

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC., LG ELECTRONICS, INC.,
LG ELECTRONICS U.S.A., INC., AND GOOGLE LLC,
Petitioner,

v.

GESTURE TECHNOLOGY PARTNERS, LLC,
Patent Owner.

IPR2021-00920¹
Patent 7,933,431 B2

Before KEVIN F. TURNER, JONI Y. CHANG, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)

¹ IPR2022-00091 (LG Electronics, Inc. and LG Electronics U.S.A., Inc.) and IPR2022-00359 (Google LLC) have been joined with this proceeding.

I. INTRODUCTION

A. Background

Applying the standard set forth in 35 U.S.C. § 314(a), we instituted an *inter partes* review challenging the patentability of claims 1–31 (the “challenged claims”) of U.S. Patent No. 7,933,431 B2 (Ex. 1001, “the ’431 patent”). Paper 12 (“Dec.”). Apple, Inc.² filed the request for an *inter partes* review (Paper 1, “Petition” or “Pet.”), which Patent Owner, Gesture Technology Partners, LLC, opposed (Papers 8, 10).³

After institution, Patent Owner filed a Response (Paper 15, “PO Resp.”), Petitioner filed a Reply (Paper 19, “Reply”), and Patent Owner filed a Sur-reply (Paper 20, “Sur-reply”). An oral hearing was held on September 13, 2022, and a copy of the transcript was entered into the record. Paper 27 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of the claims on which we instituted trial. Having reviewed the arguments of the parties and the supporting evidence, we determine that Petitioner has shown by a preponderance of the evidence, that claims 1–10, 12, 14–31 are unpatentable. We also determine that Petitioner has not shown that claims 11 and 13 are unpatentable.

B. Related Matters

The parties identify these related matters: *Gesture Technology Partners, LLC v. Huawei Device Co., Ltd.*, No. 2:21-cv-00040 (E.D. Tex.); *Gesture Technology Partners, LLC v. Samsung Electronics Co.*, No. 2:21-

² Apple, Inc., LG Electronics, Inc., LG Electronics U.S.A., Inc., and Google LLC are collectively referred to herein as “Petitioner.”

³ Petitioner also filed a Preliminary Reply. Paper 9.

cv-00041 (E.D. Tex.); *Gesture Technology Partners, LLC v. Apple Inc.*, No. 6:21-cv-00121 (W.D. Tex.); *Gesture Technology Partners, LLC v. Lenovo Group Ltd.*, No. 6:21-cv-00122 (W.D. Tex.); *Gesture Technology Partners, LLC v. LG Electronics, Inc.*, No. 6:21-cv-00123 (W.D. Tex.); *Gesture Technology Partners, LLC v. Motorola Mobility LLC*, No. 1:22-cv03535 (N.D. Ill.); and *Gesture Technology Partners, LLC v. Katherine K. Vidal*, No. 1:22-cv-622 (E.D. Va). Pet. 76; Paper 21, 1–3. Patent Owner identifies the following Board proceedings as related matters: IPR2021-00917; IPR2021-00921; IPR2021-00922; and IPR2021-00923. Paper 21, 2–3. Patent Owner also identifies the following related *Ex Parte* Reexaminations: No. 90/014,900; No. 90/014,901; No. 90/014,902; and No. 90/014,903. *Id.* at 3–4.

C. The '431 Patent

The '431 patent “relates to simple input devices for computers, particularly, but not necessarily, intended for use with 3-D graphically intensive activities, and operating by optically sensing a human input to a display screen or other object and/or the sensing of human positions or orientations.” Ex. 1001, 2:7–11. The '431 patent further states that it relates to “applications in a variety of fields such as computing, gaming, medicine, and education.” *Id.* at 2:15–17. For instance, the '431 patent describes “a combination of one or more TV cameras (or other suitable electro-optical sensors) and a computer to provide various position and orientation related functions of use.” *Id.* at 11:54–58.

Figure 8A, reproduced below, illustrates the control of functions via a handheld device.

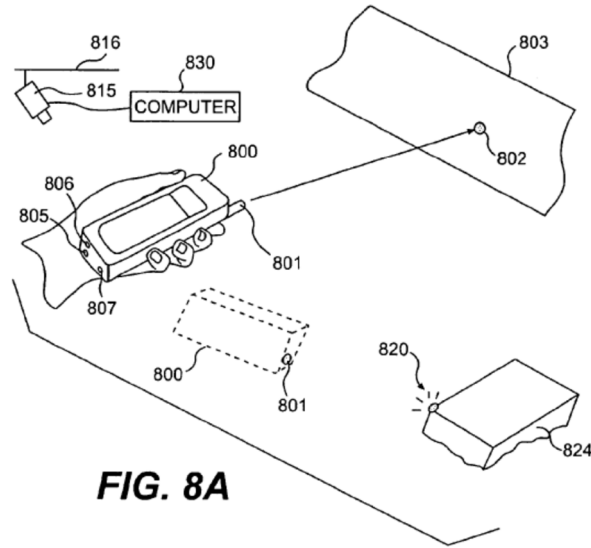


Figure 8A shows a perspective view of a cellular phone (800) using a laser spot projector (801) to project a laser spot on a detector (802) in a dashboard (803). *Id.* at 12:17–20. The '431 patent discloses that, alternatively or in conjunction, round dot targets (805, 806, 807) can be sensed on the cellular phone (800), such as by a TV camera (815). *Id.* at 12:20–25.

In another example, the cellular phone (800) can be used to signal a fax unit (824) to print data from the phone by pointing the cellular phone toward the fax unit. *Id.* at 12:42–45. TV camera (815) scans images of the dot targets (805, 806, 807) and a computer (830) analyzes the target images to determine the position and/or orientation or motion of the cellular phone to thereby determine if a command is being issued with movement of the cellular phone. *Id.* at 12:45–51. The computer then commands the fax unit to print if this action is signaled by the position, orientation, or motion of the cellular phone. *Id.* at 12:51–52.

D. Illustrative Claim

Petitioner challenges claims 1–31 of the '413 patent. Claims 1, 7, and 14 are independent. Claims 1 and 7 are illustrative:

1. A method for controlling a handheld computing device comprising the steps of:

holding said device in one hand;

moving at least one finger in space in order to signal a command to said device;

electro-optically sensing light reflected from said at least one finger using a sensing means associated with said device;

determining from said sensed light the movement of said finger, and

using said sensed finger movement information, controlling said device in accordance with said command.

7. Handheld computer apparatus comprising:

a housing;

a camera means associated with said housing for obtaining an image using reflected light of at least one object positioned by a user operating said object;

computer means within said housing for analyzing said image to determine information concerning a position or movement of said object; and

means for controlling a function of said apparatus using said information.

Ex. 1001, 25:39–50, 25:61–26:5.

II. ANALYSIS

A. Summary of Issues

In the below analysis, we first address the grounds of unpatentability. We then address jurisdiction over expired patents.

