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Paper 41
Date: November 7, 2019

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LECTROSONICS, INC.,
Petitioner,

v.

ZAXCOM, INC.,
Patent Owner.

IPR2018-00972
Patent 9,336,307 B2

Before SCOTT R. BOALICK, *Chief Administrative Patent Judge*, KALYAN K. DESHPANDE, and LYNNE E. PETTIGREW, *Administrative Patent Judges.*

DESHPANDE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
Granting Patent Owner's Motion to Amend
35 U.S.C. § 318(a)

I. INTRODUCTION

A. Background

Lectrosonics, Inc. ("Petitioner") filed a Petition requesting an *inter partes* review of claims 1–14 of U.S. Patent No. 9,336,307 B2 (Ex. 1001, "the '307 patent"). Paper 2 ("Pet."). Zaxcom, Inc. ("Patent Owner") filed a Preliminary Response. Paper 10 ("Prelim. Resp.").

On September 13, 2018, we issued a Decision ordering that "an *inter partes* review of claims 1–14 of the '307 patent is hereby instituted with respect to all grounds set forth in the Petition." Paper 11 ("Dec."). After institution, Patent Owner filed a Patent Owner's Response (Paper 16, "PO Resp.") and a Patent Owner's Contingent Motion to Amend (Paper 17, "PO MTA"). In reply, Petitioner filed a Petitioner's Reply to Patent Owner's Response (Paper 26, "Pet. Reply") and a Petitioner's Opposition to Motion to Amend (Paper 27, "Pet. Opp. to MTA"). In response, Patent Owner filed a Patent Owner's Sur-Reply (Paper 28, "PO Sur-Reply") and a Patent Owner's Reply in Support of Motion to Amend (Paper 29, "PO Reply to Opp. to MTA"). In reply, Petitioner filed a Petitioner's Sur-Reply in Opposition to Patent Owner's Motion to Amend (Paper 31, "Pet. Sur-Reply to Opp. to MTA"). Patent Owner and Petitioner presented oral arguments on August 5, 2019, and a transcript has been entered into the record. Paper 40 ("Tr.").

The Board has jurisdiction under 35 U.S.C. § 6. In this Final Written Decision, after reviewing all relevant evidence and assertions, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that claims 1–14 of the '307 patent are unpatentable. We further determine that Petitioner has not met its burden of showing, by a

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preponderance of the evidence, that proposed substitute claims 15–28 are unpatentable.

B. Related Proceedings

The parties indicate that the ’307 patent is involved in *Zaxcom, Inc. v. Lectrosonics, Inc.*, Civil Action No. 1:17-cv-03408 (E.D.N.Y.), and *Zaxcom, Inc. v. Lectrosonics, Inc.*, Civil Action No. 2:17-cv-02840 (D.N.J.). Pet. 77; Paper 4, 2. The following proceedings before the Board also involve the same parties: IPR2018-01129 and IPR2018-01130.

C. The ’307 Patent (Ex. 1001)

The ’307 patent discloses a system and method “for recording and processing audio having one or more tracks received from one or more wireless devices operating in either an asynchronous or synchronous mode.” Ex. 1001, 1:35–38. Figure 1 is reproduced below.

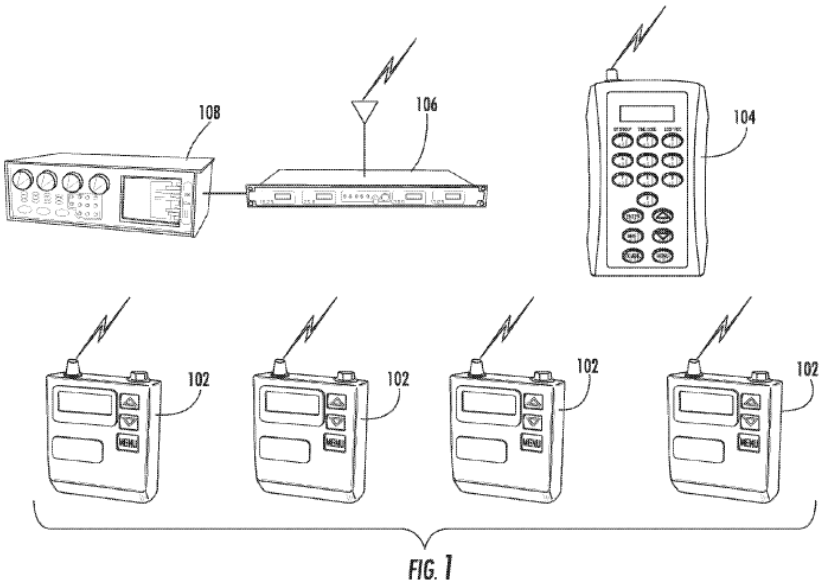

Figure 1 depicts recording system 100, which “wirelessly records audio events, such as performances, movie takes, etc. having one or more performers.” Ex. 1001, 4:1–3. Recording system 100 includes local audio

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devices 102, remote control unit ("RCU") 104, receiver 106, and recorder 108. *Id.* at 4:26–29. Local audio devices 102 record live audio and store the audio in memory. *Id.* at 4:51–63. Local audio devices 102 may transmit both live and replayed audio to receiver 106 to be recorded by audio recorder 108. *Id.* at 4:39–42. "RCU 104 includes an RF transmitter capable of transmitting one or more of a time reference signal, digital commands, and audio to one or more other components of recording system 100." *Id.* at 4:29–32. The RCU may remotely control local audio devices 102, receiver 106, and recorder 108 for "initiating audio playback of all local audio devices 102 starting at the same time reference, as well as recording thereof by receiver 106 and recorder 108." *Id.* at 4:32–38 (bolding omitted).

D. Illustrative Claims

Petitioner challenges claims 1–14 of the '307 patent. Pet. 8–76. Claims 1 and 12 are the independent claims at issue. Claims 1 and 12 are illustrative of the challenged claims and are reproduced below:

> 1. An apparatus or system for locally recording locally generated audio, said locally generated audio also being wirelessly transmitted to, and remotely recorded by, a remote recorder as remotely recorded audio data comprising:
>
> at least one local audio device wearable by a creator of said locally generated audio including:
>
> at least one local audio device receiver for receiving at least one of the group consisting of digital data, time data, and audio data;
>
> at least one audio input port for receiving said locally generated audio from an audio input device, said audio input device wearable by a creator of said locally generated audio;
>
> at least one memory; and
>
> at least one control unit electrically coupled to said local audio device receiver, said audio input device,

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and said memory for creating local audio data and storing said local audio data in said memory;

wherein said local audio data may be retrieved after said locally recording and combined with said remotely recorded audio data.

Ex. 1001, 23:22–42.

12. A method of locally recording locally generated audio, said locally generated audio also being wirelessly transmitted to, and remotely recorded by, a remote recorder as remotely recorded audio data comprising the steps of:

locally receiving said local audio generated by at least one performer during an audio event; and

transmitting said local audio, directly or indirectly, to at least one of the group consisting of a recorder, a receiver, and combinations thereof;

locally recording said local audio as local audio data in at least one memory of at least one local audio device wearable by a creator of said local audio;

remotely recording said transmitted local audio via at least one of the group consisting of a recorder, a receiver, and combinations thereof as remotely recorded audio data;

wherein said local audio data is retrieved during or subsequent to said audio event and is combined with said remotely recorded audio data.

Id. at 24:15–32.

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II. ANALYSIS

A. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–14 of the ’307 patent are unpatentable based on the following grounds (*see* Pet. 8–76): [1]

Claims Challenged	35 U.S.C. §	Reference(s) / Basis
1–11	103	Strub,[2] Nagai[3]
1–11	103	Strub, Nagai, Wood[4]
1–11	103	Strub, Gleissner[5]
1–11	103	Strub, Gleissner, Wood
12–14	102	Strub
12–14	103	Strub, Wood
1–7, 10–14	102	Lee[6]
1–14	103	Lee, Nagai

B. Claim Construction

The Petition was filed on April 25, 2018, prior to the effective date of the rule change that replaces the broadest reasonable interpretation (“BRI”) standard. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (final rule) (“This rule is effective on

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[1] Petitioner supports its challenge with the Declaration of John Tinsman. Ex. 1011.

[2] U.S. Patent No. 6,825,875 B1, issued Nov. 30, 2004 (Ex. 1003, “Strub”).

[3] U.S. Patent Application Publication No. 2002/0159179 A1, pub. Oct. 31, 2002 (Ex. 1004, “Nagai”).

[4] World Intellectual Property Organization Publication No. WO 2004/091219 A1, pub. Oct. 21, 2004 (Ex. 1008, “Wood”).

[5] U.S. Patent Application Publication No. 2004/0028241 A1, pub. Feb. 12, 2004 (Ex. 1005, “Gleissner”).

[6] U.S. Patent Application Publication No. 2006/0270465 Al, pub. Nov. 30, 2006 (Ex. 1009, “Lee”).

