the camera was facing away from a user. Ex. 1003, ¶ 261. A POSITA would have been motivated to do this because camera users typically desired to take photos facing away from them, and this functionality was ubiquitous in traditional cameras. *Id.*

Fifth, if Multifold argues that Chin does not disclose either a “memory” or a “processor” operable as described in claim 11, then Multifold would be wrong for the reasons explained above. *Supra* Section VIII.A.8. But at minimum, these limitations would have been obvious to a POSITA in view of Chin. Chin’s “present invention relates to a portable information terminal” “such as, for example cellular phones, portable multimedia players (PMPs), personal digital terminals (PDAs), notebook computers, tablet personal computers (PCs), and the like.” Ex. 1004, [0003]-[0005]. A POSITA immediately would have understood this disclosure to at least suggest and render obvious that the “portable information terminal” would have a memory and a processor. Ex. 1003, ¶¶ 262-263. Such devices typically, if not uniformly, included one or more memory(ies) and one or more processor(s), with

the memory(ies) storing software / instructions for the processor(s) to execute to control the device's operations, including image capture in different modes and display of images. *Id.* Many prior art references describe the memories and processors in such devices operating in this manner. *Id.*, ¶¶ 264-268. Ex. 1010, [0030], [0043]-[0044]; Ex. 1011, [0082]; Ex. 1012, Fig. 1, [0067]-[0068], [0125]; Ex. 1013, [0025], [0026], [0034], [0117]; Ex. 1006, [0281], [0285], [0286], [0287], [0385]-[0415], Fig. 50. Indeed, a POSITA would have recognized that it would be quite difficult to implement the functionality disclosed in Chin *without* using a memory and a processor, and thus would have been motivated to implement the functionality in Chin using a memory and a processor. Ex. 1003, ¶ 269. For the same reasons, Chin at least would have rendered obvious to a POSITA claim 16, which recites a “computer readable medium having stored thereon computer-executable instructions, the computer executable instructions causing a processor of a device to execute a method” as set forth in the body of the claim. *Id.*, ¶ 270.

C. Ground 3: Claims 1-7 and 11 Are Anticipated by Whitehorn

1. Claim 1

Whitehorn discloses all the limitations of claim 1, as set forth below, and thus anticipates claim 1.

[1P] A method, comprising:

If the preamble is limiting, Whitehorn discloses this limitation. Whitehorn discloses a method with the steps set forth in the following sections. Whitehorn illustrates an example method of controlling the disclosed device in Figure 6:

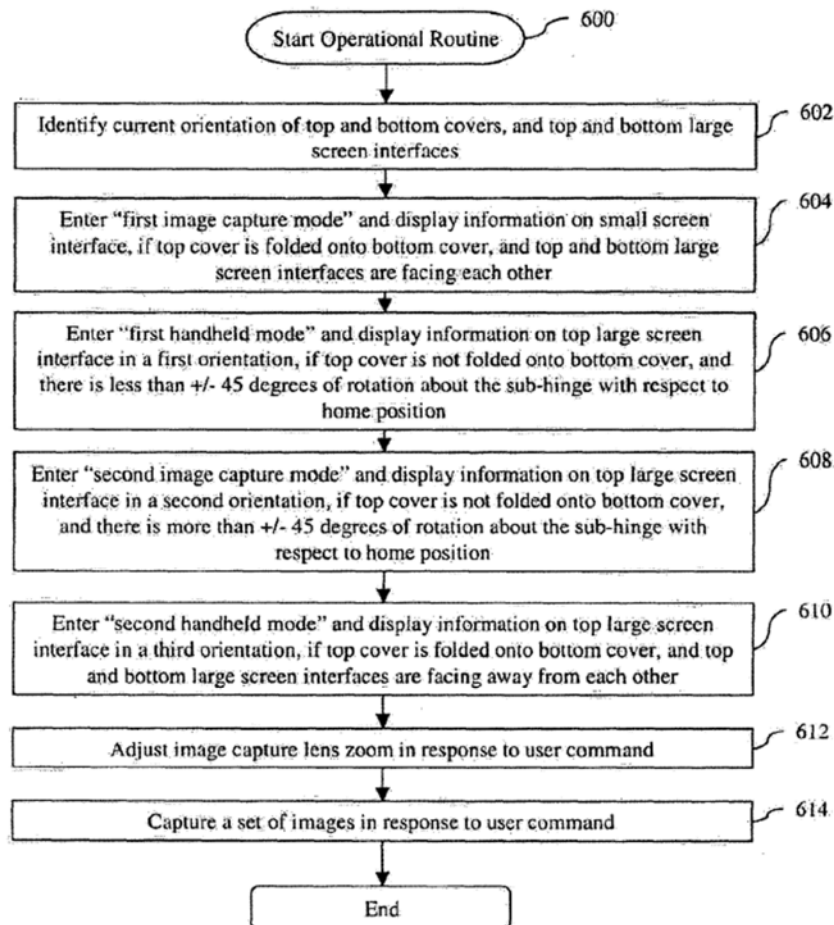


Fig. 6

Ex. 1005, Fig. 6, [0016], [0021], [0026].

[1A] providing a device having at least first and second screens;

Whitehorn discloses this limitation. Ex. 1003, ¶¶ 273-275. Whitehorn discloses “permitting a ***first large screen*** interface to rotate about a first hinge axis with respect to a ***second large screen*** interface; capturing images aligned along the first hinge axis; and setting a mode in which the device operates in response to an orientation of the first large screen interface to a second large screen interface.” Ex. 1005, [0009]. Whitehorn also discloses a third screen, the “small screen interface **118**.” *Id.*, [0022]. Any two out of the two large screen interfaces, labeled as **124** and **128** in Whitehorn’s Figures, and the small screen interface **118**, meet the two claimed “screens.” *Id.*, [0023]-[0024].

[1B] receiving user interface input to execute an image capture function;

Whitehorn discloses this limitation. Ex. 1003, ¶¶ 276-279.

Whitehorn discloses an image capture device **116**, which “includes ... one or more lenses” Ex. 1005, [0022]. Whitehorn also discloses “a ***shutter control 122*** beneath the image capture device **116**.” *Id.*, [0023]. “[T]he ***shutter control 122*** ***instructs the device 102 to capture one or more images*** (i.e. a still picture or a video clip) using the image capture device **116**.” *Id.*

Whitehorn alternatively discloses receiving input via large screen interface **124** or touch sensitive pad **126**: “The bottom large screen interface **124** is at a minimum preferably capable of receiving input commands from users of the device

102 ... The bottom large screen interface **124** preferably accepts a pen inputs, while user selections are made with the touch sensitive pad **126**.” Ex. 1005, [0023]. The top large screen interface **128** likewise “preferably can also accept user inputs.” *Id.*, [0024].