B. Instituted Grounds

Petitioner asserts the following grounds of unpatentability (Pet. 4), supported by the declaration of Benjamin B. Bederson (Ex. 1008):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–4, 7–9, 11–22, 25, 26, 28	103(a) ⁴	Numazaki, ⁵ Knowledge of a PHOSITA ⁶
5, 6, 29	103(a)	Numazaki, DeLeeuw ⁷
10, 23, 24, 27	103(a)	Numazaki, DeLuca ⁸
30, 31	103(a)	Numazaki, Peters ⁹

1. Legal Standards for Unpatentability

Petitioner bears the burden to demonstrate unpatentability. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

A claim is unpatentable as obvious under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). We resolve the question of obviousness based on underlying factual determinations, including: (1) the

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. § 103 effective March 16, 2013. Because the challenged patent was filed before March 16, 2013, we refer to the pre-AIA versions.

⁵ U.S. Patent 6,144,366, issued Nov. 7, 2000 (“Numazaki”) (Ex. 1003).

⁶ A person having ordinary skill in the art (“PHOSITA”).

⁷ U.S. Patent 6,088,018, issued July 11, 2000 (“DeLeeuw”) (Ex. 1004).

⁸ U.S. Patent 6,064,354, issued May 16, 2000 (“DeLuca”) (Ex. 1005).

⁹ U.S. Patent 6,243,683 B1, issued June 5, 2001 (“Peters”) (Ex. 1006).

scope and content of the prior art; (2) any differences between the prior art and the claims; (3) the level of skill in the art; and (4) when in evidence, objective indicia of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We apply these principles to the Petition’s challenges.

2. Level of Ordinary Skill in the Art

Petitioner asserts that “[a] person having ordinary skill in the art (‘PHOSITA’) at the time of the ’431 Patent would have had at least a bachelor’s degree in electrical engineering or equivalent with at least one year of experience in the field of human computer interaction” and that “[a]dditional education or experience might substitute for the above requirements.” Pet. 3 (citing Ex. 1008 ¶¶ 30–32). Patent Owner does not dispute Petitioner’s level of ordinary skill in the art. PO Resp. 6.

We are persuaded, on the present record, that Petitioner’s declarant’s statement is consistent with the problems and solutions in the ’431 patent and prior art of record. We adopt this definition for the purposes of this Decision.

3. Claim Construction

In *inter partes* review, we construe claims using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b) (2021).

Petitioner provides a number of claim constructions. Pet. 5–12. Patent Owner does not contest Petitioner’s claim constructions, and argues for a

few additional claim constructions. PO Resp. 6–9. We address each term construed by one of the parties below.

We determine that it is not necessary to construe any other terms. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

a) The Preambles

The preambles of claims 1 and 14 both state: “A method for controlling a handheld computing device comprising the steps of . . .” and the preamble of claim 7 states: “Handheld computer apparatus comprising . . .” Ex. 1001, 25:40–41, 25:61, 26:18–19. The Petition does not address whether the preambles are limiting, but rather attempts to show that independent of whether they are limiting, the preambles are taught by the prior art. *See e.g.* Pet. 17 (“To the extent the preamble is limiting, *Numazaki* teaches . . .”). Patent Owner argues that the preambles should be limiting (PO Resp. 6–7) and Petitioner does not contest or address this argument (*see* Reply).

Patent Owner argues that the preambles should be limiting because they recite essential structure or steps and are “necessary to give life, meaning, and vitality” to the claims. PO Resp. 6 (quoting *Acceleration Bay, LLC v. Activision Blizzard, Inc.*, 908 F.3d 765, 770 (Fed. Cir. 2018)). Specifically, Patent Owner asserts that each claim includes one or more limitations that refer back to the preamble’s “handheld computing device” or “handheld computer apparatus” for antecedent basis. *Id.* at 6–7. Patent Owner further argues that the ’431 patent discloses different embodiments, with some embodiments being in the form of a computer and some

embodiments being in the form of a handheld device. *Id.* at 7 (citing Ex. 1001, 12:59–13:7, Fig. 10A). Patent Owner contends that the claims are directed to the latter embodiments related to a handheld device and, therefore, “the preamble is necessary to give life, meaning, and vitality to claims 1, 7, and 14, consistent with the embodiments that the inventor chose to claim.” *Id.*

We agree that the preambles of claims 1, 7, and 14 are limiting. This is primarily because the body of each claim includes “said device” or “said apparatus” which refers back to the preamble and is understood with reference thereto. For example, the last clause of claim 7 states: “means for controlling a function of *said apparatus* using said information.” Ex. 1001, 26:4–5 (emphasis added). “Said apparatus” derives antecedent basis from the “[h]andheld computer apparatus” recited in the preamble. Moreover, the “means for controlling a function of said apparatus” is understood because of this reference to the handheld computer apparatus. The limitations of claims 1 and 14 are similar and so this logic applies equally to these claims as well. Thus, we agree that the preamble recites essential structure and is “necessary to give life, meaning, and vitality” to claims 1, 7, and 14.

b) Camera Means

Petitioner asserts that, though claim 7 recites “camera means,” it is not a means-plus-function limitation under §112 ¶ 6. Pet. 6. Petitioner argues that “a PHOSITA would have considered ‘camera means associated with said housing’ to have a sufficiently definite meaning as the name for structure.” *Id.* (citing Ex. 1008 ¶ 36). Petitioner further argues that “all optical sensors obtain images by capturing light, so the claimed function is simply describing the general process that all optical sensors employ to obtain images of objects.” *Id.* (citing Ex. 1008 ¶ 36).

“Patent Owner agrees” with Petitioner’s construction PO. Resp. 7. We accept Petitioner’s construction as consistent with the current record.

c) Computer Means

Petitioner contends that claim 7’s limitation of “computer means within said housing for analyzing said image to determine information concerning a position or movement of said object” is a means-plus-function limitation under §112 ¶ 6. Pet. 7. Petitioner argues that the limitation’s function is analyzing an image “to determine positioning or movement of an object.” *Id.* Petitioner argues that the corresponding structure “includes a computer/processor programmed (1) to identify either natural or artificial features on an object as described . . . or (2) to track the movement using one of the disclosed methods.” *Id.* at 9; *see id.* at 8–9 (discussing the disclosure of the ’431 patent) (citing Ex. 1001, 3:38–47, 3:57–62, 4:9–14, 5:2–23, 6:64–7:13, 8:40–59, 11:16–35).

Petitioner also argues that “objects” should be construed to mean “both separate objects held/controlled by the user and also part of the user’s body, such as a user’s finger or hand.” *Id.* at 8; *see id.* at 7–8 (citing Ex. 1001, 3:39–41, 3:48–50, claims 7–8).

