

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VIVINT LLC,
Petitioner,

v.

DUKE W. ZINSER,
Patent Owner.

Case IPR2026-00300
Patent No. 7,583,191

PATENT OWNER DUKE W. ZINSER'S PRELIMINARY RESPONSE

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PATENT OWNER’S EXHIBIT LIST

Exhibit No.	Description
2021	Declaration of Dr. Robert Akl, D.Sc. Regarding Validity of Claims 21 – 47 of U.S. Patent 7,583,191 in Support of Patent Owner’s Preliminary Response
2022	Memorandum to Members of the Patent Trial and Appeal Board from Coke Morgan Stewart re: Enforcement and Non-Waiver of 37 C.F.R. § 42.104(b)(4) and Permissible Uses of General Knowledge in Inter Partes Reviews, dated July 31, 2025
2023	Email [string] to A. Nair from J. Powers re: Zinser v. Vivint – Plaintiff’s proposed Terms for Claim Construction, dated June 9, 2026 at 3:45 pm
2024	Webster’s Third New International Dictionary, Unabridged, pp. 497, 1475, 1630, 1828.
2025	U.S. Patent No. 2,866,506
2026	Patent Translate for DE2535728A1, dated June 17, 2026
2027	U.S. Patent No. 4,081,830
2028	U.S. Patent No. 3,195,043
2029	U.S. Patent No. 3,670,652
2030	U.S. Patent No. 3,829,850
2031	U.S. Patent No. 3,896,425
2032	U.S. Patent No. 10,009,520
2033	U.S. Patent No. 4,479,053
2034	“Depth Estimation From a Sequence of Monocular Images with Known Camera Motion,” by Zhuang, Sudhakar, and Shieh, published in the IEEE publication Robotics and Autonomous Systems, Vol. 13, Issue 2, pp. 87 – 95, July 1994

Exhibit No.	Description
2035	Vivint's Opening Claim Construction Brief, dated October 19, 2021, entered in <i>SB IP Holdings, LLC v. Vivint Smart Home, Inc., et al.</i> , No. 4:20-cv-886, Dkt. 54 (E.D. Tex.)
2036	Claim Construction Order, dated December 7, 2021, entered in <i>SB IP Holdings, LLC v. Vivint Smart Home, Inc., et al.</i> , No. 4:20-cv-886, Dkt. 71 (E.D. Tex.)
2037	Patent Owner's Complaint for Patent Infringement, dated September 18, 2025, entered in <i>Zinser v. Vivint, LLC, et al.</i> , No. 4:25-cv-1030, Dkt. 1 (E.D. Tex.)
2038	Declaration of Dr. Jing Hu, dated January 22, 2016, in <i>Apple Inc. v. DSS Tech. Mgmt., Inc.</i> , IPR2015-00369, Exhibit 1014, dated January 22, 2016
2039	Dictionary of Engineering, 2d Ed., p.126

Patent Owner, Duke W. Zinser (“Zinser” or “Patent Owner”), requests that the Director deny institution in this *inter partes* review proceeding because Petitioner Vivint LLC (“Petitioner” or “Vivint”) has not shown “a reasonable likelihood” of prevailing against independent Claims 21 and 34 (the “Challenged Independent Claims”) of U.S. Patent No. 7,583,191, titled “Security System and Method for Use of Same” (the “’191 Patent”). 35 U.S.C. § 314(a). Petitioner also seeks review of dependent Claims 22-33; 34-47 (“Challenged Dependent Claims”), but since it failed to show a reasonable likelihood of prevailing as to Claims 21 and 34, the Director does not need to address these Challenged Dependent Claims to deny institution. (The Challenged Independent Claims and Challenged Dependent Claims are referred to herein as the “Challenged Claims”).

I. INTRODUCTION

The Board should deny institution as to the Challenged Claims for at least four reasons.

First, the Petition states a single ground – invalidity under Section 103 based on a single reference, U.S. Patent Application Number 2004/0086093, filed by Schranz (“Schranz”). By relying on Section 103, Petitioner concedes that Schranz does not anticipate. To fill in the gaps in Schranz as to several limitations, Petitioner relies on the conclusory and unsupported testimony of its expert, Mr. Parker. Ex. 1003. Petitioner relies on Mr. Parker to supply at least three

limitations¹ that are missing from Schranz. In doing so, Petitioner has violated the edict in the Memorandum, dated July 31, 2025, regarding “Enforcement and Non-Waiver of 37 C.F.R. § 42.104(b)(4) and Permissible Uses of General Knowledge of Inter Partes Reviews” (the “July 31st Memo”) (“... enforcement of Rule 104(b)(4) means that applicant admitted prior art (AAPA), expert testimony, common sense, and other evidence that is not ‘prior art consisting of patents or printed publications’ ... may not be used to supply a missing claim limitation.”). Institution should be denied for this reason alone.

Second, there is no discussion by Petitioner or Mr. Parker of Limitations 21.8/34.8.2 (“Wirelessly streamed”/“wirelessly streaming”) other than equating streaming with wireless transmission of data without any explanation. Streaming means more than wirelessly transmitting data. Schranz does not discuss streamed or streaming video.

Third, the Challenged Independent Claims require an all-in-one doorbell camera (Limitations [21.7] and [34.7]) and a “proximity detector” included within the same all-in-one doorbell camera (*Id.*). Schranz has none of these physical components. Furthermore, Petitioner’s “alternative theory” that these limitations would have been obvious fails because the Petition fails to present any reasoned

¹ Limitations [21.3] and [34.3]; [21.7] and [34.7]; [21.11] and [34.9]

analysis and evidentiary support but, rather, simply makes conclusory and unsupported assertions.

Fourth, Limitation [29.9.2] requires “a control panel” “configured to allow an individual to manage a security system.” As with doorbell and proximity detector, Petitioner and its expert merely assert in a single sentence that a collection of five diverse items in Schranz meets this limitation: “[t]he user software application, web server, web application, keyboard, and monitor are collectively a *control panel*... .” (Petition, p. 39; Ex. 1003, ¶ 84). They are not, as explained below. A conclusory sentence with no explanation does not constitute sufficient evidence to justify institution. Furthermore, unlike Limitations [21.7] and [34.7], Petitioner does not contend as an “alternative theory” that knowledge of the POSA would make up for the lack of a control panel in Schranz.

For at least these reasons, Petitioner has failed to show a reasonable likelihood of prevailing, and, therefore, institution should be denied.

II. FACTUAL BACKGROUND

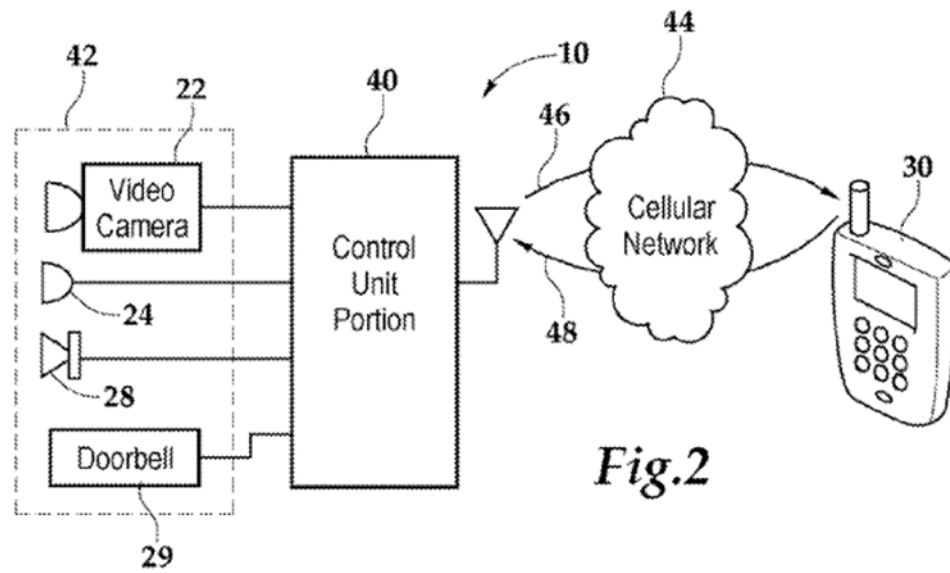
A. The ’191 Patent

The ’191 Patent issued on September 1, 2009, with twenty-one claims not at issue here. On August 15, 2024, Zinser filed a Petition for Reexamination, which was granted. A Reexamination Certificate issued on September 18, 2025, which cancelled four of the original claims and issued twenty-six new claims (the

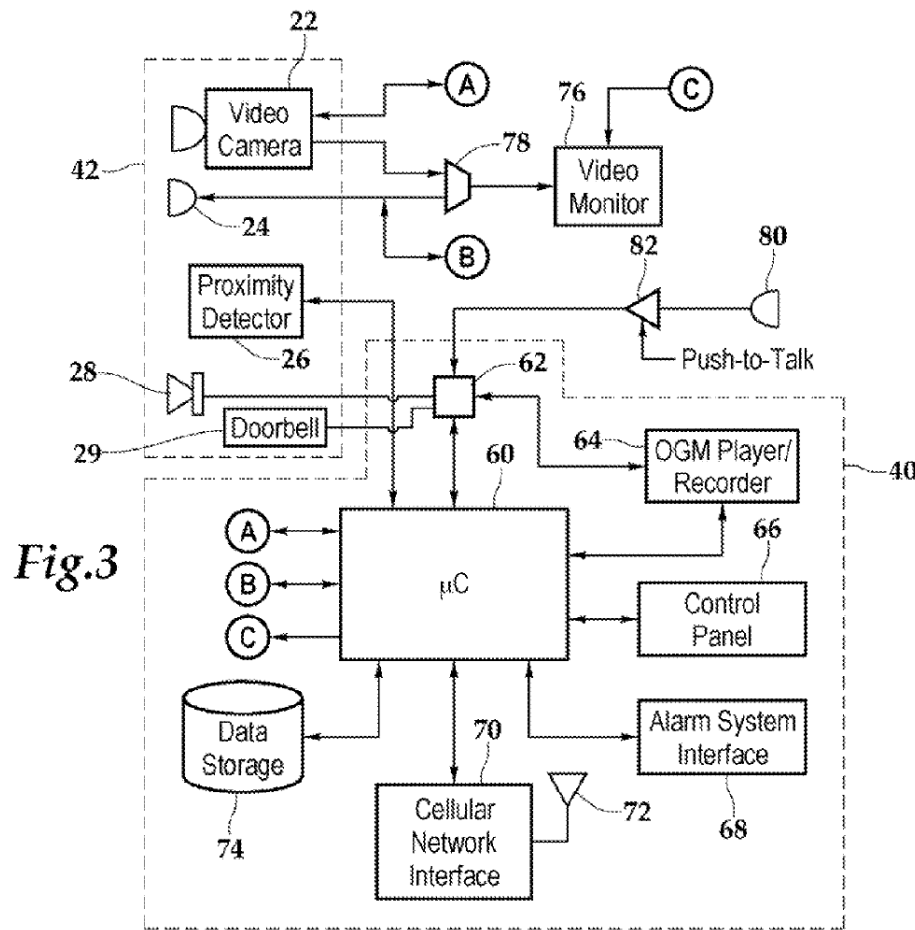
Challenged Claims herein). The Challenged Claims are narrower than the original claims as 35 U.S.C. § 305 requires.