Thus, Whitehorn discloses having an “image capture function” (*i.e.*, capturing still or video images using an image capture device) that is executed when the device “receiv[es] user input” (*i.e.*, the shutter control or alternatively input via a screen or touch sensitive pad).

[1C] determining one or more of an image capture function configuration, a device orientation, and a device state; and

Whitehorn discloses this limitation. Ex. 1003, ¶¶ 280-288.

For example, Whitehorn’s Figure 6 “is a flowchart **600** of one embodiment of a method of operation for the device.” Ex. 1005, [0026]. “The method begins in step **602** where the device **102** identifies a current ***orientation*** of top and bottom covers **106** and **108**, and top and bottom large screen interfaces **128** and **124**.” *Id.* As discussed below, this “determines” both “a device orientation” and “a device state.”

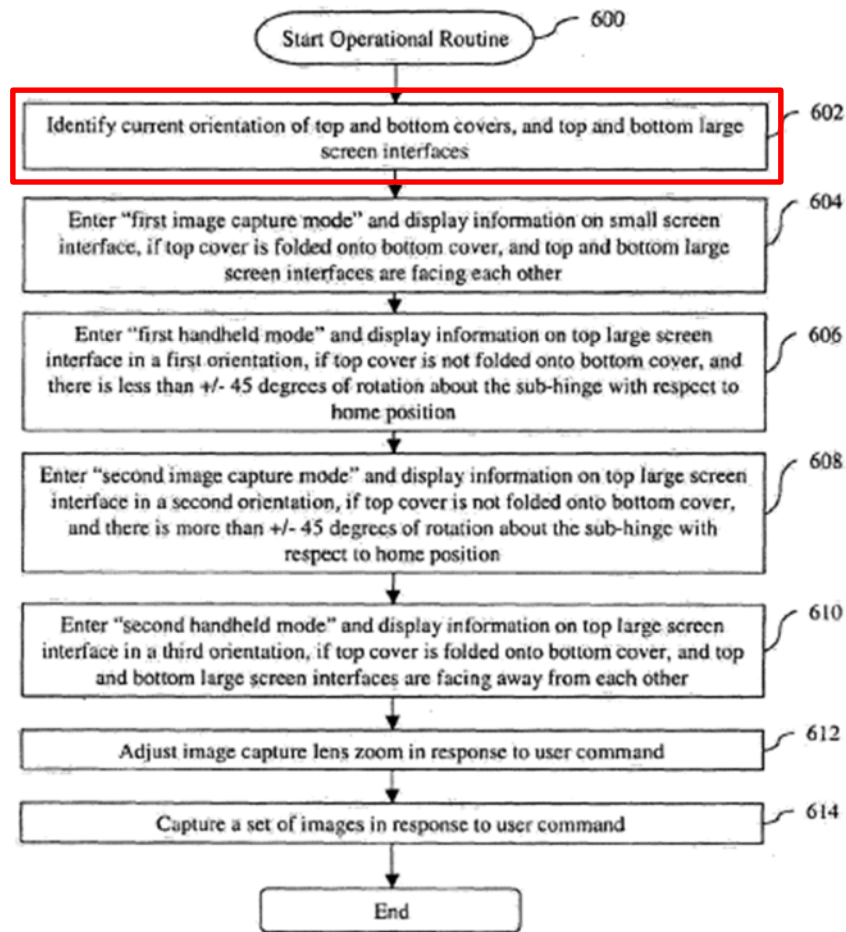


Fig. 6

“Determining . . . a device orientation”: Whitehorn teaches the device can be configured in unlimited orientations by rotating the two covers housing the two large screens along two axes. “The device **102** includes a hinge **104** which permits a top cover **106** to rotate about a first axis (A) **107** with respect to a bottom cover **108**. The hinge **104** includes a first end **110**, and a second end **111** both affixed to the bottom cover **108**, and a middle portion **112** affixed to the top cover **106**. The middle portion **112** includes a sub-hinge **114**, which permits the top cover **106** to rotate about a

second axis (B) **115** with respect to the bottom cover **108**. Those skilled in the art recognize that there are an unlimited number of orientations of the top cover **106** with respect to the bottom cover **108** about the hinge **104** and sub-hinge **114**.” Ex. 1005, [0020]. The orientations described can be illustrated with reference to Figure 5:

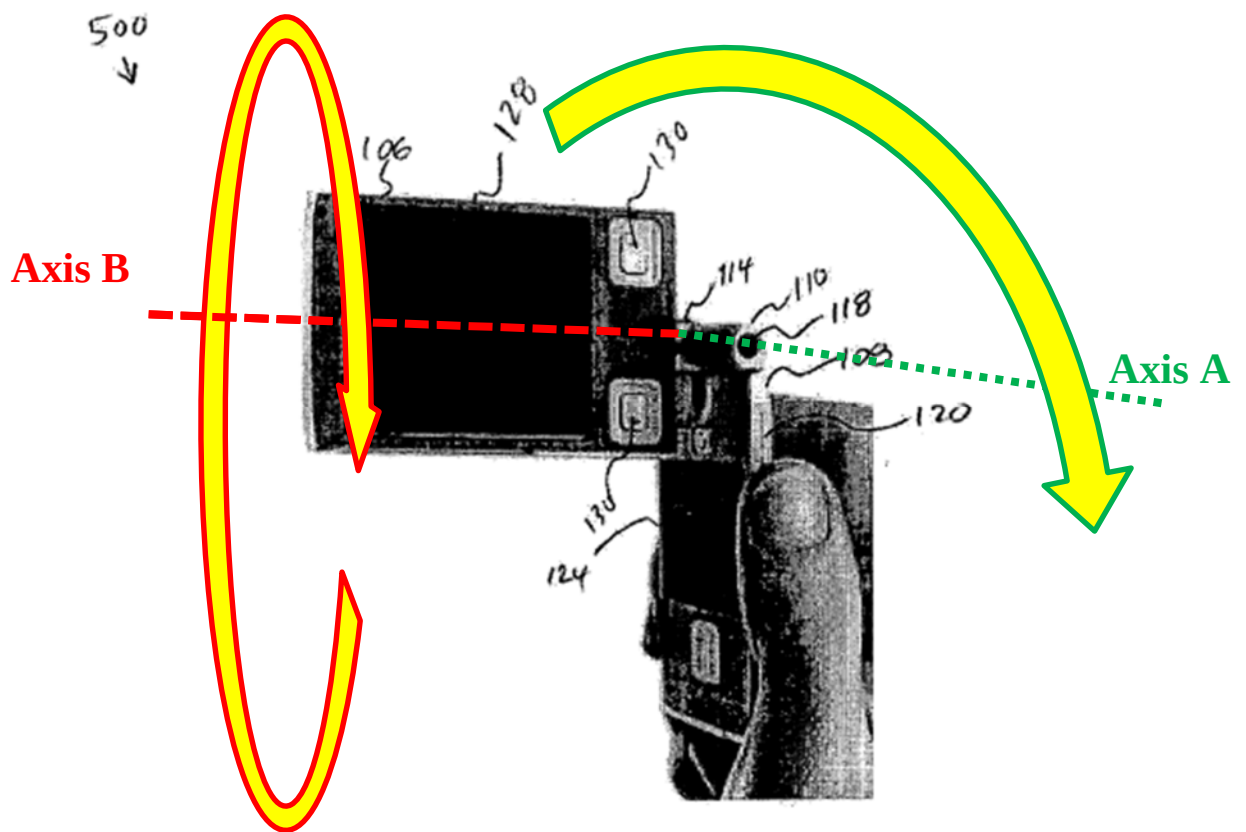


Fig. 5

Whitehorn describes rotation of the top cover **106** relative to the bottom cover **108** about Axis A via a hinge **104** (which is composed, in part by a first end **110**, visible in Figure 5). *See* Ex. 1005, [0020], Fig. 1 (showing Axis A **107** in line with hinge **104**); Ex. 1003, ¶ 284. This is annotated with a green and yellow arrow. Whitehorn further describes rotation of the top cover **106** about Axis B via a sub-hinge **114** that is part of the middle portion **112** of hinge **104**. Axis B is orthogonal to Axis A. Ex. 1003, ¶ 285. This is annotated with a red and yellow arrow. Whitehorn further teaches that the entire device, or components thereof, can have either a portrait or landscape orientation. Ex. 1005, [0028]-[0029]. And, as shown in Step 602 of Figure 6 above, Whitehorn teaches “identify[ing]” (that is, determining) the device orientation. Ex. 1003, ¶ 283.

“Determining . . . a device state”: Whitehorn teaches the device determining if it is in a particular physical configuration, such as open, closed, or other states. Whitehorn illustrates this in the flowchart shown in Figure 6:

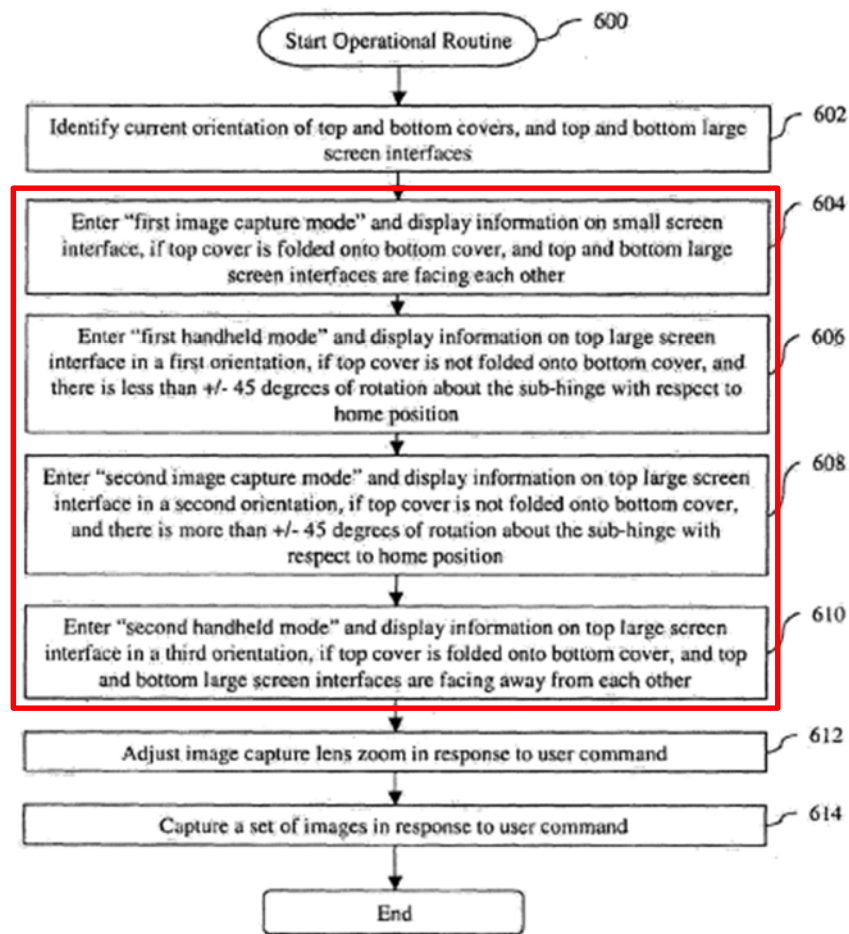


Fig. 6

Whitehorn teaches device states where, for example, the device is folded & closed (insofar as the top and bottom large screen interfaces **124** and **128** are facing each other) (see Ex. 1005, Fig. 1, [0027]), unfolded & open (see Ex. 1005, Figs. 2 and 5, [0028], [0029]), and folded & open (insofar as the “top cover **106** is folded onto the bottom cover **108**, and the top and bottom large screen interfaces **128** and **124** are facing away from each other”) (see Ex. 1005, [0030]). And, as shown in Step

602 of Figure 6 above, Whitehorn teaches “identify[ing]” (that is, determining) the device state. Ex. 1003, ¶ 286.

Thus, Whitehorn teaches “determining one or more of an image capture function configuration, a device orientation, and a device state” at least by detecting whether the top and bottom covers are folded or rotated in a particular configuration.

[1D] based on one or more of the image capture function configuration, the device orientation, and the device state, entering one of one or more image capture modes,

Whitehorn discloses this limitation. Ex. 1003, ¶¶ 288-294. As noted above with respect to limitation [1C], Whitehorn teaches determining at least a device orientation and device state, *e.g.*, at steps **602-610** in the method of Figure 6. Whitehorn then teaches that the device enters a mode, including in some instances an image capture mode, based on the device orientation and state (*i.e.*, based on the positioning and rotation of the components of the device, relative to one another). Whitehorn discloses that the determination of which mode to enter is made automatically depending on the device orientation and device state. Ex. 1005, [0021] (“Rotation of the top and bottom covers **106** and **108** with respect to each other ***automatically*** determines a mode in which the device **102** operates.”).

For example, in the Figure 6 method, Whitehorn discloses that the device enters a “first image capture mode” “***if*** the top cover **106** is folded onto bottom cover **108**, and top and bottom large screen interfaces **128** and **124** are facing each other.”