“Patent Owner does not contest” Petitioner’s construction. PO Resp. 6. We accept Petitioner’s construction as consistent with the current record.¹⁰

d) Means for Controlling a Function

Petitioner argues that claim 7’s limitation of “means for controlling a function of said apparatus using said information” is a means-plus-function

¹⁰ In related IPR2021-00917 the petitioner there offered a slightly different construction. *See* IPR2021-00917, Paper 31, 11–12. The parties do not address the slight differences and we determine that the outcome here is not construction dependent.

limitation under §112 ¶ 6. Pet. 10. According to Petitioner, the limitation’s function is “controlling a function of the apparatus using information about the object’s location or movement.” *Id.* Petitioner argues that the corresponding structure “is a processor programmed to perform the specific algorithms that accomplish this function” which “includes at least [the] Fig. 9 disclosure.” *Id.* at 10–11.

“Patent Owner does not contest” Petitioner’s construction. PO Resp. 6. However, as discussed above, we determine that “said apparatus” refers to the handheld computer apparatus in the preamble. Thus, we accept Petitioner’s construction with the added requirement that the general purpose computer be a handheld computer apparatus.

e) Means for Transmitting Information

Petitioner asserts that claim 11’s limitation of “means for transmitting information” is a means-plus-function limitation under §112 ¶ 6. Pet. 11. Petitioner argues that the ’431 patent teaches the structure for performing the limitation’s function of “transmitting information” is a “wireless cellular transceiver” and thus the corresponding structure required by the claim “includes at least a wireless cellular transceiver.” *Id.* at 11–12 (citing Ex. 1001, 12:59–13:3).

“Patent Owner does not contest” Petitioner’s construction. PO Resp. 6. We accept Petitioner’s construction as consistent with the current record.¹¹

¹¹ In related IPR2021-00917 consistent with the District Court, we construed the term slightly differently than what Petitioner proposes here. *See* IPR2021-00917, Paper 31,13–14; *see also* Dec. 7 (inviting the parties to address the District Court Claim Construction Memorandum and Order (Ex. 2001)). The parties do not address the slight differences and we determine that the outcome here is not construction dependent.

f) Light Source for Illuminating

Patent Owner asserts that “a light source for illuminating said object” in dependent claim 12 should be construed to mean “the light source of the handheld computer apparatus illuminates the object while the ‘camera means’ obtains an image of the object.” PO Resp. 8. Petitioner opposes this construction. Reply 16–19

Patent Owner argues that claim 7, from which claim 12 depends, requires that “[a] ‘camera means’ obtains an image of the object ‘using reflected light’ from the object” and that

a POSITA would understand claim 12 as meaning the light source of the handheld computer apparatus illuminates the object while the “camera means” obtains an image of the object. The object reflects light from the light source and it is this “reflected light” that is used by the “camera means” to obtain the image of the object. *See* Ex. 2002, ¶ 44.

PO Resp. 8. This is not required by the claims.

Claim construction starts with an analysis of the claim language itself. *Sjolund v. Musland*, 847 F.2d 1573, 1582 (Fed. Cir. 1988) (“[T]he claims define the invention.”). First, claims 7 and 12 are directed to an apparatus and not a method. Thus, neither claim 7 nor 12 require any method steps such as illuminating the object while the camera means obtains an image of the object. Claim 7 uses language to describe the function of the camera, but that does not require an active method step such as requiring that the camera means obtain an image.

Second, claim 12 does not rely on claim 7 for antecedent basis of the light source. Though claim 7 refers to “reflected light” and claim 12 provides “a light source,” there is nothing in the language of the claims that would require the reflected light to come from the light source. That said, the

light source may be the source of the reflected light, but it is not required by the language of the claims.

Thus, reading claims 7 and 12, Patent Owner's construction is not apparent or implied from the claim language.

Patent Owner also argues that the purpose for having a light source in the Specification should be read into the claims. PO Resp. 8. Patent Owner argues that "the specification of the '431 Patent . . . discloses 'cameras and their associated light sources' and operating the camera 'at the same time a . . . light is on.'" *Id.* (quoting Ex. 1001, 3:31–32, 7:5–7).

The mere fact that the Specification provides an example as to how the light source is used is not a sufficient reason for us to read a limitation into the claims from the Specification. If the specification "reveal[s] a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess[,] . . . the inventor's lexicography governs." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). However, this is not the case here. Patent Owner does not identify anywhere in the Specification where "a light source for illuminating said object" is defined as "the light source of the handheld computer apparatus illuminates the object while the 'camera means' obtains an image of the object."

For these reasons, we decline to adopt Patent Owner's claim construction. We determine that the added limitation in claim 12 should be read according to its plain and ordinary meaning. In other words, "a light source for illuminating said object," simply means exactly what it says "a light source for illuminating said object."

4. *Obviousness over Numazaki and Knowledge of a PHOSITA*

Petitioner argues that Numazaki in view of the knowledge of a person having ordinary skill in the art (“PHOSITA”) would have rendered obvious claims 1–4, 7–9, 11–22, 25, 26, and 28. Pet. 12–40. Patent Owner contends that Numazaki does not disclose all the limitations of claims 1, 7, and 11–14. PO Resp. 9–27.

We first give an overview of Numazaki. This is followed by a discussion of Petitioner’s positions and Patent Owner’s arguments in response, where we conclude that Petitioner has shown by a preponderance of the evidence that some of the challenged claims are unpatentable.

a) *Numazaki*

Numazaki “relates to a method and an apparatus for generating information input in which input information is extracted by obtaining a reflected light image of a target object.” Ex. 1003, 1:8–11. Figure 1, reproduced below, depicts a block diagram for an information input generation apparatus.

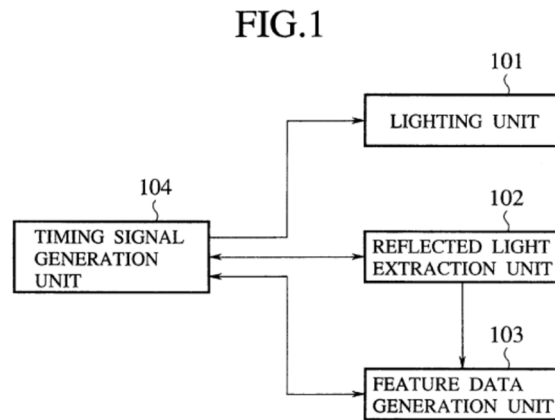


Figure 1 shows that an information input generation apparatus includes a lighting unit (101), a reflected light extraction unit (102), a feature data generation unit (103), and a timing signal generation unit (104). *Id.* at 10:23–

only natural light. *Id.* at 11:33–39. The difference between the two images—obtained by a difference calculation unit (111)—represents the “reflected light from the object resulting from the light emitted by the lighting unit 101.” *Id.* at 11:43–51. This information is then used by the feature data generation unit (103) to determine gestures, pointing, etc. of the target object that may be converted into commands executed by a computer. *Id.* at 10:57–66.

Figure 78, reproduced below, illustrates an information input generation apparatus.

