

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VIVINT, INC.,
Petitioner,

v.

SB IP HOLDINGS LLC,
Patent Owner.

IPR2022-01449
Patent 7,193,644 B2

Before JAMESON LEE, KARL D. EASTHOM, and
JON M. JURGOVAN, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

DECISION
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 314

I. INTRODUCTION

Vivint, Inc., Petitioner, filed a Petition (Paper 2, “Pet.”) supported by the Declaration of Dr. Bertrand Hochwald (Ex. 1002) requesting an *inter partes* review of claims 1, 3, 7, 11–15, 17–20, and 23 of U.S. Patent No. 7,193,644 B2 (Ex. 1001, the “’644 patent”). Pet. 4. SB IP Holdings LLC, Patent Owner, did not file a preliminary response.

After the Institution Decision (Paper 8, “Inst. Dec.”), Patent Owner filed a Response (Paper 10, “PO Resp.”) with a Declaration of Dr. Robert Akl (Ex. 2003). Petitioner filed a Reply (Paper 11, “Reply”). After the briefing, the Board held an oral hearing and the Transcript thereof is in the record. Paper 13.

For the reasons set forth in this Final Written Decision pursuant to 35 U.S.C. § 318(a), we determine that Petitioner demonstrates by a preponderance of evidence that challenged claims 14 and 15 of the ’184 patent are unpatentable.

II. BACKGROUND

A. *Real Parties in Interest*

The parties identify themselves as real parties in interest. Pet. 1; Paper 5, 1. Petitioner also notes that “Vivint, Inc. is an indirect subsidiary of Vivint Smart Home, Inc., . . . a holding company.” Pet. 1.

B. *Related Matters*

The parties identify the following district court proceedings as related matters involving the ’644 patent or related patents: *SB IP Holdings LLC v. Vivint Smart Home, Inc.*, No. 4:21-cv-00912 (E.D. Tex.); *SB IP Holdings v. Vivint Smart Home, Inc.*, No. 4:20-cv-00886 (E.D. Tex.); *Vivint, Inc. v. SB IP Holdings, LLC*, No. 8:22-cv-00034 (C.D. Cal.) (declaratory judgment

action without invalidity assertion); *SimpliSafe v. SkyBell Tech., Inc.*, No. 1:20-cv-12288 (Mass.); *Arlo Tech. Inc. v. SkyBell Tech.*, No. 3:21-cv-00218 (S.D. Cal. (declaratory judgment action)). *See* Paper 5, 3; Pet. 1.

The parties identify the following *inter partes* reviews as involving related patents challenged by Petitioner: IPR2022-00810, IPR2022-00811, IPR2022-00812, IPR2022-00813, IPR2022-00814, IPR2022-01352, IPR2022-01364, and IPR2022-01365. Paper 5, 2; Pet. 1.

C. The '644 Patent

The '644 patent relates to an audio-video communication system having a wireless DVMS module that includes a video camera and audio functionality located on an interior or exterior of a business or residence for viewing an image from the video camera and interacting with a visitor for security purposes.¹ Ex. 1001, code (57), 1:12–21, 8:58–60, Fig. 1.

¹ The '644 patent does not define the acronym “DVMS.”

Figure 1 follows:

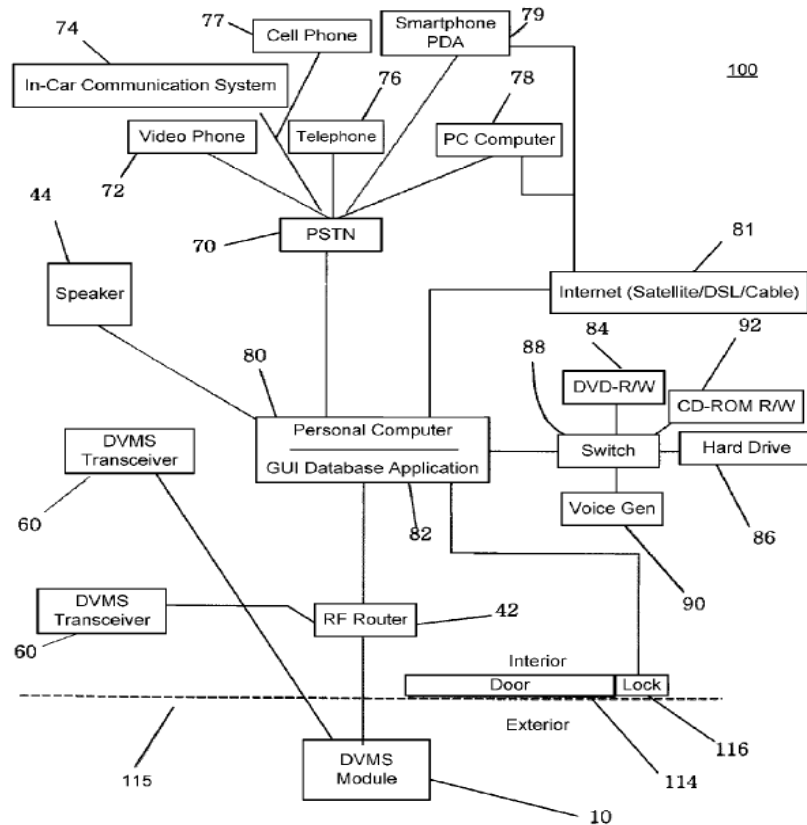


FIG. 1

Figure 1 depicts a schematic diagram of system 100 with wireless DVMS module 10 (bottom) located proximate door 114 at the exterior side of a home or office, with PC (personal computer) 80 (middle) in the interior of the home or office, and peripheral devices (top), which include video phone 72, cell phone 76, PC computer 78, etc., and which communicate with PC 80 via public switching telephone network (PSTN) connection 70 or broadband connection 81. Ex. 1001, 8:40–50, 9:17–26.

In a preferred embodiment, wireless DVMS module 10 includes camera 22, speakers 12, proximity sensor 26, microphone 20, LCD display 16, quick connect electrical receptacle 24, locking mechanism 28, and

RF FM receiver/transmitter 18. Ex. 1001, 9:30–42, Fig. 2. Wireless DVMS module 10 communicates with wireless router 42. *Id.* at 8:58–60, Fig. 1.

D. Illustrative Claim

Independent claim 1 is illustrative of the challenged claims, and follows:

1. An audio-video communication and answering system, said system comprising:
 - (a) at least one wireless exterior module having a proximity sensor, a video camera, a microphone, a speaker, an RF transmitter, and an RF receiver;
 - (b) a computerized controller running a software application;
 - (c) a wireless router, wherein the wireless router enables communication between the exterior module and the computerized controller;
 - (d) a recording component that records video and audio communication that is transmitted to and from the exterior module; and
 - (e) a playing component that plays video and audio communication recorded by the recording component;
 - (f) wherein the software application includes a graphic user interface that enables a user to view images and streaming video from the camera, and
 - [(g)] that enables the coordination of multiple communication devices and user defined responses to prompts and events.²

² The Petition adds “(g)” to address separately a latter portion of limitation 1(f) from the initial portion thereof. *Compare* Ex. 1001, 11:2–21 (limitation 1(f)), *with* Pet. 25 (designating the latter portion of limitation 1(f) as 1(g)).

E. Asserted Grounds of Unpatentability

Petitioner contends that claims 1, 3, 7, 11–15, 17–20, and 23 are unpatentable according to Grounds 1–14 as follows:³

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1	1, 3, 7, 11, 13–15, 23 ⁴	103(a)	Jae, ⁵ Menard, ⁶ Monroe, ⁷ Vaios ⁸
2	12	103(a)	Jae, Menard, Monroe, Vaios, Ellis ⁹
	17	103(a)	Jae, Menard, Monroe,

³ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103, effective March 16, 2013, which is after the filing date of ’612 patent, October 9, 2003 (Ex. 1001, code (63)). Therefore, the pre-AIA version of § 103 applies for purposes of institution.

⁴ Claim 20 depends from claim 18. The Petition mistakenly lists claim 20 as challenged in Grounds 1, 5, 9, and 12. However, because of the dependency of claim 20 from claim 18, but for a harmless typographical or book-keeping error, the Petition actually challenges claim 20 based on the same references included in Petitioner’s challenge to claim 18 in Grounds 4, 8, 11, and 14, respectively, as reflected in this Table. We noted this mistake in the Institution Decision, stating that “[t]he parties will have the opportunity to discuss this issue during trial,” but neither party responded with a clarification or objection. *See* Inst. Dec. 6, n.4. The mistake is harmless.

⁵ English Translation of Korean Pub. No. TEUK2001-0084277, published Sept. 6, 2001. Ex. 1011.

⁶ PCT Pub. No. WO 01/093230 A1, published Dec. 6, 2001. Ex. 1004.

⁷ US Patent No. 6,970,183 B1, issued Nov. 29, 2005, filed Jan. 24, 2000. Ex. 1038.

⁸ US Patent No. 6,271,752 B1, issued Aug. 7, 2001. Ex. 1003.

⁹ US Patent No. 7,506,020 B2, issued Mar. 17, 2009, filed Aug. 24, 2001. Ex. 1041.

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
3			Vaios, Naidoo ¹⁰
4	18–20	103(a)	Jae, Menard, Monroe, Vaios, Nykerk, ¹¹ Jacob ¹²
5	1, 3, 7, 11, 13–15, 23	103(a)	Jae, Menard, Monroe, Vaios, Lands ¹³
6	12	103(a)	Jae, Menard, Monroe, Vaios, Lands, Ellis
7	17	102(e)	Jae, Menard, Monroe, Vaios, Lands, Naidoo
8	18–20	103(a)	Jae, Menard, Monroe, Vaios, Lands, Nykerk, Jacob
9	1, 3, 7, 11, 13–15, 17, 23	103(a)	Naidoo, Menard, Lands, Jae, Monroe ¹⁴
10	12	103(a)	Naidoo, Menard, Lands, Jae, Ellis, Monroe
11	18–20	103(a)	Naidoo, Menard, Lands, Jae, Nykerk, Jacob, Monroe
12	1, 3, 7, 11, 13–15, 17, 23	103(a)	Naidoo, Menard, Lands, Jae, Monroe, Vaios

¹⁰ US Patent No. 6,658,091 B1, issued Dec. 2, 2003, filed Feb. 1, 2002. Ex. 1005.

¹¹ US Patent No. 4,897,630, issued Jan. 30, 1990. Ex. 1013.

¹² US Patent No. 5,781,108, issued Jan. 14, 1998. Ex. 1023.

¹³ PCT Pub. No. WO 00/38174, published June 29, 2000. Ex. 1014.

¹⁴ Although the heading in the Petition for Ground 9 does not list Monroe, the Petition relies on Monroe to supplement Naidoo’s gateway teachings as including a router. *Compare* Pet. 52 (Ground 9 heading not including Monroe), *with* Pet. 57 (citing Ex. 1038, 17:30–35, 18:62–19:10).

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
13	12	103(a)	Naidoo, Menard, Lands, Jae, Monroe, Vaios, Ellis
14	18–20	103(a)	Naidoo, Menard, Lands, Jae, Monroe, Vaios, Nykerk, Jacob

III. ANALYSIS OF THE GROUNDS

A. Legal Standards

“Section 103(a) forbids issuance of a patent when ‘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)). The obviousness question involves resolving underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and when presented (not so here), (4) objective evidence of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Determining whether an invention would have been obvious under 35 U.S.C. § 103 requires resolving the level of ordinary skill in the pertinent art at the time of the effective filing date of the claimed invention. *Graham*, 383 U.S. at 17. The person of ordinary skill in the art is a hypothetical person who knows the relevant art. *In re GPAC Inc.*, 57 F.3d 1573, 1579

(Fed. Cir. 1995). Factors in determining the level of ordinary skill in the art include the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* One or more factors may predominate. *Id.*

Petitioner contends as follows:

A person of ordinary skill in the art (“POSITA”) for the ’644 patent is generally one who has a Bachelor’s degree in computer science, electrical engineering, or a related field, with two years of experience in audio and/or video processing, networked communication systems, sensor systems, and/or remote monitoring systems.

Pet. 5 (citing Ex. 1002 ¶¶ 21–24).

Patent Owner contends that Petitioner’s declarant, Dr. Hochwald, “rel[ies] on conclusory statements regarding a person of ordinary skill in the art.” PO Resp. 2. Patent Owner contends that Dr. Hochwald “lists five factors” and “fails to provide any analysis of those factors with which the Board can determine whether his opinion ‘is based on sufficient facts or data; . . . is the product of reliable principles and methods; and . . . reliably applied the principles and methods to the facts of the case.’” *Id.* (citing Ex. 1002 ¶¶ 21–23; quoting Fed. R. Evid. 702) (alterations in original). Patent Owner contends that we should afford Dr. Hochwald’s conclusory opinion no weight. *Id.* In addition, Patent Owner contends that Dr. Hochwald’s opinion is a “black box” such that “each of Petitioner’s grounds lack a reliable prerequisite determination of the level of skill of a [person of ordinary skill in the art] and are flawed as a result.” *Id.*

In reply, Petitioner contends that Dr. Hochwald “explains the factors that he considered in establishing the proposed level of skill in the art.”

Reply 1 (citing Ex. 1002 ¶¶ 21–24). Specifically, Dr. Hochwald states that

he considered the following: (1) the types of problems encountered in the art, (2) prior solutions to those problems, (3) rapidity with which innovations are made, (4) sophistication of technology at the time of the invention, and (5) educational levels and experience of persons working in the field and capable of understanding the applicable scientific and engineering principles. Ex. 1002 ¶ 22. The factors considered by Dr. Hochwald align with precedent. *Custom Accessories, Inc. v. Jeffrey-Allan Industries, Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986) (citing *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 697 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984)). Dr. Hochwald acknowledges that not all such factors may be present in every case or one or more may predominate. *See id.* at 962–63; Ex. 1002 ¶ 22.

In addition, Petitioner contends that “the prior art itself often establishes the level of skill in the art at the time of the invention.” Reply 1. Petitioner contends that “the level of skill in the art . . . proposed by Petitioner and adopted by the Board is supported by the prior art.” *Id.* (citing Pet. 5; Inst. Dec. 8–9).

Petitioner further argues that Patent Owner’s “criticisms are undercut by its own expert’s adoption of a similar if not higher level of skill in the art. Reply 2 (citing Ex. 2003 ¶ 37). At the cited paragraph, Patent Owner’s expert, Dr. Akl, states that

a [person of ordinary skill in the art] would have had a Bachelor’s degree in electrical engineering, computer engineering, computer science, or a related field, and two to four years of experience in the design or development of telecommunication systems, including work in the field of video communication systems, or the equivalent. Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.

Ex. 2012 ¶ 37

Based on the similarities, Petitioner contends that “while either level of skill could be adopted by the Board as consistent with the teachings of the prior art, neither would discernibly affect on the outcome of this proceeding.” Reply 2.

We agree with Petitioner that the two proposed levels of ordinary skill in the art are similar and any differences are immaterial to the outcome of this case.

We apply Dr. Akl’s proposal, as we did in related IPR2022-01352 (Paper 20, 11–13), because it includes an upper limit of four years of experience, and also provides that graduate education could substitute for professional experience or significant experience in the field could substitute for formal education in addition to similar qualifications as Petitioner proposes. In addition, Patent Owner’s statement of the level of ordinary skill in the art is consistent with the content of the applied prior art references. *Okajima v. Bourdeau*, 261 F.3d 1350, 1354–55 (Fed. Cir. 2001) (the applied prior art may reflect an appropriate level of skill).

C. Dr. Hochwald’s Testimony

Patent Owner contends that “Petitioner violates 37 C.F.R. § 42.6(a)(3) by [citing Dr. Hochwald’s declaration (Ex. 1002)], which includes pages of arguments and evidence that are not in the Petition.” PO Resp. 24. Patent Owner further argues that “all facts . . . in Dr. Hochwald’s declaration that are not specifically discussed in the Petition should be disregarded by the Board.” *Id.*

Patent Owner does not identify what arguments, evidence, or facts it alleges to have been incorporated by reference improperly from Dr. Hochwald’s declaration into the Petition. *See* PO Resp. 24.

Consequently, Patent Owner fails to show that Petitioner committed the violation it asserts and fails to show that the circumstances here warrant imposing the severe consequence of disregarding Petitioner's expert's declaration. In other words, Patent Owner's arguments are conclusory because they do not cite to underlying evidence. *Icon Health & Fitness, Inc. v. Strava, Inc.*, 849 F.3d 1034, 1043 (Fed. Cir. 2017). Moreover, the portions of Dr. Hochwald's testimony cited in this Final Written Decision are not conclusory as the testimony includes citations to record evidence that supports it.

D. Claim Construction

In *inter partes* reviews, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). See 37 C.F.R. § 42.100(b) (2020). Under this standard, claim terms have their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. See *Phillips*, 415 F.3d at 1313–14.

Petitioner relies on the plain and ordinary meaning under *Phillips*. See Pet. 6. It is not necessary to explicitly construe any claim terms here, because any construction would not impact the analysis of Petitioner's asserted grounds. See *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (stating that “we need only construe 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))).

E. The Obviousness Grounds

1. Jae, Menard, Monroe, and Vaios (Ground 1)

Petitioner asserts that claims 1, 3, 7, 11, 13–15, and 23 would have been obvious under 35 U.S.C. § 103(a) based on the combined teachings of Jae, Menard, Monroe, and Vaios. *See* Pet. 6; *supra* note 4 (discussing claim 20).

a) Jae

Jae relates to “a remote access security system,” including “an outdoor terminal for visitors, installed at the entrance door of offices, etc.” Ex. 1011, 1. The system generally addresses prior art concerns by allowing for security monitoring of “offices, factory development rooms, and corporate executive rooms . . . when no one is in the office.” *See id.* at 3. The system generally allows access by visitors using a mobile phone who communicate with a “user’s (access controller’s) mobile phone.” *Id.* at 3.

In addition, when an intruder breaks into the entrance space where this system is installed, the moving image information about the intruder captured by the surveillance camera automatically calls the user’s mobile phone to inform that there is an intruder in the space, and at the same time, the moving image information of the site is displayed on the user’s mobile phone.

Ex. 1011, 3.

Also, “all elements related to access that occur in the absence of the user are automatically transmitted to the user’s main server computer so that the moving image information is recorded.” *Id.*

Jae's Figure 1 follows:

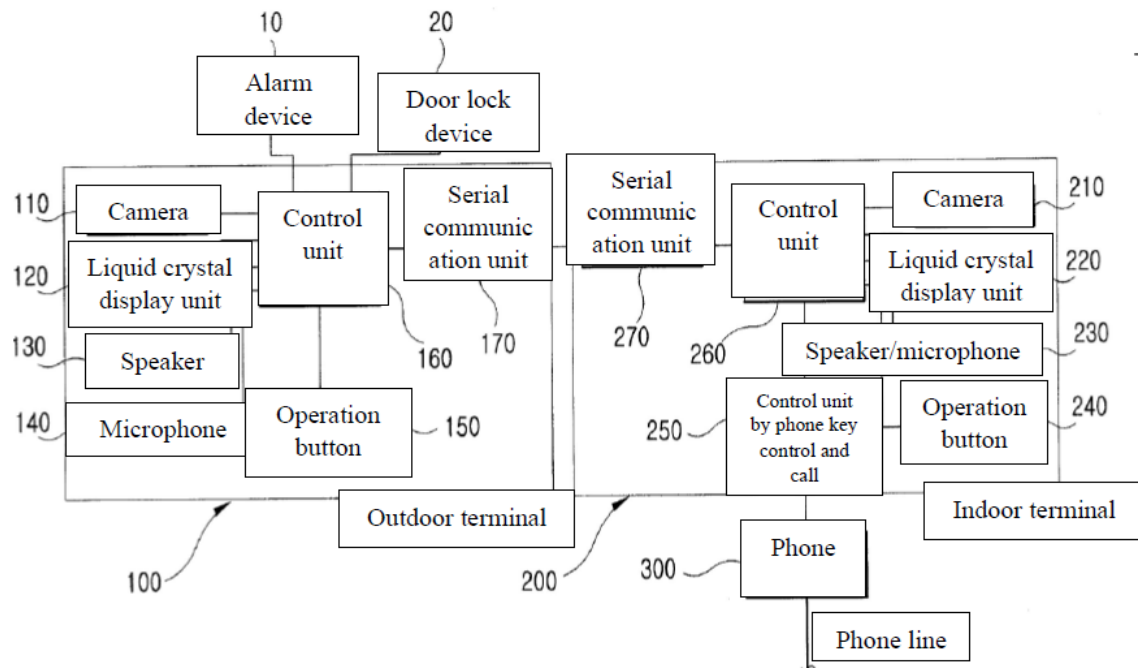


Figure 1 “is a block diagram of a remote access monitoring system according to [Jae’s] present invention,” including outdoor terminal 100 (on the left) for visitors and indoor terminal 200 (on the right) for users.

Ex. 1011, 4. Jae describes its system as including the following:

an outdoor terminal 100 for visitors, installed on a door and equipped with a camera 110, a liquid crystal display unit 120, a speaker 130, a microphone 140, and various operation buttons 150, to enable visitors to make calls and realize audio and video calls, and to remotely control the door alarm system and door lock device by controlling the user’s mobile phone or indoor terminal; and an indoor terminal for users 200, wherein by calling the outdoor terminal 100, audio and video two-way communication with the outdoor terminal is performed, and according to the selection, when a visitor calls, the mobile phone and the outdoor terminal 100 are automatically connected to control the visitor confirmation and communication and door opening/closing through the mobile phone.

Control unit 260 of indoor terminal 200 controls the overall operation of indoor terminal 200 that connects the outdoor terminal 100 and audio and video conversation and automatically connects the user's mobile phone to the outdoor terminal 100 when the outdoor terminal 100 is called by selecting the mobile phone connection function, and outputs control signals of the door lock device 20 and the alarm device 10 to the outdoor terminal 100 by selection of a mobile phone or a function button; and a serial communication unit 270 for communication connection between the control unit 260 of the indoor terminal 200 and the outdoor terminal 100.

Id.

In general, “indoor terminal [200]. . . display[s] the visitor image captured by . . . outdoor terminal [100], connects audio/video calls, and enables the control of door opening and closing and two-way communication between the outdoor terminal and a remote mobile phone by automatically connecting audio/video communication with the user's mobile phone when a visitor calls.” Ex. 1011, 1.