Ex. 1005, [0027]. Also, Whitehorn teaches that the device enters a “second image capture mode” “*if* top cover **106** is not folded onto bottom cover **108**, and there is more than ± 45 degrees of rotation about the sub-hinge **114** with respect to the home position.” Ex. 1005, [0029]. Whitehorn’s description of entering these image capture modes “if” the device is in a specific orientation and device state indicates that the device determines an orientation and device state then enters the image capture mode. Ex. 1003, ¶ 294.

[1E] wherein in each image capture mode a display on the first or second screen is different.

Whitehorn discloses this limitation. Ex. 1003, ¶¶ 295-301. As explained above with respect to limitation [1D], Whitehorn teaches a first and second image capture mode in the embodiment described in Figure 6. In each of these two image capture modes, a display on at least the top large screen interface **128** (the “first screen” or “second screen”) is different.

For example, if the device is in a “first image capture mode,” Whitehorn teaches that the device “displays information on the small screen interface **118**, if the top cover **106** is folded onto bottom cover **108**, and top and bottom large screen interfaces **128** and **124** are facing each other.” Ex. 1005, ¶ [0027]. Thus, in the first image capture mode, the top large screen interface is not visible and does not display an image. Ex. 1003, ¶ 297. This is shown in the annotated Figures depicted below:

Top cover **106** open and top large
screen interface **128** visible

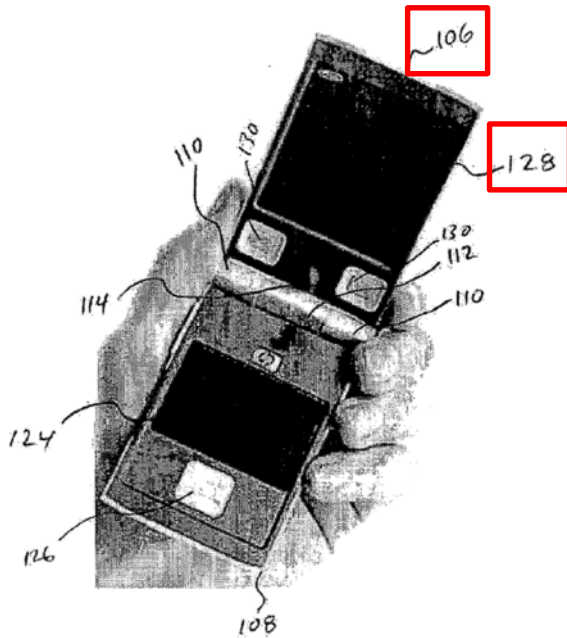


Fig. 2

Top cover **106** rotated
closed and top large
screen interface **128**
not visible

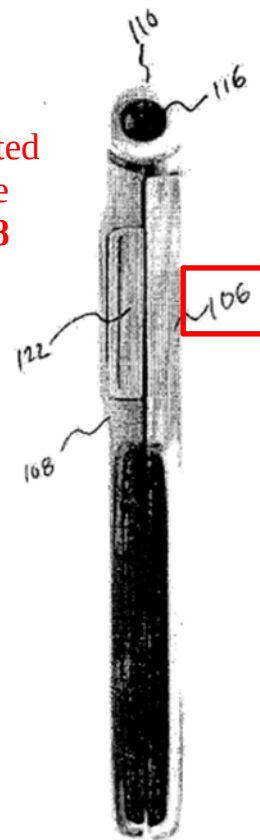


Fig. 3

Ex. 1005, Figs. 2, 3.

When the device is in a “second image capture mode,” Whitehorn teaches that “users are capturing images with the image capture device **116** while *looking through the top large screen interface 128 at what is being captured*. Users may prefer this mode when viewing images on the top large screen interface **128** would be more convenient than viewing them on the small screen interface **118**.” Ex. 1005, [0029]; *see also* [0024] (the top large screen interface can display “captured images

or “other information generated by the device.”) Thus, in the second image capture mode, the top large screen interface displays an image. Ex. 1003, ¶ 301. This is shown in Figure 5:

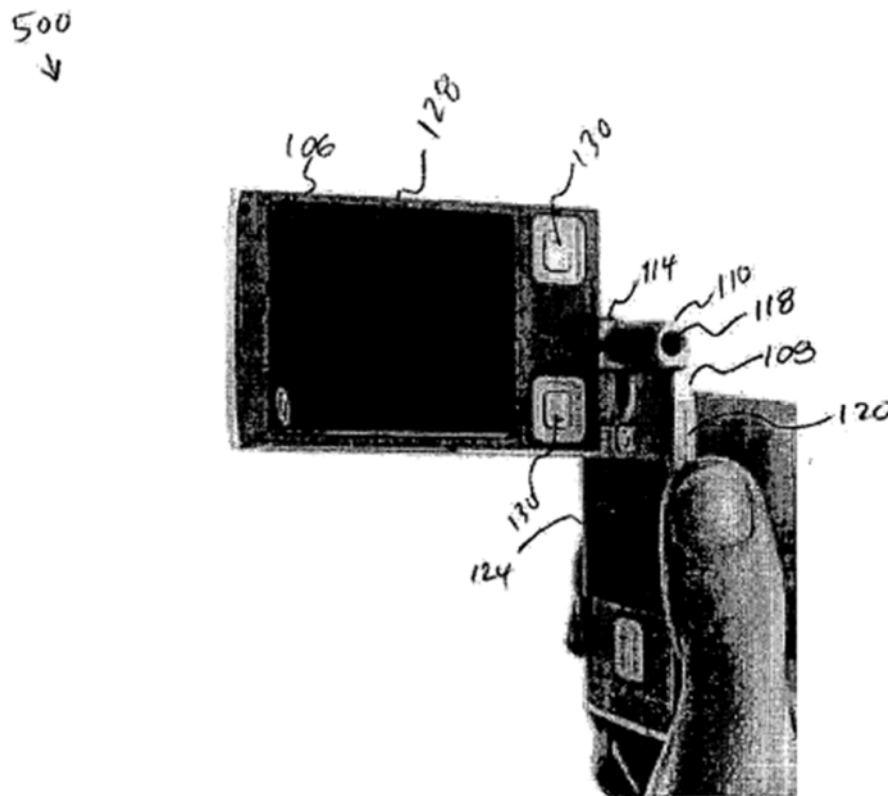


Fig. 5

2. Claim 2

[2] The method of claim 1, wherein the image capture function is configured to capture an outward-facing image.

Whitehorn discloses the additional limitations of claim 2 and thus anticipates claim 2. Ex. 1003, ¶¶ 302-308. The image capture function is configured to capture an outward-facing image in both the “first image capture mode” and “second image capture mode” discussed above with respect to claim 1.