FIG.78

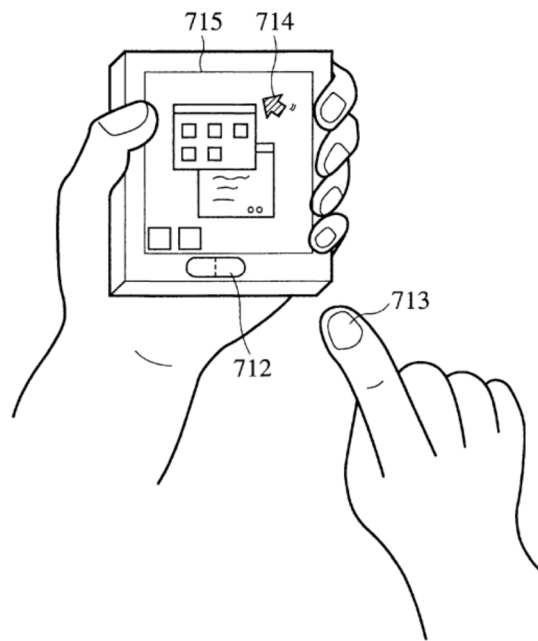


Figure 78 shows “a compact portable information device” having “a size that can be held by one hand.” *Id.* at 52:5–8. The device includes a window (712) for a lighting unit and a photo-detection sensor unit. *Id.* at 52:12–14. Numazaki describes controlling the position of a cursor (714) on a screen by moving a finger (713) in front of the window (712). *Id.* at 52:14–16.

b) Independent Claim 1

Petitioner relies on Numazaki in view of the knowledge of a PHOSITA for teaching or suggesting all of the elements of claim 1. Pet. 12–21. For example, Petitioner relies on the portable computer with an information input generation device of Figure 78 for teaching the handheld computing device and holding the device in one hand. *Id.* at 17–19. For the remaining method steps of claim 1, Petitioner relies on Numazaki and the knowledge of a PHOSITA. *Id.* at 19–21. In particular, the Petition relies on the teaching of a window (712) for “the lighting unit and the photo-detection sensor unit” of Numazaki Figure 78 “which enables the ‘position of a cursor 714 on the screen [to] be controlled by moving a finger 713 in front of this window 712.’” *Id.* at 19 (quoting Ex. 1003, 52:5–16); *see also id.* at 20–21. Petitioner argues that “[a] PHOSITA would have understood that controlling a cursor on the handheld device is signaling a command.” *Id.* (citing Ex. 1008 ¶¶ 46–47).

Numazaki only provides some details about the photo-detection sensor unit. *See generally* Ex. 1003, 50:25–54:6. However, Petitioner relies on Numazaki’s teaching that “light and camera arrangement” of Figure 2 “is incorporated into the eighth embodiment” for more details about the photo-detection sensor unit. Pet. 20; *see also id.* at 15–16 (citing Ex. 1008 ¶ 44) (discussing what a PHOSITA would have understood was incorporated into the eighth embodiment). Petitioner describes Numazaki as teaching a system where two images are obtained of the target object by two different cameras, one with the lighting unit on and one with it off. *Id.* at 12–14 (citing Ex. 1003, 11:20–39, Fig. 2). The images are compared to obtain certain information. *Id.* at 14 (citing Ex. 1003, 11:43–51). Petitioner concludes that the obtained “information is then used by feature data generation unit 103 to

determine gestures, pointing, etc. of the target object that may be converted into commands executed by a computer” and that this all reads on the electro-optically sensing, determining, and using steps of claim 1. *Id.* at 20–21.

We determine that the Petition has shown by a preponderance of the evidence how Numazaki and the knowledge of a PHOSITA would have suggested all of the features of claim 1. Patent Owner argues that Numazaki does not teach or suggest aspects of the electro-optically sensing and determining steps of claim 1. PO Resp. 9–12. We address Patent Owner’s arguments below.

(1) Electro-optically Sensing

Claim 1 requires “electro-optically sensing light reflected from said at least one finger using a sensing means associated with said device.” Ex. 1001, 25:44–46.

For this limitation, the Petition relies generally on the teaching of ‘a window 712 [] for the lighting unit and the photo-detection sensor unit” of Numazaki Figure 78 (Pet. 20 (quoting Ex. 1003, 52:12–14)) to teach “illuminat[ing] the target object (e.g., the user’s hand) in a controlled manner such that a precise image of the user’s hand and hand movement can be ascertained” through the incorporation of the teachings of Figure 2 into that embodiment (*id.* (citing Ex. 1003, 11:9–23)).

Petitioner argues that Numazaki teaches a reflected light extraction unit, with two photo-detection units which it calls first and second camera units which read on the sensing means. *Id.*; *see also* Reply 3.

Neither Patent Owner, nor Patent Owner’s declarant, contest Petitioner’s position, supported by its declarant, that Numazaki’s reflected light extraction unit, with its two photo detection units in Figure 2 teach a

camera, i.e. the claimed sensing means. *See* PO Resp. 9–10 (citing Pet. 12–13, 20–21) (acknowledging Petitioner’s position); Ex. 2002 ¶¶ 52–53 (Patent Owner’s declarant acknowledging Petitioner’s position and declarant support).¹²

However, Patent Owner argues that “[n]one of embodiments 1–7 in Numazaki [(including Figure 2)] mention a ‘photo-detection sensor unit,’ and thus none of embodiments 1–7 teach or suggest the ‘photo-detection sensor unit’ in Fig. 78 is or includes the ‘photo detection unit’ in Fig. 2.” PO Resp. 10 (citing Ex. 2002 ¶ 54). Patent Owner admits that Numazaki at Figure 2 teaches two “photo-detection units,” but essentially argues that because the term “photo-detection unit” is not identical to Figure 78’s “photo-detection sensor unit,” one of skill in the art would not understand what a “photo-detection sensor unit” is, or how it relates to the rest of the disclosure. *Id.* at 10, 12; *see also* Sur-reply 1–4.

In support, Patent Owner relies on its declarant who testifies: “I reviewed Numazaki in its entirety and it contains no disclosure stating that the ‘photo-detection sensor unit’ in Fig. 78 is or includes a ‘photo-detection unit’ from Fig. 2” and “it is my opinion that a POSITA would understand that none of embodiments 1–7 disclose the ‘photo-detection sensor unit’ in Fig. 78 as being or including ‘photo-detection unit’ in Fig. 2.” Ex. 2007 ¶ 54.

As will be understood from reviewing Numazaki, Numazaki discloses an eighth embodiment having a number of different portable form factors

¹² Numazaki also teaches that “CMOS sensors are used as the photo-detection means” in the eighth embodiment. Ex. 1003, 53:7–18. The ’431 patent similarly teaches that “CMOS cameras” can be used to obtain images. Ex. 1001, 5:50–57.

shown in Figures 74–79, but sharing “a system configuration incorporating the information input generation apparatus of the present invention as described in the above embodiments,” i.e. embodiments 1–7, including Figure 2. Ex. 1004, 50:19–20; *see also* Ex. 1008 ¶ 44. In addition to referring back to the prior disclosure, additional details of the information input generation apparatus including the photo-detection section are provided at 52:33–54:6. This section not only describes an information input generation apparatus that is very similar to the disclosure of Figure 2, but it again refers back to the “the photo-detection section . . . , as already described in detail above.” *Id.* at 53:22–36; *see also* Dec. 15 (explaining that “details about the photo-detection sensor unit” could be found at Ex. 1004, 50:25–54:6).