Jae's Figure 2 follows:

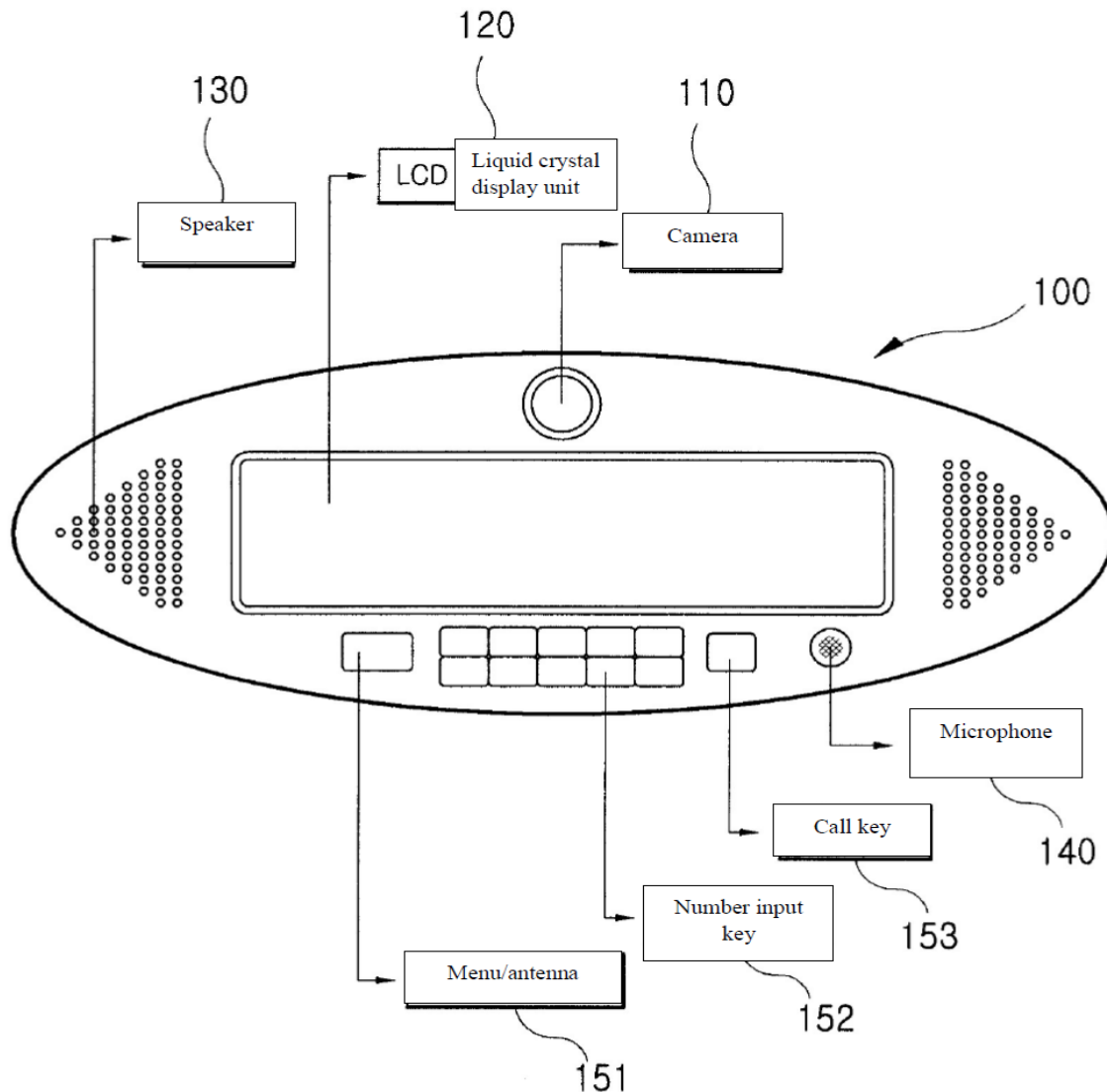


Figure 2 illustrates outdoor terminal 100 comprising camera 110 for taking an image of a visitor; a liquid crystal display unit 120 for displaying an indoor terminal 200 or a pre-stored image or text message, etc.; a speaker 130 and a microphone 140 for making an audio call; an operation button 150 equipped with a menu/guide key 151 for selecting to display a menu and a guide message of the outdoor terminal 100, [and] a number input key 152 for entering a number, and a call key 153 for indoor or mobile phone calls.

Ex. 1011, 4.

Jae's Figure 3 follows:

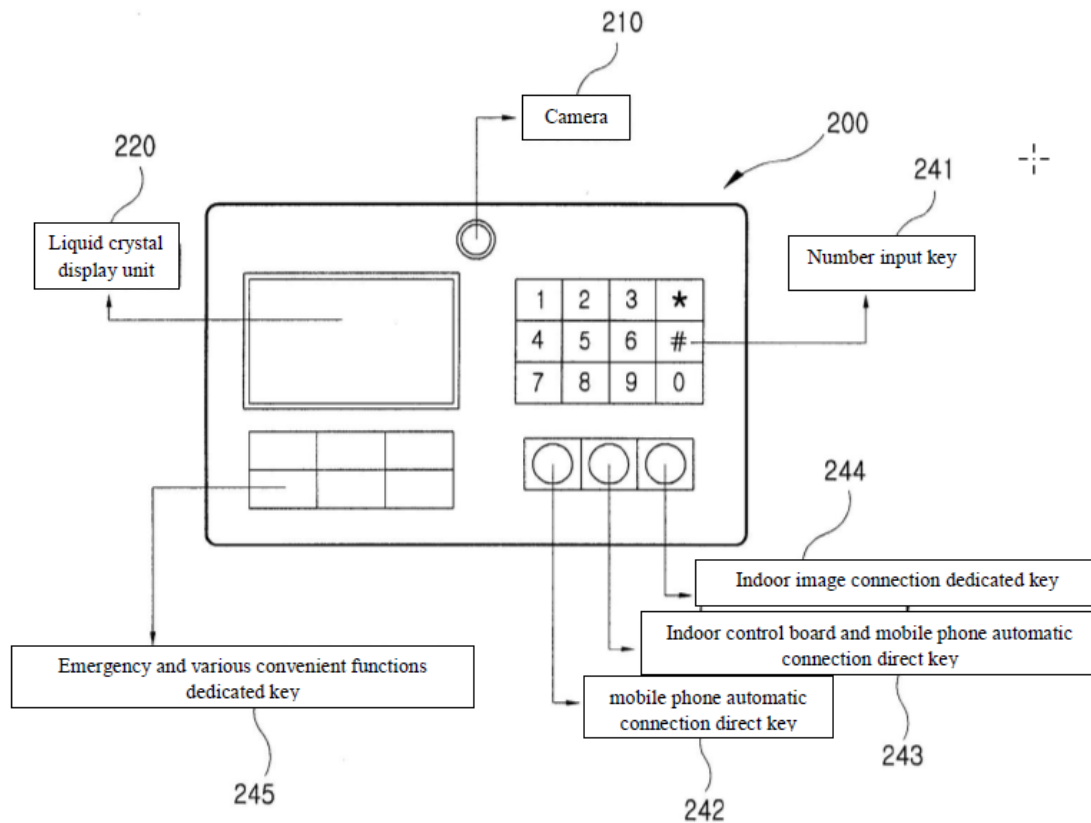


Figure 3 illustrates indoor terminal 200 comprising

a camera 210 for two-way image transmission with the outdoor terminal 100; a liquid crystal display unit 220 for displaying images and text messages transmitted from the outdoor terminal 100; a speaker/microphone 230 for audio calls; an operation button 240 equipped with number input keys 241, a mobile phone automatic connection direct key 242, an indoor control board and mobile phone automatic connection direct key 243[,] an indoor image connection dedicated key 244, and emergency and various convenient functions dedicated key 245.

Ex. 1011, 4.

“When there is a user indoors, the indoor terminal 200 and the outdoor terminal 100 may operate as a general intercom function”

Ex. 1011, 6. In this situation, “when the visitor presses the call button, the image captured by the camera 110 of the outdoor terminal 100 is displayed on the liquid crystal display 220 of the indoor terminal 200, so that audio conversation through the speaker/microphone is made possible, and control of the opening of the door is enabled by pressing the access approval button.” *Id.* A user also can control the indoor terminal intercom functionality via an external telephone. *Id.* at 5–6.

In summary, Jae’s “invention is a remote control security system that enables a two-way audio/video conversation with a visitor by automatically connecting a phone call to the user’s (access controller’s) mobile phone when a visitor calls.” Ex. 1011, 3.

b) Menard

Menard “relates generally to communication and control systems, and in particular, to a wireless, modular, system suitable for . . . premises security and personal safety.” Ex. 1004, 1:6–10. Menard’s system includes a wireless exterior module 200 or 200D mounted on the exterior of a residence’s door comprising a transceiver, detection sensor, and camera for transmitting video. *Id.* at 12–14, 21, Fig. 8.

c) Monroe

Monroe relates to “a wireless multimedia surveillance and monitoring system provid[ing] a combination of megapixel digital camera capability with full motion video surveillance” in a network of workstations and servers. Ex. 1038, code (57). Monroe’s system includes wireless routers (e.g., gateways 1, 2, 3) that enable communication between wireless cameras W1-20, W1-22, servers 46, and monitoring stations 28. *See id.* at 1038, Fig. 7, 18:62–19:33, 17:30–35.

d) Vaios

Vaios discloses a “multi-access remote system having a security surveillance area [and] a plurality of end user locations.” Ex. 1003, code (57). “The security surveillance area” includes “a local computer system, a camera with motion sensor, and a network interface. When the motion sensor detects an obstruction the camera starts recording and the local computer system notifies a remote individual” *Id.* Vaios’s “multi-access remote system” includes “viewing of . . . house entrance.” *Id.* at 9:49–53; *see also id.* at 8:36–38, Fig. 4. Vaios also discloses a graphical user interface with graphical icons for viewing video of a surveillance area. *See id.* at Fig. 3, 7:39–8:35.

e) Claim 1

Petitioner asserts that claim 1 would have been obvious over the combined teachings of Jae, Menard, Monroe and Vaios. Pet. 6–31. Patent Owner disagrees. PO Resp. 25–38, 53–64.¹⁵

(i) Preamble

The preamble of claim 1 recites “[a]n audio-video communication and answering system, said system comprising.” Petitioner asserts that Jae discloses the preamble. Pet. 6–7. In particular, Petitioner points to Jae’s disclosure of a “remote access security system, composed of an outdoor terminal for visitors, installed at the entrance door . . . , equipped with a camera, a . . . display screen, a speaker, a microphone, and . . . operation buttons to enable the visitor to . . . make audio and video calls.” *Id.* at 6

¹⁵ On pages 53–64 of its Response, Patent Owner lists specific portions of Petitioner’s rationale and argues they are all conclusory. We discuss these general allegations either in Section III.E.1.e.ix and/or in our obviousness determinations.

(quoting Ex. 1011, 1).¹⁶ Petitioner also relies on Jae’s disclosure of its system “enabl[ing] . . . two-way audio/video conversation with a visitor by automatically connecting a phone call to the user’s . . . mobile phone.” *Id.* (quoting Ex. 1011, 3).

After a review of the record as summarized above, we determine that Petitioner’s showing for the preamble (even if it is limiting) is persuasive. Patent Owner does not address Petitioner’s showing with respect to the preamble. *See generally* PO Resp.

(ii) *Limitation 1(a)*

Limitation 1(a) recites a “wireless exterior module having a proximity sensor, a video camera, a microphone, a speaker, an RF transmitter, and an RF receiver.” Petitioner relies on the combined teachings of Jae and Menard to address limitation 1(a). Pet. 8–9.

First, Petitioner relies on Jae’s disclosure of “a wireless exterior module (‘outdoor terminal 100’) having a video camera (‘camera 110’), a microphone (‘microphone 140’), and a speaker (‘speaker 130’). Pet. 7 (quoting Ex. 1011, 4; citing Ex. 1011, 1, 2, Fig. 2; Ex. 1002 ¶¶ 96–104). Petitioner contends that Jae “discusses wireless transmission of data.” Pet. 8 (citing Ex. 1011, 6, 7, 8, Figs. 8–9; Ex. 1002, ¶¶ 103–104).

Next, Petitioner relies on Menard’s security system’s wireless exterior module 200D with video camera 370 “mounted on the exterior of [a] residence . . . proximate to entry door 260.” Pet. 8 (quoting Ex. 1004, 19:30–20:2; citing *id.* at Figs. 7, 8). Petitioner contends that Menard’s video camera 370 transfers images to personal data units (PDUs) 400A, 400B and

¹⁶ Petitioner cites to line numbers in Jae, but Jae does not list line numbers, so we simply list the cited page numbers.

base 250A. *Id.* (citing Ex. 1004, 22:17–19). Petitioner contends that “[e]xterior module 200D has ‘an intercom 330’ for conducting ‘audio communication functions,’ which includes ‘a speaker and a microphone.’” *Id.* at 9 (quoting Ex. 1004, 22:20–23). Petitioner also contends that the recited “RF transmitter,” “RF receiver,” and “proximity sensor” read on Menard’s exterior module 200D’s Bluetooth or other wireless transceiver 150 and proximity detector and descriptions thereof. *See* Pet. 9–10 (citing Ex. 1004, 5:31–6:1, 6:14–15, 14:25–15:30, 20:22, 21:6–7, 21:11–18, 34:21–24, claim 25).

Then, based on the combined teachings of Jae and Menard, Petitioner contends it would have been obvious to employ Menard’s wireless module functionality teachings in Jae’s similar security system to create a single module that is “more user-friendly, convenient, and easily installable” for a monitoring system, to create an “improved installation convenience for Jae’s system by, e.g., eliminating the need for hardwiring and increased communication range,” and to “enable[] detection of a person at the entrance without any required action by that person, thereby providing increased security and corresponding notifications to a remote user, and triggering corresponding actions, further conserving system resources.” *See* Pet. 12 (citing Ex. 1002 ¶¶ 122–125; Ex. 1003, code (57); Ex. 1004, 4:16–18, 30:22–25). According to Petitioner, this “substitution would have yielded predictable results with a reasonable expectation of success given that the devices were used in a similar manner for a similar purpose (i.e., to monitor and control access to an entryway) and perform similar functions using similar components and data processing techniques.” *Id.* at 10 (citing *KSR*, 550 U.S. at 416).

Patent Owner argues that “Jae’s outdoor terminal 100: (1) does not have a ‘proximity sensor’ . . . ; and (2) is not a ‘wireless exterior module’ having ‘an RF transmitter.’” PO Resp. 25. Patent Owner relies on Jae’s statement that “the outdoor terminal 100 is installed as a normal outdoor intercom, and the indoor terminal 200 is installed as an indoor intercom.” *Id.* at 26 (quoting Ex. 1011, 5). Therefore, Patent Owner reasons that “[a]ccording to Dr. Akl, this indicates that the two terminals communicate via a wired connection, which was the standard way for intercom systems to operate at the time of the invention.” *Id.* at 26–27 (citing Ex. 2003 ¶ 54). Patent Owner also argues that “[t]he lack of wireless communication is further confirmed by the connection of a phone line into the indoor terminal 200.” *Id.* at 27 (citing Ex. 1011, 5 (“The indoor terminal 200 may be configured as an integrated set with a telephone like a typical indoor intercom, and may be configured to be controlled by a call by connecting the telephone externally.”)). Patent Owner also contends that “it is Dr. Akl’s opinion that Jae actually teaches away from a wireless connection between the outside terminal and the inside terminal and to a PC because of bandwidth limitations.” *Id.* at 28 (citing Ex. 2003 ¶ 59). Patent Owner advances similar teaching away arguments as discussed further below. *See id.* at 61–64.

Patent Owner’s arguments are unavailing. As Petitioner notes, “the Petition does not argue that Jae expressly discloses ‘an RF transmitter and/or a proximity sensor,’ but rather explains why such elements were *obvious in view of Menard*.” Reply 3 (citing Pet. 7–12; Ex. 1002 ¶¶ 97–126). As Petitioner also notes, Jae discloses “wireless receiving means for receiving the signals transmitted from the above cameras to the outdoor terminal.” *Id.* at 3–4 (quoting Ex. 1011, 8:13–16; citing Ex. 1002 ¶¶ 103–104; Pet. 7–8).

In other words, as Petitioner shows, Jae discloses wireless reception of data from cameras by outdoor terminal 100. *Id.* at 4. Jae also discloses wireless transmission by the cameras to a “wireless receiving means” at “the outdoor terminal or indoor terminal.” Ex. 1011, 8. Accordingly, even if Jae teaches a wired connection between the indoor and outdoor terminal, Jae does not teach away from a wireless connection due to bandwidth limitations, because Jae discloses transmitting wireless video from the cameras to “the outdoor terminal or indoor terminal,” thereby contemplating either one. *See id.* Merely teaching a way to transmit data (e.g., wired) does not teach away from transmitting data another way (e.g. wireless).

Also, as Petitioner explains, even if “Jae’s outdoor terminal may also have a wired connection to indoor terminal 200,” this “does not negate the foregoing clear teaching of the outdoor terminal’s additional wireless feature/receiving means for wirelessly receiving signals from separate cameras.” Reply 4. Petitioner also maintains that Patent Owner “mischaracterizes Dr. Hochwald’s testimony by implying that Dr. Hochwald argues that Jae’s outdoor terminal 100 includes an ‘RF transmitter’ . . . when . . . Dr. Hochwald states that the outdoor terminal includes just a ‘transmitter’ (because it clearly transmits data) and an ‘RF receiver’ (in view of the foregoing wireless reception of signals from separate cameras).” *Id.* (citing Ex. 1002 ¶ 100; PO Resp. 27). In other words, as discussed above and further below, Petitioner relies on the fact (supported by the record) that “Jae’s outdoor terminal has data transmission and reception components,” in order to “establish[] background for the obviousness of and reasonable expectation of success in incorporating wireless communication components as further taught by Menard.” *Id.* (citing Pet. 7–12; Ex. 1002 ¶¶ 102–126).

Patent Owner further argues in response to Petitioner’s obviousness

allegations that Menard's exterior module 200D is not wireless and does not include a proximity sensor. *See* PO Resp. 29–31. These arguments are unavailing. As Petitioner shows, “Menard's ‘video camera 370’ detects ‘arrival of the caller’ and, in response, ‘exterior module 200D transmits a wireless signal.’” Reply 5 (quoting Ex. 1004, 21:11–15); *accord* Pet. 8–10; Ex. 1002 ¶¶ 117–118. As Petitioner also notes, Menard discloses the following: “Exterior module 200D includes video camera 370 [and] . . . a doorbell [and] . . . arrival of the caller is detected by video camera 370. In response to . . . detection by camera 370, exterior module 200D transmits a wireless signal.” *Id.* at 6 (alteration in original) (quoting Ex. 1004, 21:5–15). Therefore, as Petitioner shows, Menard's exterior module 200D as described at page 21 includes a proximity detector.

In addition, Petitioner shows that Menard expressly discloses a camera “proximity detector” at other passages. Specifically, Petitioner shows that “Menard describes the ‘proximity detector’ as ‘signaling the presence of a caller near the exterior module’ ([Ex. 1004], 5:32–6:1) – i.e., proximate – and indicates it may be a ‘doorbell button or . . . video camera’” (*id.*, 6:14–15).” Reply 6 (quoting Ex. 1004, 5:32–6:1, 6:14–15). To address this disclosure, Patent Owner argues that Menard's device as described at pages 5–6 is a different embodiment than exterior module 200D as described at page 21 and in relation to Figures 7–9, and contends that the Petition improperly combines the alleged different embodiments. PO Resp. 29–30. However, contrary to this argument, Petitioner does not attempt to improperly combine the various teachings of Menard with themselves. Rather, Petitioner relies on the full thrust of Menard's teachings to suggest the combination with Jae. These teachings support Petitioner's showing that it would have been obvious to include Menard's wireless exterior module

functionality and components in Jae’s similar wireless exterior module or to replace Jae’s module in a known manner to yield predictable results and provide certain advantages that include an easily installable, user-friendly, and convenient wireless module. *See* Reply 6–7; Pet. 11–12. Other advantages arise from the fact that Menard’s proximity sensor enables detection of a person at an entrance, without any required action by the person, thereby providing increased security and corresponding notifications to a remote user, conserving resources by recording video during a trigger thereof. *See* Pet. 12 (citing Ex. 1003, code (57), Ex. 1004, 4:16–18, 30:22–25; Ex. 1002 ¶ 125).

In addition, Petitioner shows that Menard’s discussion at pages 5–6 does not describe a distinct embodiment from that at page 21, but rather pages 5–6 include “a high-level description of possible configurations/components of Menard’s exterior modules.” Reply 7 (citing Ex. 1051 ¶¶ 45–46). Menard supports Petitioner. As Petitioner notes, both descriptions of modules at pages 5–6 and 21 include a doorbell and the same proximity sensing detecting components. *See id.* For example, at page 6, Menard generally states that “[i]n one embodiment, the proximity detector comprises a doorbell button or a video camera” without mentioning a specific figure. Ex. 1004, 6:14–15. At pages 5–6, Menard generally describes a “proximity detector for signaling the presences of a caller near the exterior module” without mentioning a specific figure. *Id.* at 5:31–6:1. Then, at page 21, Menard states that “[e]xterior module 200D includes video camera 370 [and] . . . a doorbell . . . [and] . . . arrival of the caller is detected by video camera 370.” *Id.* at 21:5–15. Accordingly, the general descriptions of various camera or module features at pages 5–6 of Menard apply to the exterior module 200D.

Patent Owner also argues that Menard’s exterior module 200D is not wireless because it operates using Bluetooth and Bluetooth was not able to communicate images or video. *See* PO Resp. 31–35. Patent Owner also argues that Bluetooth only applies for video if distances permit it and after an artisan of ordinary skill considers other factors such as cost of retrofits and size of the buildings. *Id.* at 60–61 (citing testimony by Dr. Hochwald in a related IPR). Contrary to these arguments, as Petitioner shows, “Menard expressly describes ‘exterior module 200D’ as providing ‘wireless communication’ of ‘real-time video images’ via Bluetooth.” Reply 7 (quoting Ex. 1004, 20:8–10, 21:11–28). At the cited passage, Menard states that “[i]n one embodiment, the wireless communication between module 200D and base 250A includes BLUETOOTH® 10 communication technology.” Ex. 1004, 20:8–10. Menard also states that “exterior module 200D . . . capture[s] an image using exterior video camera 370 and transmit[s] said image to PDU 400. The graphical image may include a still image or real-time video images.” *Id.* at 21:23–26. Also, “exterior module 200D transmits a wireless signal,” and “[i]n one embodiment, the wireless signal is transmitted using a BLUETOOTH® communication channel.” *Id.* at 21:15–17.

Therefore, Menard constitutes evidence contradicting Patent Owner’s argument that Bluetooth was unable to transmit video. Menard also shows that artisans of ordinary were aware of distances and other factors involving Bluetooth including costs, retrofits, etc., and were ready and able to consider using Menard’s wireless exterior module as a normal engineering trade-off. For example, Menard indicates that its system “enable[es] both safety and convenience features in an affordable, modular, arrangement that is easy to install and manage.” Ex. 1004, 1:29–31; *accord* Pet. 11 (arguing the

“combination would have been easily implemented using standard engineering techniques at the time, including incorporation of common hardware and/or software components and standard communication protocols that a [person of ordinary skill in the art] would have easily implemented without technical impediments in terms of complexity, cost, or system construction”).