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November 13, 2018 and applies to all IPR, PGR and CBM petitions filed on or after the effective date."). We, therefore, interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b) (2017); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142–46 (2016). Under the broadest reasonable construction standard, claim terms are generally given their ordinary and customary meaning, as would have been understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. "local audio data . . . is combined with said remotely recorded audio data"

Petitioner asserts that "[f]or the purposes of this Petition, no explicit construction is needed." Pet. 8. In its Preliminary Response, Patent Owner proposed a construction of the limitation "local audio data . . . is combined with said remotely recorded audio data," as recited by independent claim 12 and similarly recited by independent claim 1, to require

> (i) local audio generated by a performer is stored in a wearable local audio device as local audio data, (ii) the same local audio is transmitted to a remote recorder or receiver, (iii) the same local audio is remotely recorded at the recorder or receiver as remotely recorded audio data, and (iv) that the local audio data is combined with the remotely recorded audio data (*i.e.*, that a time segment of the local audio data replaces a corresponding time segment of the remotely recorded audio data).

Prelim. Resp. 10. Patent Owner argued that this interpretation is consistent with both the claims and the '307 patent specification. *Id.* at 10–12. In our Decision on Institution, we disagreed with Patent Owner that this limitation requires *replacing* the remotely recorded audio data with local audio data. Dec. 7–9.

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Patent Owner now asserts a different construction of this limitation, requiring

> that (i) local audio generated by a performer is stored in a wearable local audio device as local audio data, (ii) *the same* local audio is transmitted to a remote recorder or receiver, (iii) *the same local audio* is remotely recorded at the recorder or receiver as remotely recorded audio data, and (iv) that the local audio data is combined with the remotely recorded audio data.

PO Resp. 8 (citing Ex. 2086 ¶ 15) (emphasis added). Patent Owner asserts that this construction is consistent with both the claim language and the ’307 patent specification. PO Resp. 8–10.

Turning first to the claims, Patent Owner asserts that claim 12 requires the local audio data and the remotely recorded audio data to originate from the same audio. PO Resp. 8 (citing Ex. 1001, 24:19–20); *see* Tr. 25:11–24. Patent Owner asserts that “said local audio data” is combined with “said remotely recorded audio data” and both originate from the same source—the “local audio generated by at least one performer.” PO Resp. 8; PO Sur-Reply 3. Patent Owner further argues that the ’307 patent specification supports its construction. PO Resp. 9. Specifically, Patent Owner argues that Figure 6 discloses audio replaying and re-recording processing. *Id.* (citing Ex. 1001, Fig. 6).

Petitioner argues that Patent Owner’s proposed construction contradicts the claims and fails to distinguish between “local audio” and “local audio data.” Pet. Reply 3–4. Petitioner asserts that there is a distinction between audio from a performer and audio data from memory. Pet. Reply 8. Petitioner asserts that local audio is generated by a creator in claim 1 or a performer in claim 12, and “there’s nothing in the record that distinguishes audio from one device as being different local audio from a

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different device." Tr. 48:21–23. Petitioner further argues Mr. DeFilippis, Patent Owner's expert, explains the '307 patent's multitrack embodiment supports the "combined" limitation. Pet. Reply 19 (citing Ex. 2086 ¶ 18). Specifically, Mr. DeFilippis explains that the '307 patent specification discloses that the "accuracy allows multiple individually recorded audio tracks to be combined into one or more multi-track audio files electronically post-recording." Ex. 2086 ¶ 18 (citing Ex. 1001, 12:12–14).

We agree with Petitioner that the "combined" limitation encompasses the multitrack embodiment of the '307 patent. Both independent claims 1 and 12 recite that the "local audio data" is "*combined* with said remotely recorded audio data." In view of Mr. DeFilippis's testimony that the "combined" limitation allows "multiple individually recorded audio tracks to be combined into one or more multi-track audio files" (Ex. 2086 ¶ 18), we determine that claims 1 and 12 do not require the claimed "local audio data" and "remotely recorded audio data" to be derived from the same source.

Furthermore, every occurrence of the term "combined" in the '307 patent specification outside of the claims refers to the combination of audio into a multi-track file. *See,e.g.*, Ex. 1001, 4:12–14 ("This accuracy allows multiple individually recorded audio tracks to be combined into one or more multi-track audio files electronically post-recording."), 5:6–7 ("the multiple audio recordings are combined to create one single recording"), 16:40–44 ("[T]he local audio device of each performer . . . may be combined to create one or more multitrack audio files that are stored with master timestamps generated by the receiver/recorder's internal master timecode generator."), 19:2–4 ("[A]ll of the individual audio files may be combined to provide one or more comprehensive audio files."). Although we agree with Patent Owner that the '307 patent specification describes an embodiment of a

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dropout, *i.e.*, a loss of audio data during a wireless transmission, is remedied through the replacement of data, we are not persuaded that the recited "combined" limitation is limited to that embodiment, but rather also encompasses the multi-track embodiment of the '307 patent. *Id.* at 4:15–18. Thus, we determine that the limitation "said local audio data is retrieved during or subsequent to said audio event and is combined with said remotely recorded audio data" does not require that the local and remote audio data originate from the same source because the '307 patent specification contemplates a broader definition—one that includes the combination of local audio data and remotely recorded audio data to create a multi-track audio file. *See* Ex. 1001, 4:12–14, 5:6–7, 16:40–44, 19:2–4; Ex. 2086 ¶ 18.

Based on the foregoing, we construe the "combining" limitation as broad enough to encompass combining local audio data and remotely recorded audio data, without a requirement that the local audio data and remotely recorded audio data are the same. In other words, we construe the "combining" limitation to encompass the disclosed multitrack embodiment in the '307 patent specification, where separate audio tracks are combined to form a multitrack audio file. *See* Ex. 1001, 4:12–14, 5:6–7, 16:40–44, 19:2–4.

2. "wearable"

Patent Owner and Petitioner propose different meanings for the term "wearable." *See* PO Resp. 9–12; Pet. Reply 1–2; PO Sur-Reply 4–6. Claim 1 recites "audio input device wearable by a creator of said locally generated audio" and claim 12 recites "one local audio device wearable by a creator of said local audio."

Patent Owner, relying on the Microsoft Encarta Dictionary, asserts that an "electronic device (e.g., a local audio device, an audio input device)

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would have been considered to be 'wearable' if it were 'suitable and in a condition to be worn.'" PO Resp. 10 (citing Ex. 2110, 1628). Patent Owner, accordingly, proposes that "wearable" means "small, lightweight, unobtrusive, easily hidden, not visible, and designed to be worn on the body of a creator of audio (*i.e.*, performer)." PO Resp. 11 (citing Ex. 2086 ¶ 15). Patent Owner argues that Petitioner's expert, Mr. Tinsman, agrees with this narrower construction. PO Resp. 10–11 (citing Ex. 2109, 41:7–42:5, 47:15–48:2).

Patent Owner further asserts that the '307 patent specification "repeatedly describes the local audio device and the audio input device as being suitably worn on the body of a creator of audio (*i.e.*, a performer)." PO Resp. 11–12 (citing Ex. 1001, 1:57–58 ("Such wireless transmitters may take the form of body packs that are worn by each performer."), 8:55–56 ("Such audio devices may be manufactured in the form of body-packs, such as those typically worn by news announcers, performers, and the like."), 9:63–66 ("In one aspect of the present invention, local control unit 310 receives recordable audio from local audio input device 312, which may be worn by the performer and connects to local audio device 102 at local audio input device port 314.")).

Petitioner argues that the '307 patent specification does not support the narrow construction proposed by Patent Owner. Pet. Reply 1–2. Rather, Petitioner argues that the '307 patent specification only indicates that a device may be worn. Pet. Reply 2 (citing Ex. 1001, 1:57–58, 8:55–56, 9:63–66). Petitioner asserts that Mr. Tinsman explains that "wearable" means "something that was straightforward to carry on your person," or "designed to be worn on the body." Pet. Reply 2 (citing Ex. 2109, 41:2–10).

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We agree with Petitioner that the term "wearable" means "suitable and in a condition to be worn." Pet. Reply 1–2 (quoting Ex. 2110, 1628). This definition is consistent with the plain meaning of "wearable," and we find no credible evidence on the record that requires a narrower definition. Furthermore, we are not persuaded that Petitioner's expert, Mr. Tinsman, provides a definition consistent with Patent Owner's narrow definition. Rather than defining "wearable," Mr. Tinsman explains that the term "bodypack" is "[s]omething relatively small and lightweight." Pet. Reply 2 (citing Ex. 2109, 41:18–22). Further, when describing "wearable" as "unobtrusive, easily hidden," Mr. Tinsman clarifies this description as "[y]ou know, reasonable to carry around." Ex. 2109, 47:20–22.

We determine that no other express claim construction analysis of any claim term is necessary. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (holding that only terms in controversy must be construed and only to the extent necessary to resolve the controversy) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

C. Obviousness and the Level of Ordinary Skill in the Art

"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). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) if in the record, objective

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evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Petitioner asserts that a person of ordinary skill in the art, at the time of the ’307 patent, would have “a Bachelor’s degree in electrical engineering or a related subject and two to five years working with audio and wireless communications systems.” Pet. 8 (citing Ex. 1011 ¶ 24). Patent Owner’s expert, Mr. DeFilippis, similarly opines that a person of ordinary skill in the art would have a “Bachelor’s degree in electrical engineering and two years of experience working with audio and wireless communications systems either in industry or in graduate school.” Ex. 2086 ¶ 13.