Whitehorn discloses “[t]he present invention ergonomically incorporates an image capture device into a hand held device” which “permits users to capture and view images under any lighting condition, while holding the device in a natural and ergonomically friendly manner, and even when the device is in a folded orientation.” Ex. 1005, [0017]. Whitehorn discloses placing an image capture device (*i.e.*, a camera) at the end of hinge **104**. *Id.*, [0022]. Whitehorn discloses that same side of the device contains a “a shutter control **122** beneath the image capture device **116**” that “instructs the device **102** to capture one or more images (*i.e.* a still picture or a video clip) using the image capture device **116**.” *Id.*, [0023]. On the opposite side of the hinge is the small screen interface **118**. *Id.*, [0022]. This is illustrated in Figures 1 and 3:

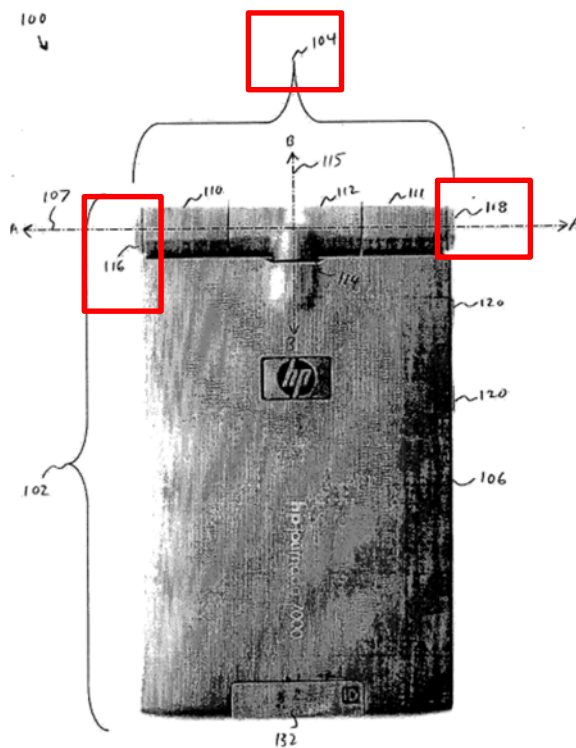


Fig. 1

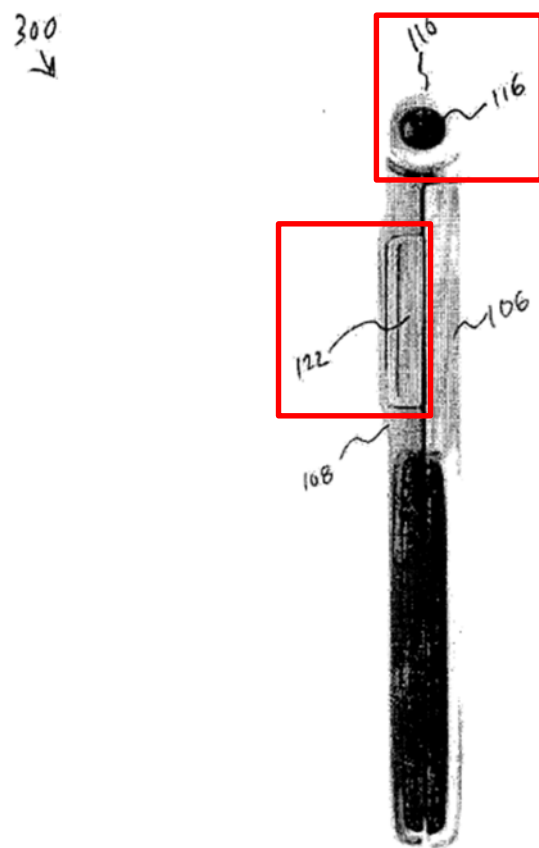


Fig. 3

When in a closed position as in Figures 1 and 3, i.e., the “first image capture mode,” “users are capturing images with the image capture device **116** while looking through the small screen interface **118** at what is being captured.” *Id.*, [0027]; see *also id.*, [0022]. Thus, in the first image capture mode, the device is configured to capture an image in the direction facing away from the user, i.e., an outward-facing image. Ex. 1003, ¶ 306.

Likewise, Figure 5 (depicting the configuration of the “second image capture mode”) shows a device pointed with the image capture device **116** facing *away* from the user. The large screen interface **128**, like the small screen interface **118**, is facing the user on the opposite side of the device from the image capture device **116**. In Figure 5, the image capture device **116** is obscured by top large screen interface **128**. An annotated Figure 5 follows:

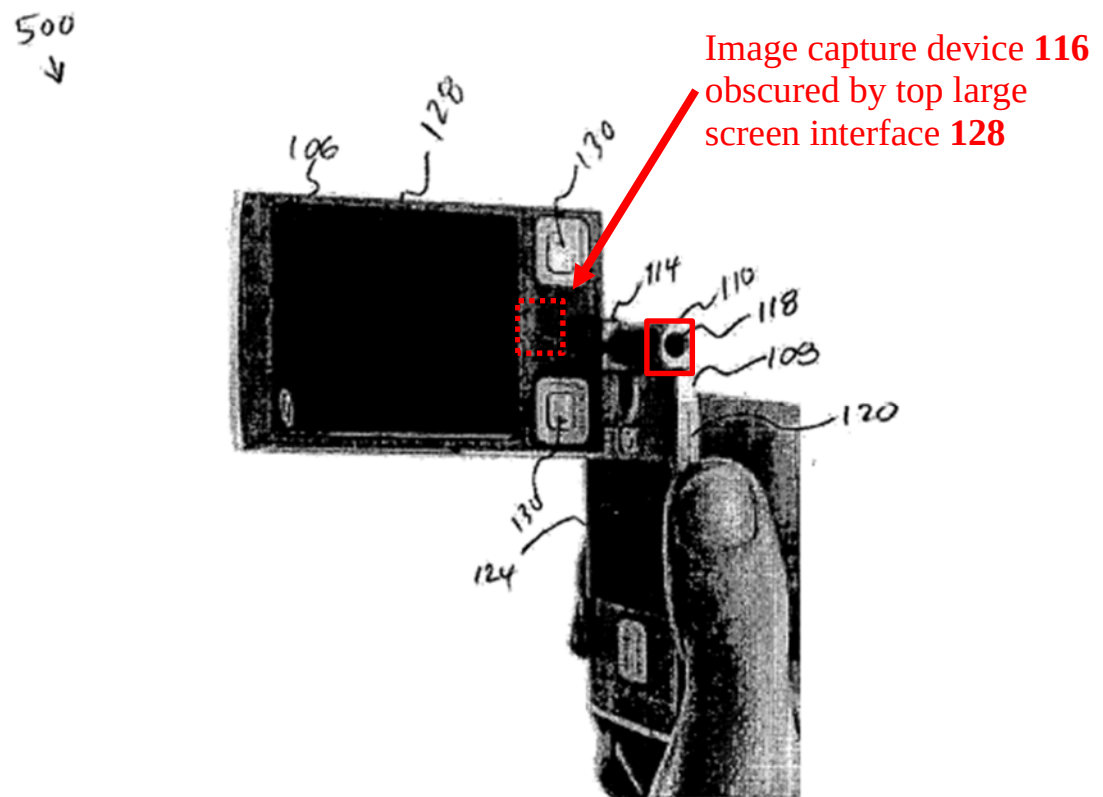


Fig. 5

In addition, Whitehorn discloses the ability to capture “telephoto . . . image captures,” further indicating that the image captures may be *away* from the user (*i.e.*, outward facing). Ex. 1005, [0017].

3. Claim 3

[3] The method of claim 2, wherein the device is in a closed state.

Whitehorn discloses the additional limitations of claim 3 and thus anticipates claim 3. Ex. 1003, ¶¶ 309-311. As discussed above with respect to claim 2, when the Whitehorn device is configured to capture an outward-facing image in the “first image capture mode,” the device can be in a closed state, as shown and described with respect to Figure 3. The device in Figure 3 is closed because “the top cover **106** is folded onto bottom cover **108**, and top and bottom large screen interfaces **128** and **124** are facing each other.” Ex. 1005, [0027].

4. Claim 4

[4] The method of claim 3, wherein the device is in a landscape or portrait orientation.

Whitehorn discloses the additional limitations of claim 4 and thus anticipates claim 4. Ex. 1003, ¶¶ 312-313. Whitehorn discloses a device used in a portrait orientation (*i.e.*, where the width is less than the height), as illustrated in Figure 3.

5. Claim 5

[5] The method of claim 4, wherein a lens is associated with either the first or second screen.

Whitehorn discloses the additional limitations of claim 5 and thus anticipates claim 5. Ex. 1003, ¶¶ 314-317. The image capture device **116** includes “one or more *lenses* for focusing optical light on the light sensitive device.” Ex. 1005, [0022]. In the first image capture mode, the lens is associated with the “small screen interface

118” (the “second screen”) in that “users are capturing images with the image capture device **116** while looking through the small screen interface **118**.” *Id.*, [0027]; Ex. 1003, ¶ 315. Moreover, the small screen interface **118** can display images captured by the image capture device **116** “either in real-time like a viewfinder or which have been previously recorded.” Ex. 1005, [0022].

6. Claim 6

[6] The method of claim 5, wherein, in the image capture mode, the device does not display an image on a first screen and displays a preview on a second screen.

Whitehorn discloses the additional limitations of claim 6 and thus anticipates claim 6. Ex. 1003, ¶¶ 318-320. As explained above as to claim element [1E], in the “first image capture mode,” the top large screen interface **128** (the claimed “first screen”) is closed, not facing the user, and does not display an image. *Supra* Section VIII.C.1. And Whitehorn discloses that the small screen interface 118 (the claimed “second screen”) can display images “in real-time like a viewfinder,” *i.e.*, a preview. Ex. 1005, [0022]; Ex. 1003, ¶ 320.

7. Claim 7

[7] The method of claim 5, wherein the first screen is disabled and does not receive user interface input while in the image capture mode.

Whitehorn discloses the additional limitations of claim 7 and thus anticipates claim 7. Ex. 1003, ¶¶ 321-323. As noted immediately above with respect to claim 6, in the “first image capture mode,” the top large screen interface **128** does not display

an image; nor does Whitehorn describe that screen as being enabled or receiving any user interface input; indeed, in this mode, the top large screen interface **128** is closed and not visible to the user, so it cannot receive user interface input. Ex. 1005, [0027], Fig. 3. Thus, the top large screen interface **128** is disabled and does not receive user interface input while in the first image capture mode. Ex. 1003, ¶ 323.

8. Claim 11

Whitehorn discloses all the limitations of claim 1, as set forth below, and thus anticipates claim 1.

[11P] A device, comprising:

If the preamble is limiting, Whitehorn discloses this limitation. Whitehorn discloses a “handheld device with integral axial camera.” Ex. 1005, [0008], [0019], [0020], Figs. 1, 2, 3, 5. Ex. 1003, ¶¶ 324-325.

[11A] a first screen, the first screen including a first gesture capture region;

Whitehorn discloses this limitation. Ex. 1003, ¶¶ 326-328.

Whitehorn teaches that the bottom large screen interface **128** (the claimed “first screen”) is capable of capturing user gestures: “The bottom large screen interface **124** is at a minimum preferably capable of receiving input commands from users of the device **102** ... [and] preferably accepts a pen inputs.” Ex. 1005, [0023]. Since pen inputs can provide gestures, the bottom large screen interface **124** includes a “gesture capture region.” Ex. 1003, ¶¶ 327-328. As noted above, this is consistent

with how the '842 patent describes a “gesture capture region” as a region or portion of a screen of which is capable of detecting user gestures, such as touch. *Supra* Section VII.E.

[11B] a second screen, wherein the second screen faces an opposite direction from the first screen when the device is closed, and wherein an image capture lens is associated with the second screen;

Whitehorn discloses this limitation. Ex. 1003, ¶¶ 329-334. Whitehorn discloses that “[t]he top cover **106** includes a top large screen interface **128**,” which is the claimed “second screen,” and “[t]he bottom cover **108** also includes a bottom large screen interface **124**,” which is the claimed “first screen.” Ex. 1005, [0023]–[0024]; *see also supra* Section VIII.C.1, limitation [1A]. When the device is closed as shown in Figures 1, 3, and 4, the two large screen interfaces are facing each other and thus the top large screen interface **128** faces an opposite direction from the bottom large screen interface **124**. *Supra* Section VIII.C.2 and 3. In addition, “the top cover **106** can be rotated and flipped back onto the bottom cover **108** such that the top large screen interface **128** faces away from the bottom large screen interface **124**,” in which case the two screens are facing away from each other, such that the top large screen interface **128** faces an opposite direction from the bottom large screen interface **124**. Ex. 1005, [0024]; [0031].

Moreover, Whitehorn teaches an “image capture lens” associated with the second screen. For example, when the device is configured in a “second image

capture mode,” “users are capturing images with the image capture device **116** while looking through the top large screen interface **128** at what is being captured.” Ex. 1005, [0029]. The lens is associated with the “top large screen interface” because the images captured by the camera are displayed there. Ex. 1005, [0022], Ex. 1003, ¶ 333.