Other record evidence supports Petitioner. *See* Pet. 8–12; Ex. 1002 ¶¶ 106–125. For example, contrary to Patent Owner’s arguments that “Bluetooth Specification 1.1” “[did] not discuss sending video or images wirelessly over Bluetooth” (PO Resp. 8), Petitioner shows that that “Bluetooth Specification 1.1 does discuss video and describes exemplary profiles such as the File Transfer Profile and Basic Imaging Profile, from which a [person of ordinary skill in the art] would recognize that Bluetooth could transmit ‘video or images.’” Reply 8 (citing Ex. 1051 ¶¶ 39–40; Ex. 2007 (Bluetooth Specification 1.1), 260 (“Multicasts and unidirectional traffic (e.g., video) do not require duplex channels.”), 347–348 (showing example browsing history that includes “Video Game Class ID” as a Service Class in one example, and “Movies” as a Service Name), 667 (“The Read_Automatic_Flush_Timeout command provides support for isochronous data, such as video.”), 669 (“The Write_Automatic_Flush_Timeout command provides support for isochronous data, such as video.”); Ex. 1053, 371; Ex. 1052, 399–400, 507–516).

As Petitioner also argues, Menard discloses the 802.15.1 WPAN standard, which includes Bluetooth, and contemplates video. Reply 4 (citing Ex. 1004, 15:1–10; Ex. 1051 ¶ 42; Ex. 1049, 204, 358, 360). Also, Dr. Hochwald cites contemporaneous patents and IEEE publications that show Bluetooth transmitted video and images at the time of the invention.

Ex. 1051 ¶¶ 41–42 (citing Ex. 1047, 7:25–37; Ex. 1048, 8:28–10:2, Fig. 2; Ex. 1050, 1 (CCD wireless video camera for surveillance using Bluetooth); Ex. 1059, 84 (same)); Reply 8–9 (citing Ex. 1051 ¶¶ 41–42).

As Petitioner also argues, contrary to Patent Owner’s arguments of hindsight based on the ’644 patent, it was well known that wireless camera systems existed at the time of the invention. Reply 11 (citing Ex. 1051 ¶¶ 18–34). *See In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971) (“Any judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as [a conclusion of obviousness] takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant’s disclosure, such a reconstruction is proper.”). At the cited declaration passages, Dr. Hochwald points to numerous examples supported by record evidence of wireless camera video spanning over the last 50 years or more, including the famous example of the wireless video of the moon landing in 1969. *See, e.g.*, Ex. 1051 ¶ 22 (citing Ex. 1036, 2–5).

In addition, contrary to Patent Owner’s teaching away arguments, wireless video did not require compression for wired or wireless systems. *See* PO Resp. 28, 61–63. Petitioner notes that the ’644 patent does not mention compression and explains that “[c]ompression simply reduces bandwidth” consumption or “shorten[s] transmission times.” Reply 11 (citing Ex. 1051 ¶¶ 12–14). Petitioner further explains that during Dr. Akl’s deposition in the related ’812 IPR, he indicated that he was unaware if a person of ordinary skill in the art in the 2000/2001 timeframe would have understood that wireless video required compression. *Id.* (citing Ex. 1031, 60:21–61:4). As Petitioner also argues and as indicated above, Jae

specifically discloses wireless and therefore does not discourage wireless or otherwise teach away from it. Reply 10–11 (citing *Tyco Healthcare Grp. LP v. Ethicon Endo-Surgery, Inc.*, 774 F.3d 968, 977 (Fed. Cir. 2014)).

Dr. Hochwald also explains that Vaios discusses lowering the video quality to accommodate low bandwidth connections without compression. Ex. 1051 ¶ 14 (quoting Ex. 1003, 9:21–26 (“[T]he user may incorporate live *low-quality* video streaming with this method, by continuously monitoring the security surveillance area with a low quality video stream and subsequently downloading selected images for high quality viewing.”) (emphasis added by Dr. Hochwald)); *see also* Reply 11 (citing Ex. 1051 ¶¶ 12–14, 18–34; Ex. 1003, 9:21–26). Citing record evidence to support his testimony, Dr. Hochwald also testifies that even if wireless video required compression at the time of the invention, “the Monroe reference is just one example illustrating how a camera and its associated processors can compress video, audio, and other sensor data using a number of different data formats (e.g., JPEG, MPEG, etc.) to facilitate wireless transmission.” *Id.* ¶ 15 (citing Ex. 1038, Ex. 1038, 2:46–65, 16:27–45, 19:36–55, 25:626, 25:38–26; Fig. 3235; Ex. 1060, 4:26–31).

As Petitioner also argues, and contrary to Patent Owner’s arguments, Jae’s outdoor terminal readily could have implemented standard compression techniques, and there is no reason why compression could only be performed in Jae’s PC. Reply 12 (citing Ex. 1051 ¶ 15; PO Resp. 9, 20). In addition, nothing in Jae requires Jae’s communication from its outdoor terminal to the mobile phone to be routed through its indoor terminal to support its obviousness showing. *See id.* Patent Owner’s argument assumes bodily incorporation of Jae’s two terminals and teachings. In other words, as discussed more fully below in discussing the “router” recited in claim 1,

incorporation of wireless communications from Jae's outdoor terminal would enable Jae's outdoor terminal to wirelessly communicate directly with a router regardless of whether the indoor and outdoor terminals include a wired connection. *See id.* at 12–13 (citing Ex. 1002 ¶¶ 146–148).

Dr. Hochwald also credibly disputes Dr. Akl's testimony that "any time you are comparing a wire to wireless connection at any point the wired would have more bandwidth than the wireless." Ex. 2003 ¶ 59; *accord* PO Resp. 62 (citing same). That is, Dr. Hochwald explains that a person of ordinary skill in the art "in 2002 would know that digital subscriber line (DSL) and dial-up modem connections, which were wired connections from the home to an internet service provider still in use in 2002, were often slower than 802.11 (WiFi) wireless and wide area network wireless capabilities at the time." Ex. 1051 ¶ 16. Dr. Hochwald also testifies that the '644 patent and the '384 patent do not support Dr. Akl's testimony, because "neither even mentions bandwidth or compression in any context." *Id.* ¶ 17.

As Petitioner also points out, Menard does not limit its wireless teachings to Bluetooth. Reply 9. Rather, Menard discloses "other suitable options for wirelessly transmitting images including, e.g., wireless LANs, WANs, etc." *Id.* (citing Ex. 1051 ¶¶ 18–34, 50; Ex. 1002 ¶¶ 112–116; Ex. 1038, Abstract, 19:34–63, 22:42–23:22, 26:21–39, 27:25–28:2; Ex. 1031, 167:12–168:8; Ex. 1055, 33:12–22 (acknowledging that video could be streamed over satellite, cellular, and long wavelength wireless systems as of 2003)). Based on cited record evidence as summarized above, Petitioner contends that "Menard's 'exterior module 200D' was 'wireless' and had 'an RF receiver' and 'RF transmitter,' and, moreover, a plethora of techniques were both well-known and capable of transmitting images wirelessly as of the priority date." *Id.* at 10.

Therefore, as the Petition contends, a person of ordinary skill in the art would have recognized that the resulting single device would collect audio and video data at an entrance, communicate wirelessly with other system components, and enable two-way communication with a remote individual, thereby creating a more user-friendly, convenient, and easily installable monitoring system. . . . The resulting wireless RF communication would have improved installation convenience for Jae's system by, e.g., eliminating the need for hardwiring and increased communication range. . . . Additionally, the combination would have enabled detection of a person at the entrance without any required action by that person, thereby providing increased security and corresponding notifications to a remote user, and triggering corresponding actions, further conserving system resources.

Pet. 12 (citing Ex. 1002 ¶¶ 121–125).

Therefore, based on the foregoing discussion, we determine that Petitioner's showing for limitation 1(a) is persuasive.

(iii) Limitation 1(b)

Limitation 1(b) recites “a computerized controller running a software application.” Petitioner reads limitation 1(b) onto Jae's server system and software, contending that Jae's “server system” is “also called a ‘server computer.’” Pet. 12 (quoting Ex. 1011, 3; citing Ex. 1002 ¶¶ 127–133; Ex. 1011, 1, 3, 4, 7, claim 4). At the cited paragraphs, Dr. Hochwald testifies that Jae's server system provides access and control through connection to Jae's PC and other system components. *See* Ex. 1002 ¶¶ 131–133 (citing Ex. 1011, 7, claim 4).

Petitioner states that “Jae's remote access security system is ‘automatically connected to the server system through the Internet, so that the user can have video/audio conversation with the visitor on the website, and also allow access control.’” Pet. 13 (quoting Ex. 1011,

1; citing Ex. 1011, 3, 7). Petitioner states that “Jae’s ‘server system records and stores [image and audio] information for management’ and provides a ‘website’ from which users can observe this information, conduct video and audio calls with the visitor via outdoor terminal 100, and control access.” *Id.* (quoting Ex. 1011, 3, 7; citing Ex. 1011, claim 4). Based on these teachings, Petitioner asserts that Jae’s server system/computer uses a software application/program and satisfies limitation 1(b). *Id.* (citing Ex. 1002 ¶¶ 130–131; Ex. 1011, 4 (last paragraph describing a “program”), claim 4).

Therefore, based on the foregoing discussion, we determine that Petitioner’s showing for limitation 1(b) is persuasive. Patent Owner does not address Petitioner’s showing with respect to limitation 1(b). *See generally* PO Resp.

(iv) Limitation 1(c)

Limitation 1(c) recites “a wireless router, wherein the wireless router enables communication between the exterior module and the computerized controller.” Petitioner relies on the combined teachings of Jae, Menard, and Monroe to address limitation 1(c). Pet. 13–16. Petitioner refers to its showing with respect to limitation 1(a), which relies on the combined teachings of Jae and Menard to render obvious a wireless exterior module, “wirelessly communicate using, e.g., IEEE 802.11 (WiFi), Bluetooth, or other RF protocols.” *Id.* at 13–14 (citing Ex. 1002 ¶ 136). The Petition generally shows that Menard’s wireless module 200 communicates wirelessly with a variety of devices including cell phones, PDUs 400A, 400B, base 250A, and to an interior module. *See id.* at 8–9 (citing Ex. 1004, 20:3–6), 31 (citing Ex. 1004, 21:31–33).

Petitioner contends that “Jae’s server system (i.e., a ‘computerized controller’) is located remotely from and connected to Jae’s remote access security system (e.g., outdoor terminal 100, indoor terminal 200) via the Internet.” Pet. 14 (citing Ex. 1011, 3, 4, 7, claims 4–5). Relying on Monroe, Petitioner contends that “[w]ireless routers were widely used at the time, including with monitoring systems, to facilitate routing of data across such diverse networks.” *Id.* (citing Ex. 1002 ¶¶ 135, 139–146; Ex. 1038, 17:30–35, 18:62–19:10).

Petitioner explains that “Monroe’s system includes a wireless router (e.g., gateways 1, 2, 3) that enables communication between wireless cameras W1-20, W1-22, etc., and computerized controllers (e.g., server 46, monitoring stations 28).” Pet. 14 (citing Ex. 1002 ¶ 139; Ex. 1038, Fig. 7, 18:62–19:33, 17:30–35). Petitioner notes that “Monroe discloses a ‘wireless multimedia surveillance and monitoring system . . . adapted for transmitting event data, video and/or image monitoring information [and] audio signals . . . over a LAN, wireless LAN, Intranet or Internet for . . . assessment and response.’” *Id.* (quoting Ex. 1038, code (57)).

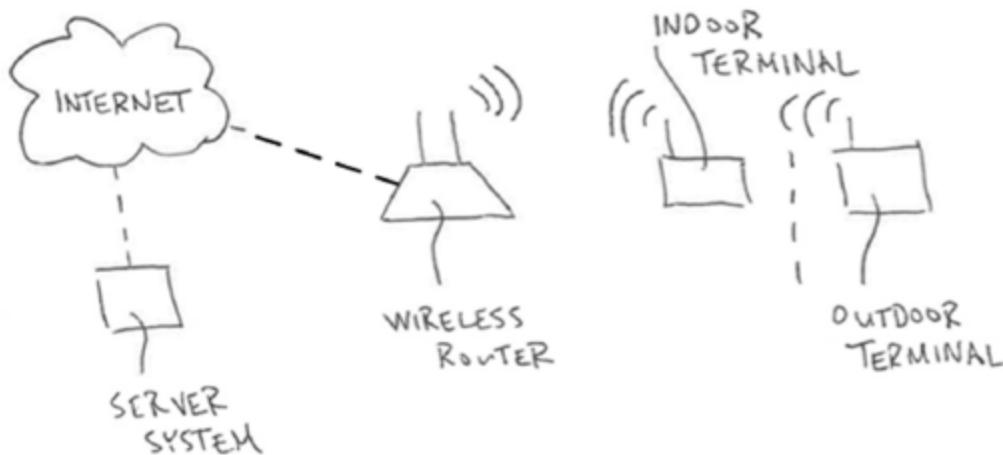
Therefore, Petitioner asserts that it would have been obvious to “incorporat[e] aspects of Monroe’s system architecture and wireless router usage in Jae’s system so as to facilitate communications between a local wireless network connecting outdoor terminal 100 (and other wireless components of Jae’s system such as surveillance cameras and potentially indoor terminal 200) and the Internet to which the server system is connected.” Pet. 15–16 (citing Ex. 1002 ¶¶ 145–147). Petitioner asserts that the combined system “had the known benefit of improving installation convenience for associated systems, eliminating the need for hardwiring,

providing varied communication protocol options (including short and long range), and remote monitoring.” *Id.* (citing Ex. 1002 ¶¶ 143, 145–151).

Patent Owner responds that the combination of Jae and Menard “fail[s] to disclose a ‘wireless router’ because Bluetooth involves ‘point-to-point’ communications between two devices as acknowledged by Menard.” PO Resp. 36 (citing Ex. 1004, 34:18–24; Ex. 2008, 2). Patent Owner adds that “Bluetooth does not require wireless routing” so that there is no motivation to combine Menard with Monroe. *Id.* (citing Ex. 2003 ¶ 98).

As discussed above, however, Petitioner generally relies on combining wireless teachings in Jae and Menard without restricting wireless connections to Bluetooth. *See* Pet. 6–14; Reply 13–14 (citing Ex. 1002 ¶¶ 98–104, 110–115, 121–122, 136). Therefore, Patent Owner’s arguments, which rely on Bluetooth, are unavailing.

Moreover, as Petitioner notes, routers handle all manner of wireless communications (including Bluetooth). *See* Reply 12–14 (citing Ex. 1002 ¶¶ 146–148). Dr. Hochwald portrays the following system to represent the combined teachings that include Monroe’s wireless router in Jae/Menard’s system (Ex. 1002 ¶ 147):



Dr. Hochwald describes the illustration as follows:

As shown in the Figure above, an example construction using the wireless router of Monroe (and the RF transmitter and RF receiver in other devices, such as the outdoor terminal, the indoor terminal, etc.) allows the devices that are on premises to independently communicate with each other and the server system (e.g., through the Internet) using the wireless router and without altering the arrangement of components in Jae's system (e.g., the indoor terminal and the outdoor terminal of Jae would still provide functionality as an on-premises intercom, and each could communicate audio-video data to the server system via a shared Internet connection).

Ex. 1002 ¶ 148. In other words, the Figure above illustrates the combined system using Bluetooth or other wireless protocols from the outdoor terminal of Jae and Menard to wirelessly connect to Monroe's gateway/router as part of a "local wireless network" in order "to facilitate communications originating from the outdoor terminal [on the local wireless network] with a different, wide area network/Internet where the computerized controller may be located." *See* Reply 14–15 (citing Ex. 1002 ¶ 147; Ex. 1051 ¶¶ 54–56).

Dr. Hochwald further explains that indoor terminal 200 in Jae

could still be used to facilitate connection to a remote device via the phone line which would, for example, serve as a backup in case of disruption in operation of the Internet. Alternatively, the “outdoor terminal 100” could be connected to the “indoor terminal 100” via a wired connection, which could also enable continued operation of the system in case of disruption in the operation of the wireless router.

Ex. 1002 ¶ 148. That is, whether or not there is a wired connection between the indoor terminal and outdoor terminal or a connection of the indoor terminal to a phone line, Petitioner shows persuasively how and why to connect Jae’s outdoor terminal system beneficially to a router wirelessly as suggested by Monroe and Menard (i.e., while still maintaining wired connections in Jae for back-up options). Petitioner also notes that “Menard’s ‘exterior module 200D and interior module 200E communicate [wirelessly] using a BLUETOOTH® communication channel.’” Pet. 33 (quoting Ex. 1004, 21:31–32).

Patent Owner also asserts that “Jae does not disclose a wireless router facilitating communication between what [P]etitioner has identified as the ‘computerized controller’ and the ‘wireless exterior module’; therefore, the ‘server’ identified by the [P]etitioner lacks requisite characteristics of the ‘computerized controller’ as required by the claims.” PO Resp. 37. Patent Owner further contends that “Jae only discloses that the ‘outdoor terminal’ communicates with the ‘indoor terminal’ via a ‘serial communication unit,’ and that the ‘indoor terminal’ communicates with the server via the Internet either over a telephone line or VIA a PC connected to the internet in some undisclosed manner.” *Id.* (citing Ex. 1011, 4). To support these arguments, Patent Owner relies on its unsupported argument, addressed above, that Jae’s outdoor terminal only communicates with

Jae's server via a wired connection instead of a wireless connection.
Id.

These arguments do not address Petitioner's showing. The Petition relies on Jae's server as the computerized controller, as summarized above and as illustrated in Dr. Hochwald's illustration, and does not rely on Jae for the router limitation. *See* Pet. 13–16; Ex. 1002 ¶¶ 147–148. In particular, as summarized above, the Petition relies on the combined teachings of Jae, Menard, and Monroe and shows the wireless connection between Jae's server via Monroe's router and the Jae/Menard wireless outdoor terminal. That is, as the Reply notes, “the Petition establishes that it was obvious in view of the combination of Jae, Menard, and Monroe for Jae's system to incorporate a wireless router to facilitate communications between its outdoor terminal and server (i.e., ‘computerized controller’).” Reply 15 (citing Pet. 13–16; Ex. 1002 ¶¶ 135–151) (referring to Dr. Hochwald's illustration as outlined above). The record as cited by Petitioner supports Petitioner's showing, where Petitioner shows that routers were well-known for eliminating wired connections and providing different types of wireless connections in networks including video cameras.

Therefore, based on the foregoing discussion, we determine that Petitioner's showing for limitation 1(c) based on the teachings of Jae, Menard, and Monroe is persuasive.

(v) Limitation 1(d)

Limitation 1(d) recites “a recording component that records video and audio communication that is transmitted to and from the exterior module.” Petitioner contends that Jae's server system discloses or renders obvious

limitation 1(d). Pet. 17–18.¹⁷ Petitioner asserts that “Jae’s system enables video and audio communication between an exterior module (outdoor terminal 100) and remote devices such as mobile phones or personal computers.” *Id.* at 17 (Ex. 1011, 1, 3, 6, 7; Ex. 1002 ¶¶ 155–156). As an example, Petitioner notes that “Jae’s system provides ‘audio/video communication’ with the user’s mobile phone to enable two-way communication between the outdoor terminal and the remote mobile phone.” *Id.* (quoting Ex. 1011, 3). In addition, “[w]hen the visitor presses the call button of [outdoor terminal 100], . . . the visitor’s image and audio are transmitted to the user’s mobile phone by the camera and microphone [of] outdoor terminal 100.” *Id.* (alteration in original) (quoting Ex. 1011, 7). And “[v]ideo from Jae’s camera 110 also may be transmitted to a ‘video phone.’” *Id.* (quoting Ex. 1011, 6).

Petitioner relies further on Jae’s remote access security system that “connects to the server system . . . and automatically transmits visit record information (image and audio) and emergency monitoring situation information regarding visitors, so that the server system records and stores the information.” Pet. 17 (quoting Ex. 1011, 7). Petitioner also relies on Jae’s explanation that “by connecting to a server system that automatically

¹⁷ Petitioner contends that “Patent Owner asserts that this limitation requires only the recording of audio transmitted to the exterior module.” Pet. 59 (citing Ex. 1039). Exhibit 1039 is a copy of an email from Patent Owner stating that Patent Owner “disagree[s that] claim element 1(d) of the ’644 patent requires video to be transmitted to the exterior module.” Ex. 1039. Rather, Patent Owner “believe[s] the phrase ‘that is transmitted to and from the exterior module’ only modifies ‘audio communication,’ not ‘video’ as [Petitioner] assert[s].” *Id.* The parties did not address this issue further explicitly during trial after the Board raised it in the Institution Decision. *See* Inst. Dec. 21 n.14.

stores information about visitors, it is possible to check the visitor records stored in the server system from a remote location.” *Id.* (quoting Ex. 1011, 8). Petitioner notes that “Jae’s server system . . . ‘record[s] and store[s] the information in the server system, and manage[s] it.’” *Id.* (alteration by Board) (quoting Ex. 1038, 8; citing Ex. 1011, claim 4).¹⁸

Based on these teachings, Petitioner asserts that

the components of the server system record and store video and audio captured by outdoor terminal 100 as well as the video and audio calls with outdoor terminal 100 that the server system manages, and thus “record video and audio communication that is transmitted to and from the exterior module,” as claimed.

Pet. 18 (citing Ex. 1002 ¶¶ 158–159).

Petitioner alternatively asserts that it would have been “obvious for Jae’s server system to record any of the audio or video information being transmitted to or managed by the server system, including audio and video calls.” Pet. 18 (citing Ex. 1002 ¶ 159). Petitioner reasons that Jae’s server system “has access to and can record such information using the same components (e.g., hardware/software) that it uses to record other information Jae teaches as being recorded.” *Id.* (citing Ex. 1002 ¶ 159). Petitioner further reasons that such a modification would have been “predictable,” and a person of ordinary skill in the art “would have had a reasonable expectation of success” and “would have been motivated to record such information to enable later playback or review of such information for

¹⁸ In relation to Figure 6, after discussing “the visitor’s image and audio” transmitted information in relation to a telephone call, Jae refers to “such a long-distance audio/video call with the visitor,” further implying that Jae’s system interchanges video and image information. *See* Ex. 1011, 7; Inst. Dec. 22 n.15.

numerous purposes including security, entertainment, or system management.” *Id.* at 19 (citing Ex. 1002 ¶¶ 159, 164).

Based on the foregoing discussion, we determine that Petitioner’s showing for limitation 1(d) is persuasive. Patent Owner does not address Petitioner’s showing with respect to limitation 1(d). *See generally* PO Resp.

(vi) *Limitation 1(e)*

Limitation 1(e) recites “a playing component that plays video and audio communication recorded by the recording component.” Relying on similar disclosures as discussed in connection with limitation 1(d), Petitioner contends that “Jae’s server system facilitates the playing of recorded video and audio via PCs or mobile phones.” Pet. 29 (citing Ex. 1011, 5–7).

Petitioner relies on the following disclosure in Jae as showing access of recorded information from a mobile phone:

The user . . . calls the remote access security system . . . to drive the outdoor terminal 100, and may confirm the images and audio transmitted by the outdoor terminal 100 through the mobile phone; in addition, by connecting to a server system that automatically stores information about visitors, it is possible to check the visitor records stored in the server system from a remote location.

Pet. 20 (quoting Ex. 1011, 8).