Thus, the position of Patent Owner and Patent Owner’s declarant is inconsistent with the express disclosure of Numazaki that makes clear that the photo-detection section of the eighth embodiment, including the “photo-detection sensor unit” of Figure 78, incorporates the disclosure of the photo-detection section of the prior embodiments, including Figure 2. Thus, we determine that one of skill in the art would have understood Numazaki to teach that the “photo-detection sensor unit” in Fig. 78 is or at least includes a camera/sensing means, just as Numazaki’s reflected light extraction unit, with its two photo detection units in Figure 2, teach a camera/sensing means.

For the above reasons, Patent Owner’s arguments do not identify any shortcomings in the showing by Petitioner that Numazaki teaches sensing means. We further determine that Petitioner has shown by a preponderance of the evidence that the electro-optically sensing limitation is taught by Numazaki.

(2) *Determining*

Claim 1 also requires “determining from said sensed light the movement of said finger.” Ex. 1001, 25:47–48.

Petitioner addresses this limitation together with electro-optically sensing discussed above. Pet. 20. The Petition relies generally on the teaching of ‘a window 712 [] for the lighting unit and the photo-detection sensor unit’ of Numazaki Figure 78 (*id.* 20 (quoting Ex. 1003, 52:12–14)) to teach “illuminat[ing] the target object (e.g., the user’s hand) in a controlled manner such that a precise image of the user’s hand and hand movement can be ascertained” through the incorporation of the teachings of Figure 2 into that embodiment (*id.* (citing Ex. 1003, 11:9–23)). We determine that Petitioner has shown by a preponderance of the evidence that this limitation is taught by Numazaki in view of the knowledge of a PHOSITA.

Patent Owner argues that “Numazaki requires two photo-detection units to perform an analysis of a target object and control the computer, so it does not teach or suggest ‘determining’ finger movement from reflected light that is ‘electro-optically’ sensed using one ‘sensor means,’ as set forth in [the] claim.” PO Resp. 13.

Patent Owner does not identify why the claim should be limited to one sensor means or camera. Though the claim refers to “electro-optically sensing light . . . using a sensing means” and “determining from said sensed light,” this does not limit the claim to only one camera. Unless a more limited construction is indicated by the specification or prosecution history, the indefinite article “a” or “an” is construed in a claim to mean “one or more.” *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000). Thus, “a sensing means,” encompasses one or more cameras.

Patent Owner also argues that “Numazaki does not teach or suggest ‘determining’ finger movement absent the other hardware that Numazaki identifies as necessary, such as the lighting unit, the image-subtraction circuitry, and the associated timing circuitry.” PO Resp. 13.

However, claim 1 uses the term “comprising” to create an “open ended” claim. “‘Comprising’ is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.” *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997) (citing *In re Baxter*, 656 F.2d 679, 686 (CCPA 1981). Thus, the presence of a lighting unit or other hardware is not excluded from the claim. This is also consistent with the ’431 patent, which teaches the use of LEDs “to illuminate [associated] targets.” Ex. 1001, 3:34–35; *see also id.* at 26:13–14 (claim 12).

The claimed phrase “electro-optically sensing light . . . using a sensing means” does require “a sensing means,” such as a camera, be used in the step. However, it does not prohibit other hardware from being involved. For example, the claim does not say “electro-optically sensing light . . . using only a sensing means.” Thus, the fact that “Numazaki identifies as necessary . . . the image-subtraction circuitry and associated timing circuitry” does not prevent Numazaki from teaching or suggesting the limitations of open-ended claim 1.

For the above reasons, Patent Owner’s arguments do not undermine the showing by Petitioner that Numazaki in view of the knowledge of a PHOSITA teaches all of the aspects of the determining movement claim element.

(1) Conclusion

After review of the arguments and evidence, and further in view of the above discussion, we determine that Petitioner has shown, by a preponderance of the evidence, that claim 1 is unpatentable over Numazaki in view of the knowledge of a PHOSITA.

c) Independent Claim 7

Independent claim 7 is directed to a handheld computer apparatus and is similar to method claim 1. *Compare* Ex. 1001, 25:61–26:5 *with id.* at 25:40–50. As such, the Petition relies on the essentially the same teachings of Numazaki discussed above with respect to claim 1 for the features of claim 7, which we agree with for the reasons explained above. *See* Pet. 26–31. Patent Owner argues that Numazaki does not teach or suggest the camera means or computer means required by claim 7. PO Resp. 13–19.

(1) Camera Means

As discussed above, both parties agree that “camera means” in claim 7 is not a means-plus-function limitation under §112 ¶ 6 and merely requires a camera. Pet. 6. PO Resp. 7. Similar to the “sensing means” in claim 1, Petitioner argues that Numazaki teaches a reflected light extraction unit, with two photo-detection units which it calls first and second camera units, which reflected light extraction unit reads on the camera means. Pet. 27–28.

Neither Patent Owner, nor Patent Owner’s declarant, contest Petitioner’s position, supported by its declarant, that Numazaki’s reflected light extraction unit, with its two photo detection units in Figure 2, teach a camera, i.e. the claimed camera means. *See* PO Resp. 14–15 (citing Pet. 12–13; Ex. 1008 ¶ 39) (acknowledging Petitioner’s position and declarant

support); Ex. 2002 ¶ 65 (Patent Owner’s declarant acknowledging Petitioner’s position and declarant support).¹³

Patent Owner repeats essentially the same arguments addressed above concerning claim 1 that because the term “photo-detection unit” in Figure 2 is not identical to Figure 78’s “photo-detection sensor unit,” one of skill in the art would not understand what a “photo-detection sensor unit” is, or how it relates to the rest of the disclosure. PO Resp. 14–16.

We reject these arguments for the same reasons expressed above. Namely, the express disclosure of Numazaki makes clear that the photo-detection section of the eighth embodiment, including the “photo-detection sensor unit” of Figure 78, incorporates the disclosure of the photo-detection section of the prior embodiments, including Figure 2. Thus, we determine that one of skill in the art would have understood Numazaki to teach that the “photo-detection sensor unit” in Fig. 78 is or at least includes a camera means, just as Numazaki’s reflected light extraction unit, with its two photo detection units in Figure 2, teaches a camera means.

Patent Owner also argues that “Numazaki fails to teach . . . that the ‘photo-detection sensor unit’ can obtain an image.” PO Resp. 15. Patent Owner relies on the testimony of its declarant for support who states that “[e]ven though Numazaki’s ‘photo-detection sensor unit’ is capable of ‘photo-detecting on an external body,’ Ex. 1003, 52:9–14, a POSITA would not find this sufficiently specific for the ‘photodetection sensor unit’ to teach or suggest a camera.” Ex. 2002 ¶ 63.