While doorbell cameras and smartphones are now ubiquitous, this was not the case in 2006. Zinser conceived of the technology described in the '191 Patent while at his home in early 2006. Zinser had grown tired of the frequent door-to-door solicitations. After one solicitation too many, Zinser conceived of a system to enable one to view visual and audio communications to facilitate a decision as to whether to answer the door. Furthermore, Zinser realized that cell phones that could do more than make a call were the wave of the future. Zinser also understood that these new devices would allow a user to remotely monitor the entryway of the home, to receive video and audio communications from a visitor at the door, and to transmit audio communications from the cell phone to the visitor.

After working diligently to further develop his solution to the problem of screening unwanted visitors, Zinser prepared his patent application, which was filed on November 14, 2006. One example of the system that Zinser invented is shown in Figure 2 of the '191 Patent:



Ex. 1001, Fig. 2. Another embodiment is shown in Figure 3:



Ex. 1001, Figure 3. Element 42, referred to as both a “communication portion” (Ex. 1001, 3:12) and a “communication unit” (5:3), includes “video camera 22, the exterior microphone 24, the exterior speaker 28 and a doorbell.” Ex. 1001, 3:13-16. In addition, the embodiment described in connection with Figure 3 also had a proximity detector 26. Ex. 1001, 5:5-6. In other words, the ’191 Patent describes an “all-in-one” doorbell camera with a proximity detector.

As subsequent history has shown, the ’191 Patent was a pioneering patent that has been widely cited by others since its issuance. For example, Google

Patents shows two hundred fourteen (214) published applications or patents that cite to the '191 Patent.² Vivint cited the '191 Patent in two of its patents, U.S. Patent No. 10,133,935 and U.S. Patent No. 10,586,114. The first of these was published on July 16, 2016 (as U.S. Published App. 2016/0203370). In addition, in April 2021, Vivint, as a respondent in an ITC matter (ITC Investigation No. 337-TA-1242), cited the '191 Patent as a primary reference in its invalidity contentions. Ex. 2005 at 31, 45, 59, 73, 87, 101, 115. Vivint submitted 70-plus page invalidity charts where it mapped the disclosures in the '191 Patent. *See* Ex. 2006.³

Challenged Independent Claims 21 and 34 are very similar apparatus claims having numerous identical, or nearly identical, limitations as shown in the following chart (using the internal enumeration used by Petitioner (Petition, pp. 8 – 10)):

Claim 21	Claim 34
[21.0] A doorbell monitoring system comprising:	[34.0] A doorbell monitoring system comprising:

² *See* <https://patents.google.com/patent/US7583191B2/en?q=US+7583191#citedBy> (last accessed June 3, 2026).

³ Based on these facts and others, Patent Owner requested that the Director use his discretion to deny institution by Paper No. 6, filed on May 19, 2026, which is incorporated by reference.

Claim 21	Claim 34
[21.1] a doorway having an environment;	[34.1] a doorway having an environment;
[21.2] a doorbell located in an entry point, activation of the doorbell being a triggering event;	[34.2] a doorbell located in an entry point, activation of the doorbell being a triggering event;
[21.3] a video camera and an external microphone disposed in the entry point, the video camera and the external microphone, responsive to the triggering event, for capturing visual and audio communications at the entry point and transmitting the captured visual and audio communications;	[34.3] a video camera and an external microphone disposed in the entry point, the video camera and the external microphone, responsive to the triggering event, for capturing visual and audio communications at the entry point and transmitting the captured visual and audio communications;
[21.4] an external speaker disposed in the entry point, the external speaker for rendering received audio communications;	[34.4] an external speaker disposed in the entry point, the external speaker for rendering received audio communications;
[21.5] a control unit in communication with the video camera, the doorbell, and the external microphone, the control unit for communicating at least one portion of the visual and audio communications received from the video camera and the external microphone, and for communicating the received audio communications to the external speaker; and	[34.5] a control unit in communication with the video camera, the doorbell, and the external microphone, the control unit for communicating at least one portion of the visual and audio communications received from the video camera and the external microphone, and for communicating the received audio communications to the external speaker;
[21.6] a cellular telephone disposed remotely to the doorway and the control unit, the cellular telephone for capturing cellular audio communications at the cellular telephone, transmitting the cellular audio communications to the control unit, and rendering the at least one	[34.6] a cellular telephone disposed remotely to the doorway and the control unit, the cellular telephone for capturing cellular audio communications at the cellular telephone, transmitting the cellular audio communications to the control unit, and rendering the at least one

Claim 21	Claim 34
portion of entry point visual and audio communications received from the control unit;	portion of entry point visual and audio communications received from the control unit; and
<i>[21.7] wherein the doorbell, the video camera, the external microphone, the external speaker, and a <u>proximity detector</u> are part of a single communications unit;</i>	<i>[34.7] wherein the doorbell, the video camera, the external microphone, the external speaker, and a <u>proximity detector</u> are part of a single communications unit; and</i>
<i>[21.8] wherein the entry point visual and audio communications are wireless streamed to the control unit;</i>	
	<i>[34.8] wherein the single communications unit is configured [34.8.1] to play a pre-recorded message to a visitor at the entry point and [34.8.2] wirelessly streaming at least a portion of the captured visual and audio communications to the control unit;</i>
<i>[21.9] wherein [29.9.1] the control unit is configured to store the entry point visual and audio communications captured by the single communications unit in a data storage unit of the control unit wherein [29.9.2] a control panel is configured to allow an individual to manage a security system;</i>	
<i>[21.10] wherein an alarm system interface of the control panel is configured to interface with the security system;</i>	
<i>[21.11] wherein the video camera is configured to collect the entry point visual communications captured by</i>	<i>[34.9] wherein the video camera is configured to collect the entry point</i>

Claim 21	Claim 34
the single communications unit before the triggering event;	visual communications // before the triggering event; and
[21.12] wherein the video camera is configured to collect additional visual communications after the triggering event;	[34.10] wherein the video camera is configured to collect additional visual communications after the triggering event.
[21.13] wherein the doorbell monitoring system is configured to establish communication with the control unit upon activation of the doorbell;	
[21.14] wherein at least a portion of an initial communication after the doorbell is activated is a notification sent to the cellular telephone; and	
[21.15] wherein the doorbell monitoring system is configured to authenticate a user of the doorbell monitoring system.	

The common claim limitations of the Challenged Independent Claims will be addressed together. Numerous differences exist between the Challenged Independent Claims and the single reference of Ground 1. For the limited purpose of this Preliminary Response, Patent Owner will rely on those limitations highlighted (in bold italics) above to demonstrate that Petitioner has failed to carry its burden to show that it has “a reasonable likelihood” of prevailing against the Challenged Claims. 35 U.S.C. § 314(a). In the event of institution, Patent Owner may address additional distinctions.

For the purposes of this Preliminary Response, the Challenged Dependent Claims will not be addressed as they are non-obvious for at least the same reasons that Claims 21 and 34 are non-obvious. In the event of institution, Patent Owner may address the dependent claims.

B. Overview of the Prosecution History

The Petitioner addresses the file history briefly, and the portion it does discuss deals with the original claims and not the Challenged Claims. Petition, pp. 10 – 11. The file history is extensive. See Exs. 1002, 1005. The original file history is relevant to the construction of the limitation “proximity detector,” and that portion will be discussed below under Claim Construction (Section VI).

Most relevant to the distinctions drawn below between the Challenged Independent Claims and Schwartz are the Examiner’s reasons for allowing those claims. In the *Notice of Intent to Issue Ex Parte Reexamination Certificate* mailed August 27, 2025, the examiner stated the reasons for allowance of Claim 21 (filed as Claim 55) as follows:

With respect to Menard, Klein and Von Bauer, the Examiner finds that Menard discloses the transmission of a signal in response to the actuation of a doorbell. Menard does not specifically disclose of a control panel being configured to allow an individual to manage a security system or where a video camera is configured to collect the entry point visual communications captured by the single communication unit before the triggering event or where the doorbell monitoring system is configured to authenticate a user of the doorbell monitoring system in combination with the rest of the limitation of the claim.

In addition, neither Von Bauer nor Klein disclose a control panel being configured to allow an individual to manage a security system or where a video camera is configured to collect the entry point visual communications captured by the single communication unit before the triggering event or where the doorbell monitoring system is configured to authenticate a user of the doorbell monitoring system in combination with the rest of the limitations of the claim. The Examiner finds that although Menard, Klein and von Bauer discloses of actuation of a doorbell and transmission of signals responsive to the actuation of the doorbell, neither Menard nor von

Bauer further disclose the capturing of the visual communication prior to the activation of the doorbell.

Exhibit 1005, pp. 1046 – 1063 at 1051 – 1052.

The examiner further addressed a second set of references:

With respect to Sheynman, Hershkovitz and Xin, the Examiner finds that the teachings show a doorbell monitoring system in which a portion of audio and visual communications are transmitted to a cellular user. The Examiner finds that in view of the claims, Sheynman, Hershkovitz and Xin do not disclose of a video camera being configured to collect the entry point visual communication captured by a single communication unit before the triggering event where the triggering event is the activation of a doorbell which is configured to capture and transmit visual and audio communications at the entry point or where the doorbell monitoring system is configured to authenticate a user of the doorbell monitoring system. The Examiner notes that Xin discloses of capturing visual communications, without the activation of a doorbell, however, Xin does not disclose of both doorbell activation for the capturing and transmission of visual and audio communication in combination with also capturing the visual images prior to the activation of a doorbell.

Ex. 1005, p. 1052.

As to Claim 34 (filed as Claim 90), the examiner stated the reasons for allowance as follows:

As per claim 90, the claim, like claim 55, is directed to a doorbell monitoring system. In addition, similar to claim 55, the claim recites both the capturing and transmission of visual and audio communications at the entry point in response to an activation of a doorbell in combination with a video camera being configured to collect the entry point visual communications before the triggering event. Therefore, for at least this same reason as set forth above in claim 55, the relied upon prior art of record do not teach the limitations set forth in claim 90.

Ex. 1005, pp. 1061 - 1063. Subsequent to this Notice of Intent, the Reexamination Certificate issued. Ex. 1001.

III. OVERVIEW OF THE PETITION

The Petition attacks the validity of the Challenged Claims of the '191 Patent on a single ground – obviousness under Section 103 in view of a single reference, Schranz. Petition, pp. 1, 16; Ex. 1004 (“Schranz”). Petitioner’s reliance on Section 103 is an implicit admission that not all of the limitations are met by Schranz.

Petitioner first contends that a POSITA would understand Schranz to teach each claim limitation. Petitioner is incorrect as will be shown below. For example, Limitation [21.7] is as follows: “wherein the **doorbell**, the video **camera**, the external microphone, the external speaker, and a **proximity detector** are **part of a single communications unit**.” Ex. 1001, Cl. 21 (emphasis added). Petitioner asserts that “Schranz discloses this limitation.” Petition, p. 33. As discussed below, Schranz discloses neither a doorbell nor a proximity detector as part of a “single communications unit” that also includes a camera.