Petitioner alternatively contends that a user may use Jae’s PC to access recorded information on Jae’s server and its website. Pet. 20 (citing Ex. 1002 ¶ 171; Ex. 1011, 7). Based on Jae’s teachings as largely summarized above, Petitioner contends that “any of Jae’s mobile phones, PCs, or server system constitutes a playing component that plays video and audio communications that were recorded and stored by Jae’s server system.” *Id.* at 19–20 (citing Ex. 1002 ¶ 172). Referring to its related showing as discussed in connection with limitation 1(f) below, Petitioner

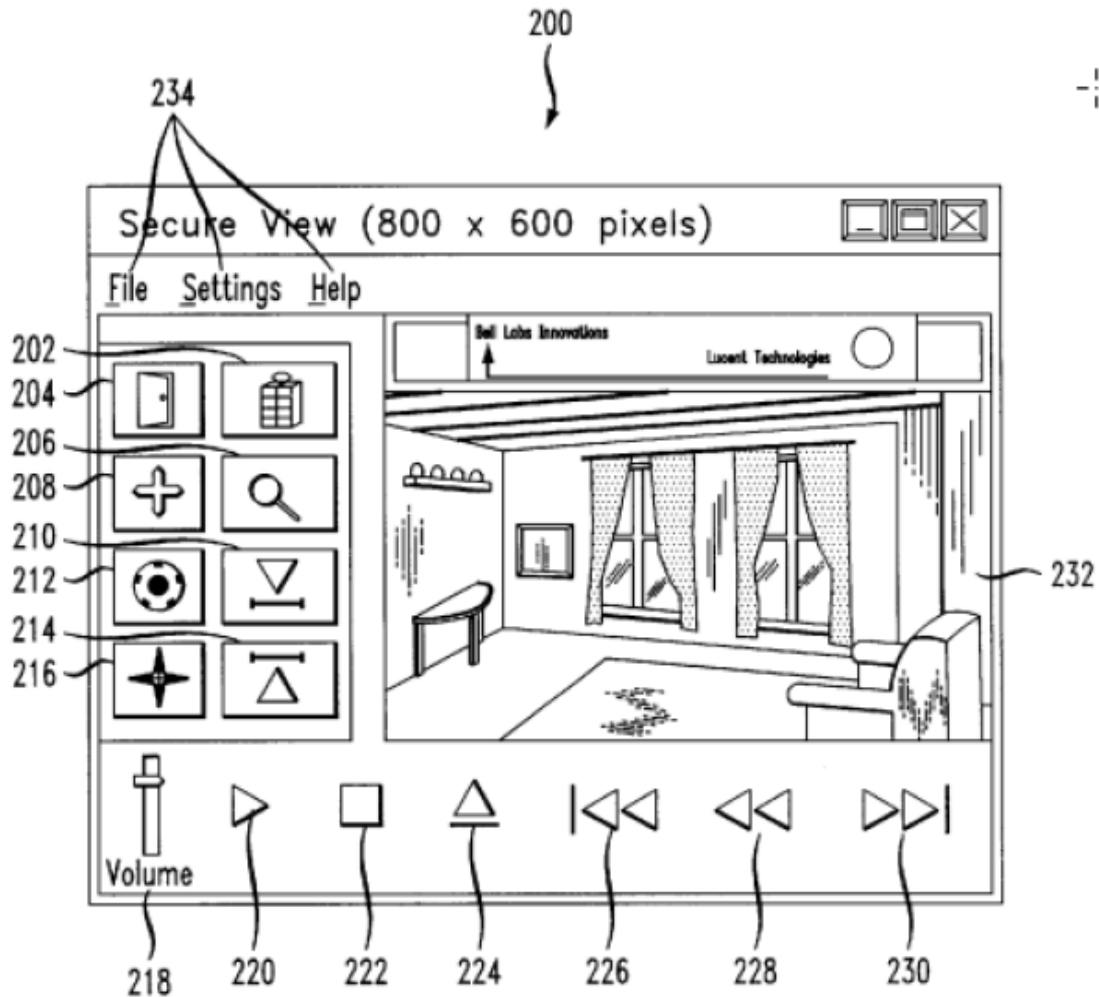
alternatively contends that it would have been obvious to view recorded information on Jae's PC as modified to include Vaios's GUI, which allows viewing of information. *Id.* at 20 (citing Ex. 1002 ¶ 171; Ex. 1011, 7).

Based on the foregoing discussion, we determine that Petitioner's showing for limitation 1(e) is persuasive. Patent Owner does not address Petitioner's showing with respect to limitation 1(e). *See generally* PO Resp.

(vii) Limitation 1(f)

Limitation 1(f) recites "wherein the software application includes a graphic user interface that enables a user to view images and streaming video from the camera." Petitioner relies on the combined teachings of Jae and Vaios to address limitation 1(f). Pet. 20–25. Referring to its showing with respect to limitations 1(b), 1(d), and 1(e), Petitioner contends that "Jae's server system uses a software application to provide a website on which a user may view images/video from camera 110 and perform control actions from a mobile phone or PC." *See id.* at 20–21. Petitioner notes that Jae states that "users can have video/audio conversations with visitors on the website." *Id.* at 21 (quoting Ex. 1011, 4). Petitioner also notes that Jae states that "a user can 'control video and audio calls with . . . outdoor terminal 100 and access through the website of the server system.'" *Id.* (quoting Ex. 1011, 9 (claim 4)). Therefore, according to Petitioner, the software application associated with the website provided by Jae's server system includes a 'graphic user interface' (GUI) at least because it enables a user to view graphic data (e.g., video images) and provide inputs (e.g., to control video/audio calls and access)." *Id.* (quoting Ex. 1002 ¶¶ 175–178).

Petitioner alternatively relies on Vaios as teaching and suggesting a GUI in Jae's system. Vaios's Figure 3 follows:



Petitioner contends that Vaios's "Figure 3 depicts an example GUI provided via 'application specific Internet browser 200.'" Pet. 22 (quoting Ex. 1003, 6:44–45). Petitioner notes that Vaios's display as depicted above includes "icons for controlling the recording and playing of video and audio captured by cameras 10 (e.g., 'volume icon 218,' 'play icon 220,' 'stop icon 222,' 'record icon 224')." *Id.* at 23–24 (quoting Ex. 1003, 8:1–18). Petitioner contends that "[t]his GUI is presented across the Internet via 'browser and application software.'" *Id.* at 22 (quoting Ex. 1003, 7:39–43). Petitioner quotes Vaios's description of Figure 3 as follows: "[B]rowser 200 can incorporate application specific functions such as video display, and remote

operation of video camera 10. FIG. 3 shows the display screen of browser 200 [which comprises] a video display area 232 . . . where all video images and recordings are visibly displayed.” *Id.* at 23 (alteration in original) (quoting Ex. 1003, 7:40–59).

Petitioner notes that Vaios teaches “‘live low-quality video streaming,’ and that such video may include a ‘live data stream.’” Pet. 21–22 (quoting Ex. 1003, 9:22–25, 9:37–38; citing Ex. 1003, 3:24–30, 9:35–38). Petitioner also points to Vaios’s “volume icon 218,” “play icon 220,” “stop icon 222,” and “record icon 224” as control features of Vaios’s GUI. *Id.* at 23–24 (quoting Ex. 1003, 8:1–18). Petitioner asserts that it would have been obvious “to use streaming to provide faster/real-time playback, without needing to wait for download of an entire video file, and a smooth, continuous playback experience.” *Id.* at 25 (citing Ex. 1002 ¶193; Ex. 1042, 1:14–28). Petitioner also contends that using a GUI in Jae’s mobile phones and PCs “simply combines known elements (e.g., Vaios’ GUI and manner of playing video/audio on a mobile device/remote computing system with Jae’s system) or substitutes use of a GUI for Jae’s interface type in a manner that would have yielded a predictable result with a reasonable expectation of success.” *Id.* at 24 (citing Ex. 1002 ¶¶ 188–189).

Based on the cited teachings of Jae and Vaios and the testimony of Dr. Hochwald as summarized above, Petitioner also contends that a person of ordinary skill in the art “would have been motivated to make this combination to take advantage of the additional playback and recording features specifically included in Vaios’ GUI, thereby providing additional user control and functionality in Jae’s system, as well as improved aesthetics, flexibility, and adaptability.” Pet. 24–25 (quoting Ex. 1002 ¶¶ 190–192).

Without mentioning claim 1 explicitly, Patent Owner contends that this isolated rationale in the Petition is conclusory and generic. PO Resp. 56 (citing Pet. 24–25), 58. Patent Owner’s argument is unavailing. As summarized above, Petitioner relies on cited teachings in Vaios and the testimony of Dr. Hochwald to support the rationale. *See* Pet. 23–25 (citing Ex. 1003, 7:40–59; reproducing Ex. 1003, Fig. 3 (displaying video playback icons and video display area for video images and recordings); citing Ex. 1002 ¶¶ 182–184 (testifying about Vaios’s GUI based on citations to Vaios)). As depicted and described, Vaios’s system provides video streaming and flexible control features (e.g., control icons as discussed with respect to limitation 1.g below that provide for video playback and other control features below), with Figure 3 also depicting what appears to be relatively pleasing aesthetics (including the icons) of a GUI. The record supports Petitioner’s articulated rationale based on the combined teachings of Jae and Vaios as showing the obviousness of implementing a GUI in Jae’s system.

Therefore, based on the foregoing discussion, we determine that Petitioner’s showing for limitation 1(f) is persuasive.

(viii) Limitation 1(g)

Limitation 1(g) recites “wherein the software application includes a graphic user interface . . . that (g) enables the coordination of multiple communication devices and user defined responses to prompts and events.” Similar to its showing as discussed in connection with limitation 1(f) above, Petitioner asserts that “Jae’s server system/website (and associated software/GUI) enable coordination of multiple communication devices.” Pet. 25 (citing Ex. 1002 ¶¶ 196–203). That is, Petitioner relies on using multiple cell phones and/or the PC in Jae’s system, quoting Jae as follows:

“When the visitor presses the call button . . . , it is automatically connected to a designated user's mobile phone among actual users of the space This enables communication with one designated person or, in some cases, all of a plurality of users.” *Id.* at 25–26 (alterations in original) (quoting Ex. 1011, 7:29–34).

Petitioner notes that Jae’s Figures 6 and 8 show use of multiple cell phone users exchanging audio/video through Jae’s remote access security system with a visitor, and multiple cameras 1–3 transmitting video information through Jae’s remote access security to cell phones of users 1–3, respectively. *See* Pet. 26–27 (reproducing Ex. 1011, Figs. 6, 8). Based on these teachings and the testimony of Dr. Hochwald (who relies on and cites similar and additional teachings in Jae), Petitioner asserts that “given that Jae’s website enables multiple users (via their respective devices) to conduct an audio/video conversation with a visitor via outdoor terminal 100 and view images from multiple surveillance cameras, Jae’s website provides a GUI that ‘enables the coordination of multiple communication devices.’” *Id.* at 27–28 (quoting Ex. 1002 ¶ 202; citing Ex. 1002 ¶¶ 201–203); Ex. 2002 ¶ 202 (testifying that “Jae describes enabling ‘automatic connection to [the] server system through the Internet so that users can have video/audio conversations with visitors on the website and control access.’” (alteration in original) (quoting Ex. 1011, 3:21–22)).

Petitioner also relies on Vaios’s GUI as discussed above in connection with limitation 1(f). Pet. 28–31. For example, Petitioner asserts that

Vaios’ GUI and corresponding software receives video from multiple cameras and enables its viewing from multiple remote devices and further enables the user to selectively control cameras, recordings, playback, etc., in response to the detection

of an alarm event and the provision of corresponding prompts such as an alarm notification.

Id. at 30. Petitioner supports this assertion by noting that Vaios’s GUI (*see* Ex. 1003, Fig 3) allows different “users [to] ‘manipulate video camera 10, adjust the image quality, or alter what is seen on video display area 232’ using ‘icons 202–230.’” *Id.* at 29 (quoting Ex. 1003, 7:62–64). In other words, according to Petitioner,

Vaios’ GUI and corresponding software receives video from multiple cameras and enables its viewing from multiple remote devices and further enables the user to selectively control cameras, recordings, playback, etc., in response to the detection of an alarm event and the provision of corresponding prompts such as an alarm notification. This satisfies the limitation that “the software applications includes a graphic user interface...that enables the coordination of multiple communication devices and user defined responses to prompts and events”

Id. at 30 (citing Ex. 1002 ¶¶ 208–215).

According to Petitioner, modifying Jae’s system to include functionality of Vaios’s GUI would have allowed Jae’s users “to submit commands for controlling cameras, controlling recordings, [and] submitting messages to a visitor, etc.” Pet. 30–31 (citing Ex. 1002 ¶¶ 216–218). Petitioner contends “[t]his modification would have been predictably and successfully implemented with straightforward software and/or hardware modifications to Jae’s server system given . . . [that persons of ordinary skill in the art] . . . were capable of implementing software and providing software applications/APIs (including GUIs) across networks.” *Id.* at 31 (citing Ex. 1002 ¶ 216–218). In addition to providing selective control by users as noted above, Petitioner also asserts that “the combination offered motivating advantages . . . including the ability to provide user notifications in several ways.” *Id.* (citing Ex. 1002 ¶ 218).

Therefore, based on the foregoing discussion, we determine that Petitioner’s showing for limitation 1(g) is persuasive. Patent Owner does not address Petitioner’s showing with respect to limitation 1(g). *See generally* PO Resp.

(ix) Additional Analysis of Reasons to Combine

In generic section of its Response entitled “**ALL GROUNDS SHOULD BE DENIED BECAUSE THE PETITIONER HAS FAILED TO PROVIDE ANY MOTIVATION TO COMBINE ANY OF THE REFERENCES**” (PO Resp. 53), Patent Owner quotes several “articulated motivations” from the Petition (*id.* at 56–58), and contends that “the Petition fails to provide any motivation to combine any of the references beyond . . . generic reasons” (*id.* at 56).¹⁹ After listing examples of alleged generic reasons, Patent Owner characterizes the reasons as follows: “[T]he Petition’s only articulated motivations to combine are the above conclusory statements that doing so would (i) offer faster, simpler, and more reliable communication methods, and (ii) create a simpler, more user-friendly, and convenient monitoring and video playback options.” *Id.* at 58–59 (citing Pet. 11, 16, 24–25, 31, 37–38, 40, 43, 55–56, 61, 73–74, 79).

Although Patent Owner contends that Petitioner offers “generic reasons,” Patent Owner does not contend that Petitioner’s reasons are “too generic” to support its obviousness showing. *See, e.g., Volvo Penta of the Americas, LLC v. Brunswick Corp.*, 81 F.4th 1202, 1209 (Fed. Cir. 2023) (citing *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 797 (Fed. Cir. 2021)) (finding that “the Board’s motivation” was not “too generic”). In *Volvo*, the

¹⁹ In some instances, including with respect to the dependent claims, we address Patent Owner’s generic contentions in sections that discuss claim limitations to which the “articulated motivation[]” applies.

court found that the Board’s rationale sufficient to support obviousness when it relied on “improved speed *and* improved efficiency together,” finding that “the prospect of increased speed and efficiency has the support of an express statement in one of the asserted prior art references,” and reasoning that “a broadly applicable motivation may be sufficient as long as it is supported by more than conclusory expert testimony.” *Id.*

Similar to the situation in *Volvo*, Petitioner’s rationales are not too generic or conclusory because Petitioner applies several beneficial features together to the limitations of claim 1 with factual underpinnings to support the showing. Patent Owner’s list ignores the full thrust of Petitioner’s rationale and simply provides isolated statements from the Petition. *See* PO Resp. 56–57.

Specifically, with respect to Jae and Menard, Patent Owner contends that the Petition merely asserts “advantages . . . such as the incorporation of the proximity sensing and wireless/RF communication features touted in Menard.” PO Resp. 56 (quoting Pet. 11). This listing by Patent Owner omits the Petition’s reliance on several advantages associated with wireless systems, as summarized above, including the ease of installation and lower costs by avoiding hardwiring. *See* Reply 23 (citing Ex. 1002 ¶¶ 121–122; Ex. 1003, 1:46–59 (noting that installation of cables is expensive, and less desirable for small business or individuals who may frequently change location)). Like the situation in *Volvo*, this showing is not too generic or conclusory, where citations to Menard to support the rationale including the dual benefits of lowering costs and providing easy installation.

As Petitioner also points out, Dr. Hochwald explains that “proximity sensors allowed for the detection of an unannounced person at a property/door (e.g., a person who arrives at the door but does not press a

doorbell button), thereby triggering notifications to a homeowner and/or other appropriate actions.” Reply 24–25 (citing Ex. 1002 ¶¶ 124–125). This is not generic or conclusory, where Petitioner and Dr. Hochwald rely on citations to the prior art and knowledge of the ordinary skilled artisan to support it. *See* Ex. 1002 ¶¶ 123–125 (citing Ex. 1004, 4:15–20, 26:23–29, 30:22–25; Ex. 1011, 5:28–34).

As the Petition explains, proximity sensors as combined “provide increased security and corresponding notifications to a remote user, and trigger[s] corresponding actions, further conserving system resources” by only recording after a trigger. *See* Pet. 12 (citing Ex. 1002 ¶ 125; Ex. 1004, 4:16–18, 30:22–25 (“a proximity detector . . . to detect a security breach”); Ex. 1003, code (57) (“[w]hen the motion sensor detects an obstruction the camera starts recording and the local computer system notifies a remote individual”)).

With respect to Jae and Monroe, Patent Owner contends that Petitioner’s following reason is too generic or conclusory:

Additionally, a [person of ordinary skill in the art] would have been motivated to utilize a wireless router in such a manner to facilitate the addressing/routing of communications from multiple wireless devices (e.g., outdoor terminal 100, surveillance cameras, indoor terminal 200, and/or other in-home devices or cameras) via a local wireless network.

PO Resp. 56 (quoting Pet. 16). But as Petitioner points out, and as summarized above, this isolated reason is not the only reason that Petitioner sets forth to implement Monroe’s router in Jae’s system. *See* Reply 25–26. Specifically, the Petition persuasively explains that using routers to connect the specific wireless devices quoted in the passage above would “eliminat[e] the need for hardwiring, provid[e] varied communication protocol options

(including short and long range), and [enable] remote monitoring.” Pet. 16 (citing Ex. 1002 ¶¶ 143, 149–151). Moreover, to support its showing for both rationales, Petitioner cites to Monroe, which discloses a router at gateways and provides a “wireless multimedia surveillance and monitoring system . . . adapted for transmitting event data, video and/or image monitoring information [and] audio signals . . . over a LAN, wireless LAN, Intranet or Internet for . . . assessment and response.” *Id.* at 14 (quoting Ex. 1038, code (57)). Petitioner adds that the router enables communication between wireless cameras W1-20, W1-22 and a server 46 and monitoring stations 28. *Id.* at 14 (citing Ex. 1038, code (57), Fig. 7, 17:30–35, 18:62–19:33; Ex. 1002 ¶ 139). Monroe supports Petitioner at the cited portions. For example, Monroe states that gateway 34 includes “a router and firewall, which permits remote monitor station 38 to be connected to the system anywhere where there is WAN access.” Ex. 1038, 17:32–35. Therefore, the record supports Petitioner’s rationale and it is persuasive.

Patent Owner also asserts that “[t]he Petition does not explain why a [person of ordinary skill in the art] would know about, or care about, any of these purported motivations.” PO Resp. 59. Patent Owner does not explain why Petitioner must point out explicitly “why a [person of ordinary skill in the art] would care about any of the articulated motivations.” *See id.* The reasons why one of ordinary skill in the art would care are implicit in the articulated motivations. Patent Owner acknowledges that Petitioner provides several “articulated motivations to combine.” *See id.* at 58. Petitioner’s articulated motivations as outlined above are persuasive. “The motivation-to-combine analysis is a flexible one. ‘[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner

claimed,” but the “analysis ‘need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.’” *Intel Corp. v. PACT XXP Schweiz AG*, 61 F.4th 1373, 1379–80 (Fed. Cir. 2023) (quoting *KSR*, 550 U.S. at 418, 420 (emphasis added, alteration in original)) (“*PACT XXP*”).

As summarized above, Petitioner’s reasons for combining the references with a reasonable expectation of success to reach claim 1 is persuasive.

(x) Summary of Claim 1

Based on the foregoing summary and discussion, we determine that Petitioner shows by a preponderance of evidence that claim 1 would have been obvious over Jae, Menard, Monroe, and Vaios.

f) Dependent claims 3 and 13–15

Claims 3 and 13–15 depend directly or indirectly from independent claim 1. Petitioner contends that these claims would have been obvious over Jae, Menard, Monroe, and Vaios. Pet. 31–45.

For example, claim 3 depends from claim 1 and recites “wherein the system is further comprised of an electronic connection to a public switching telephone network [PSTN].” Petitioner contends that “Jae discloses communication to mobile phones, which includes an electronic connection to a PSTN.” Pet. 31 (citing Ex. 1011, 6:21–7:10, Figs. 4–7; Ex. 1002 ¶¶ 221–222). Alternatively, Petitioner contends that “Menard discloses a “network 300B” which includes a “public switched telephone network (‘PSTN’) for long-range communications.” *Id.* (citing Ex 1004, 16:14–21, Fig. 3B). Petitioner contends that it would have been “obvious to substitute Menard’s electronically-connected PSTN for Jae’s cellular network (or other

networks) or to use a PSTN with Jae's cellular network to communicate data." *Id.* (citing Ex. 1002 ¶¶ 223–227). According to Petitioner, "[t]his modification simply incorporates a well-known, widely used communication network (i.e., PSTN) in Jae's system, which would have yielded predictable results with a reasonable expectation of success." *Id.* Petitioner "[a]dditionally," contends that "this modification was motivated by the benefit of utilizing a widely available, cost-effective, and commonly used network for communications." *Id.* (citing Ex. 1002 ¶ 227).

Without mentioning claim 3, Patent Owner contends that Petitioner's rationale as quoted in the latter sentence is "conclusory" and "generic" in the general section discussed above in connection with claim 1, entitled "**ALL GROUNDS SHOULD BE DENIED BECAUSE THE PETITIONER HAS FAILED TO PROVIDE ANY MOTIVATION TO COMBINE ANY OF THE REFERENCES.**" *See* PO Resp. 53, 56–57 (citing Pet. 31). This argument is unavailing.

Patent Owner's generic argument here isolates a single statement in the Petition and omits the context in which the Petition proposes for adding the common, well-known, PSTN network to another telephone (cellular/data) network, namely, to transfer data and otherwise communicate on a readily available, well-known, inexpensive network. The telephone network was so well-known that it had an acronym at the time of the invention (PTSN), as Petitioner shows. Pet. 31 (citing Ex. 1004, 16:14–21). In this context, Petitioner's rationale is persuasive. Moreover, Jae discloses a mobile telephone in addition to what appears to be a standard telephone connected for communication. *See id.* (citing Ex. 1011, 6:21–7:10, Figs. 4–7; Ex. 1002 ¶¶ 221–222). In addition, Patent Owner otherwise argues that

Jae discloses a standard telephone line. *See* PO Resp. 39. In other words, Jae discloses claim 3 without addition of Menard’s similar teachings.