¹³ Numazaki also teaches that “CMOS sensors are used as the photo-detection means” in the eighth embodiment. Ex. 1003, 53:7–18. The ’431 patent similarly teaches that “CMOS cameras” can be used to obtain images. Ex. 1001, 5:50–57.

Patent Owner's declarant does not further explain his reasoning. For example, the declarant does not discuss why the discussion of photo-detecting "does not necessarily mean that the 'photo-detection sensor unit' is or includes a camera." The disclosure of Numazaki when discussing photo-detecting is directed to taking images; and according to Patent Owner obtaining images "is what cameras do." PO Resp. 7.

For example, Numazaki describes a "photo-detecting state" in reference to when a photo-detection unit "detects the optical image." Ex. 1003, 11:20–31; *see also id.* at 11:38–52. Numazaki's eighth embodiment itself states that "the photo-detection section . . . outputs an image" and "the photo-detection section stores the charges generated by the photo-electric conversion element upon photo-detecting images of the object at a time of light emission by the lighting unit and at a time of no light emission by the lighting unit, . . . , as already described in detail above." *Id.* at 53:22–36; *see also e.g., id.* at 10:33–56 (discussing a "photo-detection section" to capture reflected light as an image), 11:9–52, 12:56–65, 15:23–51.

Thus, the testimony of Patent Owner's declarant, which is stated as being based on "Numazaki in its entirety," does not appear to be consistent with how the term "photo-detecting" is used in Numazaki. Read in context, photo-detecting an external body *does* mean that the "photo-detection sensor unit" captures an image, like a camera, because that is how Numazaki uses the term. Thus, though Patent Owner is correct that Numazaki does not explicitly say that the "photo-detection sensor unit" is a camera, it is clear from the disclosure of Numazaki that "photo-detecting" refers to obtaining an image, which is what Patent Owner asserts is the function of a camera.

The function of the photo-detection sensor unit is further taught in a number of locations in Numazaki. For example, Numazaki at 52:8–14 (cited

at Pet. 37) teaches that “a window 712 is provided for the lighting unit and the photo-detection sensor unit” to enable the function of “lighting and photo-detecting on an external body.” The paragraph continues to teach that “[a] position of a cursor 714 on the screen can be controlled by moving a finger 713 in front of this window 712.” Ex. 1003, 52:14–16. As discussed above, Numazaki teaches that in the eighth embodiment “the photo-detection section . . . outputs an image” and “the photo-detection section stores the charges generated by the photo-electric conversion element upon photo-detecting images of the object at a time of light emission by the lighting unit and at a time of no light emission by the lighting unit, . . . , as already described in detail above.” *Id.* at 53:22–36.

Thus, the function of the photo-detection sensor unit, to obtain an image, is taught by Numazaki. Further, this description of the function of the photo-detection sensor unit is consistent with, and points to, Numazaki’s more detailed earlier discussion of the reflected light extraction unit and photo-detection optics, which teaches obtaining an image. *See* Ex. 1003, 10:33–35, 11:11–15 (“an image is formed on a photo-detection plane of the reflected light extraction unit 102 by a photo-detection optics 107.”), 50:21–42, 53:22–36; Pet. 37.

For the above reasons, Patent Owner’s arguments do not identify any shortcomings in the showing by Petitioner that Numazaki teaches a camera means.

(2) Computer Means

Claim 7 requires “computer means within said housing for analyzing said image to determine information concerning a position or movement of said object.” Ex. 1001, 26:1–3. As discussed above, Petitioner argues that this limitation is subject to 35 U.S.C. § 112 ¶ 6, and that the relevant

structure “includes a computer/processor programmed (1) to identify either natural or artificial features on an object as described . . . or (2) to track the movement using one of the disclosed methods.” Pet. 9. “Patent Owner does not contest” Petitioner’s construction. PO Resp. 6.

Petitioner argues that “[a] PHOSITA would [] have understood that Numazaki’s finger detection and tracking functionality is performed by a processor and would have considered the processes performed by Numazaki’s processor the same or equivalent to the natural feature identification algorithm disclosed in the ’431 Patent.” Pet. 30 (citing Ex. 1008 ¶ 55). Petitioner explains:

Numazaki teaches the same (or an equivalent) structure [as the ’431 Patent] for detecting the position of a user’s finger to permit the user to control a device using gestures. Namely, *Numazaki* expressly describes a process through which the system identifies a user’s finger based on its characteristics and tracks lateral finger movements by “detecting the center of gravity” of a finger, where “finger tip movement and the center of gravity movement can be smoothly correlated” using pixel values. *Numazaki* (Ex. 1003), 19:43-20:25. To detect a finger, *Numazaki* teaches a “stick shaped object detection unit 213[, which] detects a stick shaped object extending in the vertical direction, that is, an upward extended finger (normally an index finger) of the hand of the operator.” *Id.* at 18:32-35. Once the finger is detected, *Numazaki* calculates the center of gravity and tracks this center of gravity as the finger moves. *Id.* at 19:43-20:25. Using this technique, *Numazaki* teaches “the cursor on [a] screen can be controlled” so that “when the finger is moved, the cursor is also moved.” *Id.* at 26:8-14, 26:23-25.

Pet. 29–30.

Patent Owner first argues that claim 7 more generally requires only a single camera obtain a single image for analysis by the computer means. PO Resp. 16–17. Patent Owner bases its argument on the claim language of “a

camera means . . . for obtaining an image” and “computer means . . . for analyzing said image.” *Id.*

As acknowledged by Patent Owner however, claim 7 is not limited to a single camera or a single image. Sur-reply 5. Unless a more limited construction is indicated by the specification or prosecution history, the indefinite article “a” or “an” is construed in a claim to mean “one or more.” *KCJ Corp.*, 223 F.3d at 1356. Thus, “a camera means” encompasses one or more cameras, and “an image” encompasses one or more images.

Patent Owner clarifies its position that claim 7 requires the image obtained by “photodetection unit 109” or the image obtained by “photo-detection unit 110” to be analyzed by the computer means without any other processing. Sur-reply 6. However, this does not reflect the position of Petitioner as to what is the camera means. Petitioner argues “that the output of Numazaki’s reflected light extraction unit 102 is an image, that said image is analyzed by the [computer means].” Reply 13–14.

Petitioner’s position is that Numazaki’s reflected light extraction unit 102 with its two photodetection units reads on the camera means, rather than a single photodetection unit as argued by Patent Owner. *See* Pet. 28–29; Reply 14. The Petition makes clear that it is the image output from the reflected light extraction unit that is analyzed by the computer means. Pet. 28–29. As discussed in the preceding section, we determine herein that Petitioner has shown that Numazaki teaches a camera means by a preponderance of the evidence.