We adopt Petitioner’s and Patent Owner’s proffered level of ordinary skill in the art as it is agreed upon and consistent with the prior art of record. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (“[T]he level of skill in the art is a prism or lens through which a judge, jury, or the Board views the prior art and the claimed invention.”); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991) (“The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.”). Specifically, we adopt that a person of ordinary skill in the art, at the time of the ’307 patent, would have had a Bachelor’s degree in electrical engineering and two or more years of experience working with audio and wireless communications systems. Pet. 8 (citing Ex. 1011 ¶ 24); Ex. 2086 ¶ 13. To that end, we note that the prior art itself often reflects an appropriate skill level. *See Okajima*, 261 F.3d at 1355.

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D. Obviousness of claims 1–11 of the ’307 patent over Strub in combination with Nagai or Gleissner

Petitioner contends that claims 1–11 of the ’307 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Strub in combination with Nagai or Gleissner. Pet. 16–44. For the reasons discussed below, we determine Petitioner has demonstrated by a preponderance of the evidence that claims 1–11 of the ’307 patent are unpatentable under 35 U.S.C. § 103 as obvious over Strub in combination with Nagai or Gleissner.

1. Strub (Ex. 1003)

Strub, titled “Hybrid Recording Unit Including Portable Video Recorder and Auxiliary Device,” is directed to “recording of the event by multiple participants (i.e., from multiple points of view), often simultaneously.” Ex. 1003, 1:25–31. Strub discloses a “hybrid recording unit” that is “constructed by adding to a portable video recorder (e.g., camcorder, portable dockable videotape recorder (VTR)) one or more devices (an ‘auxiliary device’) that provide additional functionality to the portable video recorder.” *Id.* at 5:25–29. “The auxiliary device can advantageously provide, for example, one or more of the following capabilities: marking, position sensing, physiological monitoring and/or biometric identification.” *Id.* at 28–32. The hybrid recording unit is adapted to obtain a visual recording of the event as well as an audio recording of the event. *Id.* at 8:44–52. Multiple hybrid recording units may record a single event and one recording unit may transmit its recording to another recording unit. *Id.* at 37:18–40, 38:8–10.

2. Nagai (Ex. 1004)

Nagai is directed to a data recording and reproducing apparatus for recording and reproducing voice data. Ex. 1004 ¶¶ 3–5. Nagai’s apparatus

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includes an audio input, a headphone jack for audio output, a memory card to store audio data, and a USB port for transferring audio data to another device. Ex. 1004 ¶¶ 106, 125, 126, 139, 140, 145, Figs. 1, 2A, 2B.

3. Gleissner (Ex. 1005)

Gleissner is directed to an audio data recorder that includes a microphone unit and a recording appliance (audio data recorder), connected to one another via a plug connection. Ex. 1005 ¶ 10. The plug connection between the microphone unit and recording appliance provides both an electrical connection and a rigid mechanical connection. *Id.* The recording appliance may further be connected to headphones to allow a user to simultaneously hear the input into the microphone. *Id.* ¶ 33.

4. Analysis

a. Petitioner's Contentions

Petitioner contends that claims 1–11 of the '307 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Strub in combination with Nagai or Gleissner. Pet. 16–44.

Claim 1 recites a "[a]n apparatus or system for locally recording locally generated audio, said locally generated audio also being wirelessly transmitted to, and remotely recorded by, a remote recorder as remotely recorded audio data." Petitioner asserts that Strub discloses a recording unit that acquires audio data from an attached microphone and both stores it in a local storage device and wirelessly transmits it to another recording unit. Pet. 16–17 (citing Ex. 1003, 12:13–21, 12:31–39, 25:35–49, 35:54–65, 37:18–40, 38:1–4; Ex. 1011 ¶¶ 45–46). Petitioner also asserts that Strub discloses a recording unit that includes "audio data acquisition device 303, transmitter 309, receiver 310, position sensing device 311, and data storage device 305." *Id.* at 17 (citing Ex. 1003, Fig. 3). Petitioner further asserts

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that audio data acquisition device 303 acquires local audio, the recording unit stores the audio data in data storage device 305, and transmitter 309 wirelessly transmits the locally generated audio to a remote recording unit. *Id.* at 17–18 (citing Ex. 1003, 6:1–8, 12:13–21, 12:31–39, 25:35–49, Fig. 1).

Claim 1 also recites "at least one local audio device wearable by a creator of said locally generated audio." Petitioner asserts that Strub discloses "a small, lightweight, *wearable* recording unit." *Id.* at 19 (quoting Ex. 1003, 4:29–31; citing Ex. 1003, 4:29–31, 14:59–15:11, 16:66–17:24, 38:65–39:11, 66:33–51, 67:54–68:10, 72:10–19, Figs. 1, 8A–8C, 9A, 9B; Ex. 1011 ¶ 46) (emphasis added).

Claim 1 further recites "at least one local audio device receiver for receiving at least one of the group consisting of digital data, time data, and audio data." Petitioner asserts that Strub discloses a local audio device that includes audio receiver 310 and position sensing device 311 that records audio data, GPS position data or biometric data, and time data. *Id.* (citing Ex. 1003, 12:39–52, 35:53–61, 37:55–62, 63:41–60; Ex. 1011 ¶ 47).

Claim 1 additionally recites "at least one audio input port for receiving said locally generated audio from an audio input device, said audio input device wearable by a creator of said locally generated audio." Petitioner argues that Strub discloses the recording unit can receive audio from a microphone such as a lavalier worn by the creator. *Id.* at 20–21 (citing Ex. 1003, Fig. 3, 21:65–25:49, 68:63–69:67). The microphone or lavalier passes the audio data to the recording unit "using wired or wireless techniques." *Id.* at 21 (citing Ex. 1003, 64:50–65:3). Petitioner asserts that a person with ordinary skill in the art would have understood Strub's wireless or wired connections would include an "audio input port," such as a standard microphone jack in the case of a wired connection. *Id.* Petitioner's

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expert, Mr. Tinsman, explains that Strub's wired or wireless techniques connecting the microphone and recording unit would include an audio input port. *Id.* (citing Ex. 1011 ¶ 48).

Alternatively, Petitioner asserts that Strub's recording unit could be modified to include an input port disclosed by either Nagai or Gleissner. *Id.* (citing Ex. 1011 ¶ 49). Petitioner asserts that Nagai discloses a "mike jack" that "receives a voice signal from an external device such as an external mike." Pet. 22–23 (quoting Ex. 1004 ¶ 109). Mr. Tinsman explains that Nagai's "mike jack" would be understood by a POSITA to include, for example, a conventional tip-ring-sleeve ("TRS") microphone connector. *Id.* (citing Ex. 1011 ¶ 52). Petitioner further asserts that Gleissner also discloses an audio input, arguing that Gleissner discloses an "XLR plug connector." *Id.* (citing Ex. 1005 ¶¶ 13, 23, 24, 32; Ex. 1011 ¶ 53).

Petitioner argues that it would have been obvious to combine the teachings of Nagai or Gleissner with Strub. Pet. 21. Petitioner argues that a person with ordinary skill in the art would have understood that Strub suggests the use of an audio input port, which "provide[s] the benefit of interchangeability by allowing the user to select the appropriate microphone for the recording scenario." *Id.* at 21–22 (citing Ex. 1003, 25:8–49). Petitioner further asserts that the '307 patent recognizes that such a benefit of using a port for a microphone was not new, and describes "input port 314 as 'any commercially available audio input device port'" using "any commercially available audio input device such as a microphone." *Id.* at 22 (citing Ex. 1001, 9:2–8). Accordingly, Petitioner concludes that a person with ordinary skill in the art would have known to combine the input ports described by Nagai or Gleissner with Strub to provide the benefit of customization and detachability. *Id.* (citing Ex. 1011 ¶ 51).

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Claim 1 also recites "at least one memory." Petitioner asserts that Strub discloses its recording unit includes data storage device 305, which may include a hard disk, removable data storage medium, or non-volatile data storage device. Pet. 24 (citing Ex. 1003, 27:36–51, 33:20–35:50, 76:6–34, 94:14–19; Ex. 1011 ¶ 54).

Claim 1 additionally recites "at least one control unit electrically coupled to said local audio device receiver, said audio input device, and said memory for creating local audio data and storing said local audio data in said memory." Petitioner argues that Strub discloses system controller 301 and data processing device 304 that are coupled to receiver 310 and position sensing device 311. *Id.* at 24–25 (citing Ex. 1003, 12:4–13, 13:36–14:13, Fig. 3; Ex. 1011 ¶¶ 55–57). Petitioner asserts that system controller 301 controls the operation of the components of recording unit 300, "for creating local audio data and storing said local audio data in said memory." *Id.* at 25 (quoting Ex. 1003, 12:4–13, 13:36–14:13, 66:7–25, 70:1–5).

Claim 1 further recites "wherein said local audio data may be retrieved after said locally recording and combined with said remotely recorded audio data." Petitioner argues that Strub teaches "the recording units timestamping the recorded audio and synchronizing recordings from multiple recording units using those timestamps in post-processing." *Id.* at 26 (citing Ex. 1003, 13:50–67). Petitioner contends that the local audio data is retrieved and transmitted to other devices via transmitter 309 or wired connections. *Id.* at 27 (citing Ex. 1003, 12:4–39, 66:7–25, Fig. 3).