Based on the forgoing, we determine that Petitioner persuasively maps the limitations of claim 3 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See* Pet. 31–32.

Claim 13 depends from claim 1 and recites “wherein said system is further comprised of remote peripheral devices selected from the group consisting of cell phones, telephones, video-cell phones, computers, personal digital assistants, video-personal digital assistants, satellite telephones, transceivers, pagers, and other digital communication devices.” Claim 15 depends from claim 13 and recites “wherein the system is further comprised of an electronically actuated lock, which can be unlocked by the computerized controller.” Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. Pet. 35–36, 38–39. Petitioner persuasively maps the limitations of claims 13 and 15 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* Patent Owner does not challenge Petitioner’s showing for claims 13 and 15. *See* PO Resp. 43.

Claim 14 depends from claim 13 and recites “wherein the video camera can be remotely actuated and streaming video can be viewed.” Petitioner relies partly on its showing for claim 1 and contends that “Vaio discloses viewing streaming video from remote devices, and it was obvious to similarly provide streaming video using Jae’s system.” Pet. 36–37 (citing Ex. 1003, 9:20–25, 9:35–38; Pet. 21–24). According to Petitioner, this modification “would have simply involved incorporating the well-known

technique of streaming to convey video in Jae's system, which would have yielded predictable results and had a reasonable expectation of success." *Id.* at 37 (citing Ex. 1002 ¶¶ 268–269). Petitioner also asserts that a person of ordinary skill in the art "would have been motivated to use streaming to provide faster/real-time playback, without needing to wait for download of an entire video file, and a smooth, continuous playback experience." *Id.* citing Ex. 1042, 1:14–28 (teaching that streaming avoids downloading wait times). Petitioner also asserts that Vaios teaches remotely actuating video cameras. *Id.* (citing Ex 1002, ¶¶ 271–273). To support this showing, Petitioner quotes Vaios: "Using [the] end user location . . . , the remote individual can . . . control the video camera remotely' using 'control icons' to remotely actuate the cameras." *Id.* (quoting Ex 1003, code (57), 8:1–18).

According to Petitioner, "[i]t was obvious in view of Vaios to remotely actuate Jae's cameras," where "[i]ncorporating such features in Jae simply combines known elements performing their intended functions (Vaios' remote actuation features and corresponding GUI with Jae's system)." Pet. 37 (citing Ex. 1002 ¶¶ 271–276). Petitioner also asserts that "[t]he combination would have yielded predictable results having a reasonable expectation of success given that the system infrastructure (including software and network connections) already used in Jae could have been utilized to incorporate such features using Jae's mobile phones, PCs, interior terminal 200, and/or outdoor terminal 100." *Id.* (citing Ex. 1002 ¶ 275). According further to Petitioner, the "combination would involve minimal engineering complexity with only minor software/hardware revisions, while creating a better/more functional camera and system." *Id.* (citing Ex. 1002 ¶ 275). Petitioner contends that one advantage includes "creating a more functional and easily controllable camera capable of

actuation from remote locations at which a user is located when a person arrives at the monitored entrance.” *Id.* (citing Ex. 1002 ¶ 276).

Without specifically mentioning claim 14, in the same generic portion of the Response outlined above, Patent Owner contends that Petitioner’s following rationale is conclusory and generic:

[a person of ordinary skill in the art] would have been motivated to use streaming to provide faster/real-time playback, without needing to wait for download of an entire video file, and a smooth, continuous playback experience. . . . Indeed, the combination was motivated by the associated advantage of creating a more functional and easily controllable camera capable of actuation from remote locations at which a user is located when a person arrives at the monitored entrance.

PO Resp. 57 (citing Pet. 37–38). Patent Owner’s argument is unavailing. The record, as summarized above, supports the above-quoted rationale. For example, Petitioner provides a citation to Leighton, which teaches that “[s]treaming video, for example, is an online video distribution mechanism that provides audio and video to Internet users, without the users having to wait while content completely downloads to their hard drives.” *See* Ex. 1042, 1:21–24; Pet. 37 (citing Ex. 1042, 1:14–28). Petitioner also relies on Vaio to support its showing of easy remote camera actuation: “‘Using [the] end user location . . . , the remote individual can . . . control the video camera remotely’ using ‘control icons’ to remotely actuate the cameras.” Pet. 36 (quoting Ex 1003, code (57), 8:1–18). Therefore, Petitioner’s rationale is persuasive as supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success.

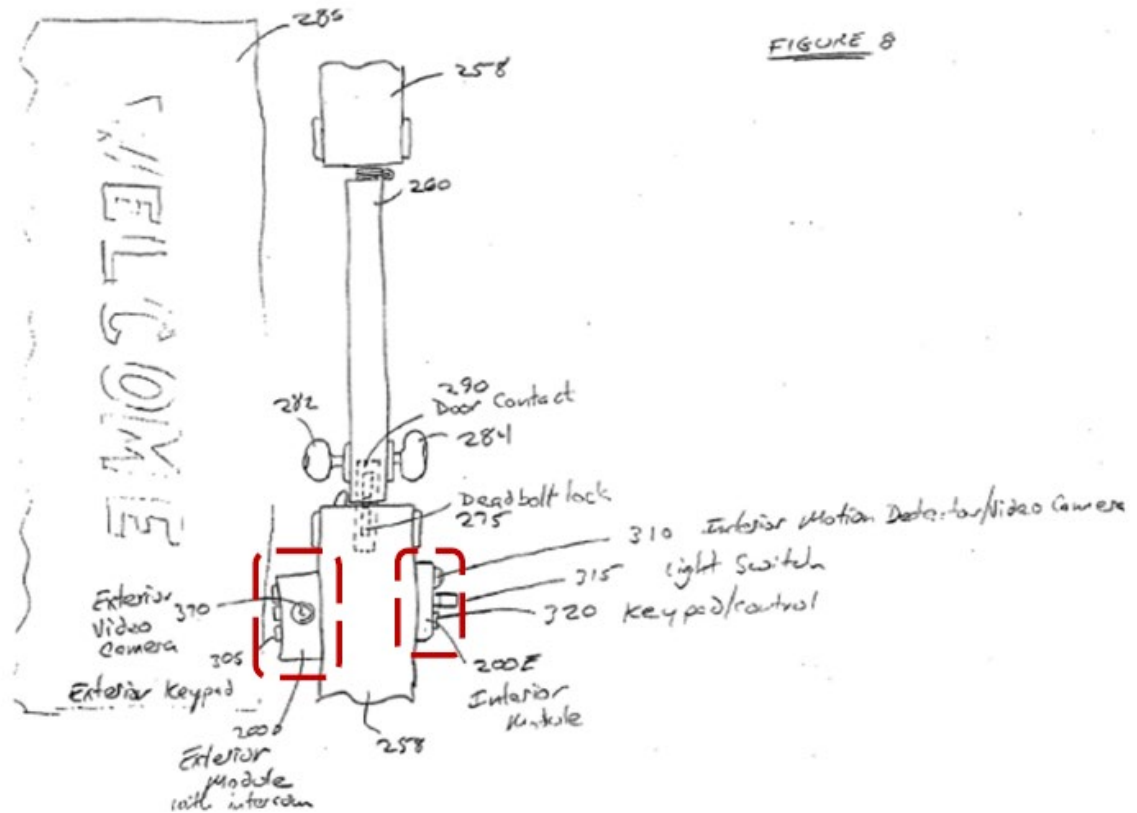
Based on the record, we determine that Petitioner shows by a preponderance of evidence that claims 3 and 13–15 would have been obvious over Jae, Menard, Monroe, and Vaio.

g) Dependent Claims 7, 11, and 23

Claim 7 recites “[a]n audio-video communication and answering system according to claim 1, wherein the system is further comprised of an interior transceiver having a display screen, a microphone, a speaker, an RF transmitter, and an RF receiver.” Claim 23 depends from claim 11, which depends from claim 7.

For claim 7, Petitioner asserts that “Jae discloses an interior transceiver (‘indoor terminal 200’) having a display screen (‘liquid crystal display unit 220’) and a microphone and speaker (‘speaker/microphone 230’). Pet. 32 (quoting Ex. 1011, 4:21–23; citing Ex. 1002 ¶¶ 230–235). Petitioner also asserts that “Jae’s indoor terminal 200 transmits and receives data to/from the server system and outdoor terminal 100.” *Id.* (citing Ex. 1002 ¶¶ 236–240; citing Ex. 1011, code (54), 4:21–52, 5:3–11, 6:3–10, 6:30–35). Petitioner relies on Jae’s teaching that “indoor terminal . . . display[s] the visitor image captured by the outdoor terminal, connects audio/video calls, and enables the control of door opening and closing and two-way communication between the outdoor terminal and a remote mobile phone.” *Id.* at 32–33 (quoting Ex. 1011, code (54); citing Ex. 1011, 4:35–36, 5:7–8).

To supplement Jae’s teachings, Petitioner relies on Menard’s “similar arrangement of an ‘exterior module 200D’ and corresponding ‘interior module 200E.’” Pet. 33. Petitioner annotates Menard’s Figure 8, as follows:



As annotated by Petitioner, Menard’s Figure 8 above shows exterior module 200 (annotated in a red box with dashed lines) on the left and outside of door 200D and interior module 200E on the right and inside of door 200 (annotated in a red box with dashed lines). See Pet. 33 (annotating Ex. 1011, Fig. 8); Ex 1002 ¶¶ 241–243.

Petitioner points out that “Menard’s interior module 200E includes ‘transceiver 150E,’ which includes a transmitter and receiver.” Pet. 34 (quoting Ex. 1004, 22:29–31; citing Ex. 1004, 21:28–29). Petitioner also points out that “Menard’s ‘exterior module 200D and interior module 200E communicate using a BLUETOOTH® communication channel.” *Id.* (quoting Ex. 1004, 21:31–32). Based on “their wireless transmission capabilities across radio frequencies (RF) including utilizing Bluetooth technology,” Petitioner reads the “the receiver and transmitter of interior

module 200E” onto the claimed “RF receiver” and “RF transmitter.” *See id.* at 34 (citing Ex. 1002 ¶ 243; Ex. 1004, 14:25–15:30, 20:22).

Based on the above teachings, Petitioner asserts that it would have been obvious “to use Menard’s RF transmitter and RF receiver with Jae’s indoor terminal 200.” Pet. 34 (citing Ex. 1002 ¶¶ 244–245). According to Petitioner, “this combination merely incorporates/combines known elements (e.g., Menard’s transceiver and wireless RF communication capabilities with Jae’s indoor terminal) in a known manner to yield predictable results,” with “a reasonable expectation of success, given the interchangeability and widespread use of RF communication components in networks and monitoring devices at the time.” *Id.* (citing Ex. 1002 ¶¶ 244–245). Petitioner also contends that “the proposed combination offered motivating advantages, such as facilitating wireless communications between network components, thereby creating a more user-friendly and convenient monitoring system that reduces the need for hardwiring/wired communications and the corresponding installation burden.” *Id.* (citing Ex. 1002 ¶¶ 245).

Patent Owner argues that “there is no RF transmitter or RF receiver in the indoor terminal of Jae.” PO Resp. 38 (citing Ex. 1011, Fig. 1, Fig. 3). Patent Owner also relies on its arguments for claim 1 and asserts that “Jae does not disclose wireless communication between the indoor and outdoor terminals.” *Id.* at 39.

These arguments are unavailing for the reasons outlined above. As Patent Owner acknowledges, the Petition relies on the combined teachings of Jae and Menard to reach claim 1’s wireless limitations and the RF transmitter and receiver limitations of claim 7. *See* PO Resp. 39 (acknowledging that the “Petition[] refers to the communication of Menard’s

‘interior module 200E’ and ‘exterior module 200D’ via Bluetooth and says it ‘was obvious to use Menard’s RF transmitter and RF receiver with Jae’s indoor terminal 200’” (citing Pet. 33–34, 50)).

Patent Owner also relies on its unavailing argument addressed in connection with claim 1 that “[t]here is no evidence that Menard’s Bluetooth transmitter was capable of communicating images or videos,” and that submitting “[t]his [Bluetooth connection] essentially would destroy the functionality of Jae’s intercom communication system and prevent video from being transmitted.” PO Resp. 40. As indicated above in connection with claim 1, the premise of this argument is unavailing for two reasons: 1) Bluetooth included video capability at the time of the invention, and 2) the Petition does not rely on Bluetooth exclusively for the wireless claim limitations.

Patent Owner also argues that “[n]either Petitioner nor its expert, Dr. Hochwald, consider the added costs, engineering hurdles, and unpredictable results of adding Menard’s Bluetooth communication to Jae’s indoor terminal.” PO Resp. 40. Patent Owner also asserts that “[i]ntegrating such changes would be costly and greater complexity to Jae’s simple and efficient wired system.” *Id.*

Patent Owner does not cite to supporting and credible evidence to show that wireless capability would have added any engineering hurdles, unpredictable results, burdensome costs, or complexity to Jae’s system. *See* PO Resp. 40. As discussed in connection with claim 1 above, wireless video has been known in the relevant field for at least 50 years, indicating that artisans of ordinary skill were well aware of any trade-offs to implement wireless cameras.

Patent Owner also asserts that Petitioner's "alleged benefits" such as "facilitating wireless communications between network components, thereby creating a more user-friendly and convenient monitoring system that reduces the need for hardwiring/wired communications and the corresponding installation burden," "lack any motivating factor and appear to improperly use the '644 patent as a roadmap." PO Resp. 42 (second quotation quoting Pet. 34). This argument reduces to the untenable position that an artisan of ordinary skill did not know prior to the invention that wireless systems "reduce[] the need for hardwiring/wired communications and the corresponding installation burden" and that eliminating this burden was not an advantage. *See id.* Contrary to Patent Owner's arguments, wireless systems and the benefits flowing therefrom were so well-known that the industry created wireless standards, including for Bluetooth, such as "WiFi (802.11) or other protocols capable of wirelessly transmitting images/video." *See Reply 17; McLaughlin*, 443 F.2d at 1395 ("Any judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as [a conclusion of obviousness] takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper.").

In addition, Vaios teaches that wireless connections can avoid "expensive cables" and states that "small businesses and individuals constantly change locations and even if proper cabling can be installed they may desire a surveillance system that is accessible from any location, not only those that have cabling." Ex. 1003, 1:55–59. Similarly, Menard teaches the desirability of a "system enabling both safety and convenience features in an affordable, modular, arrangement that is easy to install and

manage.” Ex. 1004, 1:29–31. Therefore, the prior art references support Petitioner’s persuasive reasons to combine the references.

According to the record and as summarized above, Petitioner persuasively maps the limitations of claim 7 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success.

Petitioner asserts that claims 11 and 23, which depend from claim 7 directly and indirectly, respectively, would have been obvious over Jae, Menard, Monroe, and Vaio. Pet. 34–35, 40–43. Petitioner persuasively maps the limitations of claims 11 and 23 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.*

Patent Owner does not address Petitioner’s showing for claims 11 and 23 but instead relies on its unavailing arguments for claim 1. PO Resp. 43.

Based on the record, we determine that Petitioner shows by a preponderance that claims 7, 11, and 23 would have been obvious over Jae, Menard, Monroe, and Vaio.

2. Jae, Menard, Monroe, Vaio, and Ellis (Ground 2)

Petitioner asserts that claim 12 would have been obvious over Jae, Ellis, Menard, Monroe, Vaio, and Ellis. Pet. 42–43. Claim 12 depends from claim 1 and recites “wherein the system is connected to a digital communication channel selected from the group consisting of DSL, satellite, cable, wireless, and a combination thereof, where the digital communication channel is in communication through the Internet, the Grid, satellite systems, and other information sharing systems.”

Petitioner persuasively maps the limitations of claim 12 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.*

Similar to its showing for claim 1, Petitioner contends that “[t]he combination of Jae and Menard teaches using *wireless* digital communication channels, e.g., Bluetooth, 802.11.” Pet. 43 (citing Pet. 9–14; Ex. 1002 ¶ 307). Petitioner also points out that “Jae’s system ‘connect[s] to the server system through the Internet.’” *Id.* (quoting Ex. 1011, code (57); citing Ex. 1011, 6:6–10, claim 4). Therefore, according to Petitioner, “the wireless digital communication channel of Jae/Menard is ‘in communication through the Internet,’ as claimed.” *Id.* (citing Ex. 1002 ¶¶ 307–311).

Petitioner contends that “Ellis discloses using the Grid, satellite systems, and other information sharing networks together with the Internet to maximize user/device connections.” Pet. 43 (citing Ex. 1041, 10:14–23, 10:59–11:9). Petitioner also contends that “the ‘Grid,’ ‘satellite systems,’ and other information sharing systems,” “were known network options used in conjunction with the Internet at the time to maximize the number of users/devices connected to the network.” *Id.* (citing Ex. 1002 ¶¶ 312–315).

The record as cited above by Petitioner supports these underlying teachings. Patent Owner does not challenge these underlying teachings, other than with respect to the unavailing arguments with respect to the wireless teachings of Jae and Menard as discussed in connection with claim 1. Based on these teachings, Petitioner contends that including “these additional networks was a simple design choice that would have been predictably and successfully accomplished by a [person of ordinary skill in

the art] by simply connecting Jae’s system to such additional networks,” and the benefits include “increased network users/connections, back-up networks to ensure reliable communications, and additional speed provided by such networks.” *Id.* (citing Ex. 1002 ¶¶ 314–315; Ex. 1041, 6:46–63).

Without mentioning claim 12, Patent Owner also contends that Petitioner’s rationale as quoted in the latter sentence is “conclusory” and “generic” in the above-noted general section entitled “**ALL GROUNDS SHOULD BE DENIED BECAUSE THE PETITIONER HAS FAILED TO PROVIDE ANY MOTIVATION TO COMBINE ANY OF THE REFERENCES.**” *See* PO Resp. 53, 56–57 (contending that Petitioner’s alleged “benefits of increased network users/connections, back-up networks to ensure reliable communications, and additional speed provided by such networks” is conclusory and generic) (citing Pet. 43)).

Patent Owner’s generic argument here isolates a single statement in the Petition and omits the context in which the Petition proposes for connecting well-known networks to the Internet. Petitioner’s rationale of using additional well-known networks as options to connect to the Internet is persuasive and the record supports the factual underpinnings for the rationale as summarized above. *See* Pet. 43 (citing Ex. 1041, 6:46–63, 10:14–23, 10:59–11:9 (disclosing that performance increases using Grid-based hardware and software, which artisans predict will double every 18 months over the Internet and also disclosing that information sharing networks maximize user/device connections to the Internet for parallel processing); Ex. 1011, code (57), 6:6–10 (showing Jae’s server system connects to the Internet). As also summarized above, Petitioner also shows a reasonable expectation of success in combining the references.

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claim 12 would have been obvious.

3. Jae, Menard, Monroe, Vaios, and Naidoo (Ground 3)

Petitioner asserts that claim 17 would have been obvious over Jae, Menard, Monroe, Vaios, and Naidoo. Pet. 44–45. Petitioner persuasively maps the limitations of claim 17 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.*

Patent Owner does not address Petitioner’s showing for claim 17 but instead relies on its unavailing arguments for claim 1. PO Resp. 43.

Based on the record, we determine that Petitioner shows by a preponderance that claim 17 would have been obvious.

4. Jae, Menard, Monroe, Vaios, Nykerk and/or Jacob (Ground 4)

Petitioner asserts that claims 18–20 would have been obvious over Jae, Menard, Monroe, Vaios, with Nykerk and/or Jacob. *See* Pet. 39–40, 45–48; *supra* note 4 (discussing claim 20). Petitioner persuasively maps the limitations of claims 18 and 19 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.*

Claim 20 depends from claim 18 and recites “wherein the system [further comprises] a battery backup.” Claim 18 depends from claim 15, which depends from claim 13, which depends from claim 1. Patent Owner

does not address Petitioner’s showing for claims 13, 15, 18 and 19, but instead relies on its unavailing arguments for claim 1. PO Resp. 43.

For claim 20, Petitioner contends that it would have been obvious to employ a battery backup as Menard discloses for any of Jae’s components for which back-up power was desirable. Pet. 39. Petitioner cites the following regarding Menard’s disclosure of a battery backup:

Menard discloses a battery for powering exterior module. Menard also describes an embodiment directed to a garage door opener in which “power supply 12500” includes both a “battery power supply and a line powered supply.” [Ex. 1004], 33:16–18. *“In the event of a power outage . . . , battery power 12700 has sufficient capacity to continue powering processor 12000, transceiver 13000, and position sensor 15500. Battery power 12700 allows the user to continue to wirelessly receive information regarding the position of the door regardless of the status of line power 12800. Id. 40:15–20. Thus, battery power supply 12700 is a battery backup to the lined power supply. EX1002, ¶¶ 287–29.*

Id. (emphasis added).

Petitioner contends it would have been obvious to incorporate Menard’s battery backup into Jae’s system because “incorporating a back-up power supply increased operational reliability in the event of a power failure, thereby increasing security and providing a more robust, dependable system.” Pet. 40 (citing Ex. 1002 ¶ 295). Petitioner provides context for the rationale, including by noting the similarities of Jae’s system and Menard’s system, and showing how to implement the battery backup with a reasonable expectation of success. *See id.* at 39–40 (citing Ex. 1002 ¶¶ 287–295).

Without explicitly mentioning claim 20, Patent Owner contends that Petitioner’s rationale as quoted above (i.e., based on “increased operational reliability in the event of a power failure”) is “conclusory” and “generic” in

the above-noted general section entitled “**ALL GROUNDS SHOULD BE DENIED BECAUSE THE PETITIONER HAS FAILED TO PROVIDE ANY MOTIVATION TO COMBINE ANY OF THE REFERENCES.**”

See PO Resp. 53, 56–57 (citing Pet. 40). This argument is unavailing. Petitioner’s rationale is not conclusory or too generic to support Petitioner’s obviousness showing, because, as the Petition shows in context, Menard supports the rationale by noting that backup battery power continues to provide power in the event of a power failure. *See* Pet. 39 (quoting Ex. 1004, 40:15–20). Therefore, as Petitioner reasons, the battery backup provides for more operational reliability. *See id.* at 40.

Based on the record, we determine that Petitioner shows by a preponderance that claims 18–20 would have been obvious.

5. *Jae, Menard, Monroe, Vaios, and Lands (Ground 5)*

Petitioner asserts that claims 1–3, 7, 11, 13–15, and 23 would have been obvious over Jae, Menard, Monroe, Vaios, and Lands. *See* Pet. 48–51; *supra* note 4 (discussing claim 20). Petitioner persuasively maps the limitations of claims 1–3, 7, 11, 13–15, and 23 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.*

For example, buttressing its showing for the recording component of limitation 1(e) in Ground 1 as analyzed above, Petitioner relies on Land to show that recording two-way audio/video communications in a database associated with Jae’s server would have been obvious in view of Land’s similar system. *See* Pet. 48–49 (citing Ex. 1002 ¶¶ 163–165; Ex. 1014, 2:27–3:30, 4:13–15, 4:29–39). Petitioner shows that the combination

“offered motivating advantages . . . including allowing for later review/playback of recordings for numerous purposes.” *Id.* at 50 (citing Ex. 1002 ¶ 165). This showing is persuasive as supported by the cited evidence.