We find no reason to limit claim 7 to a single camera or to read camera means to exclude multiple cameras. We further find no reason to limit claim 7 such that multiple cameras could not be used to obtain an image from the individual cameras that make up the camera means. Other

than asserting their position, Patent Owner does not identify any errors in Petitioner's position, supported by a preponderance of the evidence herein, that the reflected light extraction unit reads on a camera, it obtains an image, and that image is analyzed by the computer means. *See, e.g.*, Pet. 28–29; Reply 13–14; *see also* Sur-reply 6 (acknowledging Petitioner's position).

Patent Owner also argues that the Petition does not show how Numazaki's "feature data generation unit" "correspond[s] to a computer or processor that has been 'programmed.'" PO Resp. 18. At the same time, Patent Owner acknowledges that the Petition "cites to various algorithms performed by Numazaki's 'feature data generation unit'" for teaching the determining step of claim 7.¹⁴ *Id.* Further, Patent Owner later admits that "Numazaki discloses that 'it is also possible to realize this operation of the feature data generation unit in a form of software. It is obviously possible to realize a hardware configuration for carrying out this operation, and a configuration using both software and hardware is also possible.'" Sur-reply 6–7 (quoting Ex. 1003, 20:41–45); *see also* Reply 14–15; Ex. 1008 ¶ 55; Ex. 1017 ¶ 9. Thus, the evidence of record shows that Numazaki teaches that the feature data generation unit corresponds to a computer or processor that has been programmed.

Patent Owner then argues that "Numazaki's 'compact portable information device'" [of Figure 78] does not include "the corresponding structure for 'computer means' in [the] claim element." PO Resp. 18. Patent

¹⁴ Patent Owner also makes an argument that "[i]f Petitioner attempts to argue that the subtraction of the images satisfies the analysis portion of claim element [7(c)], that argument also fails." PO Resp. 17. However, as summarized from the Petition above (*see* Pet. 29–30), this is not a position taken by Petitioner; and thus, this argument is not relevant to any position taken by Petitioner.

Owner further argues that “Numazaki does not disclose the internal hardware/circuitry of the ‘compact portable information device.’” *Id.*

Patent Owner’s argument is based on the same reasoning rejected above that one of ordinary skill in the art would not understand how Numazaki Figure 78 relates to the earlier disclosure in Numazaki. As previously discussed Numazaki expressly states that the eighth embodiment, including Figure 78 “incorporate[s] the information input generation apparatus of the present invention as described in the above embodiments,” i.e. embodiments 1–7. Ex. 1004, 50:19–20; *see also* Ex. 1008 ¶ 44. Patent Owner does not contest that the feature data generation unit is part of the information input generation apparatus. *See* Ex. 1003, Fig. 2 (showing a feature data generation unit as part of an information input generation apparatus).

For the above reasons, Patent Owner’s arguments do not undermine the showing by Petitioner that Numazaki in view of the knowledge of a PHOSITA teaches all of the aspects of the computer means claim element.

(3) Conclusion

After review of the arguments and evidence, and further in view of the above discussion, we determine that Petitioner has shown, by a preponderance of the evidence, that claim 7 is unpatentable over Numazaki in view of the knowledge of a PHOSITA.

d) Claims 11 and 13

Dependent claim 11 recites “Apparatus according to claim 7, further including means for transmitting information.” Ex. 1001, 26:12–13. As noted previously, Petitioner argues that the “means for transmitting information” is subject to 35 U.S.C. § 112 ¶ 6, and that the structure corresponding to the claimed function is “at least a wireless cellular

transceiver.” Pet. 11–12 (citing Ex. 1001, 12:59–13:3). “Patent Owner does not contest” Petitioner’s construction. PO Resp. 6.

Dependent claim 13 recites “Apparatus according to claim 7, wherein said apparatus is a cellular phone.” Ex. 1001, 26:16–17.

Petitioner argues that Numazaki’s fifth embodiment teaches a “conference record system” or TV telephone and that “a PHOSITA would have been motivated to implement this transmission functionality in the portable device described in Numazaki’s eighth embodiment.” Pet. at 32–33 (citing Ex. 1003, 38:6–16, 40:16–49; Ex. 1008 ¶¶ 50–52, 58): *id.* at 33–34. The Petition also argues “that Numazaki’s focus on lower communications costs is a concern applicable to cellular phones.” *Id.* at 34.

The Petition fails to show how Numazaki teaches or suggests either of claim 11 or 13. First, Petitioner admits that Numazaki does not “state that its TV telephone is a cellular phone.” *Id.* at 34. Further, the portable device described in Numazaki’s eighth embodiment is also not disclosed as being a wireless cellular transceiver or a cellular phone, and the Petition makes no assertions that it is either. The Petition includes no analysis regarding whether the transmission functionality included in Numazaki’s “conference record system” or TV telephone is an equivalent of “a wireless cellular transceiver” or a cell phone. *See* Pet. 32–34; *see also* PO Resp. 19–20, 22–23.

In response to Patent Owner’s arguments, Petitioner argues that “Dr. Bederson explains that these ‘videoconference telephones were also known as cellular videophones.’” Reply 15 (citing Ex. 1008, ¶ 58). Petitioner appears to be implying that Numazaki necessarily teaches that its fifth embodiment is a cell phone. However, this is in conflict with Petitioner’s

admission in the Petition that Numazaki does not “state that its TV telephone is a cellular phone.” Pet. 34.

Further, Dr. Bederson’s supporting evidence does not support his allegation. Dr. Bederson cites to a newspaper article discussing “the global efforts preceding the launch of a market leading cellular videophone” that does not discuss videoconference telephones or equate videoconference telephones with cellular videophones. Ex. 1008, ¶ 58 (citing Ex. 1013). Thus, Dr. Bederson’s broad assertion that “videoconference telephones were also known as cellular videophones” is unsupported.

For these reasons, we determine that Petitioner fails to show how Numazaki in view of the knowledge of a PHOSITA teaches or suggests all of the limitations of claims 11 or 13.

a) Claim 12

Dependent claim 12 recites “Apparatus according to claim 7, further including a light source for illuminating said object.” Ex. 1001, 26:14–15. As noted previously, we determine that the added limitation in claim 12 should be read according to its plain and ordinary meaning. In other words, “a light source for illuminating said object,” simply means exactly what it says “a light source for illuminating said object.”

Petitioner argues that claim 12 is taught by Numazaki’s “light and camera arrangement” in “Numazaki’s handheld device.” Pet. 33 (citing Ex. 1003, 11:9–23, 52:12–14).

Patent Owner does not contest Petitioner’s position in the Petition, other than to argue that the combination does not teach the claim limitation under Patent Owner’s construction. PO Resp. 20–21. Patent Owner further admits that Numazaki teaches a lighting unit used to illuminate an object. *Id.* at 21. As we previously rejected Patent Owner’s attempt to read limitations

from the Specification into the claims, Patent Owner's arguments here do not apply to the requirements of claim 12.