[11C] a memory;

Whitehorn discloses this limitation. Ex. 1003, ¶¶ 335-337. Whitehorn discloses a handheld device **102** that “falls into a class of devices known as Personal Digital Assistants (PDAs), and thus preferably provides certain computing and *information storage and retrieval functionalities* common to the class.” Ex. 1005, [0019]. A POSITA would have understood that handheld device **102** necessarily comprises the claimed “memory” to provide such “information storage and retrieval functionalities.” Ex. 1003, ¶ 336.

[11D] a processor in communication with the memory, the first screen, and the second screen, the processor operable to:

Whitehorn discloses this limitation. Ex. 1003, ¶¶ 338-340. Again, Whitehorn discloses a handheld device **102** that “falls into a class of devices known as Personal Digital Assistants (PDAs), and thus preferably provides certain *computing* and *information* storage and *retrieval functionalities* common to the class.” Ex. 1005, ¶ [0019]. Whitehorn further discloses modes where “the device functions as a tablet

computer,” “handheld tablet computer,” or “laptop computer.” *Id.*, [0024], [0030], claim 4. A POSITA would have understood such computing and information retrieval functionalities in a PDA (e.g., when functioning as a computer) necessarily would include a processor (a computer includes a processor) that would communicate both with the memory and the disclosed first and second screens (*e.g.*, to store and retrieve information from the memory, and to control the screens to display information). Ex. 1003, ¶¶ 339-340.

[11E] receive user interface input to execute an image capture function;

Whitehorn discloses this limitation for the same reasons as discussed above with respect to the limitation in Claim 1, limitation [1B]. *Supra* VIII.B.1; Ex. 1003, ¶¶ 341-346. A POSITA would have understood that to perform “computing . . . functionalities,” the handheld device **102** of Whitehorn would necessarily include a processor operable to handle input from the shutter control **122** to execute an image capture function. Ex. 1003, ¶ 346; Ex. 1005, [0023].

[11F] determine one or more of an image capture function configuration, a device orientation, and a device state:

Whitehorn discloses this limitation for the same reasons as discussed above with respect to the limitation in Claim 1, limitation [1C]. *Supra* VIII.B.1; Ex. 1003, ¶¶ 347-354. A POSITA would have understood that to perform “computing . . . functionalities,” the handheld device **102** of Whitehorn would necessarily include a

processor operable to determine one or more of an image capture function configuration, a device orientation, and a device state. Ex. 1003, ¶ 352; Ex. 1005, [0021]. Specifically, Whitehorn discloses that in the method of operation in Figure 6, the device first (at step **602**) “identifies” the device’s orientation and state, then subsequently “automatically determines a mode in which the device **102** operates” based on that information. Ex. 1005, [0021], [0026]. A POSITA would have understood that such “identification” preceding “automatic determination” would be performed by the device’s processor. Ex. 1003, ¶¶ 353-354.

[11G]based on one or more of the image capture function configuration, the device orientation, and the device state, enter one of one or more image capture modes, wherein in each image capture mode a display on the first or second screen is different.

Whitehorn discloses this limitation for the same reasons as discussed above with respect to the limitation in Claim 1, limitation [1D]. *Supra* VIII.B.1; Ex. 1003, ¶¶ 355-358. A POSITA would have understood that to perform the “computing . . . functionalities,” the handheld device **102** of Whitehorn would necessarily include a processor operable to enter an image capture mode based on an image capture function configuration, a device orientation, and a device state. Ex. 1003, ¶ 358. Specifically, Whitehorn discloses a device that “automatically determines a mode in which the device **102** operates” based on the “[r]otation of the top and bottom covers **106** and **108** with respect to each other.” Ex. 1005, ¶ [0021]. A POSITA would have

understood that entering the appropriate mode based on such “automatic determination” would be performed by the device’s processor. Ex. 1003, ¶ 354.

[11H] wherein in each image capture mode a display on the first or second screen is different.

Whitehorn discloses this limitation for the same reasons as discussed above with respect to the limitation in Claim 1, limitation [1E]. *Supra* VIII.B.1; Ex. 1003, ¶¶ 359-362. A POSITA would have understood that to perform the “computing . . . functionalities,” the handheld device **102** of Whitehorn would necessarily include a processor operable to display different images on the first or second screen depending on the image capture mode. Ex. 1003, ¶ 362.

D. Ground 4: Claims 1-7 and 11 Would Have Been Obvious in View of Whitehorn

The Challenged Claims are anticipated by Whitehorn. Because Whitehorn anticipates the Challenged Claims, Whitehorn also would have rendered those claims obvious to a POSITA. *Realtime Data*, 912 F.3d at 1373 (Fed. Cir. 2019).

To the extent Patent Owner argues that Whitehorn does not anticipate, then at minimum Whitehorn, considered in view of the knowledge of a POSITA, would have rendered the Challenged Claims obvious to a POSITA for the reasons set forth in Section VIII.C and for the additional reasons discussed below. Ex. 1003, ¶¶ 363-385.

Initially, Whitehorn is analogous art to the '842 patent. The '842 patent concerns multi-display handheld computing devices. Ex. 1001, 1:45-48. So does Whitehorn. *See, e.g.*, Ex. 1005, [0005], [0017], [0019]. Whitehorn's disclosures also are reasonably pertinent to the problem purportedly addressed by the '842 patent; both Whitehorn and the '842 patent address how to present information in different image capture modes in a rotatable or foldable handheld electronic device. *See, e.g.*, Ex. 1001, Abstract; Ex. 1004, [0002]-[0010]; Ex. 1003, ¶¶ 364-365.

First, any differences in terminology between Whitehorn and the '842 patent are, at most, no more than obvious variants of Whitehorn and not patentable distinctions. Ex. 1003, ¶ 368.