We are persuaded by Petitioner's arguments, as they are supported by the cited evidence. Notwithstanding Patent Owner's arguments, which we address below, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 of the '307 patent is unpatentable

under 35 U.S.C. § 103(a) as obvious over Strub combined with Nagai or Gleissner. Petitioner provides a similar analysis for claims 2–11, and we similarly determine that Petitioner has demonstrated by a preponderance of the evidence that claims 2–11 of the ’307 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Strub combined with Nagai or Gleissner. *See* Pet. 16–44.

b. Patent Owner’s Arguments

Patent Owner argues that Petitioner fails to demonstrate by a preponderance of the evidence that claims 1–11 would have been obvious over Strub in combination with Nagai or Gleissner. PO. Resp. 30–37. Specifically, Patent Owner argues that (i) Petitioner fails to demonstrate that one of ordinary skill in the art would have been motivated to combine the teachings of the cited prior art references with a reasonable expectation of success; (ii) Petitioner fails to demonstrate that any of the different combinations teaches each and every element of the challenged claims; and (iii) the objective indicia of nonobviousness indicates that the claimed invention of the ’307 patent would not have been obvious to a person of ordinary skill in the art. *Id.* at 35.

i. Differences between the prior art and claims

Patent Owner argues that Strub fails to teach or suggest “that the same local audio is stored at both the wearable local audio device as local audio data and the remote receiver/recorder as remotely recorded audio data and that the local audio data is combined with the remotely recorded audio data.” PO. Resp. 32. More specifically, Patent Owner asserts that Strub does not satisfy the claim requirements of “(1) the same audio data to be (i) stored at the local audio device (as ‘local audio data’) and (ii) transmitted to and recorded at the remote recorder (as ‘remotely recorded audio data’) and

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(2) 'the local audio data' and the 'remotely recorded audio data' to be combined." PO Resp. 31; *see id.* at 8–10. Patent Owner argues that Petitioner fails to identify (1) two different devices taught by Strub that correspond to the claimed wearable local audio device and remote receiver/recorder or (2) the audio data in Strub that corresponds to the claimed local audio. PO Resp. 33.

Rather than storing the same data at the local device and the remote recorder, Patent Owner asserts that Strub discloses that different audio data from different recording units or data acquisition devices are combined. PO Resp. 32 (citing Ex. 1003, 13:50–67). Patent Owner contends that Petitioner's expert, Mr. Tinsman, conceded that Strub discloses "combining the different audio data from the different recording units." *Id.* (citing Ex. 2109, 55:3–7). Patent Owner further contends that its expert, Mr. DeFilippis, explains that in Strub, a "mere multi-track recording (combining multiple tracks of audio onto a single media) also does not satisfy these claim requirements." PO Resp. 32–33 (citing Ex. 2079 ¶ 21). Accordingly, Patent Owner asserts that Strub's "blending (e.g., mixing) of data from multiple, different data acquisition devices," is different from the claims, which require "the same audio data to be (i) received and stored locally, (ii) transmitted and stored remotely, and (iii) then combined." PO Resp. 33–34 (citing Ex. 2086 ¶ 23).

We are not persuaded by Patent Owner's argument. Petitioner identifies a first local audio device disclosed by Strub as "a small, lightweight, wearable recording unit." Pet. 19 (quoting Ex. 1003, 4:29–31; citing Ex. 1003, 4:29–31, 14:59–15:11, 16:66–17:24, 38:65–39:11, 66:33–51, 67:54–68:10, 72:10–19, Figs. 1, 8A–8C, 9A, 9B; Ex. 1011 ¶ 46). Petitioner further identifies the first local audio device as including position

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sensing device 311 and audio receiver 310 that records *audio data*, GPS position data or biometric data, and time data. Pet. 20 (citing Ex. 1003, 12:39–52, 35:53–61, 37:55–62, 63:41–60; Ex. 1011 ¶ 47). Finally, Petitioner identifies Strub's disclosure of other recording devices to which local audio data is transmitted via transmitter 309 or wired connections. Pet. 27 (citing Ex. 1003, 12:4–39, 66:7–25, Fig. 3). In summary, Strub discloses a local audio device that records local audio and transmits the local audio to other remote devices. Ex. 1001, Fig. 1, 105–108, 8:50–53, 12:4–39, 66:7–25). Therefore, Petitioner has identified two devices in Strub—a local audio device and a remote audio device that receives the transmitted audio. Ex. 1003, 12:4–39, 66:7–25, Fig. 3. Petitioner has also identified the claimed local audio as the audio that is stored by a local audio device and transmitted to a remote audio device. *Id.*

Furthermore, Patent Owner's argument that Strub fails to disclose "that the same local audio is stored at both the wearable local audio device as local audio data and the remote receiver/recorder as remotely recorded audio data and that the local audio data is combined with the remotely recorded audio data" is not persuasive because it is inconsistent with our claim construction discussed above. *See* Section II.B.1; PO Resp. 32. We do not construe the limitation "said local audio data may be retrieved after said locally recording and combined with said remotely recorded audio data" to require that the local audio data and remotely recorded audio data be the same data. *Id.* Accordingly, we agree with Petitioner that Strub discloses the disputed element because Strub discloses local audio devices transmitting recordings to other recording units and the recording units timestamping the recorded audio and synchronizing, i.e., combining,

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recordings from multiple recording units using those timestamps in post-processing. Ex. 1003, 13:50–67.

Patent Owner further argues that Strub does not disclose a local audio device "wearable by a creator of said locally generated audio." PO Resp. 34–35. Patent Owner argues that Strub's device is not "small, lightweight, unobtrusive, easily hidden, not visible, and designed to be worn on the body of a creator of audio (i.e., performer)" based on its claim construction. *Id.* at 34; *see* Section II.B.2. Mr. DeFilippis, Patent Owner's expert, opines that Strub's system "would require a computer that could compare content from multiple mpeg sources in real time and multiplex the results to a recording," and the "hardware and software to do this could not be incorporated into a back pack, let alone a bodypack." *Id.* at 34–35 (citing Ex. 2086 ¶ 43).

We are not persuaded by Patent Owner's argument that Strub fails to teach a "wearable" device because Patent Owner's argument is based on a claim construction we do not agree with and do not apply. *See* Section II.B.2. We construe "wearable" as "suitable and in a condition to be worn." *Id.*; *see also* PO Resp. 10 (citing Ex. 2110, 1628). We further agree with Petitioner that Strub's device is "wearable." Pet. Reply 4–6. Strub describes its device as a "small, lightweight, wearable" unit. *Id.* at 6 (citing Ex. 1003, 4:29-31; Ex. 1024, 120:21–133:5). Accordingly, we are not persuaded by Patent Owner's argument that Strub fails to disclose a "wearable" device. For the same reasons, we also are not persuaded by Patent Owner's argument that Strub's device is not a "bodypack" as required by dependent claim 3.

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ii. Objective Indicia of Nonobviouness

Patent Owner further asserts that the nonobviousness of the claims is supported by objective indicia of nonobviousness including long-felt need, failure of others, and industry praise of the patented invention. PO Resp. 52–59 (citing Exs. 2103–2108); PO Sur-Reply 28–32. Petitioner disagrees. Pet. Reply 25–30. For the reasons below, we determine that Patent Owner fails to show the requisite nexus between its alleged objective indicia of nonobviousness and the merits of the claimed invention.

For objective indicia of nonobviousness to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention. *ClassCo, Inc., v. Apple, Inc.*, 838 F.3d 1214, 1220 (Fed. Cir. 2016). "[T]here is no nexus unless the evidence presented is 'reasonably commensurate with the scope of the claims.'" *Id.* (quoting *Rambus Inc. v. Rea*, 731 F.3d 1248, 1257 (Fed. Cir. 2013)). "Where the offered secondary consideration actually results from something other than what is both claimed and *novel* in the claim, there is no nexus to the merits of the claimed invention," meaning that "there must be a nexus to some aspect of the claim not already in the prior art." *In re Kao*, 639 F.3d 1057, 1068–69 (Fed. Cir. 2011) (emphasis in original). On the other hand, there is no requirement that "objective evidence must be tied exclusively to claim elements that are not disclosed in a particular prior art reference in order for that evidence to carry substantial weight." *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1331 (Fed. Cir. 2016). A patent owner may show, for example, "that it is the claimed combination as a whole that serves as a nexus for the objective evidence; proof of nexus is not limited to only when objective evidence is tied to the supposedly 'new' features(s)." *Id.* Ultimately, the fact finder must weigh the secondary considerations

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evidence presented in the context of whether the claimed invention as a whole would have been obvious to a skilled artisan. *Id.* at 1331–32.