As another example, Petitioner fails to address the terms “wirelessly streamed” and “wirelessly streaming” in Limitations [21.8] and [34.8], respectively. Instead of discussing these terms, in a single sentence the Petitioner equates sending data via a “wireless channel.” Petition, p. 35. Streaming is more

than simply sending data wirelessly. Thus, as to this Limitation, Petitioner has failed to carry its burden to show a reasonable likelihood of success.

As another example, Limitation 21.9 is as follows: “...wherein **a control panel** is configured to allow an individual to manage a security system.” Ex. 1001, Cl. 21. Schranz does not disclose a “control panel.” What it does disclose is “[t]he user software application, keyboard, and monitor” that Petitioner contends “are collectively a control panel... .” Petition, p. 39. As will be explained, these items do not constitute a control panel.

As to Limitations [21.7] and [34.7], Petitioner presents an “alternative theory” relying on ill-defined knowledge of the POSITA. Petition, pp. 34 – 35; 65. Apparently knowing the weakness of its position that Schranz meets these Limitations, Petitioner alleges:

[t]o the extent Patent Owner asserts that Schranz does not expressly describe a peripheral device with a doorbell and a proximity sensor, it would have been obvious to include both a motion detector (proximity detector) and a doorbell signal within a peripheral device.

Petition, p.34. As will be explained, Schranz does not disclose an “all-in-one” doorbell camera having a proximity sensor, and Petitioner’s conclusory statements that the modifications to Schranz would have been obvious are both incorrect and fall far short of a “reasoned analysis” as required by the Federal Circuit when

knowledge of POSA is relied upon to fill in limitations missing from a single reference.

IV. LEVEL OF SKILL IN THE ART

Petitioner defines the person of ordinary skill in the art (“POSITA”) as follows:

a POSITA, as of its November 2006 Priority Date would have been someone knowledgeable and familiar with communication protocols used by components in a security system for transferring information between components. A POSA would have gained knowledge of these concepts through a mixture of training and work experience, such as by having at least a bachelor’s degree in electrical or electronic engineering, computer science, or related field, and at least two years of training or additional work experience in the area of security system components, or a related field. Additional hands-on and design experience could compensate for less formal education, and vice versa.

Petition, p. 12; Declaration of Expert James Parker (“Parker Decl.”), Ex. 1003, ¶ 42.

Zinser would define the POSITA as:

having 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.

Exhibit 2021, *Declaration of Dr. Robert Akl, D.SC. Regarding Validity of Claims 21 – 47 of [’191 Patent] in Support of Patent Owner’s Preliminary Response* (the “Akl Decl.”), ¶ 35 (Ex. 2021). For the present purposes only, Patent Owner will use the Petitioner’s definition of the POSITA but reserves the right to challenge Petitioner’s definition in the future.

V. LEGAL STANDARDS

A. Claim Construction

The first step in an analysis of validity over the prior art is claim construction. *Oakley, Inc. v. Sunglass Hut Intern.*, 316 F.3d 1331, 1339 (Fed. Cir. 2003); *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001). The Board is well acquainted with general law of claim construction established by *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*), which applies here.

B. Law of Obviousness

1. Claim as a Whole

The legally correct analysis for obviousness is to first identify the differences between the claimed invention and the references relied upon. *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). The M.P.E.P. correctly summarizes Federal Circuit precedent as follows:

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 **is not whether the differences**

themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983)

M.P.E.P., Ninth Edition, Rev. 07.2022, Pbl. Feb 2023, Section 2141.02 (emphasis added). Thus, it is not enough to merely show that each element was independently known in the prior art. *KSR*, 550 U.S. at 418; *see also Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017).

Petitioner addresses obviousness only as to particular limitations and never discusses the Independent Challenged Claims as a whole. *E.g.*, Petition, pp. 26, 34 – 35, 42 – 44. Ample authorities illustrate that the Petitioner's limitation-by-limitation approach is improper. For example, the Federal Circuit in *In re Dembicki*, 175 F.3d 994, 1000 (Fed. Cir. 1999) stated that:

this reference by reference, limitation-by-limitation analysis fails to demonstrate how [the two references] teach or suggest their combination with conventional trash or lawn bags to yield the claimed invention.

Id., *see also Myspace, Inc. v. Garphon Corp.*, 672 F.3d 1250, 1257 (Fed. Cir. 2012); *Ecochem, Inc. v. Southern California Edison, Co.*, 227 F.3d 1361, 1374 (Fed. Cir. 2000). Instead, the relevant question is whether the claim as a whole would have been obvious. *E.g.*, M.P.E.P., § 2141.02.

It is axiomatic that the difference between anticipation and obviousness is that each limitation need not be present in a single piece of prior art for the invention to be obvious. To prove obviousness, Petitioner must show that all limitations are present in the combination relied upon, here, Schranz and the knowledge of the POSITA. *Application of Royka*, 490 F.2d 981, 985 (CCPA 1974) (finding that “the essence of appellant’s invention as set forth in claim 28 is still missing notwithstanding the addition of” a third reference to the combination); *see also CFMT, Inc. v. Yieldup Int’l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003); *Roku, Inc. v. ITC*, 90 F.4th 1367, 1374 (Fed. Cir. 2024) (affirming ITC findings on nonobvious where one limitation was missing from the combination); *In re Miller*, 2022 WL 594417, *4 (Fed. Cir. Feb. 28, 2022) (stating that appellant “is correct hat all claim limitations must be taught or suggested by the prior art to establish an obviousness claim”); *Ex Parte Yaman Kumar*, Appeal 2025-003912, 2026 WL 910260, *6 (PTAB March 12, 2026) (after noting that “obviousness requires a suggestion of all limitations in a claim,” Board held that the Examiner had erred in rejecting claim where Examiner’s reasoning failed to account for a limitation (“generating...”).

2. Motivation to Modify

The Supreme Court in *KSR* confirmed that a rationale must be given for modifying a single reference and expanded the rationales that might be used

beyond the “teaching-suggestion-motivation” test. *KSR Intern. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1746 (2007) (holding that defendant had presented convincing evidence that the asserted claims were invalid for obviousness in view of a single patent, Asano, combined with knowledge of one skilled in the art). An obviousness determination requires two separate factual findings: (1) a motivation to combine or modify and (2) reasonable expectation of success. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367-68 (Fed. Cir. 2016) (quoting *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1360 (Fed. Cir. 2012)). “Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference” to arrive at the claimed invention. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000); *Arendi v. Apple, Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016) (noting that “[t]hough less common, in appropriate circumstances, a patent can be obvious in light of a single prior art reference if it would have been obvious to modify that reference to arrive at the patented invention.”). A reasonable likelihood of success in modifying the single reference to achieve the claimed invention must also be shown. *Otsuka Pharma. Co., Ltd. v. Sandoz, Inc.*, 678 F.3d 1280, 1292 (Fed. Cir. 2012).

The *Graham* factors, “motivation to modify,” and “reasonable expectation of success” protect against hindsight bias in reaching the ultimate legal question of

obviousness. *See Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1164 (Fed. Cir. 2006) (noting that the motivation to combine serves to prevent hindsight bias); *Graham v. John Deere, Co.*, 383 U.S. 1, 36 (stating that secondary considerations guard against hindsight bias); *Arendi*, 832 F.3d at 1361 (stating that in reaching the conclusion of obviousness the court must avoid hindsight bias). As the Court has noted:

[a] determination of whether a patent claim is invalid as obvious under § 103 requires consideration of all four *Graham* factors, and it is error to reach a conclusion of obviousness **until** all those factors are considered.

Apple Inc. v. Samsung Electronics Co., Ltd., 839 F.3d 1034, 1048 (Fed. Cir. 2016) (emphasis added).

3. Limitations on use of “Knowledge of POSA” as a Gap-filler

Here, the Petitioner uses “knowledge of the POSITA” to provide a motivation to modify Schranz to fill in the limitations missing therein. *E.g.*, Petition, p.34 (regarding Limitations [21.7] and [34.7]). In doing so, Petitioner violates the July 31st Memo regarding “Enforcement and Non-Waiver of 37 C.F.R. § 42.104(b)(4) and Permissible Uses of General Knowledge of Inter Partes Reviews.” Ex. 2022. The July 31st Memo states:

[E]nforcement of Rule 104(b)(4) means that applicant admitted prior art (AAPA), **expert testimony**, common sense, and other evidence that is not “prior art consisting of patents or printed publications”

(collectively, “general knowledge”) ***may not be used to supply a missing claim limitation.***

Ex. 2022, p. 1 (emphasis added); *see also* p. 2 (“As noted above, past efforts by the Office to permit limited use of general knowledge to satisfy a missing claim limitation are no longer consistent with Federal Circuit precedent.”).

In addition to Rule 104(b)(4) and the July 31st Memo, the Federal Circuit, in the evolution of the use of “common sense” post-*KSR*,⁴ has provided limits as to when “knowledge of one skilled in the art,” also sometimes referred to as “common sense,” may be relied upon to supply a limitation missing from a single reference. *Arendi.*, 832 F.3d 1355; *DSS Tech. Mgmt. v. Apple Inc.*, 885 F.3d 1367 (Fed. Cir. 2018). The Federal Circuit has established that a party relying on “common sense” or “knowledge of one skilled in the art” (as Petitioner casts it) to provide a missing limitation must provide a reasoned analysis and not mere conclusory testimony. *DSS*, 885 F.3d at 1375 (stating that “common sense “cannot be used as a wholesale substitute for reasoned analysis...”); *see also id.* at 1376 (stating that “our search for a reasoned basis for resort to common sense must be searching,” *quoting Arendi*, 832 F.3d at 1363).

⁴ *KSR Intern. Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007).

In *Arendi*, the Federal Circuit addressed a Board decision invalidating claims for obviousness based on a single reference and “common sense” of a POSITA. 832 F.3d at 1367. The Federal Circuit reversed the decision because the allegation regarding the missing limitation was “conclusory” and unsupported by substantial evidence, noting that the limitation was not a “peripheral one.” *Id.*

The Court’s analysis established a framework for analyzing a single reference combined with “common sense.” The Court noted that the missing limitation at issue “... plays **a major role** in the subject matter claimed.” *Id.* (emphasis added). The Court then explained:

[W]hile ‘common sense’ can be invoked, even potentially to supply a limitation missing from the prior art, it must still be supported by evidence and reasoned explanation. In cases **where ‘common sense’ is used to supply a missing limitation**, as distinct from a motivation to combine, moreover, **our search for a reasoned basis for resort to common senses must be searching. And, this is particularly true where the missing limitation goes to the heart of the invention.**

Arendi, 832 F.3d at 1363 (emphasis added).

In *DSS*, the Federal Circuit applied *Arendi* in reversing the PTAB’s ruling of obviousness where the Board relied on an expert’s conclusory allegation of “common sense” to supply a missing limitation. The Court discussed *Arendi* in detail:

As we observed in *Arendi*, “common sense and common knowledge have their proper place in the obviousness inquiry,” at least “if explained with sufficient reasoning.” 832 F.3d at 1361 (*quoting*

Perfect Web Techs., Inc. v. InfoUSA, Inc., 587 F.3d 1324, 1328 (Fed. Cir. 2009)). “But,” we cautioned, “there are at least three caveats to note in applying ‘common sense’ in an obviousness analysis.” *Id.* [. . .] “Third, our cases repeatedly warn that references to ‘**common sense**’—whether to supply a motivation to combine **or a missing limitation—cannot be used as a wholesale substitute for reasoned analysis and evidentiary support, especially when dealing with a limitation missing from the prior art references specified.**” *Id.*

DSS, 885 F.3d at 1374 (emphasis added).