Second, if Multifold argues that claim 1 requires a "touch screen," it would be incorrect. Ex. 1003, ¶¶ 369-373. Nonetheless, even under this incorrect interpretation, Whitehorn discloses that its "large screen interfaces" may accept user inputs, such as pen inputs. Ex. 1005, [0023]-[0024]. A POSITA would have understood Whitehorn to at least suggest and render obvious a "user interface" in the form of a touch screen and further using that touch screen to execute an image capture function. By the time of the '842 patent's earliest priority date, it was well known in the art to use touch screens as a user interface for portable electronic devices, including using a touch screen input to take a picture. The '842 patent itself admits as "Background" that "[a] substantial number of handheld computing

devices, such as cellular phones, tablets, and E-Readers, make use of a touch screen display not only to deliver display information to the user but also to receive inputs from user interface commands.” Ex. 1001, 1:15-19. Several other references taught this functionality as well. *See, e.g.*, Ex. 1009, 5:15-30; Ex. 1010, [0068]-[0069]; Ex. 1006, [0235]; Ex. 1003, ¶ 372. A POSITA would have been motivated to add this functionality to Whitehorn, to the extent any modification were deemed necessary, as a known technique to improve Whitehorn’s device by adding another input option that some users may have deemed desirable, and a POSITA would have reasonably expected success in doing so as the modification would have just required programming Whitehorn’s device and adding known touch-screen hardware within the skill of a POSITA. *Id.*

For the same reasons, if Multifold argues that Whitehorn fails to disclose the “gesture capture region” limitation of claim 11, that too would have at least been obvious to a POSITA in view of Whitehorn for at least the same reasons. *Id.*, ¶ 373. As noted above with respect to claim 11, limitation [11A] (*supra* Section VIII.D.8), a touch-screen type display, implemented in Whitehorn’s disclosed devices, would include a “gesture capture region.”

Third, if Multifold argues that Whitehorn does not disclose “wherein in each image capture mode a display on the first or second screen is different,” as in claim limitations [1E] and [11H], then Multifold would be wrong for the reasons explained

above. *Supra* Section VIII.C.1, 8. But at minimum, this limitation would have been obvious to a POSITA in view of Whitehorn. As noted, Whitehorn discloses in the first image capture mode that “the top cover **106** is folded onto bottom cover **108**, and top and bottom large screen interfaces **128** and **124** are facing each other” and shows the device as closed with the top large screen interface **128** not visible. Ex. 1005, [0027], Fig. 3. This at least suggests and would have made obvious to a POSITA that the top large screen interface **128** is not displaying anything and is turned off, and thus the display is different from the second image capture mode which displays the image being captured. Indeed, a POSITA would have understood that this screen would either be on or off. Ex. 1003, ¶¶ 375-376. And a POSITA would have been motivated to turn off (disable) this screen in the first image capture mode, because the screen would not be visible to the user. Disabling this non-usable screen would save power. Ex. 1003, ¶ 376. Turning off power to one screen in a multi-screen device was a known design option and well within the ability of a POSITA. *Id.* For the same reasons, the limitations of claims 6 and 7 teaching disabling or not displaying an image on a screen at least have been obvious to a POSITA in view of Whitehorn. *Id.*, ¶ 377.

Fourth, if Multifold argues that Whitehorn does not disclose either a “memory” or a “processor” operable as described in claim 11, then Multifold would be wrong for the reasons explained above. *Supra* Section VIII.A.8. But at minimum,

these limitations would have been obvious to a POSITA in view of Whitehorn. Whitehorn's "handheld device **102** preferably falls into a class of devices known as Personal Digital Assistants (PDAs)" and alternatively could be "other types of hinged apparatus, such as cell phones" and "laptop computers." Ex. 1005, [0019]. A POSITA immediately would have understood this disclosure to at least suggest that the "handheld device" would have a memory and a processor. Ex. 1003, ¶378. Such devices typically, if not uniformly, included one or more memory(ies) and one or more processor(s), with the memory(ies) storing software / instructions for the processor(s) to execute to control the device's operations, including image capture in different modes and display of images. Ex. 1003, ¶ 379. Many prior art references describe the memories and processors in such devices operating in this manner. Ex. 1003, ¶¶ 380-384; Ex. 1010, [0030], [0043]-[0044]; Ex. 1011, [0082]; Ex. 1012, Fig. 1, [0067]-[0068], [0125]; Ex. 1006, [0281], [0285], [0286], [0287], [0385]-[0415], Fig. 50. Indeed, a POSITA would have recognized that it would be quite difficult to implement the functionality disclosed in Whitehorn *without* using a memory and a processor, and thus would have been motivated to so implement the functionality in Whitehorn using a memory and a processor. Ex. 1003, ¶ 385.

E. Secondary Considerations of Non-Obviousness

Petitioners are unaware of any applicable secondary considerations of non-obviousness. None were identified or asserted during prosecution. *See generally* Ex.

1003. Regardless, even if such considerations existed, none would overcome the strong *prima facie* showing of obviousness. Ex. 1002.

IX. Conclusion

As explained above, Petitioners are likely to prevail in showing that at least one of the Challenged Claims is unpatentable and requests that IPR be instituted and that the Challenged Claims be canceled.

Respectfully submitted,

Dated: October 17, 2024

By /T. Vann Pearce, Jr./

*Counsel for Petitioner Motorola
Designated Lead Counsel for Petitioners*

CERTIFICATE OF WORD COUNT

The undersigned certifies that the foregoing PETITION FOR *INTER PARTES* REVIEW complies with the type volume limitation in 37 C.F.R. § 42.24(a)(1)(i). According to the utilized word-processing system's word count, the petition—excluding the caption, table of contents, table of exhibits, mandatory notices, certificate of word count, and certificate of service—contains 13,832 words.

Dated: October 17, 2024

By /T. Vann Pearce, Jr./

Counsel for Petitioner Motorola

Petition for *Inter Partes* Review of
U.S. Patent No. 8,836,842

CERTIFICATE OF SERVICE

The undersigned hereby confirms that the foregoing PETITION FOR IPR and associated documents and exhibits were caused to be served on October 17, 2024 via overnight courier upon the following counsel of record for Patent Owner:

MULTIFOLD INTERNATIONAL-Patents and Licensing LLC
No. 178, Sec. 3 Minquan East Road
8 Floor
Taipei, 105401 TAIWAN

A courtesy copy was also sent via express mail to the Patent Owner's Power of Attorney of record via overnight courier at the following address as listed on Patent Center:

SHERIDAN ROSS P.C.
1560 Broadway, Suite 1200
Denver, CO 80202

A courtesy copy was also sent via electronic mail to the Patent Owner's litigation counsel at the following addresses:

Timothy K. Gilman
Chris Gerson
Daniel Apgar
Jonathan H. Koppell
SCHULTE ROTH & ZABEL LLP
919 Third Avenue
New York, NY 10022
Tim.Gilman@srz.com
Chris.Gerson@srz.com
Daniel.Apgar@srz.com
Jonathan.Koppell@srz.com

Petition for *Inter Partes* Review of
U.S. Patent No. 8,836,842

Daniel M. Silver
Alexandra M. Joyce
Maliheh Zare
McCARTER & ENGLISH LLP
Renaissance Centre
405 N. King Street, 8th Floor
Wilmington, DE 19801
dsilver@mccarter.com
ajoyce@mccarter.com
mzare@mccarter.com

/ Karen Johnson /

Karen Johnson