In response, Patent Owner contends that “Petitioners offer no analysis whatsoever of what Lands adds to the previous combination of Jae, Menard, Monroe, and Vaios” with respect to additional limitations relative to the recording component of limitation 1(e)); “[t]herefore, Petitioner has failed to show that the addition of Lands produces a combination that renders Claim 1 obvious.” PO Resp. 42.

Patent Owner’s argument is unavailing. As summarized above, Petitioner provides a persuasive analysis involving Land’s teachings to address the recording component of limitation 1(e). The Petition does not rely on Lands for other limitations. *See* Pet. 50 (arguing that “Jae with Menard, Monroe, and Vaios teaches these additional elements of Claim 1”).

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claims 1–3, 7, 11, 13–15, and 23 would have been obvious over.

6. Jae, Menard, Monroe, Vaios, Lands, and Ellis (Ground 6)

Petitioner asserts that claim 12 would have been obvious over Jae, Menard, Monroe, Vaios, Lands, and Ellis. Pet. 51. Petitioner persuasively maps the limitations of claim 12 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* (citing Pet. 42–43). In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.* (citing Pet. 42–43).

Patent Owner does not address Petitioner's showing for claim 12 but instead relies on its unavailing arguments for claim 1. PO Resp. 43.

Based on the record, we determine that Petitioner shows by a preponderance that claim 12 would have been obvious.

7. Jae, Menard, Monroe, Vaios, Lands, and Naidoo (Ground 7)

Petitioner asserts that claim 17 would have been obvious over Jae, Menard, Monroe, Vaios, Lands, and Naidoo. Pet. 51. Petitioner persuasively maps the limitations of claim 17 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* (citing Pet. 44–45). In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.* (citing Pet. 44–45).

Patent Owner does not address Petitioner's showing for claim 17 but instead relies on its unavailing arguments for claim 1. PO Resp. 43.

Based on the record, we determine that Petitioner shows by a preponderance that claim 17 would have been obvious.

8. Jae, Menard, Monroe, Vaios, Lands, Nykerk, and Jacob (Ground 8)

Petitioner asserts that claims 18–20 would have been obvious over Jae, Menard, Monroe, Vaios, Lands, with Nykerk and/or Jacob. *See* Pet. 51–52; *supra* note 4 (discussing claim 20). Petitioner persuasively maps the limitations of claims 17–20 to the asserted prior art and provides reasons sufficiently supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* (citing Pet. 45–48). In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.* (citing Pet. 45–48).

Patent Owner does not address Petitioner's showing for claims 18–20 but instead relies on its unavailing arguments for claim 1. PO Resp. 43.

Based on the record, we determine that Petitioner shows by a preponderance that claims 18–20 would have been obvious.

9. Naidoo, Menard, Lands, Monroe, and Jae (Ground 9)

Petitioner asserts that claims 1, 3, 7, 11, 13–15, 17, and 23 would have been obvious over Naidoo, Menard, Lands, Monroe, and Jae. *See* Pet. 52–71; *supra* note 4 (discussing claim 20). It is not necessary to reach this ground because Petitioner optionally relies on the added teachings of Vaio as discussed further in Section III.E.11 below.²⁰

10. Grounds 10–11

It is not necessary to reach Grounds 10 and 11 for the reasons discussed in connection with Ground 9 above. *See* Pet. 79–80 (advancing Grounds 10 and 11).²¹

11. Naidoo, Menard, Lands, Jae, Monroe, and Vaio (Ground 12)

Petitioner asserts that claims 1, 3, 7, 11, 13–15, 17, and 23 would have been obvious under 35 U.S.C. § 103(a) based on the combined teachings of Naidoo, Menard, Lands, Jae, Monroe, and Vaio. *See* Pet. 6; *supra* note 21 (discussing claim 20).

a) Naidoo

Naidoo discloses a method for remote monitoring of a premises. Ex. 1005, code (57).

²⁰ As noted above (note 14), although the heading in the Petition for Ground 9 does not list Monroe, the Petition relies on Monroe to supplement Naidoo’s gateway teachings as including a router. Pet. 57 (citing Ex. 1038, 17:30–35, 18:62–19:10).

²¹ For the reasons discussed above (note 4), the Petition implicitly challenges claim 20 with its ground challenging claim 18, i.e., Ground 14. *See* Pet. 82–83.

Figure 1 of Naidoo follows:

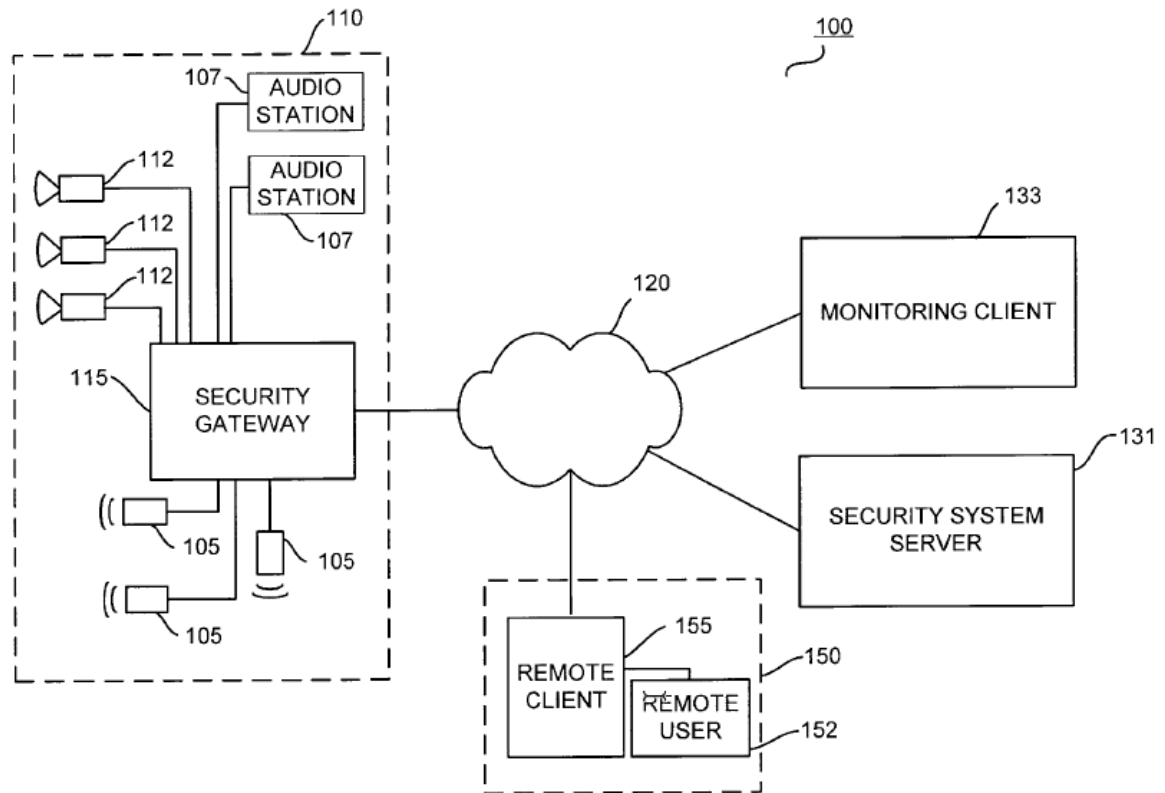


Figure 1 above is a block diagram of “[s]ecurity system 100 [that] comprises security gateway 115, which is typically located at premises 110.” Ex. 1005, 6:20–24. Security system 100 further comprises monitoring client 133 operatively coupled to security gateway 115 through network 120. *Id.* at 6:25–27. Security system 100 further comprises security system server 131 operatively coupled to security gateway 115 through network 120. *Id.* at 6:27–30. Security gateway 115 detects and relays alarm conditions at premises 110 and captures information relating to such alarm conditions. *Id.* at 6:50–52. Upon triggering of an alarm, security gateway 115 sends cached, stored, and live information from pre-event, pre-alarm, and post-alarm segments to security system server 131 for verification and response. *Id.* at 6:52–56.

Security gateway 115 is “operatively coupled to security sensors 105, audio stations 107, and video cameras 112 which are located at premises 110” (“indoors as well as outdoors”). Ex. 1005, 6:59–65. Video cameras 112 and audio stations 107 capture video data and audio data, respectively, from premises 110. *Id.* at 7:32–34. Audio stations 107 may include microphones and speakers that provide two-way communication and a signal for alerting occupants of the premises that communication is occurring. *Id.* at 7:36–40. Naidoo states that “[t]he present invention provides the advantage of using the security system as a platform for two-way audio and video communication.” *Id.* at 4:23–25.

b) Claim 1

Petitioner asserts that claim 1 would have been obvious over the combined teachings of Naidoo, Menard, Lands, Jae, Monroe and Vaios. Pet. 52–71, 80–82.²² Patent Owner disagrees. PO Resp. 43–64.

(i) Preamble

The preamble of claim 1 recites “[a]n audio-video communication and answering system, said system comprising.” Petitioner asserts that Naidoo discloses the preamble. Pet. 52. In particular, Petitioner points to Naidoo’s disclosure of a “system . . . for the remote monitoring of a premises” using “a platform for two-way audio and video communication.” *Id.* (quoting Ex. 1005, 1:9–11, 4:23–25). Petitioner also relies on Naidoo’s disclosure of its “security gateway operably coupled to at least one camera . . . and . . . at least one audio station at the premises.” *Id.* (quoting Ex. 1005, code (57), 6:64–7:3. *Id.* (quoting Ex. 1011, 3). Petitioner also notes that “Naidoo’s

²² For these grounds, pages 80–82 of the Petition add the teachings of Vaios and Monroe, to Petitioner’s showing on pages 52–71 of the Petition.

system ‘allow[s] remote user 152 to view audiovisual content from security gateway 115’ and ‘initiate a two-way audio connection with the security gateway 115 so that remote user 152 can communicate through . . . audio stations.’” *Id.* (quoting Ex. 1005, 17:64–66, 18:15–20).

After a review of the record as summarized above, we determine that Petitioner’s showing for the preamble (even if it is limiting) is persuasive.

(ii) Limitation 1(a)

Limitation 1(a) recites a “wireless exterior module having a proximity sensor, a video camera, a microphone, a speaker, an RF transmitter, and an RF receiver.” Petitioner relies on the combined teachings of Naidoo and Menard to address limitation 1(a). Pet. 53–56. Petitioner asserts that Naidoo’s “cameras 112 and audio stations 107. . . capture video data and audio data, respectively, from premises 110.” *Id.* at 53 (quoting Ex. 1005, 7:33–35, Fig. 1). Petitioner also relies on Naidoo’s audio sensors 105, which “detect[] certain events” and “include . . . magnetic contact switches, audio sensors, infrared sensors, motion detectors, . . . and carbon monoxide sensors.” *Id.* at 54 (quoting Ex. 1005, 7:13–23). According to Petitioner, [s]ensors 105 and cameras 112 may be wirelessly connected to security gateway 115, which requires RF communications and corresponding RF transmission/reception components.” *Id.* (citing Ex. 1005, 7:22–24, 12:52–53, 15:25–31; Ex. 1002 ¶ 362).

Similar to its showing above in Ground 1, Petitioner also relies on Menard as disclosing “a wireless exterior module (‘exterior module 200D’) including a video camera (‘video camera 370’), proximity sensor (‘proximity detector’), microphone ([‘]intercom 330’), speaker (‘intercom 330’), and RF transmitter and RF receiver (‘transceiver 150’).” Pet. 55 (citing Pet. 8–10); Ex. 1002 ¶ 364).

Petitioner contends it would have been obvious in view of Menard's teachings to employ its wireless exterior module or "to combine at least some of Naidoo's cameras, audio stations, sensors, and RF transmitters/receivers within a single device" in Naidoo's systems for similar reasons to those advanced with respect to Jae and Menard as summarized above. *See* Pet. 55; *supra* § III.D.1.e. Petitioner adds that the combination "would have provided a convenient package for monitoring an entrance and interacting with visitors" and would "enable a more user friendly, convenient, and easily installable monitoring system (e.g., requiring installation and maintenance of and interaction with a single device instead of multiple devices)." *Id.* at 55–56 (citing Ex. 1002 ¶¶ 368–369).

Patent Owner argues that Naidoo does not disclose a "self-contained module wireless exterior module," and therefore, "does not meet the 'wireless exterior module' limitation of Claim 1." PO Resp. 44. This argument is not germane to Petitioner's showing. Patent Owner acknowledges that Petitioner relies on combining Menard with Naidoo to address the "wireless exterior module" at issue in limitation 1(a). *Id.* at 45. Patent Owner contends that Petitioner's showing amounts to "improper hindsight." *Id.* Patent Owner contends that "Naidoo and Menard are very different security systems that would not be combined." *Id.* at 46. Patent Owner also contends that Petitioner and Dr. Hochwald fail to provide an explanation as to how to integrate or identify the various components or the wireless protocol, and also fails to address "the added cost and complexity in combining all of these various components." *Id.* at 45–46.

As to the alleged differences according to Patent Owner, Naidoo's security system "is spread out with a plurality of cameras and sensors all over a property that can communicate via various communications

protocols, whereas Menard provides a small exterior terminal with one camera that communicates via Bluetooth.” PO Resp. 46. Patent Owner contends that an enhanced “security [with multiple cameras] would not be possible if these security components were all put together in one single exterior module placed at one location of the premises.” *Id.* (citing Ex. 2003 ¶ 132). Therefore, Patent Owner asserts that a person of ordinary skill in the art “would not be motivated to undermine the Naidoo system by reducing it to the exterior module of Menard.” *Id.* Patent Owner adds that “extensive modification of Naidoo would be required to change its multiple camera and sensor system to a lone exterior module,” and “[s]uch a modification would greatly add to the cost and complexity of the Naidoo system.” *Id.* (quoting Ex. 2003 ¶ 132). Relying on its unavailing arguments in connection with Ground 1, Patent Owner also argues Jae teaches away from a wireless connection (citing bandwidth issues for uncompressed files). Patent Owner also argues there is no motivation to combine Menard. PO Resp. 62–63.

These arguments are unavailing. Naidoo and Menard teach similar video camera-based security systems as summarized above. *Compare* § III.E.1.b, *with* § III.E.11.a. As Petitioner notes, Patent Owner relies on its unavailing Bluetooth arguments discussed above in connection with claim 1 with respect to Menard. Reply 18 (citing PO Resp. 45). Petitioner also persuasively notes that “Naidoo itself teaches wireless transmission of videos from its camera.” *Id.* (citing Ex. 1005, 15:25–31; Pet. 53–54; Ex. 1002 ¶ 362). As found above in connection with Ground 1, Jae does not discourage using wireless.

As Petitioner also persuasively explains, the Petition combines Menard with Naidoo “to demonstrate the obviousness of incorporating each of a video camera, proximity sensor, microphone, speaker, and RF

transmitter/receiver (which are already disclosed in Naidoo) within a single device.” Reply 18 (citing Pet. 53–56; Ex. 1002 ¶¶ 358–369). Petitioner also notes that Dr. Hochwald explains that incorporating Naidoo’s components into a single device or incorporating Menard’s exterior module into Naidoo’s system would have been easily accomplished. *Id.* (citing Pet. 55–56; Ex. 1002 ¶¶ 363–369).

As Petitioner also explains, contrary to the premise of Patent Owner’s arguments and the testimony of Dr. Akl, the combination does not require using only a single exterior module in Naidoo’s system that includes a number of cameras. *See* Reply 19–20. Rather, the combination contemplates using “any number of [Menard’s] ‘wireless exterior modules’” with Naidoo’s system, integrating some or all of Naidoo’s similar system components with a camera into a single wireless exterior module, and/or forming a number of wireless exterior modules with a camera so that the combined system still includes multiple cameras as needed by Naidoo’s system. *See id.* (citing Pet. 55; Ex. 1002 ¶¶ 365–366; Ex. 1005, Figs. 1–2). Or, as Dr. Hochwald testifies, “combining at least some of Naidoo’s cameras, audio stations, and sensors into a single device does not mean that Naidoo’s system could not continue to include other separate cameras, audio stations, or sensors should such separate devices be desirable for specific monitoring objectives that did not necessitate a combined device include all three of such devices.” Ex. 1002 ¶ 368.

Such a combination “amounts to simply packaging already existing components performing their known functionalities within a single device, or simply adding a known device (e.g., Menard’s exterior module 200D) into Naidoo’s system, which would have been easily accomplished.” Reply 20 (citing Ex. 1002 ¶¶ 365–366). Dr. Akl’s testimony, which relies

on a hypothetical “lone exterior module” that includes all of Naidoo’s cameras and sensors does not address Petitioner’s showing and fails to undermine it.

Therefore, Petitioner’s showing of motivation is persuasive. As outlined above, Petitioner contends that the combined wireless module “enable[s] a more user-friendly, convenient, and easily installable monitoring system (e.g., requiring installation and maintenance of and interaction with a single device instead of multiple devices).” Pet. 55. As Petitioner shows, repackaging Naidoo’s sensor 105, video camera 112, microphone and speaker at audio station 107, where the sensor and video camera are wireless and therefore include an RF transmitter and RF receiver, into a single wireless module, provides an easily installable monitoring device for providing security to a doorway as Menard suggests by including similar devices in a single wireless module. *See* Pet. 53–56.

Contrary to Patent Owner’s arguments, Dr. Hochwald explains that such a wireless module would involve transmitting well-known wireless protocols, where Menard and Naidoo involve similar sensor, audio, and video RF transmission devices and characteristics, and Naidoo specifies, for example, “a wireless standard such as the home networking standard 802.11b.” *See* 1002 ¶¶ 362 (citing Ex. 1005, 7:12–24, 12:52–53; quoting Ex. 1005, 15:25–31), ¶ 364 (listing Menard’s similar wireless components, including video camera 370, speaker, microphone, and RF transceiver 150), ¶ 365 (contending Menard’s and Naidoo’s components serve the same functionality of transmitting the same primary data with interchangeable wireless communication protocols rendering the substitution predictable with a reasonable expectation of success).

Forming a single, compact, wireless module creates a “cleaner” or “smaller” product as compared to Naidoo’s separate components (a video camera, sensor, and audio components), which are spread over the premises to be monitored. *See* Ex. 1005, Fig. 1, Fig. 2; Ex. 1002 ¶ 365.

Our reviewing court has

repeatedly held that an *implicit motivation* to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the “improvement” is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, *cleaner*, faster, lighter, *smaller*, more durable, or more efficient. Because the desire to enhance commercial opportunities by improving a product or process is universal—and even common-sensical—we have held that there exists in these situations a motivation to combine prior art references even absent any hint of suggestion in the references themselves. In such situations, the proper question is whether the ordinary artisan possesses knowledge and skills rendering him *capable* of combining the prior art references.

DyStar Textilfarben GmbH & Co. v. C.H. Patrick Co., 464 F.3d 1356, 1368 (Fed. Cir. 2006) (emphasis added).

Dr. Hochwald’s testimony shows that the resulting wireless module is “smaller” and/or “cleaner” because “‘exterior module 200D’ includes all of the same components that are separately located outside the building in Naidoo” (Ex. 1002 ¶ 365), where “rearranging/packaging these components together [results in] a single enclosure” (*id.* ¶ 366). In other words, in addition to specifying an explicit motivation, Dr. Hochwald’s testimony shows an “implicit motivation” under *Dystar*.

Dr. Hochwald also testifies that “[s]uch a combination would have simplified installation of the system in Naidoo,” where “[f]or example, Menard states that the ‘exterior module 200D is of a size and configuration

to fit within scheduled electric boxes or fixtures’ and that ‘the power to operate exterior module 200D is derived from the metered electric service already available at the electric box in which module 200D is mounted’ or, alternatively, that ‘module 200D is battery operated.’” *Id.* ¶ 368 (quoting Ex. 1004, 22:24–28). This “single enclosure . . . would simplify handling and installation.” *Id.* And “[r]earranging/packaging these components together within a single enclosure would not affect their functionality and in fact would be simplified as a result of the reduced number of connections (including a shared power source).” *Id.* ¶ 366. In other words, the reduced number of power connections also results in a simpler and cleaner product.

Therefore, based on the foregoing discussion, we determine that Petitioner’s showing for limitation 1(a) is persuasive. Patent Owner does not address Petitioner’s showing for this limitation. *See generally* PO Resp.

(iii) Limitation 1(b)

Limitation 1(b) recites “a computerized controller running a software application.” Petitioner contends that “[b]oth Naidoo’s ‘security system server 131’ and ‘monitoring center 133’ constitute a ‘computerized controller running a software application.’” Pet. 55 (quoting Ex. 1005, 45–62, Fig. 1–2, 4; Ex. 1002 ¶¶ 371–377). Petitioner quotes Naidoo as “explain[ing] that ‘components of . . . security system server 131 . . . and . . . central monitoring station 136’ are ‘software programs executable on processor-based devices’ or ‘devices operating under the Microsoft® Windows NT™ operating system.’” *Id.* (quoting Ex. 1005, 15:46–55; citing Ex. 1005, 15:58–63). Petitioner also contends that “[m]onitoring client 133 is a component of ‘central monitoring station 136’ and comprises or is

integrated into a ‘software program.’” *Id.* (quoting Ex. 1005, 7:4–5, 16:13–17; citing Ex. 1005, Fig. 12).

Based on the foregoing discussion, we determine that Petitioner’s showing for limitation 1(b) is persuasive. Patent Owner does not address Petitioner’s showing for this limitation. *See generally* PO Resp.

(iv) Limitation 1(c)

Limitation 1(c) recites “a wireless router, wherein the wireless router enables communication between the exterior module and the computerized controller.” Petitioner contends that “Naidoo discloses a wireless router (‘security gateway 115’/‘network 120’) that enables communication between the exterior module (cameras 112, audio stations 107, and sensors 105 as combined above [in connection with limitations 1(a) and 1(b)] and the computerized controller (security system server 131 or monitoring client 133).” Pet. 56–57 (quoting Ex. 1005, 6:25–28; citing Ex. 1005, 14:13–17; Ex 1002 ¶¶ 379–390). Petitioner explains that “[b]oth security system server 131 and monitoring client 133 are ‘operatively coupled to security gateway 115 through . . . network 120,’” and “[n]etwork 120 may be the Internet or other networks.” *Id.* at 57 (quoting Ex. 1005, 6:25–29; citing Ex. 1005, 6:30–38). Petitioner further explains that

security gateway 115 is a router at least because it routes data received from multiple local devices (e.g., cameras, audio stations, sensors) via a local network to remote devices across a different external network (e.g., the Internet) and managed network address associations and directed traffic between these network addresses.

Id. (citing Ex. 1002 ¶¶ 386–387). To further support its showing, Petitioner submits that Monroe “confirms that such a gateway is . . . a router.” Pet. 57 (citing Ex. 1002 ¶¶ 388–390; Ex. 1038, 17:30–35, 18:62–19:10).