Subsequent Federal Circuit and Board decisions have applied *DSS* to reject a petitioner’s assertion of obviousness based on conclusory and unsupported testimony as a gap-filler. For example, in *TQ Delta, LLC v. Cisco Systems, Inc.*, 942 F.3d 1352, 1360 (Fed. Cir. 2019), the Court overturned the Board’s conclusion of obviousness for lack of substantial evidence where expert testimony was conclusory and unsupported.

As another example, in *Visa, Inc. v. Cortex MCP, Inc.*, IPR2024-00486, Paper No. 31, 2025 WL 2044177 *16 (PTAB July 21, 2025), the Petitioner attempted to rely on a single reference and expert testimony to fill-in a missing limitation. The Board held that the petitioner had not demonstrated unpatentability, stating:

Petitioner's reliance on the assertion that including a reason was routine, commonplace, and a “conventional approach” ... amounts to reliance on common sense and that is insufficient. This is because the testimony regarding common sense attempts to supply a limitation missing from the prior art, which cannot be used as a substitute for

reasoned analysis and evidentiary support, which has not been provided by Petitioner. *See* DSS Tech., 885 F.3d at 1374.

Visa, 2025 WL 2044177 at *16; *see also Micron Tech., Inc. v. Yengtze Memory Techs., Co., Ltd.*, IPR2025-0034, Paper No. 19, 2025 WL 1421090, at *8 (PTAB May 16, 2025) (agreeing with Patent Owner that “the lack of record support for Petitioner’s reliance on the knowledge of [POSITA] undermines Petitioner’s obviousness showing”); *Microsoft Corp. v. Litl LLC*, IPR 2024-00457, Paper No. 18, 2024 WL 4044511 *9 (PTAB Sept. 4, 2024) (after discussing DSS, Board found for the Patent Owner, finding that the expert testimony had failed to “close the gap between the teachings of claim 1 and the teaching of” two references).

VI. PETITIONER FAILED TO PROVIDE ANY CONSTRUCTION OF THE TERM “PROXIMITY DETECTOR”

The first step for any validity analysis is claim construction. *E.g., Oakley*, 316 F.3d at 1339. Neither the Petitioner nor its expert, Mr. Parker, provided any constructions. Rather, Petitioner merely stated that claims are to be given their “plain and ordinary meaning.” Petition, p. 11; Ex. 1003, ¶ 39. In doing so, the Petitioner failed to comply with 37 C.F.R. § 42.104(b)(3) and (4) and is also inconsistent. In the underlying litigation, *Zinser v. Vivint*, 4:24-cv-01030 (*see* Petition, p. 70), Vivint identified the terms “proximity detector” and “activation of the doorbell” in the Challenged Claims that it contends need construction. Ex. 2023.

Here and in the underlying litigation, Zinser contends that the term “proximity detector” needs construction. Instead of first construing this term, Petitioner and Mr. Parker conflate “motion detector” with “proximity detector,” treating these terms as synonyms without any explanation for doing so. Petition, p. 33; Ex. 1003, ¶ 79. They are not. Ex. 2021, Akl Decl., ¶ 39.

The term “proximity detector,” as used in Claims 21 and 34, means “hardware and/or software that detects the presence of an object within a predetermined range” as shown by the following *Phillips* analysis. Further, as the construction describes detection of the presence of an object within a predetermined range and not the motion of that object, the terms “proximity detector” and “motion detector” are not synonyms.

The phrase “proximity detector” is recited in Challenged Independent Claims 21 and 34. Ex. 1001, '191 Patent, Reexamination Certificate, 1:48 – 49; 3:21 – 22 (in what Petitioner labelled Limitations 21.7 and 34.7). Beginning with the claim term itself, to state the obvious, a proximity detector detects “proximity,” defined as “the quality or state or being proximate, next, or very near.” Ex. 2024, Webster’s Third New International Dictionary, Unabridged, (Merriam-Webster, Inc. 2002) (“Webster’s”), p. 1828. In contrast, motion detector detects an object in motion. “Motion” describes an object passing from one place to another. Ex. 2024, p. 1475.

In the context of the '191 Patent, a POSITA would understand that “motion” and “proximity” are different qualities or descriptors of an object. For example, a particular object could stay at the same distance from a detector and move from a first position to a second position in an arc with respect to the detector without changing its proximity to the detector. A “motion detector” would detect the motion, but a “proximity detector” would not detect the object as being proximate assuming that, in the first position, it was not proximate since there was no change in the distance to the detector. Certainly, some detectors can detect both motion and proximity, but a motion detector is neither required to detect proximity nor is the proximity sensor required to detect motion. Ex. 2001, ¶ 42.

In 2002, 2006, and today, there were numerous types of motion detectors and proximity detectors. Ex. 2021, ¶ 43. For example, early motion detectors consisted of an LED and a photodiode that, in combination with simple electronic circuitry, would generate a pulse when an object moved between them. *See, e.g.*, Ex. 2025, U.S. Patent 2,866,506, 7:11 – 33; Ex. 2021, ¶ 44. Another early type of motion detector for use in a security system used ultrasonic transmitters and receivers. DE2535728 titled, “Ultrasonic Burglar Alarm Units,” published on February 17, 1977. Ex. 2026; Ex. 2021, ¶ 44.

An early example using a camera as a motion detector is shown in U.S. Patent No. 4,081,830, titled, “Universal Motion and Intrusion Detection System,”

claiming priority to September 1974, which utilized a video camera and circuitry to detect motion in a given field of view. Ex. 2027; Ex. 2021, ¶ 45. The motion detector described therein created a “gray coded” digital representation of sample points in an analog video image and stored the data in memory. Ex. 2027 at 3:65. Two sets of sample points would be collected and then be compared. *Id.* at 3:66 - 67. A subsequent set would be collected. The values of the various points would be compared, and if a difference greater than a threshold was detected, an alarm condition would be triggered. Thus, a camera in conjunction with circuitry and/or a processor and appropriate programming or logic can be used to detect motion. However, without additional circuitry and/or programming or logic, two images separated in time do not provide any information regarding proximity. Ex. 2021 ¶ 45.

One early type of proximity detector was the “Hall Effect” transducer described, for example, in U.S. Patent No. 3,195,043, titled “Hall Effect Proximity Transducer,” and issued on July 13, 1965. Ex. 2028; Ex. 2021 ¶ 46. This type of detector was effective for detecting a proximate magnetic object. Another early example is shown in U.S. 3,670,652, which utilized an RF transmitter to detect the proximity to the ground, ship, or aircraft. Ex. 2029. Neither of these would be particularly good for detecting the proximity of a person in connection with home security. Ex. 2021 ¶ 46.

A proximity detector that would be effective to detect proximity of a human is shown in U.S. Patent No. 3,829,850, titled “Proximity Detector,” and issued on August 13, 1974, which used a capacitive bridge circuit to sense changes in capacitance due to the presence of a person. Ex. 2030; Ex. 2021 ¶ 47. A similar, capacitance-based device is also shown in U.S. Patent No. 3,896,425. Ex. 2031; Ex. 2021, ¶ 47. Another, based on capacitance, is shown in U.S. Patent No. 3,829,850, titled “Proximity Detector,” and issued on August 14, 1974. Ex. 2030; Ex. 2021, ¶ 47. As another example, U.S. Patent No. 5,428,388 to Von Bauer, which is intrinsic evidence, disclosed a “human presence sensor” that was “preferably an infrared proximity detector.” Ex. 1005, pp. 113 – 137 of 1063, Von Bauer, 13:10 – 19.

An optical proximity sensor is shown in U.S. Patent No. 4,479,053, titled “Focal Plane Array Optical Proximity Sensor,” and issued October 23, 1984. Ex. 2033; Ex. 2021, ¶ 49. The concepts explained therein are similar to how proximity would be calculated using known field of view and other parameters in conjunction with a camera.

In the 1990’s, with the advent of digital camera sensors, fast processors, and cheap memory, technology had evolved such that detecting proximity using a camera was practical. For example, using a single camera to calculate distance of an object from the camera was known. Ex. 2021, ¶ 50; Ex. 2034.

These examples demonstrate that the detection of motion and detection of proximity are two different functions historically requiring different devices. Ex. 2021, ¶ 51. Even though a single camera can be used to do both functions, separate hardware and/or logic and/or software would be needed. A POSITA in 2006 would have understood that the term “proximity detector” and the term “motion detector” had long been used to refer to different devices and were not synonyms as Petitioner and Mr. Parker suggest. *Id.*

With the above backdrop of what a POSITA would understand based on simply reading the claim term “proximity detector,” the next step in the *Phillips* analysis is to review the surrounding claim language, other claims, specification, and file history, in relevant part, to construe “proximity detector.”

The term “proximity detector” appears in both of the Challenged Independent Claims. Looking at the Challenged Claims, a POSITA would not derive any additional understanding as to the meaning of the term “proximity detector.”

Turning to the specification, “proximity detector” is mentioned five times. The first, in the context of discussing Figure 1, is:

A video camera 22 and an external microphone 24 are disposed in the doorway 18. A **proximity detector 26** and an external speaker 28 are also disposed in the doorway 18.

Ex. 1001, '191 Patent, 2:22 – 24.

The next two, also in the context of discussing Figure 1:

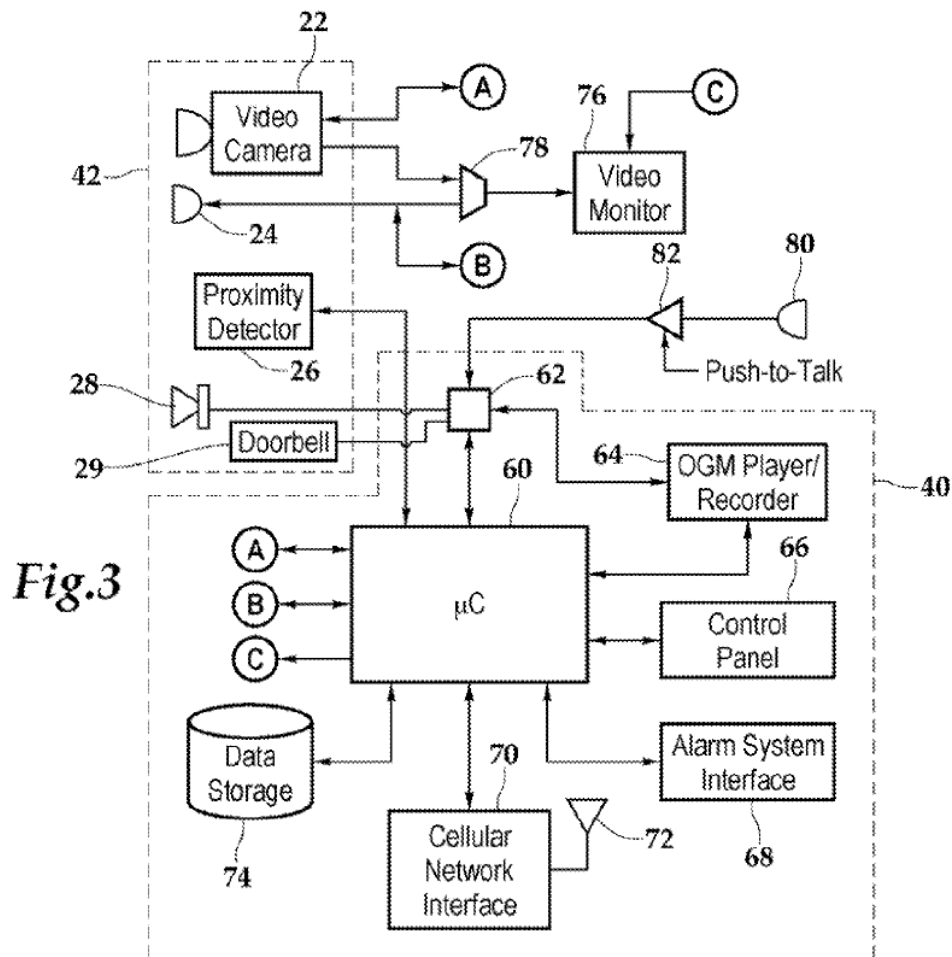
In operation, an individual 34 approaches the doorway 18 and the **proximity detector 26** is actuated. ... At least a portion 9 of the data related to the captured doorway visual and audio communications is transmitted to the cellular telephone 30 of the homeowner 16 via a control unit that is in communication with the video camera 22, external microphone 24, **proximity detector 26**, and exterior speaker 28 as well as a cellular network for communicating with the cellular telephone 30.