We determine that no nexus exists between the evidence presented and the merits of the claimed invention because the evidence is directed to features that are not required by the claims. *See In re Kao*, 639 F.3d at 1068–69. Patent Owner submitted the Declarations of Mr. Sarokin and Mr. Wexler, as well as evidence of awards for its products. *See generally* PO Resp. 52–59. We determine that the evidence submitted by Patent Owner primarily is directed towards the feature of fixing dropouts. *See,e.g.*, Ex. 2104 ¶ 6 ("I have been in many situations where for a variety of reasons there have been RF dropouts . . . ."); *id.* ("If there is a drop out of the RF signal, the identical recording in the transmitter can be used by post production."); Ex. 2103 ¶ 6 ("If the actors in a scene went in and out of radio range the SD card on the transmitter would continue to record the audio. . . . [A] sound mixer could hit a single button on a Zaxcom recorder and all the radios in use would play back from a certain take or time code start point so the scene could be re-mixed without any radio drop outs."). As discussed above, however, we are not persuaded by Patent Owner that the feature of repairing dropouts by replacing data is required by the claims. *See* Section II.B.1.

Patent Owner asserts that an Emmy award received by the inventors listed the '307 patent as covering the award-winning technology. PO Resp. 59 (citing Ex. 2108). We do not discount the importance of receiving an Emmy award; however, our analysis requires determining whether a nexus exists between the evidence and the claimed invention. *ClassCo*, 838 F.3d at 1220. The evidence suggests that the Emmy was awarded for,

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among other things, the elimination of dropouts. Ex. 2108, 3; Pet. Reply 29–30 (citing Ex. 2106, 11); *see* Section II.B.1.

Accordingly, we are not persuaded that there is a nexus between the received award and the claimed invention. Absent a nexus between the merits of the claimed invention and the submitted evidence towards a long-felt need, industry praise, and the failure of others, we determine that Patent Owner's evidence of secondary considerations does not weigh in favor of nonobviousness.

5. Conclusion

Having considered the *Graham* factors, including the scope and content of the prior art, the differences between the prior art and the challenged claims, and the objective evidence of nonobviousness, we determine Petitioner has demonstrated by a preponderance of the evidence that claims 1–11 of the '307 patent are unpatentable under 35 U.S.C. § 103 as obvious over Strub in combination with Nagai or Gleissner.[7]

E. Anticipation of claims 12–14 of the '307 patent by Strub

Petitioner contends that claims 12–14 of the '307 patent are unpatentable under 35 U.S.C. § 102(e) as anticipated by Strub. Pet. 44–48. We determine that Petitioner has demonstrated by a preponderance of the evidence that claims 12–14 of the '307 patent are unpatentable under 35 U.S.C. § 102(e) as anticipated by Strub.

As discussed above, Petitioner relies on Strub as disclosing all of the elements of claim 1, except Petitioner also relies on Strub in combination with Nagai or Gleissner for teaching an audio input port. *See* Section II.D.4.

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[7] In view of this determination, we do not reach Petitioner's challenge to claims 1–11 as obvious over Strub in combination with Nagai or Gleissner, and Wood.

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Independent claim 12 recites a method that claims the same subject matter as independent claim 1, except for an audio input port. Accordingly, Petitioner argues that Strub discloses all the limitations of claim 12 for the same reasons as discussed above with respect to similar limitations recited in claim 1. Pet. 44–46; *see* Section II.D.4. Patent Owner provides substantially the same arguments as those discussed above. PO Resp. 30–35.

For the same reasons discussed above, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 12 is anticipated by Strub, and we are not persuaded by Patent Owner's arguments. *See* Section II.D.4. Petitioner provides a similar analysis for claims 13 and 14, and we similarly determine that Petitioner has demonstrated by a preponderance of the evidence the unpatentability of these claims as well.[8] *See* Pet. 47–48.

F. Anticipation of claims 1–7 and 10–14 of the '307 patent by Lee and obviousness of claims 1–14 of the '307 patent over Lee and Nagai

Petitioner contends that claims 1–7 and 10–14 of the '307 patent are unpatentable under 35 U.S.C. § 102 as anticipated by Lee and that claims 1–14 of the '307 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Lee and Nagai. Pet. 48–76. For the reasons discussed below, we determine Petitioner has not demonstrated by a preponderance of the evidence that claims 1–7 and 10–14 of the '307 patent are unpatentable under 35 U.S.C. § 102 as anticipated by Lee or that claims 1–14 of the '307

[8] In view of this determination, we do not reach Petitioner's challenge to claims 12–14 as obvious over Strub in combination with Wood.

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patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Lee and Nagai.

1. Lee (Ex. 1009)

Lee is directed to a wireless microphone system for use with a mobile digital recording system. Ex. 1009, Abstract. The disclosed recording system is comprised of

> (1) a mobile in-vehicle digital audio/video/data recorder; (2) a wireless digital audio recorder and transceiver body pack (Body Pack Transceiver or BPT); (3) an in-vehicle transceiver to send and receive signals to/from wireless microphone (In-Vehicle Transceiver or IVT); and (4) a central server management system to view and manage videos after recording.

Id. ¶ 29.

The BPT includes microphone 101 to collect audio input directly from a user. *Id.* ¶¶ 28–30. When the BPT is out of range of the IVT, the BPT stores the audio input in its memory. *Id.* ¶¶ 34–38. When the BPT returns to within range of the IVT, the stored audio stream and the real-time audio stream are transmitted for recording by the mobile digital recording system. *Id.* ¶ 35. "Time stamps embedded in both the audio and the video streams are used to correctly synchronize and align the two data streams." *Id.*

2. Analysis

Petitioner contends that claims 1–7 and 10–14 of the '307 patent are unpatentable under 35 U.S.C. § 102(e) as anticipated by Lee. Pet. 48–71. Petitioner asserts that Lee is entitled to priority to provisional application 60/685,974, filed May 31, 2005, for purposes of § 102(e). Pet. 51–54; Ex. 1009. Patent Owner does not dispute that Lee is entitled to the benefit of the filing date of the provisional application. *See* PO Resp. 12. Instead, Patent Owner contends that the named inventors of the '307 patent

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conceived of their invention before May 31, 2005, the earliest effective date of Lee, and acted diligently from just before that date to constructively reduce their invention to practice on July 14, 2005, when their first patent application was filed. *Id*. at 12–29 (citing Exs. 2001, 2017, 2018, 2086–2088). We are persuaded that Patent Owner has demonstrated conception and diligence to reduction to practice necessary to antedate Lee. Accordingly, we determine that Lee does not qualify as prior art under 35 U.S.C. § 102(e), and, therefore, Petitioner has not established by a preponderance of the evidence that claims 1–7 and 10–14 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Lee or that claims 1–14 are unpatentable under 35 U.S.C. § 103(a) as obvious over Lee and Nagai.

The Federal Circuit has held

> When the issue of priority concerns the antedating of a reference, the applicant is required to demonstrate, *with sufficient documentation*, that the applicant was in possession of the later-claimed invention before the effective date of the reference. *Demonstration of such priority requires documentary support, from which factual findings and inferences are drawn, in application of the rules and law of conception, reduction to practice, and diligence.* The purpose is not to determine priority of invention—the province of the interference practice—but to ascertain whether the applicant was in possession of the claimed invention sufficiently to overcome the teachings and effect of an earlier publication of otherwise invalidating weight.

In re Steed, 802 F.3d 1311, 1316 (Fed. Cir. 2015) (emphases added); *see also Perfect Surgical Techniques, Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1008 (Fed. Cir. 2017) (citing *Steed*, 802 F.3d at 1316–17). "The principles are legal, but the conclusions of law focus on the evidence, for which the Board's factual findings are reviewed for support by substantial evidence."

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Steed, 802 F.3d at 1316; *see also NFC Tech., LLC v. Matal*, 871 F.3d 1367, 1371 (Fed. Cir. 2017).

"[C]onception is established when the invention is made sufficiently clear to enable one skilled in the art to reduce it to practice without the exercise of extensive experimentation or the exercise of inventive skill." *Hiatt v. Ziegler*, 179 USPQ 757, 763 (Bd. Pat. Inter. 1973). "Conception must be proved by corroborating evidence which shows that the inventor disclosed to others his 'completed thought expressed in such clear terms as to enable those skilled in the art' to make the invention." *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985) (quoting *Field v. Knowles*, 183 F.2d 593, 601 (CCPA 1950)); *see Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994) (determining that draft patent application disclosing treatment of AIDS with AZT reciting dosages, forms, and routes of administration was sufficient to corroborate conception).

To establish conception, Patent Owner provides the Declaration of Mr. Glenn Sanders. Ex. 2001. Mr. Sanders declares that the inventions claimed in the '307 patent were conceived of prior to May 31, 2005. Ex. 2001 ¶¶ 2–6. As corroboration, Patent Owner submits the Declaration of Ms. Rita Chipperson and draft patent applications dated at least as of May 9, 2005. Ex. 2001 ¶ 4; Ex. 2003; Ex. 2078. Mr. Sanders identifies each claim element and its support in a draft patent application asserted to be dated May 16, 2005. Ex. 2001 ¶¶ 4–6 (citing Ex. 2017); *see also* Ex. 2078 ¶ 18 ("Exhibit 2017 . . . is dated by Windows Explorer as being last modified on 5/16/2005."); Ex. 2087 ¶ 6. For example, the draft patent application shown in Exhibit 2017 states:

> [l]ocal recorder 306 of local audio device 102 locally records audio received via audio receiving device 312. Audio

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> receiving device 312 is also worn by the speaker and connects to local audio device 102 at audio input port 314. The locally recorded audio is stored along with time code numbers that indicate when, during the live audio event, each segment of audio occurred in local memory 31. . . . Simultaneously, audio received from audio receiving device 312 is transmitted via local transmitter 308 to receiver 106 to allow live recording of the audio event.