Petitioner also contends that “[s]ecurity gateway 115 facilitates wireless communications, and thus is equivalent to a ‘wireless router’ (Pet. 57 (quoting Ex. 1002 ¶ 386)), where Naidoo states that “communications interface 340” serves as the gateway to “communications networks [including] wireless networks” (*id.* (quoting Ex. 1005, 14:13–17; citing Ex. 1005, Fig. 3)).²³

Based on the foregoing discussion, we determine that Petitioner’s showing for limitation 1(c) is persuasive. Patent Owner does not address Petitioner’s showing with respect to this limitation.

(v) *Limitation 1(d)*

Limitation 1(d) recites “a recording component that records video and audio communication that is transmitted to and from the exterior module.” Petitioner contends that Naidoo’s server system discloses or renders obvious limitation 1(d) based further on teachings in Land and/or Jae. *See* Pet. 58–61. Petitioner reads the claimed “recording component” onto Naidoo’s “video module 320 and audio module 330 (and associated memory to which recorded audio and video is stored) as well as media handler 415, which each record video and audio transmitted from exterior modules.” Pet. 58 (citing Ex. 1005, 6:45–50, 7:50–54, 13:25–14:12; Ex. 1002 ¶¶ 396–407).

Petitioner relies on Naidoo’s statements that “[v]ideo module 320 [is] configured to record video, or portions thereof,” and “audio signals detected by microphone(s) 334 are recorded through audio module 330.” Pet. 58 (alterations in original) (quoting Ex 1005, 13:36–37, 14:4–7; citing

²³ The ’644 patent states that “[i]t is important . . . that *the claims be regarded as including . . . equivalent constructions* in so far as they do not depart from the spirit and scope of the present invention.” Ex. 1001, 7:31–34 (emphasis added).

Ex. 1005, 13:52–59). Petitioner also contends that media handler 415 of security system server 131 “receives and stores video and audio data associated with alarm conditions from security gateway 115.” *Id.* at 58–59 (quoting 16:64–66).

Petitioner contends that it would have been obvious to use “these same recording components to record data (including both audio and video) transmitted to an exterior module” based on teachings in Lands for reasons similar to those advanced with respect to the grounds based on Jae and Lang. *See* Pet. 59 (citing Ex. 1002 ¶ 408); 17–18 (providing reasons for combining Jae and Lang); 49–50 (same), 59–60 (providing reasons for combining Naidoo and Lang (citing Ex. 1002 ¶¶ 408–409; Pet. 49–50)); *supra* § III.D.1.e. As an example, Petitioner contends that “the combination offered motivating advantages including allowing for later review/playback of such recordings and alarm verification.” *Id.* at 60.

Noting that Patent Owner “asserts that this limitation requires only the recording of audio transmitted to the exterior module,” Petitioner contends that “Naidoo discloses two-way audio communications between audio stations 107 or security gateway 115 and either remote users 152 (via remote clients 155) or monitoring client 133.” Pet. 59 (citing Ex. 1005, 4:23–26, 7:36–39, 14:50–59, 16:13–17, 18:15–24; Ex. 1002 ¶¶ 397–399; Ex. 1039); *see also supra* note 17 (discussing Ex. 1039). Petitioner also contends that Lands teaches recording two-way radio communications. *Id.* (citing Pet. 48–49).

Petitioner also asserts that even “[i]f this limitation is interpreted as requiring the recording of audio and video transmitted to the exterior module, this was further obvious in view of Jae and Lands,” where “Naidoo and suggest two-way video communication,” and Jae “teaches two-way

audio and video communication.” Pet. 60 (citing Ex. 1005, 3:53–55; Ex. 1002 ¶¶ 411, 414–415; Pet. 17). To support this showing, Petitioner contends that “Jae’s ‘server system’ provides an interface by which users can ‘control video and audio calls with the outdoor terminal 100.’” *Id.* (citing Ex. 1011, 9:31–39, claim 4; 1, 3, 4; Ex. 1002 ¶ 131). Petitioner also relies on Jae as teaching that with the interface, “users can have video/audio conversations with visitors on the website.” *Id.* (quoting Ex. 1011, 3).

Petitioner contends that it would have been obvious “to modify Naidoo’s system to enable similar video calls as taught in Jae and to record such calls in view of Land’s teaching of recording two-way calls.” Pet. 60 (citing Ex. 1002 ¶¶ 411, 416–417). Petitioner contends

[t]his modification would have yielded predictable results with a reasonable expectation of success given that no more than routine engineering work and known devices (e.g., incorporation of video calling components such as a video phone or PC for the remote client 155 and a camera/display in the exterior module) would be required to implement video calling and recording.

Pet. 61 (citing ¶¶ 412–413, 416). Petitioner asserts that using video calling in the combination would have “provide[d] a more personally engaging conversation that improves communication and to allow remote users to better interpret the intentions of a visitor,” and recording of same “would have enabled later playback or review of such information for a variety of purposes including for security reasons, entertainment reasons, or system management reasons.” *Id.* (citing Ex. 1002 ¶ 417).

Based on the forgoing discussion, we determine that Petitioner’s showing for limitation 1(d) is persuasive. Patent Owner does not address Petitioner’s showing for this limitation. *See generally* PO Resp.

(vi) *Limitation 1(e)*

Limitation 1(e) recites “a playing component that plays video and audio communication recorded by the recording component.” Petitioner asserts that Naidoo discloses a playing component (e.g., any of web interface 432 and/or application server 434 of security system server 131, remote client 155, monitoring client 133) that plays video and audio communication recorded by the recording component.” Pet. 61–62 (citing Ex. 1002 ¶¶ 419–429; Ex. 1005, 7:10–32, 5:6–15, 6:2–10).

To support this showing, Petitioner quotes Naidoo as stating that “[w]eb interface 432 provides . . . remote users 152 with the ability to . . . view and hear live and recorded media from premises 110.” Pet. 62 (second and third alterations in original) (quoting Ex. 1005, 17:29–33; citing Ex. 1005, 17:29–41, 17:64–18:9 (“application server 434 . . . allow[s] remote client 152 to view audiovisual content from security gateway 115 [and] access features [such as] reviewing alarms and recordings”; Ex. 1002 ¶ 422)). Petitioner contends that clients 155 include interface 432, further noting that Naidoo states that “remote client 155 includes a web browser-based video client for accessing audio and video data.” *Id.* at 62 (quoting Ex. 1005, 10:18–20; citing Ex. 1005, 17:29–41, 17:64–18:9).

Petitioner additionally relies on Naidoo’s monitoring client 133 as playing video and audio communications recorded by security gateway 115. Pet. 62 (citing Ex. 1005, 16:13–67; Ex. 1002 ¶¶ 425–428).

Based on the foregoing discussion, we determine that Petitioner’s showing for limitation 1(e) is persuasive. Patent Owner does not address Petitioner’s showing for this limitation. *See generally* PO Resp.

(vii) Limitation 1(f)

Limitation 1(f) recites “wherein the software application includes a graphic user interface that enables a user to view images and streaming video from the camera.” Petitioner contends that this limitation reads on software running on Naidoo’s security system server 131 and/or monitoring client 133. Pet. 63–65.

With respect to security server 131, Petitioner contends that “Naidoo’s security system server 131 includes ‘web interface 432,’ which ‘provides . . . remote users 152 with the ability to view and edit account information, arm and disarm security system 100, and view and hear live and recorded media from premises 110, all through a network-based interface’ such as an Internet website.” Pet. 63 (quoting Ex. 1005, 17:29–35; citing Ex. 1005, 18:57–37). Petitioner contends that Naidoo’s “[a]pplication server 434’ of security system server 131 ‘provides and/or facilitates the features available to remote client 155 through web interface 432.’” *Id.* (quoting Ex. 1005, 17:35–37). Petitioner explains further as follows:

“Application server 434” and “web interface 432” are software programs of security system server 131. *See* [Ex. 1005], 15:45–55; EX1002, ¶432. Security system server 131 thus includes a software application that provides a GUI via web interface 432, given that web interface 432 enables a user to view graphics (e.g., “live and recorded media”) and allows a user to provide inputs (e.g., to edit account information and arm/disarm security system 100). EX1002, ¶¶432–436.

Pet. 63. Petitioner also relies on Naidoo’s system as allowing clients to view images and streaming video from cameras as further evidence of a GUI for facilitating such viewing and control:

For example, “application server 434 . . . allow[s] remote client 152 to view audiovisual content from security gateway 115.” EX1005, 17:64–66, 18:11–14. “Cameras 112 and audio stations

107 continuously transmit audiovisual data to security gateway 115 for . . . streaming to a remote user 152 or security system server 131.” *Id.*, 7:50–54 (emph. added); *see also id.*, claims 29, 48.

Pet. 63–64.

Petitioner relies on similar evidence with respect to monitoring clients to assert that Naidoo implicitly discloses the claimed GUI:

“Monitoring client 133 . . . comprises a software program . . . to display . . . information provided by security gateway 115.” EX1005, 7:4–6. “Security system server 131 . . . transmits . . . alarm notification and audiovisual information . . . to . . . monitoring clients 133, where such information and video may be displayed for a monitoring operator to determine if an alarm condition exists.” *Id.*, 12:12–17; *see also id.*, 8:37–49. “Monitoring client 133 . . . display[s] video and images transmitted from security gateway 115 in real-time.” *Id.*, 16:13–17. Thus, images and video from Naidoo’s cameras are displayed to individuals at monitoring client 133. EX1002, ¶¶437–439. Providing real-time video to monitoring client 133 includes streaming video. *Id.*, ¶439; *see also* EX1005, 16:40–45, 13:46–49, claims 29, 48. Alternatively, it was obvious for the real-time video displayed by monitoring client 133 to be streamed for the reasons discussed above. *Supra*, 36–37.

In addition to displaying video, monitoring client 133 allows users to “submit control messages (for selecting cameras, microphones, and speakers . . .).” EX1005, 16:33–45; *see also id.*, 17:14–29. Accordingly, the software application associated with monitoring client 133 provides a “graphic user interface” at least because it allows users to view graphic data (e.g., video images) and allows users to provide inputs (e.g., submit control messages). EX1002, ¶437.

Pet. 64–65.

Patent Owner argues that Naidoo does not disclose a GUI because “the word ‘graphic’ never appears in Naidoo” and “the interface could be entirely text based with no graphical interface.” PO Resp. 48. We do not reach this issue, because Petitioner relies on the added teachings of Vaio to

suggest a GUI in the similar system of Naidoo. Pet. 81–82. Specifically, referring to its showing for Ground 1, Petitioner contends that “Vaio discloses a software application including a GUI that enables users to view images and streaming video and enables coordination of multiple communication devices and user defined responses to prompts and events.” Pet. 81 (citing Pet. 21–24, 28–30). According to Petitioner, it would have been “obvious for Naidoo’s security system server 131 and/or monitoring center 133 to use a similar GUI to provide such functionality for the same reasons discussed above for combining Vaio with Jae.” *Id.* (citing Pet. 21–25, 28–31; Ex. 1002 ¶¶ 440–446). Petitioner contends that the “modification amounts to simply substituting a GUI and associated functionality for Naidoo’s interface for presenting audiovisual information and enable access control, which would have been predictably, and successfully accomplished using standard software programming, and which provided the motivating benefits of the additional functionalities of Vaio’s GUI.” *Id.* at 82 (citing Ex. 1002 ¶¶ 445–446). Petitioner also asserts that “Naidoo’s interface could simply be modified to incorporate graphical icons such as those taught in Vaio, thus providing a more aesthetically pleasing and intuitive user interface.” *Id.* (citing Ex. 1002 ¶¶ 445–446).

Patent Owner contends that “Petitioner’s expert fails to adequately explain for how and why a [person of ordinary skill in the art would modify Naidoo to use the graphical user interface of Vaio.” PO Resp. 52. Patent Owner also argues that Dr. Hochwald’s testimony is “conclusory” and “improper” because, “[f]or example,”

Petitioner’s expert cites no evidence regarding the state of the art at the time of the invention, evaluate the cost of the proposed modification, does not review products available when the ’644 Patent was filed, and in fact does not cite to any evidence outside

of Naidoo or Vaios or Vaios in making conclusory statements in support of his opinion on Naidoo and Vaios meeting the ‘graphic user interface’ limitation in Claim 1.

Id. at 51–52. Patent Owner also contends that Dr. Akl testifies that it would not have been obvious to employ Vaios’s GUI teachings with Naidoo’s system because “would likely require additional hardware and software to the system, which would add cost and complexity.” *Id.* at 53 (quoting Ex. 2003 ¶¶ 137–138); *accord id.* at 63 (same argument).

Contrary to Patent Owner’s arguments, Petitioner does show how and why one would have implemented Vaios’s GUI teachings with Naidoo’s system. For example, as summarized above, Petitioner contends that “Naidoo’s interface could simply be modified to incorporate graphical icons such as those taught in Vaios, thus providing a more aesthetically pleasing and intuitive user interface.” Pet. 82 (citing Ex. 1002 ¶¶ 445–446).

Petitioner alternatively contends that the modification involves “simply substituting a GUI and associated functionality for Naidoo’s interface.” Reply 21 (quoting Pet. 81; citing Ex. 1002 ¶¶ 440–446). Petitioner contends that GUIs were “for presenting audiovisual information” to “enable access control, which would have been predictably, and successfully accomplished using *standard software programming*, and which provided the motivating benefits of the additional functionalities of Vaios’ GUI.” *Id.* (citing Ex. 1002 ¶¶ 445–446) (emphasis added).

In other words, GUIs were implemented using standard programming techniques and “becoming standardized at the time . . . because of the computational and graphical power available.” Reply 21 (quoting Ex. 1002 ¶¶ 188, 445). At the cited paragraph, Dr. Hochwald further testifies that GUIs provided ease of implementation and modification, without requiring

“expensive specialized control hardware such as switches, dials, and slider controls.” Ex. 1002 ¶ 188. In summary, Dr. Hochwald credibly testifies that GUIs were similar to the software already implemented in Naidoo’s similar interface, albeit with additional benefits including graphical icons for ease of control of audio/video playback, volume, and pleasing and intuitive aesthetics, allowing visible display of video to the end user without requiring additional costly hardware. *See* Ex. 1002 ¶¶ 440–446. As Patent Owner concedes, Dr. Hochwald relies on citations to Vaios and Naidoo to support his testimony. *See id.*; PO Resp. 51–52. For example, Dr. Hochwald testifies that Vaios’s application software includes GUI functionality and is available “[t]hrough the use of plugins, APIs, and hypertext transport protocol (HTTP),” implemented via “browser 200” to “incorporate application specific functions such as video display, and remote operation of video camera 10.” *See id.* ¶ 443 (quoting Ex. 1003, 7:45–51). In other words, the testimony of Dr. Hochwald, supported by Vaios, indicates that GUIs were readily available software products.

The ’644 patent simply describes “a computerized controller with a graphic user interface DVMS database application” without describing specialized hardware or software to implement it. *See* Ex. 1001, 4:6–8. At a later instance, the ’644 patent refers to “transmitting from the DVMS module to the GUI database application.” *Id.* at 6:14–15. The lack of implementing details coupled with use of the GUI acronym corroborates Dr. Hochwald’s testimony that GUIs were simply well-known software items and were becoming standardized at the time of the invention.

Although Dr. Akl testifies that “such a user interface would likely require additional software and hardware to the system, which would add cost and complexity,” Dr. Akl does not provide evidentiary support for the

conclusory statement. Ex. 2003 ¶ 137. Also, this testimony is as to what is “likely” does not directly contradict Dr. Hochwald’s testimony and is conclusory as it does not describe the type of additional hardware or software required or relative cost or complexity. In any event, the record shows that GUIs were straight-forward software items as found above.

Based on the foregoing discussion and the record, we determine that Petitioner’s showing for limitation 1(f) is persuasive.

(viii) Limitation 1(g)

Limitation 1(g) recites that the GUI “enables the coordination of multiple communication devices and user defined responses to prompts and events.” Similar to its showing for limitation 1(f), Petitioner contends that limitation 1(g) reads on Naidoo’s “[s]oftware applications/GUIs of each of security system server 131 and monitoring client 133.” Pet. 65 (citing Ex. 1002 ¶¶ 449–464). Petitioner contends that Naidoo’s system provides for coordinating multiple users 152 and/or multiple monitoring clients 133 and their respective devices 155 via their control of, including viewing of video from, multiple cameras through software distributed by security gateway 115 and security system server 131. *See id.* at 66–70 (citing Ex. 1005, 5:33–43, 6:57–7:3, 7:33–40, 9:41–10:14, 10:63–11:25, 12:12–17, 16:14–17, 16:33–45, 17:14–29, Fig. 1; Ex 1002 ¶¶ 458–463.).

Petitioner quotes Naidoo’s description of control of video viewing by one of the plurality of monitoring clients as follows: “[I]n response to an occurrence of an alarm condition, . . . monitoring personnel at said monitoring client have control over said . . . cameras and/or said . . . audio stations.” Pet. 70 (alterations except first in original) (quoting Ex. 1005, claim 51). Petitioner also contends that monitoring clients 133 include a GUI interface for two-way communications and control. *See id.* 70–71

(citing Ex. 1005, 14:50–59, 59, 17:9–22 (“[M]edia handler 415 may relay control and configuration data destined for security gateways 115 [which] may originate . . . from an operator . . . through monitoring client 133.”), 17:64–18:24). In other words, Petitioner contends that monitoring clients 133 “submit control messages (for selecting cameras, microphones, and speakers . . .)” and “for arming and disarming partitions” and “bypassing zones” via an implicit GUI. *Id.* at 71 (quoting Ex. 1005, 16:41–43, 17:20–21; citing Ex. 1005, 16:33–46, 17:14–28).

Based on the foregoing discussion, we determine that Petitioner’s showing for limitation 1(g) is persuasive. Patent Owner does not address Petitioner’s showing with respect to limitation 1(g). *See generally* PO Resp.

(ix) Additional Analysis of Reasons to Combine

As discussed in connection with the grounds based on Jae in Ground 1, in the above-discussed generic section of its Response entitled “**ALL GROUNDS SHOULD BE DENIED BECAUSE THE PETITIONER HAS FAILED TO PROVIDE ANY MOTIVATION TO COMBINE ANY OF THE REFERENCES**” (PO Resp. 53), Patent Owner quotes several “articulated motivations” from the Petition (*id.* at 56–58) and contends that “the Petition fails to provide any motivation to combine any of the references beyond . . . generic reasons” (*id.* at 56). After listing examples of alleged generic reasons, Patent Owner characterizes the reasons as follows: “[T]he Petition’s only articulated motivations to combine are the above conclusory statements that doing so would (i) offer faster, simpler, and more reliable communication methods, and (ii) create a simpler, more user-friendly, and convenient monitoring and video playback options.” *Id.* at 58–59 (citing Pet. 11, 16, 24–25, 31, 37–38, 40, 43, 55–56, 61, 73–74, 79).

Although Patent Owner contends that Petitioner offers “generic reasons,” Patent Owner does not contend that Petitioner’s reasons are “too generic” to support its obviousness showing. *See Volvo Penta of the Americas, LLC v. Brunswick Corp.*, 81 F.4th 1202, 1209 (Fed. Cir. 2023) (citing *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 797 (Fed. Cir. 2021)) (finding that “the Board’s motivation” was not “too generic”). In *Volvo*, the court found that the Board’s rationale sufficient to support obviousness when it relied on “improved speed *and* improved efficiency together,” finding that “the prospect of increased speed and efficiency has the support of an express statement in one of the asserted prior art references,” and reasoning that “a broadly applicable motivation may be sufficient as long as it is supported by more than conclusory expert testimony.” *Id.*

Similar to the situation in *Volvo*, Petitioner’s rationale is not too generic or conclusory because Petitioner applies several beneficial features together to the limitations of claim 1 with factual underpinnings to support the showing. Patent Owner’s list ignores the full thrust of Petitioner’s rationale and simply provides isolated statements from the Petition. *See* PO Resp. 56–58.

Specifically regarding the Naidoo-Menard combination, Patent Owner contends that Petitioner’s rationale of “enabl[ing] a more user-friendly, convenient, and easily installable monitoring system (e.g., requiring installation and maintenance of and interaction with a single device instead of multiple devices)” is conclusory and generic. *See* PO Resp. 57–58 (citing Pet. 55–56).

However, as Petitioner shows as summarized above, “the Petition notes the convenience-of-installation advantages realized by incorporating multiple components/features within a single device compared to separately

installing each component individually.” Reply 24–25 (citing Pet. 55–56). As also summarized above, the Petition and Dr. Hochwald provide citations to Naidoo and Menard to support its showing. As Petitioner argues, the Petition also cites Dr. Hochwald’s testimony and explains that the installation advantages include sharing of power connections and sources and simplified handling and installation based on having multiple components within a single enclosure. *See* Reply 25; Pet. 55–56; Ex. 1002 ¶ 368.

As Petitioner also shows, Dr. Hochwald also testifies how the resulting wireless module provides for easier communication with visitors. Reply 25 (citing Ex. 1002 ¶ 369 (relying on citations to, and quotations of, Menard, to support its showing of a user-friendly module that provides for better ascertaining in real-time how to deal with a visitor and provide remote access to a monitored building)). Finally, Petition shows that “the combination involved only the incorporation of well-known features/technologies, with no unpredictable results . . . , providing another rationale to combine.” *Id.* (citing *KSR*, U.S. at 416–21; Ex. 1002 ¶¶ 363–368).

Patent Owner does not address in full the Petition’s stated rationales as summarized above. For example, it does not address Petitioner’s showing related to a single power source for all the components in the module as summarized above, which enables part of the simple installation and maintenance. *See* PO Resp. 57–58. It also does not address the advantage of providing remote access to a monitored building. Petitioner’s rationale based on these related features is persuasive.

Similar remarks apply to the combination of Jae and Lands. Contrary to Patent Owner’s argument, there is nothing conclusory or generic about the

“[r]ecording of video calls” creating the benefit of “enabl[ing] later playback or review of such information for a variety of purposes including for security reasons, entertainment reasons, or system management reasons.” *See* PO Resp. 58 (citing Pet. 61). Access to a video recording of a scene monitored at a home logically enables a review thereof for any number of reasons, including security, entertainment, or management reasons, as the Petition reasons. *See* Pet. 61.

As summarized above, Petitioner’s reasons for combining the references with a reasonable expectation of success to reach claim 1 is persuasive.

(ix) Summary of Claim 1

Based on the foregoing summary and discussion, we determine that Petitioner shows by a preponderance of evidence that claim 1 would have been obvious over Naidoo, Menard, Monroe, Lands, Jae, and Vaio

c) Claims 3, 13–15, and 17

Petitioner asserts that claims 3, 13–15, and 17, which depend directly or indirectly from claim 1, would have been obvious over Naidoo, Menard, Monroe, Lands, Jae, and Vaio. *See* Pet. 72–79, 82. Petitioner persuasively maps the limitations of claims 3, 13–15, and 17 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.*

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claims 3, 13–15, and 17 would have been obvious. Patent Owner does not challenge Petitioner’s showing for claims 3, 13–15, and 17, but instead relies on its arguments for claim 1. *See* PO Resp. 43, 53.