Ex. 1001, '191 Patent, 2:35–44.

The fourth, in the context of discussing Figure 3: “[n]umerous components are connected to the microcontroller 60; namely, the video camera 22, the exterior microphone 24, and the **proximity detector 26** of the communication unit 42.”

Ex. 1001, '191 Patent, 5:4–6.

Figure 3 is as follows:



Ex. 1001, Fig. 3. In Figure 3, a “proximity detector 26” is shown as part of the “communications unit 42.” Ex. 1001, ’191 Patent, 5:1-5.

The fifth in the context of discussing Figure 5:

Fig 5 depicts a flow chart of another embodiment of a method for providing security. At block 110, an individual approaches the entry point. As a result, a **proximity detector** is actuated at black 112 and, in turn, as shown in block 114, the video camera and exterior microphone begin capturing visual and audio data, respectively.

’191 Patent, 6:13–18 (emphasis added).

The only mention of “motion” in the ’191 Patent is in the following sentence in the context of discussing Figure 1:

Further, in *another embodiment*, the security system 10 includes a plurality of video cameras 22 positioned around the perimeter of the property. ***The video cameras 22 may be each be motion activated and begin recording video in response to actuation at any type of entryway to any time of property or structure.*** In this implementation, a triggering event such as the ringing of a doorbell, initiates the contact of the control unit to the homeowner 16; however, the plurality of video cameras 22 collect video for the homeowner's review irrespective of the occurrence of the triggering event.

Ex. 1001, ’191 Patent, 2:66–3:8. Notably, this paragraph is describing “another embodiment” apart from the discussion in prior paragraphs (2:11–65). This is consistent with the understanding a POSITA would have that detecting proximity and motion are two different functions. Ex. 2021, ¶ 61.

Turning to the first prosecution history, the claims were rejected in the first Office Action, dated November 26, 2008, for anticipation by Chang (U.S. Patent No. 6,778,084). Ex. 1002, pp. 56 – 65 of 116. In response, amendments to the claims and arguments were made. The Applicant, in discussing Chang, stated:

This alarm system of Chang works with one or more intrusion devices 220 “capable of detecting any intrusion onto the premises 120.” Column 3, lines 56-67. Chang continues by stating that the intrusion devices may comprise one of the following: “glass breakage sensors or other shock sensors, motion detectors, contact switches, proximity or alignment sensors.” Column 4, lines 1-4.

Ex. 1002, p. 91 of 116, Applicant Arguments/Remarks, p. 13, filed February 25,

2009. The Applicant further explained the device of Chang as follows:

upon an intruder opening a door or window. A proximity sensor, similar to a motion detect, is a sensor able to detect the presence of nearby objects, such as an intruder making entry, without any physical contact and furnish notification of the same. An

Ex. 1002, p. 92 of 116, Applicant Arguments/Remarks, p. 14. The Applicant did not rely on the limitation “proximity detector” to distinguish Chang. Nevertheless, this discussion (pp. 13 and 14) would further reinforce the understanding of the POSITA that the terms “motion detector” and “proximity detector” are two different devices. There is nothing in the reexamination file history particularly relevant to the construction of “proximity detector.” Ex. 2021, ¶ 63.

As extrinsic evidence, the term “proximity detector” in a set of similar patents was construed in the matter of *SB IP Holdings, LLC v. Vivint Smart Home, Inc. and Vivint, Inc.*, Case 4:20-cv-00886-ALM (E.D. Tex.). The plaintiff, SB IP Holdings, asserted similar patents against Vivint, the Petitioner herein. There were nine patents at issue, including U.S. Patent No. 10,674,120 (the “’120 Patent”), U.S. Patent No. 9,432,638 (the “’638 Patent”), U.S. Patent 9,485,478 (the “’478 Patent”), U.S. Patent 9,648,290 (the “’290 Patent”), and U.S. Patent No. 9,414,030 (the “’030 Patent”).

All of these patents claimed priority to at least as early as October 9, 2003, which precedes the priority date for the '191 Patent.

Claims in the '120 Patent used the term “motion sensor.” Claims in the '638, '478, '284, '290, and '030 Patents used the term “proximity sensor.” Claims in the '638, '478, '323, '290, and '030 Patents used the term “proximity detector.” Vivint proposed the following definitions for each: (1) “motion sensor” means “a piece of computer hardware that detects physical movements of objects and converts the physical movements into electrical signals” (Ex. 2035, Vivint’s Opening Claim Construction Brief, Dkt. 54, p. 14); (2) “proximity sensor” means “a piece of computer hardware that detects the distance of an object to the hardware within a fixed range of the hardware” (*Id.* at p. 15); and (3) “proximity detector” means “the ability to detect the distance of an object within a fixed range” (*Id.* at p. 17).

After briefing and oral argument, in its Claim Construction Order, dated December 7, 2021, the Court construed these disputed terms as follows:

<u>Term</u>	<u>Construction</u>
“motion sensor”	“hardware and/or software that detects physical movement”
“proximity sensor”	“hardware and/or software that detects presence of an object within a predetermined range”
“proximity detector”	“hardware and/or software that detects presence of an object within a predetermined range”

Ex. 2036, Claim Construction Order, Dkt. 71, p. 30 of 40. The Court’s construction of “proximity detector” aligns with the understanding a POSITA would have as further informed by the claims, specification, and file histories of the ’191 Patent.

Ex. 2021, ¶ 68.

In conclusion, a POSITA would understand, taking the claim term “proximity detector” in the context of the surrounding language, the specification, and file histories, both the original and reexamination, that the term “proximity detector” as used in Claims 21 and 34 to mean “hardware and/or software that detects the presence of an object within a predetermined range.” Ex. 2021, ¶ 69. This construction is consistent with a POSITA’s understanding that the terms “proximity detector” and “motion detector” are not synonyms. *Id.*

**VII. PETITIONER PRESENTED NO EVIDENCE THAT THE
“STREAMED”/“STREAMING” TERMS OF LIMITATIONS [21.8]
AND [34.8] ARE MET**

Limitation [21.8] is as follows: “wherein the entry point visual and audio communications are wirelessly streamed to the control unit.” Limitation [34.8.2] similarly requires wireless streaming: “wirelessly streaming at least a portion of the captured visual and audio communications to the control unit.” Petitioner contends that Schranz meets these Limitations and does not offer any “alternative” theory based on the knowledge of a POSITA. Petition, pp. 35 – 36; Ex. 1003, ¶¶ 81 – 82.

Petitioner and its expert completely ignored the limitations “streamed” and “streaming.” *Id.* Though not stated explicitly, Petitioner and Mr. Parker appear to argue that sending digital data wirelessly is “streaming.” Ex. 1003, ¶ 81. This is not true. Ex. 2021, ¶ 84. For example, a video file can be sent wirelessly to another device, but the entire file must be downloaded before viewing. *Id.* This does not constitute “streaming.” The ordinary meaning of “streaming” in the context of video data provides that the video data sent is capable of being viewed without waiting for the entire file to download. *Id.* Petitioner never addresses whether Schranz discloses this nor does Petitioner assert, much less explain, why a modification of Schranz to include “streaming”/“streamed” data would have been obvious to the POSITA. Therefore, Petitioner has failed to show a reasonable

likelihood of success in showing that the system of Schranz meets Limitations [21.8] and [34.8.2].

**VIII. LIMITATIONS [21.7] AND [34.7] ARE NOT MET BY SCHRANZ
NOR ARE THE CLAIMS RENDERED OBVIOUS BY SCHRANZ IN
VIEW OF THE KNOWLEDGE OF THE POSITA**

Institution should be denied for the additional reason that Schranz does not show an “all-in-one” doorbell camera having, among other things, a doorbell and proximity sensor as required by Limitations [21.7] and [34.7]. Limitations [21.7] and [34.7] are as follows: “wherein the doorbell, the video camera, the external microphone, the external speaker, and a proximity detector are part of a single communications unit.” Notably, this Limitation requires that the doorbell and camera be in “a single communications unit.” That is, an “all in one” doorbell camera. In addition, this all-in-one doorbell camera must have a “proximity detector.”

The Petitioner and its expert equate Schranz’s single mention of a “doorbell signal” with the claim limitation “doorbell.” These are not the same. Ex. 2021, ¶ 80. Petitioner’s expert offers no reasoned analysis as to why a POSITA might consider modifying Schranz’s device to have a doorbell in its assembly with a camera versus simply receiving a signal from a doorbell located elsewhere.