Ex. 2017, 5 (bolding omitted); Ex. 2001 ¶ 6.

Petitioner argues that the record fails to show conception prior to May 31, 2005. Pet. Reply 17–20. Specifically, Petitioner contends that neither the Patent Owner Response nor the draft patent application identifies the date of the draft patent application. *Id.* at 17. In other words, Petitioner argues that Patent Owner has not provided sufficient proof for the date of the draft patent application. *Id.* (citing *CBS Interactive Inc. v. Helferich Patent Licensing, LLC*, IPR2013-00033, Paper 122 at 46 (PTAB Mar. 3, 2014)).

We disagree with Petitioner. Patent Owner identifies the date of the draft patent application as "prior to May 31, 2005." PO Sur-Reply 6–7 (citing PO Resp. 12–13; Ex. 2017; Ex. 2088 ¶ 19). Ms. Chipperson attests that Exhibit 2017 "is dated by Windows Explorer as being last modified on 5/16/2005 at 7:29pm, as indicated by the screen shot of the folder attached as Exhibit 2077." *Id.* at 7 (citing Ex. 2088 ¶ 19). Considering the totality of the evidence, we are persuaded that Patent Owner has sufficiently established that the date of the draft patent application is May 16, 2005, prior to the May 31, 2005 earliest priority date of Lee.

Petitioner further argues that Patent Owner provides no substantive analysis as to how draft patent application provides support for the claims. Pet. Reply 18 (citing PO Resp. 13–25, Ex. 2087 ¶ 6; Ex. 1027, 44:13–54, 57:13–58:23). Petitioner further notes that the draft patent application

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generally includes comments identifying the fact that more detail needs to be added to the draft patent application. *Id.* at 19 (citing Ex. 2017, 2, 3, 7, 9–10). Patent Owner responds that the elements asserted by Petitioner to be lacking are supported by the draft patent application's disclosure of

> At 416, one or more local audio devices transmit its respective stored audio starting with the audio that corresponds to the time specified by the time reference data. The receiving equipment simultaneously records the replayed audio at the same time reference point. That is, the receiving equipment may insert the replayed audio data that was not recorded during the live audio event due to wireless transmission errors into the original recording at the exact time at which the missed audio originally occurred, thereby compensating for any transmission losses.

PO Resp. 17 (citing Ex. 2017, 11).

We agree as the cited portions of the draft patent application sufficiently describe conception of wireless transmission, worn by the speaker (wearable), receiver for receiving . . . audio data, a control unit, and "combining" audio. PO Resp. 16–17 (citing Ex. 2017, 5–6, 11). The draft patent application, titled "Wireless Multitrack Recording System," sufficiently describes the combining into a multitrack file of audio transmitted from one or more local devices where the "receiving equipment simultaneously records the replayed audio at the same time reference point," and "insert[s] the replayed audio data that was not recorded during the live audio event due to wireless transmission errors into the original recording." Ex. 2017, 1, 11; *see* PO Resp. 17 (citing Ex. 2017, 11). Petitioner makes similar arguments with respect to the "identifier" recited in claims 2 and 14 and the "bodypack" recited in claim 3. However, we are persuaded that Patent Owner has sufficiently demonstrated conception of these features.

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PO Sur-Reply 7–8 (citing Ex. 2017, 1; Ex. 2080; Ex. 2081; Ex. 2083; Ex. 2087 ¶ 4).

We are persuaded that Patent Owner's evidence sufficiently demonstrates and corroborates that conception of the invention occurred prior to the earliest effective filing date of Lee. Patent Owner asserts that constructive reduction to practice occurred with the filing of application 11/181,062 (the "'062 application"), the '307 patent's parent application, on July 14, 2005. PO Resp. 25–26; PO Sur-Reply 9–13; Ex. 1001. Application 13/774,744, which issued as the '307 patent, is a continuation of application 12/772,471, which is a continuation of 11/404,735, which is a continuation-in-part of the '062 application. Ex. 1001. Patent Owner relies upon the Declaration of James DeFilippis to demonstrate that the '062 application provides written description support for claims 1–14 of the '307 patent. PO Resp. 26–30 (citing Ex. 2079).

Having produced evidence sufficient to demonstrate conception of the invention and constructive reduction to practice, Patent Owner must also produce evidence demonstrating that reasonable diligence was shown throughout the entire critical period, which begins just prior to the competing reference's effective date and ends on the date of the invention's reduction to practice. *Perfect Surgical Techniques*, 841 F.3d at 1007 (citation omitted); *see also id*. at 1009 ("A patent owner . . . must show there was *reasonably continuous* diligence."). "Under this standard, an inventor is not required to work on reducing his invention to practice every day during the critical period." *Id.* (citing *Monsanto Co. v. Mycogen Plant Sci., Inc.*, 261 F.3d 1356, 1369 (Fed. Cir. 2001)). Rather, "the point of the diligence analysis . . . is to assure that, in light of the evidence as a whole, 'the invention was not abandoned or unreasonably delayed.'" *Id.* (quoting

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Brown v. Barbacid, 436 F.3d 1376, 1379 (Fed. Cir. 2006)). A party alleging diligence must provide corroboration with evidence that is specific both as to facts and dates. *Gould v. Schawlow*, 363 F.2d 908, 920 (CCPA 1966); *Kendall v. Searles*, 173 F.2d 986, 993 (CCPA 1949).

Hence, Patent Owner must produce evidence demonstrating diligence from the time period just prior to May 31, 2005, to the constructive reduction to practice on July 14, 2005, with the filing of the ’062 application. As evidence of diligence, Patent Owner relies on the Declarations of Mr. Sanders and Ms. Chipperson. PO Resp. 25–26; Ex. 2001 ¶ 2; Ex. 2078; Ex. 2088 ¶¶ 2–80; Ex. 2087 ¶ 7. Specifically, Ms. Chipperson states:

> I diligently worked together with the inventors on editing and improving the ’062 patent application nearly every day during the time period beginning just prior to May 31, 2005 and ending on July 14, 2005 with the filing of the ’062 application (e.g., May 20, June 2, 3, 16, 17, 18, 20, 21, 22, 23, 24, 27, July 5, 6, 7, 8, 11, 12). The only days during the period from just prior to May 31, 2005 and ending on July 14, 2005 that I did not work on the ’062 application were either a holiday, a weekend, or days on which I worked on other matters for other clients.

Ex. 2078 ¶ 78. As corroboration, Ms. Chipperson references Exhibits 2019 through Exhibit 2076, which include draft specifications, figures, and claims for the ’062 application that were generated throughout the critical period. Ex. 2078 ¶ 19.

Petitioner argues that Patent Owner’s explanation of diligence is deficient because it alleges work on only 17 out of 45 days of the critical period. Pet. Reply 21. Petitioner further asserts that the submitted declarations do not cure the alleged deficiencies of the Patent Owner Response because they too “lack any specificity regarding what they did and

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when they did it." *Id.* (citing *GEP Power Prods., Inc. v. Arctic Cat Inc.*, IPR2016-01385, Paper 27 at 16 (PTAB Dec. 5, 2017)). In general, Petitioner asserts that the submitted evidence is conclusory and lacks explanation. Pet. Reply 22–24.

We, however, are persuaded that Patent Owner has sufficiently demonstrated diligence. As asserted by Patent Owner, Mr. Sanders and Ms. Chipperson worked diligently "nearly every day" during the time period beginning May 31, 2005 and ending on July 14, 2005, and prepared and exchanged 18 different versions of the draft patent application during that time. PO Sur-Reply 10. Patent Owner submits a table detailing the dates on which the draft patent applications were created and edited. *Id.* at 11–12.

For the aforementioned reasons, we are persuaded that Patent Owner has sufficiently demonstrated diligence from the time period prior to May 31, 2005, to the constructive reduction to practice on July 14, 2005.

3. Conclusion

Because we conclude that Patent Owner has produced evidence sufficient to demonstrate conception and diligence to constructive reduction to practice to antedate Lee, we are not persuaded that Petitioner has shown by a preponderance of the evidence that claims 1–7 and 10–14 of the '307 patent are anticipated by Lee or claims 1–14 of the '307 patent are unpatentable as obvious over Lee and Nagai.

III. PATENT OWNER'S CONTINGENT MOTION TO AMEND

Pursuant to 35 U.S.C. § 316(d)(1) and 37 C.F.R. § 42.121(a), Patent Owner moves to replace claims 1–14 of the '307 patent with proposed substitute claims 15–28. PO MTA 1. The motion is contingent on our determination as to whether a preponderance of the evidence establishes that

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claims 1–14 of the ’307 patent are unpatentable. *Id.* As discussed above, we determine that original claims 1–14 of the ’307 patent have been shown to be unpatentable by a preponderance of the evidence. *See* Sections II.D.4, II.E. Therefore, we proceed to address Patent Owner’s contingent Motion to Amend.