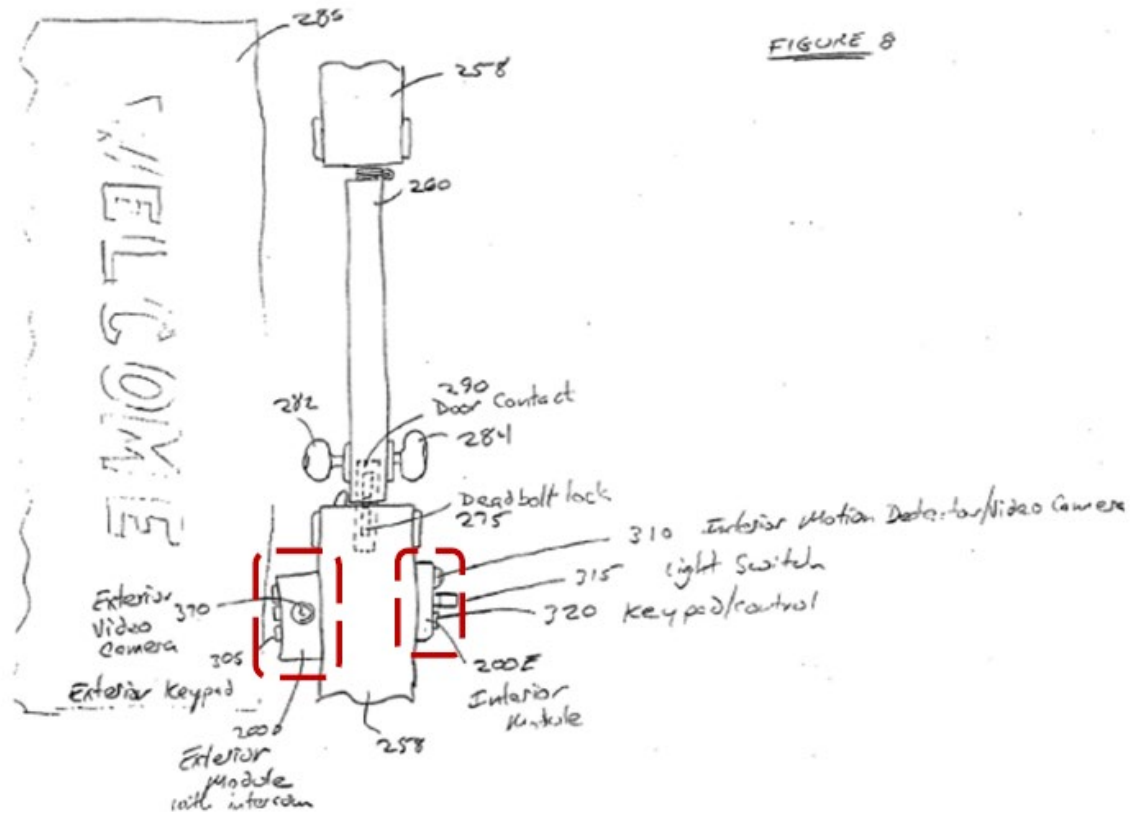
d) Claims 7, 11, and 23

Claim 7 recites “[a]n audio-video communication and answering system according to claim 1, wherein the system is further comprised of an interior transceiver having a display screen, a microphone, a speaker, an RF transmitter, and an RF receiver.” Claim 23 depends from claim 11, which depends from claim 7.

For claim 7, Petitioner relies on its showing with respect to Ground 1, asserting that “Jae discloses an interior transceiver (‘indoor terminal 200’) having a display screen (‘liquid crystal display unit 220’) and a microphone and speaker (‘speaker/microphone 230’). *See* Pet. 32 (quoting Ex. 1011, 4:21–23; citing Ex. 1002 ¶¶ 230–235); Pet. 72 (citing Pet. 32–34).

Petitioner also asserts that “Jae’s indoor terminal 200 transmits and receives data to/from the server system and outdoor terminal 100.” *Id.* at 32 (citing Ex. 1002 ¶¶ 236–240; Ex. 1011, code (54), 4:21–52, 5:3–11, 6:3–10, 6:30–35). Petitioner relies on Jae’s teaching that “indoor terminal . . . display[s] the visitor image captured by the outdoor terminal, connects audio/video calls, and enables the control of door opening and closing and two-way communication between the outdoor terminal and a remote mobile phone.” *Id.* at 32–33 (quoting Ex. 1011, code (54); citing Ex. 1011, 4:35–36, 5:7–8).

To supplement Jae’s teachings, Petitioner relies on Menard’s “similar arrangement of an ‘exterior module 200D’ and corresponding ‘interior module 200E.’” Pet. 33. Petitioner annotates Menard’s Figure 8, as follows:



As annotated by Petitioner, Menard’s Figure 8 above shows exterior module 200 (annotated in a red box with dashed lines) on the left and outside of door 200D and interior module 200E on the right and inside of door 200 (annotated in a red box with dashed lines). See Pet. 33 (annotating Ex. 1011, Fig. 8); Ex 1002 ¶¶ 241–243.

Petitioner points out that “Menard’s interior module 200E includes ‘transceiver 150E,’ which includes a transmitter and receiver.” Pet. 34 (quoting Ex. 1004, 22:29–31; citing Ex. 1004, 21:28–29). Petitioner also points out that “Menard’s ‘exterior module 200D and interior module 200E communicate using a BLUETOOTH® communication channel.” *Id.* (quoting Ex. 1004, 21:31–32). Based on “their wireless transmission capabilities across radio frequencies (RF) including utilizing Bluetooth technology,” Petitioner reads the “the receiver and transmitter of interior

module 200E” onto the claimed “RF receiver” and “RF transmitter.” *See id.* at 34 (citing Ex. 1002 ¶ 243; Ex. 1004, 14:25–15:30, 20:22).

Based on the above teachings, Petitioner asserts that it would have been obvious “to use Menard’s RF transmitter and RF receiver with Jae’s indoor terminal 200.” Pet. 34 (citing Ex. 1002 ¶¶ 244–245). According to Petitioner, “this combination merely incorporates/combines known elements (e.g., Menard’s transceiver and wireless RF communication capabilities with Jae’s indoor terminal) in a known manner to yield predictable results,” with “a reasonable expectation of success, given the interchangeability and widespread use of RF communication components in networks and monitoring devices at the time.” *Id.* (citing Ex. 1002 ¶¶ 244–245). Petitioner also contends that “the proposed combination offered motivating advantages, such as facilitating wireless communications between network components, thereby creating a more user-friendly and convenient monitoring system that reduces the need for hardwiring/wired communications and the corresponding installation burden.” *Id.* (citing Ex. 1002 ¶¶ 245).

Petitioner then asserts that “[i]t was further obvious to include such an interior transceiver in Naidoo’s system.” Pet. 72 (citing Ex. 1002 ¶¶ 475–477). According to Petitioner, the proposed

modification merely incorporates/combines known elements (e.g., the interior transceiver of Menard/Jae with Naidoo’s system) in a known manner to yield predictable results and having a reasonable expectation of success, given the interchangeability and widespread use of interior transceivers/indoor terminals in monitoring systems at the time (e.g., in intercom systems for controlling entry to buildings) and Naidoo’s suggestion for integrating additional user interfaces.

Pet. 72–73 (citing Ex. 1002 ¶¶ 475–476). Petitioner asserts that “motivating advantages,” include “providing a device/user interface that would enable persons inside a building to communicate with visitors at an outdoor device and control access via monitored doors/entries, thereby improving and creating a more user-friendly and convenient monitoring system.” *Id.* at 73 (citing Ex. 1002 ¶¶ 477).

Patent Owner relies on its unavailing arguments addressed in connection with Ground 1 (claims 1 and 7), “that neither Jae nor Menard disclose wireless transmission of video via an RF transmitter or RF receiver at all, let alone to a display screen on an interior transceiver.” PO Resp. 49. Patent Owner also relies on its unavailing argument that “there is no RF transmitter or RF receiver in the indoor terminal of Jae.” *Id.* at 38 (citing Ex. 1011, Fig. 1, Fig. 3). Petitioner also relies on its unavailing arguments for claims 1 and 7 and asserts that “Jae does not disclose wireless communication between the indoor and outdoor terminals,” and also that it “would not have been obvious to combine features of Menard’s interior module 200E with Jae’s indoor terminal 200.” *Id.* at 39. For the reasons outlined in connection with Ground 1 above, Petitioner shows persuasively that Jae and Menard render the additional limitations of claim 7 obvious.

Patent Owner also argues that it would not have been obvious to implement the indoor terminal teachings of Jae and Menard with Naidoo, because it “would add even more cost and complexity.” PO Resp. 49. Patent Owner also argues that “Petitioner cannot explain how or why a [person of ordinary skill in the art] would modify Naidoo with Jae in combination with Menard other than *ipse dixit* testimony from its expert.” *Id.* at 49–50. Patent Owner also argues that the three references are “completely different,” as follows:

Naidoo, Jae, and Menard are three completely different monitoring or security systems. Naidoo is a system of various monitoring components (e.g. cameras, sensors, audio) separated from each other, Jae is a simple wired intercom system with a remote access feature, and Menard is an omnibus reference that has 25+ embodiments directed to detecting and monitoring at least one event or condition. Petitioner fails to provide a persuasive explanation or reason for concluding that one of skill in the art would have combined these particular references to produce the claimed invention.

Id. at 50.

These generic arguments do not address Petitioner stated rationale. As outlined above, the three systems similarly relate to wireless video and security monitoring systems. *See supra* §§ III.E.1.a, 1.b, 11.a. Petitioner’s rationale for combining Jae and Menard to teach an indoor terminal is persuasive as outlined above. Patent Owner acknowledges that Petitioner’s stated rationale is that such an interface “would enable persons inside a building to communicate with visitors at an outdoor device and control access via monitored doors/entries, thereby improving and creating a more user-friendly and convenient monitoring system.” PO Resp. 51 (quoting Pet. 73). Patent Owner contends these “alleged benefits lack any motivating factor,” but this simple denial is unavailing to undermine the stated advantages—motivating factors. *See* PO Resp. 51. Controlling access via monitored entries and providing communication with visitors by using an indoor monitor to “improv[e] and creating a more user-friendly and convenient monitoring system” is on its face an advantage for a security system. *See* Reply 22 (arguing it “clearly constitutes a ‘motivating factor’”). By way of an unlimiting example, an immediately apparent consequence of the user-friendly and convenient indoor interface system is that it allows an

indoor user to avoid confronting potentially dangerous individuals in person.

Patent Owner also argues that the obviousness rationale “appears” to use the ’644 patent as a map. PO Resp. 51. It is not clear in what sense Petitioner uses the ’644 patent as a map, because Patent Owner does not explain. *See id.* To the extent Patent Owner refers to indoor terminals in general, as Petitioner argues, this argument “is undone by the clear disclosures of both Jae and Menard, which both teach intercom systems that provide the foregoing benefits/motivations, demonstrating that such motivations were well-known, and in fact have been appreciated for over 50 years.” Reply 22 (citing Ex. 1035, 1:12–69). That such indoor terminals were well-known and in use for security purposes also demonstrates that artisans of ordinary skill readily traded-off security for any additional cost or security.

According to the record and as summarized above, Petitioner persuasively maps the limitations of claim 7 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success.

Petitioner asserts that claims 11 and 23, which depend from claim 7 directly and indirectly, respectively, would have been obvious over Naidoo, Menard, Lands, Jae, Monroe, and Vaio. Pet. 73–74, 80–82. Petitioner persuasively maps the limitations of claims 11 and 23 to the asserted prior art and provides reasons supported by factual underpinnings to combine the reference teachings with a reasonable expectation of success. *See id.* In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.*

Claim 11 depends from claim 7 (which depends from claim 1) and recites that “wherein the interior transceiver can be used to generate text

messaging.” Petitioner contends that implementing Jae’s text features in to Naidoo’s system would have yielded predictable results with a reasonable expectation of success, with a benefit of “benefit of including an additional communication option (i.e., text messaging) to allow individuals to communicate with non-audible messages.” Pet. 73–74 (citing Ex. 1002 ¶ 481).

Without mentioning claim 11 explicitly, Patent Owner contends that Petitioner’s rationale as set forth in the latter sentence is conclusory and generic. PO Resp. 58 (citing Pet. 73–74). Contrary to Patent Owner’s argument, there is nothing conclusory or generic about this articulated benefit of text as providing an additional communication option. Jae’s text feature logically provides an optional and specific communication option for Naidoo’s similar security system. *See* Pet. 73 (citing Ex. 1011, 5:8, 5:30–33, 7:3–7). Petitioner also persuasively relies on benefits of using Jae’s indoor terminal as discussed above in connection with claim 7, which generally provides the user ability to control access to a visitor outside the building to improve Jae’s system and create a user-friendly convenient monitoring system. *Id.* (citing Pet. 72–73).

Claim 23 depends from claim 11 and recites “wherein the communication interface is . . . for communicating with an alarm at a remote location to signal that there has been a security breach of the lock.” Petitioner contends that “Naidoo discloses communicating an alarm and audiovisual data to a remote central monitoring station 136 as well as law enforcement upon triggering of sensors 105.” Pet. 78 (citing Ex. 1005, 9:1–10, 7:4–12, 16:1–12 (“If an alarm condition exists, CMS 136 personnel can contact the appropriate authorities.”); Ex. 1002 ¶¶ 514–520). Petitioner contends that Naidoo’s system transmits alarm communications using alarm

control panel 310 and/or communications interface 340. *Id.* (citing Ex. 1005, 12:52–66, 14:13–24).

Petitioner further notes that Naidoo’s sensors 105 include “magnetic contact switches.” Pet. 78 (citing Ex. 1005, 7:17–21). Also, such “magnetic contact switches” include sensors that determine when a door is opened (and thus the corresponding lock breached). *Id.* (citing Ex. 1002 ¶ 519; Ex. 1005, 8:24–28). Petitioner also contends that “Jae discloses a communications interface (e.g., communication unit 170 or any other component of outdoor terminal 100 that transmits communications) for communicating with an alarm at a remote locate location to signal a security breach of the lock.” *Id.* (citing Pet. 40–41; Ex. 1011, 3:19–29, 5:16–28, 7:3–20).

Based on these teachings, Petitioner contends that it “was obvious to use Naidoo’s communications interface (such as alarm control panel 310 or communications interface 340) to communicate with an alarm at a remote location to signal a security breach of a lock in view of Jae.” Pet. 78 (citing Ex. 1002 ¶¶ 521–522). According to Petitioner, “[s]uch a modification merely involves incorporating Jae’s provision of alarms to remote locations such as a police station or private security company into Naidoo’s system.” *Id.* (citing Ex. 1002 ¶ 521). Petitioner also contends that “[t]his modification would have been predictably and successfully achieved by a [person of ordinary skill in the art], given that it was commonplace at the time for alarm systems to communicate with alarms at remote locations such as police stations and security company monitoring facilities.” *Id.* at 78–79 (citing Ex. 1002 ¶ 521). According to Petitioner, a person of ordinary skill in the art “was motivated to make this combination to facilitate prompt responses from emergency personnel or other resources.” *Id.* at 79 (citing Ex. 1002 ¶ 522).

Patent Owner contends that that Petitioner's rationale of "facilitat[ing] prompt responses from emergency personnel or other resources" is conclusory and generic. *See* PO Resp. 56, 58 (quoting Pet. 79). Patent Owner's argument is unavailing. The record supports Petitioner's showing. Jae and Naidoo each disclose providing alarms, with Jae disclosing the signaling of a security breach including during emergencies and Naidoo determining a breach of a door controlled by a lock. *See* Ex. 1005, 7:17–21; Ex. 1011, 3:19–29, 5:16–28, 7:3–20. Therefore, it would have been obvious to implement the combination in order to handle the emergency by contacting the proper authorities for prompt responses as Petitioner shows.

Based on the record, we determine that Petitioner shows by a preponderance that claims 7, 11, and 23 would have been obvious over Naidoo, Menard, Monroe, Lands, Jae, and Vaio.

12. Naidoo, Menard, Lands, Jae, Monroe, Vaio, and Ellis, Ground 13

Petitioner asserts that claim 12 would have been obvious over Naidoo, Menard, Lands, Jae, Monroe, Vaio, and Ellis. *See* Pet. 72–79, 82. Claim 12 depends from claim 1 and recites "wherein the system is connected to a digital communication channel selected from the group consisting of DSL, satellite, cable, wireless, and a combination thereof, where the digital communication channel is in communication through the Internet, the Grid, satellite systems, and other information sharing systems." Petitioner generally relies on its showing with respect to claim 12 and Jae and Ellis as discussed above to show that it would have been obvious in view of Ellis to connect the various networks to the Internet as suggested by Naidoo's cable and wireless network teachings. *See* Pet. 79.

Similar to its showing for claim 1, Petitioner contends that “[t]he combination of Jae and Menard teaches using *wireless* digital communication channels, e.g., Bluetooth, 802.11.” Pet. 43 (citing Pet. 9–14; Ex. 1002 ¶ 307). Petitioner also points out that “Jae’s system ‘connect[s] to the server system through the Internet.’” *Id.* (quoting Ex. 1011, code (57); citing Ex. 1011, 6:6–10, claim 4). Therefore, according to Petitioner, “the wireless digital communication channel of Jae/Menard is ‘in communication through the Internet,’ as claimed.” *Id.* (citing Ex. 1002 ¶¶ 307–311).

Petitioner contends that “Ellis discloses using the Grid, satellite systems, and other information sharing networks together with the Internet to maximize user/device connections.” Pet. 43 (citing Ex. 1041, 10:14–23, 10:59–11:9). Petitioner also contends that “the ‘Grid,’ ‘satellite systems,’ and other information sharing systems,” “were known network options used in conjunction with the Internet at the time to maximize the number of users/devices connected to the network.” *Id.* (citing Ex. 1002 ¶¶ 312–315).

The record as cited above by Petitioner supports these underlying teachings. Patent Owner does not challenge these underlying teachings, other than with respect to the unavailing arguments with respect to the wireless teachings of Jae and Menard as discussed in connection with claim 1. Based on these teachings, Petitioner contends that including “these additional networks was a simple design choice that would have been predictably and successfully accomplished by a [person of ordinary skill in the art] by simply connecting Jae’s system to such additional networks,” and the benefits include “increased network users/connections, back-up networks to ensure reliable communications, and additional speed provided by such networks.” Pet. 43 (citing Ex. 1002 ¶¶ 314–315; Ex. 1041, 6:46–63).

Without mentioning claim 12, as discussed above in connection with Jae and claim 12, Patent Owner contends that Petitioner's rationale as quoted in the latter sentence is "conclusory" and "generic" in the above-noted general section entitled "**ALL GROUNDS SHOULD BE DENIED BECAUSE THE PETITIONER HAS FAILED TO PROVIDE ANY MOTIVATION TO COMBINE ANY OF THE REFERENCES.**" *See* PO Resp. 53, 56–57 (citing Pet. 43). This argument is unavailing.

Patent Owner's generic argument here isolates a single statement in the Petition and omits the context in which the Petition proposes for connecting well-known networks to the Internet. Petitioner's rationale of using additional well-known networks as options to connect to the Internet is persuasive and the record supports the factual underpinnings for the rationale as summarized above. *See* Ex. 1041, 6:46–63 (teaching performance increases using Grid-based hardware and software predicted to double every 18 months over the Internet). As also summarized above, Petitioner shows a reasonable expectation of success in combining the references.

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claim 12 would have been obvious over Naidoo, Menard, Lands, Jae, Monroe, Vaio, and Ellis.

13. Naidoo, Menard, Lands, Jae, Monroe, Vaio, Nykerk, and Jacobi, Ground 14.

Petitioner asserts that claims 18–20 would have been obvious over Naidoo, Menard, Lands, Jae, Monroe, Vaio, Nykerk, and Jacobi. *See* Pet. 72–79, 82; *supra* notes 4, 21 (discussing claim 20). Petitioner persuasively maps the limitations of claim 12 to the asserted prior art and provides reasons supported by factual underpinnings to combine the

reference teachings with a reasonable expectation of success. *See id.* In support, Petitioner relies on the testimony of Dr. Hochwald and provides citations to the reference teachings. *Id.*

Accordingly, we determine that Petitioner shows by a preponderance of evidence that claims 18–20 would have been obvious over Naidoo, Menard, Lands, Jae, Monroe, Vaios, Nykerk, and Jacobi. Patent Owner does not challenge Petitioner’s showing for claims 18–20, but instead relies on its arguments for claim 1. *See* PO Resp. 43, 53.

IV. CONCLUSION

Claims	35 U.S.C. §	Reference(s)/Basi s	Claims Shown Unpatentable	Claims Not shown Unpatentable
1, 3, 7, 11, 13–15, 23	103(a)	Jae, Menard, Monroe, Vaios	1, 3, 7, 11, 13–15, 23	
12	103(a)	Jae, Menard, Monroe, Vaios, and Ellis	12	
17	103(a)	Jae, Menard, Monroe, Vaios, Naidoo	17	
18–20	103(a)	Jae, Menard, Monroe, Vaios, Nykerk, Jacob	18–20	
1–3, 7, 11, 13–15, 23	103(a)	Jae, Menard, Monroe, Vaios, Lands	1, 3, 7, 11, 13–15, 23	
12	103(a)	Jae, Menard, Monroe, Vaios, Lands, Ellis	12	
17	103(a)	Jae, Menard, Monroe, Vaios, Lands, Naidoo	17	
18–20	103(a)	Jae, Menard, Monroe, Vaios,	18–20	

		Lands, Nykerk, Jacob		
1, 3, 7, 11, 13–15, 17, 23	103(a)	Naidoo, Menard, Lands, Jae, Monroe		
12	103(a)	Naidoo, Menard, Lands, Jae, Ellis, Monroe		
18–20	103(a)	Naidoo, Menard, Lands, Jae, Nykerk, Jacob, Monroe		
1, 3, 7, 11, 13–15, 17, 23	103(a)	Naidoo, Menard, Lands, Jae, Monroe, Vaio	1, 3, 7, 11, 13–15, 17, 23	
12	103(a)	Naidoo, Menard, Lands, Jae, Monroe, Vaio, Ellis	12	
18–20	103(a)	Naidoo, Menard, Lands, Jae, Monroe, Vaio, Nykerk, Jacob	18–20	
Overall Outcome			1, 3, 7, 11–15, 17–20, 23	

V. ORDER

Accordingly, it is

ORDERED that Petitioner establishes by a preponderance of evidence that challenged claims 1, 3, 7, 11–15, 17–20, and 23 are unpatentable;

FURTHER 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. § 90.2.²⁴

PETITIONER:

James Glass
Quincy Lu
QUINN EMANUEL URQHART & SULLIVAN LLP
jimglass@quinnemanuel.com
quincylu@Quinnemanuel.com

Michael R. Houston
Nicholas Lagerwall
FOLEY & LARDNER LLP
mhouston@foley.com
nlagerwall@foley.com

PATENT OWNER:

Gary R. Sorden
COLE SCHOTZ P.C.
gsorden@coleschotz.com

²⁴ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. *See* 84 Fed. Reg. 16654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. §§ 42.8(a)(3), (b)(2).