Similarly, Petitioner and its expert equate “motion detector” with “proximity detector.” They are not the same. Ex. 2021, ¶ 69. To the extent Petitioner

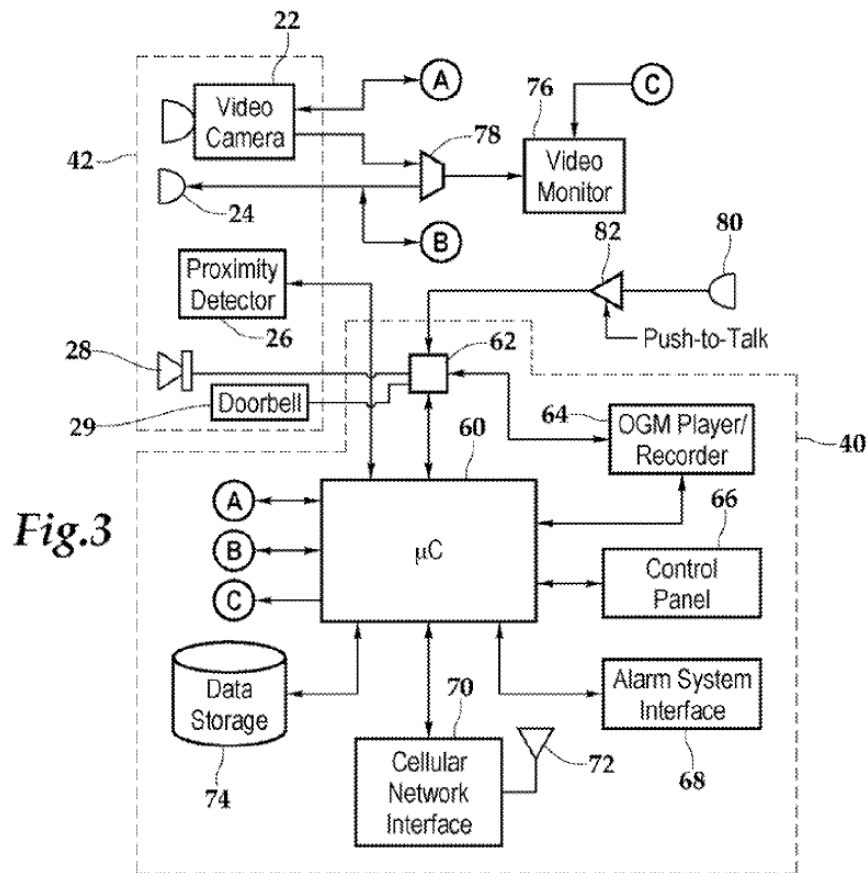
attempts to fill in this gap with knowledge of the POSITA, Mr. Parker offers no reasoned analysis as to why the POSITA would have found it obvious to modify Schranz to have a proximity detector instead of a motion detector.

The Petition should be denied for failure to present evidence showing a substantial likelihood of success as to these Limitations.

A. The All-in-One Doorbell Camera Required by Limitations [21.7] and [34.7] is Not Met by Schranz

Limitation 21.7 (and 34.7) captures the “all-in-one” doorbell camera - meaning a doorbell, camera, speaker, and microphone all in one physical unit. Petitioner first contends that Schranz discloses these Limitations, but, alternatively, states: “[t]o the extent Patent Owner asserts that Schranz does not expressly describe a peripheral device with a doorbell and a proximity sensor, it would be obvious... .” Petition, pp. 33, 34.

An all-in-one doorbell with a proximity detector is shown as element 42 in Figure 3 of the '191 Patent:

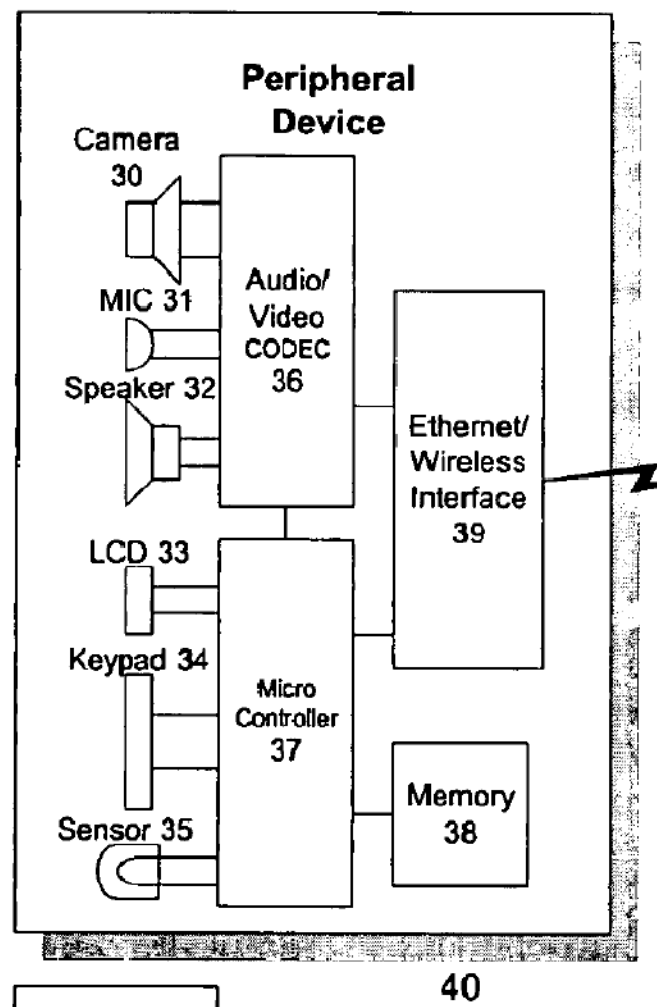


Ex. 1001, Fig. 3. Element 42 is described as follows:

FIG. 2 depicts one embodiment of the security system 10. A control unit portion 40, or control unit 40, controls a communication portion 42 and relays data and communications between the communication portion 42 and the cellular telephone 30 via a cellular network 44. As illustrated, **the communication portion 42 includes the video camera 22, the exterior microphone 24, the exterior speaker 28 and a doorbell 29**, which may included as part of the communication portion 42 in particular embodiments.

Ex. 1001,'191 Patent, 3:9 – 17 (emphasis added). The embodiment of Fig. 3 is described as having a proximity detector 26. Ex. 1001, 5:3 – 5.

A critical and necessary feature of a doorbell camera is the doorbell. Ex. 2021, ¶ 79. The “peripheral unit” of Schranz is missing this key component. Schranz did not contemplate combining the doorbell, video camera, microphone, speaker, and proximity detector in a single unit. *Id.* For example, Figure 2 of Schranz shows a “Peripheral Device” labelled “40” as follows:



Ex. 1004, Fig. 2. This “peripheral device” is further described in the specification as follows:

The peripheral devices will be located in various strategic locations through out the premises and as such will have ***different external appearances***. The appearances may take on the form of the following examples but are not limited to these types. ***Typical enclosures include*** an intercom located in hallways and rooms, [1] ***a doorbell-intercom located at the main entrance to the premises***, and [2] ***an environmentally hardened security surveillance unit that does not have intercom like features*** located exterior to the building. As shown in FIG. 2 the ***superset of peripheral device features include*** a camera 30, microphone 31, speaker 32, LCD 33, keypad 34, sensor 35, audio/video CODEC 36, a microcontroller 37 with attached memory 38, and an Ethernet or wireless interface 39. **The electronic circuitry is on a PCB that is mounted inside a protective enclosure.** The camera 30 is... either a black & white or colour CCTV board camera with NTSC/PAL/SECAM outputs or a digital output when the camera has a built-in CODEC.

...

The sensor 35 may be different types, such as a motion detector, infrared radiation sensor or doorbell signal, and may be located external to the peripheral device. The signal from the sensor is routed to the microcontroller 37. The peripheral device 40 connects to the SCM 43 via an Ethernet or wireless interface 39. The channel between the peripheral devices 40, 41 or 42 and the SCM 43 may be a wireless channel 60 or wireline channel 61 or 62. The Ethernet interface 39 is 10/100BaseT and physically consists of twisted pair conductors that aggregates in a hub 44. The wireless interface 39 is either an IEEE 802.11 wireless LAN module or a Bluetooth Class 1, 2 or 3 module. The wireless channels terminate on a wireless transceiver module 45 attached to the SCM 43. . . .

Ex. 1004, [0048] (emphasis added). Notably, there is no “doorbell” in combination with a camera mentioned in this description of a “peripheral device.”

Ex. 2021, ¶ 79. In the second sentence the “doorbell intercom” is described as being separate from the “surveillance unit”:

Typical enclosures include an intercom located in hallways and rooms, [1] ***a doorbell-intercom located at the main entrance to the premises***, and [2] ***an environmentally hardened security surveillance unit that does not have intercom like features*** located exterior to the building.

Ex. 1004, [0048] (emphasis added). Schranz viewed the “doorbell-intercom” as a completely different unit than a “surveillance unit,” which, by the word “surveillance,” presumably included a camera. Ex. 2021, ¶ 79; *See also* Ex. 1004 [0053] (“Peripheral devices with varying functionality can be chosen and installed simultaneously, such as intercoms, doorbell-intercoms or surveillance units”).

Further, Schranz describes the functionality of a doorbell without any mention of its activation triggering the capture video by a camera: “[t]he doorbell in appearance functions as normal, but in addition to notifying people locally with a chime when pressed, it also places a call to a pre-configured VoIP address.” Ex. 1004, [0060]. Nothing in Schranz suggests that the doorbell-intercom should be combined with a camera as required by Limitation 21.7 (and 34.7). Ex. 2021, ¶ 79.

Dr. Parker asserts that Schranz teaches that the peripheral device shown in Figure 2 has a doorbell. Ex. 1003, ¶ 79; *see also* ¶¶ 64; 65. He does so based on the mention of a “doorbell signal” in the passage (highlighted above) in Paragraph [0048]. Ex. 1004, [0048]. In making this assertion, Dr. Parker is conflating a “signal,” as in “doorbell signal,” with the physical device, the push-button doorbell that a person at the entrance presses to notify people in the premises with a chime

of her presence. *See* [0060] (“The doorbell in appearance functions as normal, but in addition to notifying people locally with a chime when pressed... .”); Ex. 2021, ¶ 80. Paragraph 60 of Schranz describes the well-known doorbell that interacts with a chime inside a premises. *Id.* To activate a chime requires a signal to the chime inside the house. *Id.* The sentence relied upon by Mr. Parker deliberately referred to the “signal.” In contrast, elsewhere in the specification, “doorbell” was used in numerous instances. Ex. 1004, ¶¶ [0004] (“doorbell button”); [0053] (“doorbell intercoms”); [0059]; [0060]; Cl. 13. This indicates that the inventor intended “signal” to mean the output of the doorbell rather than the doorbell itself. The “superset” of features for the “peripheral” (highlighted at top of [0048] quoted above) does not include a doorbell. Therefore, a POSITA would understand that Schranz did not teach nor contemplate an all-in-one doorbell camera. Ex. 2021, ¶ 80. Limitation [21.7] and Limitation [34.7] are not met by Schranz. Ex. 2021, ¶ 80.

B. Schranz Does Not Meet the “Proximity Detector” Limitation

Limitations [21.7] and [34.7] each require a “proximity detector.” Schranz does not disclose this element. Ex. 2021, ¶ 81. Indeed, the only place that the term “proximity detector” appears in Schranz is in the Background section in the discussion of U.S. Patent No. 6,429,893, which shows “a system for monitoring and recording activity within the range of a proximity detector.” Ex. 1004, [0009].

So, Schranz, in citing the '893 Patent, knew of a “proximity detector” but chose to recite “motion detector” as an example of the sensor 35. Ex. 1004, [0048]; see *also* [0029] (referring to “motion sensors”); [0059] (“... an event like motion”). As discussed above, the terms “proximity detector” and “motion detector” are not synonyms. See Section VI above. Schranz does not meet Limitations [21.7] and [34.7] for the additional reason of the lack of a “proximity detector.” Ex. 2021, ¶ 81.

C. Petitioner’s Alternative Theory Fails to Show that Schranz in Combination with Knowledge of POSITA Renders the Claims Invalid for Obviousness

Petitioner’s “alternative” position shows the shortcomings of Schranz with respect to Limitations [21.7] and [34.7]:

[t]o the extent Patent Owner asserts Schranz does not expressly describe a peripheral device with a doorbell and proximity sensor, ***it would have been obvious*** to include both **a motion detector (proximity detector)** and **a doorbell signal** within peripheral device 40.