In support of the Motion to Amend, Patent Owner relies on the Declaration of Mr. DeFilippis. *Id.*

A. Proposed substitute claims

Patent Owner submits the following proposed substitute claims 15–28:

> 15. An apparatus or system for locally recording locally generated audio, [said locally generated audio also being wirelessly transmitted to, and remotely recorded by, a remote recorder] <u>and remotely recording said locally generated audio</u> as remotely recorded audio data comprising:
>
> at least one local audio device wearable by a creator of said locally generated audio including:
>
> at least one local audio device receiver for receiving at least one of the group consisting of digital data, time data, and audio data;
>
> at least one audio input port for receiving said locally generated audio from an audio input device, said audio input device wearable by a creator of said locally generated audio;
>
> <u>a wireless transmitter transmitting said locally generated audio to a remote recorder</u>;
>
> at least one memory; [and]
>
> at least one control unit electrically coupled to said local audio device receiver, said audio input device, and said memory for creating local audio data and storing said local audio data in said memory; <u>and</u>
>
> <u>said at least one remote recorder receiving and remotely recording said locally generated audio as remotely recorded</u>

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audio data, receiving said local audio data, and replacing said remotely recorded audio data with said local audio data.

[wherein said local audio data may be retrieved after said locally recording and combined with said remotely recorded audio data.]

16. A system according to claim [1]15, wherein said local audio data includes at least one identifier selected from the group consisting of track identifiers, local audio device identifiers, performer identifiers, and combinations thereof.

17. An apparatus or system according to claim [1]15 wherein said at least one local audio device is at least one bodypack.

18. An apparatus or system according to claim [1]15 wherein said creator of said locally generated audio is a live performer.

19. An apparatus or system according to claim [1]15 wherein said at least one local audio device further includes:

at least one audio output port.

20. An apparatus or system according to claim [5]19 wherein said locally generated audio is transmitted from said at least one local audio output port directly or indirectly to a remote recorder.

21. An apparatus or system according to claim [1]15 wherein said audio input device is a microphone.

22. An apparatus or system according to claim [1]15 wherein said at least one memory is removable from said at least one local audio device.

23. An apparatus or system according to claim [1]15 wherein said at least one memory is a memory card.

24. An apparatus or system according to claim [1]15 wherein said time data includes at least one of the group consisting of hour data, minute data, second data, and combinations thereof.

25. An apparatus or system according to claim [1]15 wherein said digital data includes setting data for said at least one local audio device.

26. A method of locally recording locally generated audio, said locally generated audio also being wirelessly transmitted to, and remotely recorded by, a remote recorder as remotely recorded audio data comprising the steps of:

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locally receiving said local audio generated by at least one performer during an audio event; and

transmitting said local audio, directly or indirectly, to at least one of the group consisting of a recorder, a receiver, and combinations thereof;

locally recording said local audio as local audio data in at least one memory of at least one local audio device wearable by a creator of said local audio;

remotely recording said transmitted local audio via at least one of the group consisting of a recorder, a receiver, and combinations thereof as remotely recorded audio data;

retrieving [wherein] said local audio data [is retrieved] from said at least one memory of said at least one local audio device during or subsequent to said audio event and replacing [is combined with] said remotely recorded audio data with said local audio data.

27. A method according to claim [12]26, said method further comprising the step of:

locally receiving or generating master time data;

wherein said master time data includes at least one of the group consisting of hour data, minute data, second data, and combinations thereof.

28. A method according to claim [12]26, further comprising:

manipulating said local audio data contained in at least a portion of said memory;

wherein said manipulation includes at least one of the group consisting of adding said track identifier to at least a portion of said memory, deleting said track identifier from at least a portion of said memory, altering said track identifier associated with at least a portion of said memory, adding said local audio device identifier to at least a portion of said memory, deleting said local audio device identifier from at least a portion of said memory, altering said local audio device identifier associated with at least a portion of said memory, adding said performer identifier to at least a portion of said local audio data, deleting said performer identifier from at least a portion of said local audio data, altering

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> said performer identifier associated with at least a portion of said local audio data, and combinations thereof.

PO MTA 31–34.

B. Procedural Requirements

"Before considering the patentability of any substitute claims, however, the Board first must determine whether the motion to amend meets the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121." *Lectrosonics, Inc. v. Zaxcom, Inc.*, Case IPR2018-01129, Paper 15 (PTAB Feb. 25, 2019) (precedential) ("*Lectrosonics*").

First, the Motion to Amend proposes a reasonable number of substitute claims. 35 U.S.C. § 316(d)(1)(B). "There is a rebuttable presumption that a reasonable number of substitute claims per challenged claim is one (1) substitute claim." *Lectrosonics* at 4–5 (citing 37 C.F.R. § 42.121(a)(3)). The Petition challenges 14 claims. The Motion to Amend proposes 14 substitute claims. PO MTA 1. We determine that the number of proposed claims is reasonable.

Second, the proposed substitute claims respond to a ground of unpatentability involved in this trial. *Lectrosonics* at 5–6. The Motion to Amend proposes adding the following limitation to independent claim 1, resulting in proposed substitute independent claim 15:

> <u>said at least one remote recorder receiving and remotely recording said locally generated audio as remotely recorded audio data, receiving said local audio data, and replacing said remotely recorded audio data with said local audio data.</u>

Further, the Motion to Amend proposes adding the following limitation to independent claim 12, resulting in proposed substitute independent claim 26:

> <u>retrieving</u> [wherein] said local audio data [is retrieved] <u>from said at least one memory of said at least one local audio device</u> during or subsequent to said audio event and <u>replacing</u> [is combined

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> with] said remotely recorded audio data <u>with said local audio data</u>.

PO MTA 31–34. Patent Owner asserts that the proposed substitute claims are patentable over the references at issue in this proceeding. *Id.* at 17–31. We determine that the amended language in the proposed substitute claims is responsive to the grounds of unpatentability involved in this trial.

Third, "[a] motion to amend may not present substitute claims that enlarge the scope of the claims of the challenged patent or introduce new subject matter." *Lectrosonics* at 6–8 (citing 35 U.S.C. § 316(d)(3); 37 C.F.R. § 41.121(a)(2)(ii)). Patent Owner asserts that the proposed substitute claims add only narrowing features and do not enlarge the scope of the claims. PO MTA 2.

Petitioner argues that Patent Owner's proposed substitute claims improperly enlarge the scope of the claims. Pet. Opp. to MTA 2–3. Specifically, Petitioner asserts that the proposed amendments enlarge the claims because "they cover something the original claims do not—a full replacement of the remotely recorded audio data with the locally recorded audio data. The original claims required combining, which the amendments change to replacing." *Id.* (citing PO MTA 31, 33; Ex. 1024, 173:19–174:6).

Patent Owner asserts that Petitioner's argument is premised on an overly narrow interpretation of "combining." PO Reply to Opp. to MTA 2–3. Patent Owner asserts that the term "combining" encompasses any operation on inputs that produces a result. *Id.* at 3. We agree with Patent Owner. As described above, we construe the "combining" limitation broadly to encompass embodiments including the combining of multiple audio tracks into a multitrack audio file. *See* Section II.B.1. Patent Owner proposes an amendment that limits claims 15 and 26 to "replacing" remotely

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recorded audio data with local audio data, thereby limiting the scope of the claims. *See* PO MTA 31–34. We determine that the proposed amendment narrows claims 15 and 26.

Petitioner further asserts that the amendment to claim 15 to delete "after said locally recording" broadens the claim to cover retrieving both during and after the local recording. *Id.* at 3. Patent Owner asserts that local audio data cannot be retrieved until after it is created. PO Reply to Opp. to MTA 3. We agree with Patent Owner that proposed substitute claim 15 cannot be properly construed as to cover retrieving both during and after the local recording because local audio data cannot be retrieved until after it is created. PO Reply to Opp. to MTA 3. Accordingly, we determine the proposed substitute claims do not improperly enlarge the scope of the claims.

Patent Owner asserts that proposed substitute claims 15–28 are supported by the original disclosure in U.S. Patent Application No. 11/181,062 ("the '062 application"). PO MTA 4–13 (providing claim charts with citations to Ex. 2018). Petitioner asserts that the Motion fails to show support in the original disclosure for the "replacing" limitation. Pet. Sur-Reply to Opp. to MTA 4.

We disagree with Petitioner. We recognize that the '062 application does not recite the term "replacing." *See generally* Ex. 2018. However, the "description need not recite the claimed invention *in haec verba* but must do more than merely disclose that which would render the claimed invention obvious." *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1377 (Fed. Cir. 2009). The '062 application describes that locally recorded data may be retrieved and used to repair the corruption of the audio file generated by the receiver/recorders that occurred due to the receipt of corrupted audio

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data or dropouts. Ex. 2018, 12:12–17, 28:18–21. In other words, the ’062 application describes repairing corrupted remotely stored audio using locally recorded audio data. We determine, based on the testimony of Mr. DeFilippis, that the term “repair,” in the context of the specification, adequately supports the claimed “replacing.” Ex. 2086 ¶¶ 54–56. Mr. Tinsman, Petitioner’s expert, explains that the ’307 patent specification discloses that timestamps are used to synchronize the “local audio with the wirelessly transmitted version of the local audio to *replace* any dropouts.” Ex. 1011 ¶ 18 (emphasis added). Accordingly, we agree with Patent Owner that the proposed substitute claims do not enlarge the scope of the claims or introduce new subject matter.