We have reviewed Petitioner's assertions with respect to the claim 12 and the supporting evidence, and determine that Petitioner has established by a preponderance of the evidence that claim 12 is unpatentable.

b) Independent Claim 14

Independent claim 14 is directed to a method for controlling a handheld computing device and is very similar to method claim 1. *Compare* Ex. 1001, 26:18–28 *with id.* at 25:40–50. As such, the Petition relies on the same teachings of Numazaki discussed above with respect to claim 1 for the features of claim 14, which we agree with for purposes of this Decision for the reasons explained above. *See* Pet. 35.

Similarly, Patent Owner argues that the Petition fails to teach or suggest the claim elements of claims 14 for the same reasons as claims 1 and 7, reiterating some of the same arguments discussed above. PO Resp. 23–26. Patent Owner does not provide any additional argument other than what has already been addressed with respect to claims 1 and 7 above.

We have reviewed Petitioner's assertions with respect to the claim 14 and the supporting evidence, and determine that Petitioner has established by a preponderance of the evidence that claim 14 is unpatentable.

c) Claims 2–4, 8, 9, 12, 13, 15–22, 25, 26, 28

Petitioner argues that Numazaki in view of the knowledge of a PHOSITA renders obvious dependent claims 2–4, 8, 9, 12, 13, 15–22, 25, 26, and 28. Pet. 21–26, 31–34, 36–40. Patent Owner does not contest Petitioner's assertions regarding these claims other than to point to the independent claims. PO Resp. 13, 19, 27.

We have reviewed Petitioner’s assertions with respect to these claims and the supporting evidence, and determine that Petitioner has established by a preponderance of the evidence that claims 2–4, 8, 9, 12, 13, 15–22, 25, 26, and 28 are unpatentable.

5. *Obviousness over Numazaki and DeLeeuw, Numazaki and DeLuca, and Numazaki and, Peters*

Petitioner argues that the combination of Numazaki and DeLeeuw renders obvious dependent claims 5, 6, and 29. Pet. 41–48. Petitioner argues that the combination of Numazaki and DeLuca renders obvious dependent claims 10, 23, 24, and 27. *Id.* at 48–57. Petitioner argues that the combination of Numazaki and Peters renders obvious dependent claims 30 and 31. *Id.* at 57–61. Patent Owner does not contest Petitioner’s assertions regarding these claims other than to point to the independent claims. PO Resp. 28–29.

We have reviewed Petitioner’s assertions with respect to these claims and the supporting evidence, and determine that Petitioner has established by a preponderance of the evidence that claims 5, 6, 10, 23, 24, 27, and 29–31 are unpatentable.

C. *Jurisdiction over Expired Patents*

Patent Owner argues that the USPTO does not have jurisdiction over expired patents. PO Resp. 1–2. Rather, Patent Owner argues, the USPTO only has jurisdiction over patents with claims that can be amended or cancelled. *Id.* Patent Owner states that, as explained by the Supreme Court, “Congress [has] significant latitude to assign [the] adjudication of public rights to entities other than Article III courts,” including for the USPTO to “reexamine—and perhaps cancel—a patent claim in an inter partes review.” *Id.* (quoting *Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*,

138 S. Ct. 1365, 1368, 1374 (2018). However, Patent Owner argues that this authority does not extend to expired patents because the public franchise associated with an issued patent no longer exists after expiration. *Id.* at 2. Thus, it is argued, the USPTO no longer has jurisdiction, even though the patent owner “may be entitled to collect damages” for patent infringement, because “the patent owner[] no longer has the right to exclude others” and the USPTO has nothing to cancel or amend. *Id.*

Patent Owner reasons that:

Expiration removes the patent from the [US]PTO’s jurisdiction and returns it to the sole jurisdiction of the Article III courts, which have exclusive authority to govern claims for damages. If this were not so, the [US]PTO would purport to have authority to retroactively modify a public franchise that no longer exists, in a setting where the expired public franchise does not enjoy any presumption of validity and in which amendment of claims is no longer permitted.

Id.

Inter partes review of patents, whether expired or not, fits within the USPTO’s mandate “for the granting and issuing of patents” (35 U.S.C. § 2(a)(1)), for as the Supreme Court has stated, “[i]nter partes review is ‘a second look at an earlier administrative grant of a patent’” (*Oil States Energy Servs.*, 138 S. Ct. at 1374 (quoting *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144 (2016))). Our rules have also made clear that *inter partes* review covers expired patents. 37 C.F.R. 42.100(b) (2012); *see also*, e.g., 83 Fed. Reg. 51341 (Oct. 11, 2018) (Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board)¹⁵ (“The claim construction standard adopted in this final

¹⁵ Available at <https://www.federalregister.gov/d/2018-22006/p-13>.

rule also is consistent with the same standard that the Office has applied in interpreting claims of expired patents and soon-to-be expired patents. *See, e.g., Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.*, 853 F.3d 1272, 1279 (Fed. Cir. 2017) (noting that ‘[t]he Board construes claims of an expired patent in accordance with *Phillips* . . . [and] [u]nder that standard, words of a claim are generally given their ordinary and customary meaning’).”).

Further, the statutes governing *inter partes* review do not limit them to non-expired patents. For example, 35 U.S.C. § 311(b), which sets forth the scope of *inter partes* review merely refers to patents, with no mention of the expiration date. Further, 35 U.S.C. § 311(c) entitled “Filing Deadline” makes no mention of the expiration date of the patent. Elsewhere, 35 U.S.C. § 315 does limit the filing of IPRs based on civil actions and the serving of complaints, but again makes no mention of the expiration date of the patent. Patent Owner does not identify any statute or legal precedent that expressly limits *inter partes* review to non-expired patents.

Patent Owner fails to adequately explain why the Patent Office’s authority to take a second look at an earlier administrative grant of a patent ends when the patent term expires even though the rights granted by the patent are not yet exhausted.

For all of these reasons, we do not agree that the Board lacks jurisdiction over expired patents.

III. CONCLUSION

For the reasons discussed above, we determine that Petitioner has proven, by a preponderance of the evidence, that some of the challenged claims are unpatentable, as summarized in the following table:

Claims	35 U.S.C. §	Reference(s) /Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–4, 7–9, 11–22, 25, 26, 28	103(a)	Numazaki, Knowledge of a PHOSITA	1–4, 7–9, 12, 14–22, 25, 26, 28	11, 13
5, 6, 29	103(a)	Numazaki, DeLeeuw	5, 6, 29	
10, 23, 24, 27	103(a)	Numazaki, DeLuca	10, 23, 24, 27	
30, 31	103(a)	Numazaki, Peters	30, 31	
Overall Outcome			1–10, 12, 14– 31	11, 13

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–10, 12, 14–31 of U.S. Patent 7,933,431 B2 have been shown to be unpatentable;

FURTHERED ORDERED that claims 11 and 13 of U.S. Patent 7,933,431 B2 have not been shown to be unpatentable; and

FURTHERED ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2021-00920
Patent 7,933,431 B2

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