Petition, p. 34 (emphasis added); Ex. 1003, ¶ 80. This conclusory assertion of obviousness is followed by five sentences. Petition, pp. 34 – 35; Ex. 1003 (four sentences). The identical statements are found in Mr. Parker’s Declaration. Ex. 1003, ¶ 80.

As will be shown, Petitioner’s alternative theory fails for two reasons. First, Petitioner and its expert fail to explain the modifications to Schranz

necessary to meet everything required by Limitations [21.7] and [34.7], thereby violating the “all limitations” rule (*see, e.g., Royka*, 490 F.2d at 985; *In re Miller*, 2022 WL 594417, *4; Section V(B)(1) above). *See Arendi*, 832 F.3d at 1361 (stating that a claim may be obvious based on a single reference “in appropriate circumstances” where “it would have been obvious to modify” “to arrive at the claimed invention”). Modifications must first be particularly identified that account for the limitations that are missing in the single reference before the motivation to modify can be intelligently discussed. *See id.* Second, Petitioner’s conclusory allegations regarding motivation of the POSITA to modify falls far short of the “reasoned analysis and evidentiary support” required to use knowledge of POSITA to substitute for a missing limitation. *DSS*, 885 F.3d at 1377.

As to its alternative theory, the Petitioner first makes the assertion regarding the motivation to modify:

[A] POSITA would be motivated by the teachings of Schranz to include both a doorbell and motion detector in a peripheral device at the entrance of a building in order to achieve the express benefits of Schranz, which are to monitor visitors and track intruders.

Petition, 34; Ex. 1003, ¶ 80. The next two sentences are offered in support:

First, as explained above, Schranz expressly teaches that its sensor 35 “may be different types,” including both a “motion detector” and “doorbell signal,” thereby contemplating that

peripheral devices may be configured with varying sensor functionality to suit particular security needs. EX-1004, ¶ 48.

Petition, pp. 34 – 35; Ex. 1003, ¶ 80. Paragraph 48 is the same paragraph discussed at length above. As shown, there is nothing in Paragraph 48 to suggest an “all-in-one” doorbell camera with a proximity detector.

Furthermore, Petitioner does not address “proximity detector,” but instead references a “motion detector,” which is not claimed.

The “second” reason is stated as follows:

Second, Schranz discloses that the system is designed to be installed at the entrance of a building for the purpose of tracking intruders and monitoring visitors. EX-1004, ¶¶ 29 – 30; 58 – 60.

Petition, p. 35; Ex. 1003, ¶ 80. The first two references, Schranz paragraphs [29] – [30], are single sentence statements of “objectives” of the invention and have no bearing whether a camera, doorbell, and proximity detector should be included in a single unit. In fact, Paragraph [48] suggests that the “doorbell-intercom located at the main entrance to the premises” and an environmentally hardened security surveillance unit are two different devices. Ex. 2021, ¶ 83. Paragraphs [0059] and [0060] teach away from an all-in-one doorbell camera. *Id.* The first sentence of Paragraph [0059] refers to “peripheral devices” that “function as intercoms and doorbells.”

This sentence says nothing about a camera and further suggests that each of

the “intercom” and “doorbell” constitute a separate “peripheral device.”

This sentence of [0059] teaches away from the claimed invention that includes an “all in one” doorbell camera (as recited in Limitations [21.7] and [34.7]). Ex. 2021, ¶ 83.

Paragraph [0060] further teaches away from the “all-in-one” doorbell camera. This paragraph describes a standard doorbell with one slight improvement—it “places a call to a pre-configured VoIP address.” Ex. 1004, ¶ [0060]. Nothing is said in this paragraph about a camera. Ex. 2021, ¶ 83.

These allegations (Petition, pp. 34 – 35; Ex. 1003, ¶ 80) do not address the crucial issue – the modifications to Schranz that would have been necessary to achieve the claimed invention, which include an all-in-one doorbell camera with a proximity sensor in the same unit. In the case of a single reference, the necessary modifications to Schranz to meet all of the limitations must be identified as a prefatory step before explaining the motivation for doing so. *See, e.g., In re Kotzab*, 217 F.3d at 1372 (reversing Board decision where there was no substantial evidence of record to modify the teachings of a single reference to obtain the system claimed); *see also Roku*, 90 F.4th at 1367 (affirming ITC finding of non-obviousness where combination was missing a limitation).

Having failed to particularly identify the modifications to Schranz necessary to meet all that is required by Limitations [21.7] and [34.7], Petitioner and its expert likewise fail to provide a “reasoned analysis” to prove a motivation for modifying Schranz. There is no explanation as to why a POSITA would have been motivated to substitute or change Schranz’s “motion detector” to the “proximity detector” required by Limitations [21.7] and [34.7]. There is no explanation as to why a POSITA would have been motivated to substitute an actual doorbell in place of Schranz’s “doorbell signal,” which a POSITA would understand as a hardwired signal from a separate doorbell. Ex. 2021, ¶ 83.

Lacking any factual foundation, the conclusions of the next two sentences crumble for lack of support. The first conclusion is:

[a] POSA reading Schranz would thus understand that combining both a doorbell and a motion detector within a single peripheral device 40 would directly advance these objectives: the doorbell enabling communication with expected visitors and the motion detector enabling detection of unexpected intruders.

Petition, p. 44. Notably, nothing is said in this sentence about combining a camera and a doorbell in a single unit as required by Limitations [21.7] and [34.7]. The Petitioner also did not address “proximity detector,” which is also required to be in the same unit.

The second and last bare conclusion is:

[a] POSA would recognize that **this modification** would provide complementary functionality that serves **the purposes of Schranz's system** and could be achieved with reasonable expectation of success.

Petition, p. 44 (emphasis added); Ex. 1003, ¶ 80. The reference to “this modification” refers to the previous sentence – which only dealt with combining a doorbell and motion detector with no mention of the camera nor the proximity detector. The reference to the “purpose of Schranz’s system” is legally irrelevant. The issue is whether the system of Schranz could be modified to achieve what is claimed by the ’191 Patent, including an all-in-one doorbell camera.

Therefore, the Petitioner and its expert have failed (1) to identify each modification necessary to account for all limitations and (2) to provide any reasoned analysis as to why the POSITA would have been motivated to make the modifications that would be required to achieve the all-in-one doorbell camera, including a proximity detector, required by Limitations [21.7] and [34.7].

In addition, beyond the mere allegation, the reasonable expectation of success has not been shown. Petition, p. 35 (“... could be achieved with a reasonable expectation of success.”); Ex. 1003, ¶ 80. Bare conclusions do

not constitute sufficient evidence upon which a finding of obviousness can be made. *DSS*, 885 F.3d at 1375-76 (reversing PTAB decision for where Petitioner relied on mere conclusory allegations but no “reasoned explanation” regarding a limitation missing from a single reference).

The single paragraph of Mr. Parker (Ex. 1003 ¶ 80) is much like the single five-sentence paragraph in an expert’s declaration that the Federal Circuit found was “insufficient to support the Board’s findings.” *DSS*, 885 F.3d at 1376. The paragraph quoted in part by the Federal Circuit (885 F.3d at 1376) is as follows:

45. Furthermore, as described above, Natarajan explicitly discloses that the mobile unit transmitters operate in “low duty cycle RF bursts.” (Natarajan, 3:59-4:6.) Therefore, it would have been obvious to a POSA to have the base station operate in an analogous manner. The RF systems of the base station and mobile stations in Natarajan have the same physical structure. (Natarajan, 3:7-8, FIG. 3.) A POSA applying the exact design disclosed in Natarajan to an application exactly as described in Natarajan where “[m]ost users are very likely to be inactive (both Transmit-Inactive and Receive-Inactive) most of the time,” (Natarajan, 6:41-44 (emphasis added)) would have conceived a system in which both the transmitter and the receiver of both the base station and the mobile stations operate in “low duty cycle RF bursts.” Therefore, it is my opinion that a POSA would not have found the “low duty cycle RF bursts” recited in claim 1 of the ’290 patent to be novel.

Ex. 2038, ¶ 45, IPR2015-00369, Ex. 1014, Declaration of Dr. Jing Hu, dated January 22, 2016 (portions quoted at 885 F.3d at 1367 (referring to J.A.

1994, ¶ 45)). The Federal Circuit noted: “[t]he similarities in transmission hardware cannot close the gaps without additional, reasoned analysis.” *Id.* at 1376-77.

Here, Mr. Parker’s Declaration similarly lacks a “reasoned analysis” as explained above. Ex. 1003, ¶ 80. Mr. Parker failed to explain all of the modifications necessary to achieve the claimed inventions, failed to explain a motivation for doing so, and failed to explain why the expectation of success would be reasonable. As in *DSS*, the Petitioner here has not shown a reasonable likelihood of success, and the Petition should be denied. *E.g.*, *DSS*, 885 F.3d at 1376; *see also In re Kotzab*, 217 F.3d at 1370.

IX. THE “CONTROL PANEL” OF LIMITATION [21.9.2] IS NOT MET BY SCHRANZ

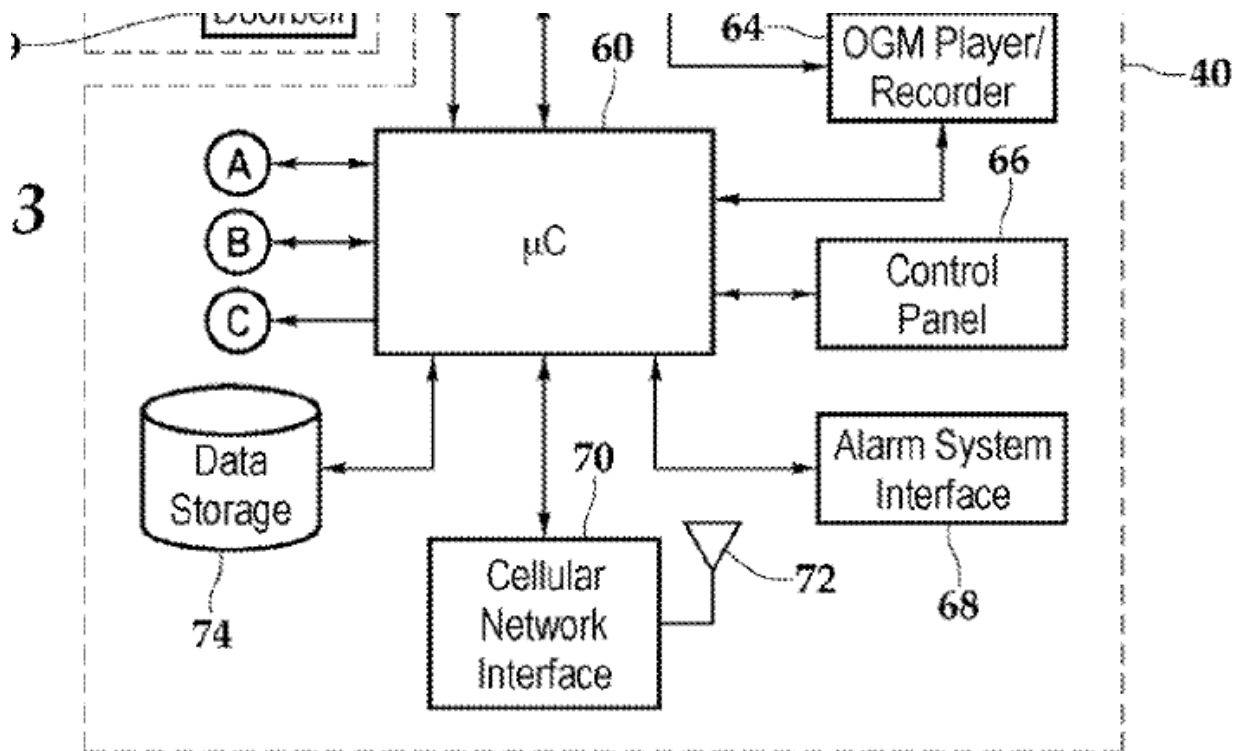
Limitation [21.9] states:

wherein [21.9.1] the control unit is configured to store the entry point visual and audio communications captured by the single communications unit in a data storage unit of the control unit ***wherein [21.9.2] a control panel*** is configured to allow an individual to manage a security system.

Ex. 1001, Cl. 21 (emphasis added). The term “control panel” has a well understood meaning. *See* Ex. 2024, Webster’s Third, p. 497 (defining “control panel” as “panelboard”); p. 1630 (defining “panelboard”); Ex. 2039, Dictionary of Engineering, 2d Ed., p. 126 (defining “control board” as “a panel... .”); Ex. 2021,

¶ 86. A “control panel” is generally a unitary device that provides controls, such as buttons or switches, for a user to control a system. The use of this term in the ’191 Patent is consistent with its common meaning. Ex. 2021, ¶ 86.

A “control panel” is a unitary structure as shown by element 66 in the following portion of Figure 3:



Ex. 1001, Fig. 3. As shown in Figure 3 of the ’191 Patent, the control panel 66 provides the user interface to manage the system. Ex. 2021, ¶ 87. The control panel 66 is shown as separate from the microcontroller 60 and video monitor 76. The “control panel” is described as providing the user interface – “the control

panel 66 permits the homeowner or other individual to manage the security system.” Ex. 1001, 5:39-40.

Petitioner and Mr. Parker, for the “manage a security system” element of Limitation [21.9], rely solely on an isolated passage from the following paragraph [56] of Schranz:

The next step is to set up the configurable parameters of the system. This is done at ***the system control module using a keyboard and monitor***. These parameters include items such as access codes, the VoIP addresses (URLs) to call during alarm, pre-recorded messages and zone definitions among others. The set-up also includes configuring the system management portal web application. Once the system is configured the user may access this secure portal remotely via any Internet enabled device equipped with a web browser.

Ex. 1004, [0056] (emphasis added); Petition, p. 39; Ex. 1003, ¶ 84. The “system control module” referenced in paragraph [56] is illustrated in Figure 2 of Schranz.

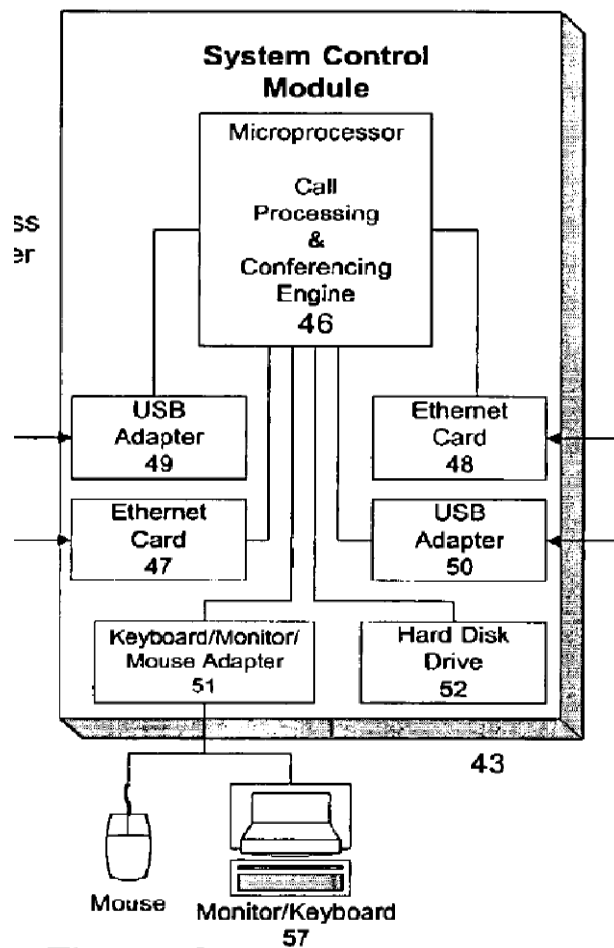


Figure 2

Ex. 1004, Fig. 2 (in relevant part).

The specification of Schranz describes this “SCM 43,” “system control module”: “The SCM 43 is any hardware platform that runs Windows 98... . Typically, this is an IBM compatible off the shelf computer or embedded PC with an x86 processor 46.” Ex. 1004, [0049]. The user interface is provided by a

mouse, keyboard, and monitor 57 as shown. Ex. 1004, Fig. 2. These together are used to “set up configurable parameters.” Ex. 1004, [0056].

Assuming for the moment that such configurability meets the limitation “to manage a security system,” the hardware described in Schranz that provides the user interface to the PC, a mouse and monitor/keyboard, have a significant disadvantage to a unitary “control panel 66” as shown in the ’191 Patent. Ex. 1001, Fig. 3 (in relevant part); Ex. 2021, ¶ 90. A unitary unit like the control panel 66 can be positioned, for example, “proximate to the interior microphone 80.” Ex. 1001, 5:31 - 33. A control panel would be much more compact and less obtrusive in the household than the PC with a mouse and monitor/keyboard. For example, a control panel could be mounted on a wall; a PC with a mouse and keyboard could not. Ex. 2021, ¶ 90.

The only allegation made by Petitioner and Mr. Parker as to what constitutes the “control panel” is the following bare assertion without explanation: “[1] [t]he user software application, [2] web server, [3] web application, [4] keyboard, and [5] monitor are collectively a *control panel* that is configured to allow an individual to manage a security system.” Petition, p. 39; Ex. 1003, ¶ 84 (identical statement). This assembly of five disparate elements does not meet the limitation “control panel” as this phrase would be understood by a POSITA. Ex. 2021, ¶ 91.

The above portion of Figure 3 of the '191 Patent (shown above) demonstrates the falsity of Petitioner's position. The "user software application," web server, and web application would run on the processor of the PC (SCM). Ex. 1004, ¶ [0050]. In contrast, the "control panel" in Figure 3 is separate from the microcontroller 60. Ex. 1001, Fig. 3. Mr. Parker alleges that the "user software application" is part of the "control panel," but software requires a processor, which as shown in Figure 3, is separate from the "control panel." Ex. 2021, ¶ 92. A "monitor" provides a visual image to the user, but the "control panel" is not described in the '191 Patent as providing any visual image to the user. Ex. 2021, ¶ 92. Mr. Parker's description – "[t]he user software application, web server, web application, keyboard, and monitor"— reflects Schranz's recitation of the SCM being a PC (Ex. 1004, [0049]), but a PC would not be understood by a POSITA to be a control panel. Ex. 2021, ¶ 92. Schranz does not meet the limitation "control panel." Ex. 2021, ¶ 93.

Petitioner did not allege any alternative theory alluding to obviousness as it did with other limitations, like Limitations [21.7] and [34.7], as noted above. Because the five disparate components identified by Petitioner and Mr. Parker – "user software application, web server, web application, keyboard, and monitor" – collectively do not constitute a "control panel," Petitioner has no reasonable

chance of showing Claim 21 to be unpatentable. Institution must be denied for this additional reason.

X. SUMMARY OF DIFFERENCES IDENTIFIED AND CONCLUSION

To summarize, at least the following Limitations in the Challenged Claims are missing from Schranz: Limitations [21.8] and [34.8.2]; Limitations [21.7] and [34.7]; and Limitation [21.9.2]:

[21.8]; [34.8.2]	wherein the entry point visual and audio communications are wirelessly streamed to the control unit”; “ wirelessly streaming at least a portion of the captured visual and audio communications to the control unit.
[21.7]; [34.7]	wherein the doorbell , the video camera , the external microphone, the external speaker, and a proximity detector are part of a single communications unit ;
[21.9.2]	wherein [29.9.1] the control unit is configured to store the entry point visual and audio communications captured by the single communications unit in a data storage unit of the control unit wherein [29.9.2] a control panel is configured to allow an individual to manage a security system

As to Limitations 21.8/34.8.2 and 21.9.2, Petitioner and Mr. Parker do not attempt to “fill in” these gaps using the knowledge of the POSITA to modify the device of Schranz.

As to Limitations [21.7] and [34.7], Petitioner alternatively asserts that a POSITA would have found it obvious to modify what is shown in Schranz to achieve the claimed inventions. The deficiencies in Petitioner’s attempt to gap fill

with the knowledge of a POSITA for each of these limitations have been shown above. Ex. 2021, ¶ 95.

In light of these differences, and considering the Challenged Claims as a whole, and not limitation by limitation as Petitioner does, a POSITA would not find the inventions to have been obvious. Ex. 2021, ¶¶ 95 - 100. Ground 1 does not render either Claims 21 and 34 obvious. Ex. 2021, ¶ 100. The dependent Challenged Claims are non-obvious for at least the same reasons that Claims 21 and 34 are nonobvious. Ex. 2021, ¶ 101.

Because Petitioner has failed to show a reasonable likelihood that it Petitioner would prevail with respect to the Challenged Independent Claims, institution should be denied. 35 U.S.C. § 314(a).

Dated: June 22, 2026

/s/ Gary R. Sorden
Gary R. Sorden
USPTO Reg. No. 60,283
Brian A. Carpenter
USPTO Reg. No. 37,109
Cole Schotz P.C.
901 Main Street, Suite 4120
Dallas, TX 75202
469.557.9390
bcarpenter@coleschotz.com
gsorden@coleschotz.com

CERTIFICATE UNDER 37 C.F.R. SECTION 42.24

Zinser certifies that this Preliminary Response complies with the type-volume limitation of 14,000 words. As calculated by the word count feature in Microsoft Word, it contains 11,528 words, excluding the parts exempted by 37 C.F.R. §§ 42.24(a)-(b).

CERTIFICATE OF SERVICE

I, Brian A. Carpenter, hereby certify that on the 22nd day of June, 2026, the foregoing PATENT OWNER DUKE W. ZINSER'S PRELIMINARY RESPONSE was served on the following by email:

Patrick McPherson
Patrick Muldoon
Gilbert Greene
Joseph Powers
DUANE MORRIS LLP
pdmcperson@duanemorris.com
pcmuldoon@duanemorris.com
bgreene@duanemorris.com
japowers@duanemorris.com

/s/ Gary R. Sorden
Gary R. Sorden
USPTO Reg. No. 60,283
Brian A. Carpenter
USPTO Reg. No. 37,109
Cole Schotz P.C.
901 Main Street, Suite 4120
Dallas, TX 75202
469.557.9390
bcarpenter@coleschotz.com
gsorden@coleschotz.com

***Attorneys for Patent Owner
Duke W. Zinser***