Finally, the Motion to Amend includes a claim listing, as required by 37 C.F.R. § 42.121(b). PO MTA 26–34; *Lectrosonics* at 8.

In view of the above, we determine that Patent Owner’s Motion to Amend meets the statutory and regulatory requirements of 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121 in a manner sufficient to proceed with the issue of whether Petitioner has met its burden of persuasion with respect to patentability.

C. Claim Construction

Patent Owner argues that the limitation of “retrieving said local audio data from said at least one memory of said at least one local audio device during or subsequent to said audio event and replacing said remotely recorded audio data with said local audio data” (the “replacing” limitation) requires:

> (i) local audio generated by a performer is stored in a memory of a wearable local audio device as local audio data,

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> (ii) the same local audio is transmitted to a remote recorder or receiver,
>
> (iii) the same local audio is remotely recorded at the recorder or receiver as remotely recorded audio data, and
>
> (iv) the local audio data is retrieved from the memory of the wearable local audio device and the remotely recorded audio data is replaced with the local audio data.

PO MTA 14–16.

Patent Owner asserts that its proposed claim construction is consistent with both the ’307 patent specification and the proposed substitute claim language. PO MTA 15. Patent Owner further asserts that the ’307 patent specification supports its proposed claim construction. *Id.* at 15–16 (citing Ex. 1001, 3:46–48, Fig. 6; Ex. 2086 ¶ 15). Specifically, Patent Owner asserts that the ’307 patent specification sets forth an embodiment where “the ‘307 patent replaces segments of the local audio that were previously transmitted by a local audio device to a remote receiver/recorder but not received (e.g., dropout).” *Id.* at 16 (citing Ex. 2086 ¶ 15).

Petitioner argues that Patent Owner’s proposed construction is unclear as to which elements Patent Owner wishes to construe and adds unexplained distinctions as to some terms. Pet. Opp. to MTA 2.

We agree with Patent Owner that the amended claim language supports its proposed claim construction. Notably, proposed substitute claim 15 requires “locally recording locally generated audio,” transmitting the “locally generated audio to a remote recorder,” and “recording said locally generated audio as remotely recorded audio data” for “replacing said remotely recorded audio data with said local audio data.” *Id.* Proposed substitute claim 26 recites similar limitations. We determine that the

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addition of the step of "transmitting," as well as the explicit step of "replacing," supports Patent Owner's proposed construction.

As argued by Patent Owner, the '307 patent specification discloses "a process for recording audio *and for replaying and re-recording segments of missed audio*." Ex. 1001, 3:46–48 (emphasis added). Figure 6 describes the step of "[l]ocal audio devices record audio and transmit to receiving equipment in real time." *Id*. at FIG. 6, step 608. Later, "[l]ocal audio devices process [a] playback command and synchronize playback to the time code reference contained in the playback command and transmit synchronization data to receiving equipment." *Id*. at FIG. 6, step 614. Next, the "local audio devices transmit stored audio, which is simultaneously recorded by the receiving equipment, starting at the time specified in the playback command." *Id*. at FIG. 6, step 616. The dropout is then corrected as the "local audio devices continue to replay audio while the receiving equipment re-records the audio." *Id*. at FIG. 6, step 618. Although the '307 patent specification does not use the term "replacing," we determine that the aforementioned disclosure, and, more specifically, the playback command causing retransmission of local audio and the subsequent re-recording of the audio, provides adequate support for the amended claim recitation of "replacing."

Based on the foregoing, we agree with, and adopt, Patent Owner's proposed claim construction for the "replacing" limitation to require:

> (i) local audio generated by a performer is stored in a memory of a wearable local audio device as local audio data,
>
> (ii) the same local audio is transmitted to a remote recorder or receiver,
>
> (iii) the same local audio is remotely recorded at the recorder or receiver as remotely recorded audio data, and

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> (iv) the local audio data is retrieved from the memory of the wearable local audio device and the remotely recorded audio data is replaced with the local audio data.

PO MTA 14–16.

D. Whether the substitute claims comply with 35 U.S.C. § 112

Petitioner argues that the proposed substitute claims fail to particularly point out and distinctly claim the invention. Pet. Opp. to MTA 5–6 (citing *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005)). In particular, Petitioner argues that proposed substitute independent claim 15 improperly covers both "an apparatus and a method of using it." *Id.* at 5. Specifically, Petitioner argues that proposed substitute claim 15 recites apparatus or system elements, and also recites "a wireless transmitter transmitting," and "at least one remote recorder receiving and remotely recording . . . , receiving . . . , and replacing." *Id.* at 5 (citing PO MTA 31). Petitioner contends that "if the element 'said at least one remote recorder receiving' is not a method step, the claim would make no sense because that would make 'said at least one remote recorder' part of the local audio device." *Id.* (citing PO MTA 30).

Patent Owner argues that the "claimed phrases quoted by Petitioner are not steps performed by a user with the claimed system," as in *IPXL*, but "instead qualify the types of components that are in the claimed system." PO Reply to Opp. to MTA 5. Patent Owner also argues that proposed substitute claim 15 "separately recites (i) a remote recorder and (ii) a local audio device including particular components (*e.g.*, a local audio device receiver, audio input port, a transmitter, a memory and a control unit)." *Id.* at 5–6.

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We agree with Patent Owner. The limitations quoted by Petitioner qualify the functions of the apparatus elements. *See* PO MTA 31. Specifically, the claimed wireless transmitter is for "transmitting said locally generated audio to a remote recorder" and the claimed at least one remote recorder is for "receiving and remotely recording said locally generated audio as remotely recorded audio data, receiving said local audio data, and replacing said remotely recorded audio data with said local audio data." Claim 15 does not recite a step of transmitting or steps of receiving, recording, and replacing, but rather recites a defined functionality for the recited wireless transmitter and at least one remote recorder. We further are not persuaded that substitute claim 15 specifies the remote recorder as part of the local audio device. We agree with Patent Owner that substitute claim 15 clearly recites several elements of the claimed apparatus, of which the remote recorder is one.

Petitioner further argues that "[c]laim 26 is 'not sufficiently precise' because it recite a series of steps without any conjunction before the last step." Pet. Opp. to MTA 6 (citing *IPXL Holdings*, 430 F.3d at 1384). Petitioner argues that "it is unknown whether just one of the 'transmitting,' 'locally recording,' 'remotely recording,' and 'retrieving' steps is required to infringe or all three." *Id.* In response, Patent Owner asserts that each step identified by Petitioner is required by its preceding step, and, "[t]herefore, it is impossible for any of the latter steps to be executed without executing the preceding steps." PO Reply to Opp. to MTA. 6. We agree with Patent Owner. Each step recited by proposed substitute 26 refers to a previous step, and, therefore, we are not persuaded that there is any lack of clarity as to whether any step is required. Accordingly, we determine that the proposed substitute claims comply with 35 U.S.C. § 112.

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E. Level of Ordinary Skill in the Art

As discussed above, Petitioner and Patent Owner assert that a person of ordinary skill in the art, at the time of the ’307 patent, would have had a Bachelor’s degree in electrical engineering and two or more years of experience working with audio and wireless communications systems. Section II.C; Pet. 8 (citing Ex. 1011 ¶ 24); Ex. 2086 ¶ 13. We adopt the same level of ordinary skill in the art in analyzing Patent Owner’s proposed substitute claims.

F. Patentability of substitute claims over Strub in combination with Nagai or Gleissner, and Wood

Petitioner argues that substitute claims 15–28 are unpatentable under 35 U.S.C. § 103(a) as obvious over Strub in combination with Nagai or Gleissner, and Wood. PO Opp. to MTA 6–11.

1. Wood (Ex. 1008)

Wood is directed to a method for repairing a broadcast signal to improve the quality of the signal that is available to the end user. Ex. 1008, 2:28–30. Wood discloses a satellite or terrestrial digital television receiver 10 for receiving a digital video and audio stream. *Id.* at 3:16–18. Processor 16 monitors the broadcast signal to ascertain when the signal has been corrupted. *Id.* at 3:22–23. Transceiver 20 may request a replacement undamaged copy of the lost video and audio segments upon the detection of a lost portion of data in order to replace the lost data. *Id.* at 4:4–10. Multiplexor 24 is provided for combining the replacement portions supplied by transceiver 20 with the received broadcast signal. *Id.* at 4:11–12. Multiplexor 24 splices the “lost” video and/or audio obtained via the broadband connection into the “damaged” video and audio stream. *Id.* at 4:12–14.

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2. Differences between the prior art and claims

Petitioner argues that substitute claims 15–28 are unpatentable under 35 U.S.C. § 103(a) as obvious over Strub in combination with Nagai or Gleissner, and Wood. Pet. Opp. to MTA 6–11. Petitioner asserts that Strub discloses a recording unit that stores the audio from a microphone as local audio data and transmits the audio to other recording units, which can store it as remotely recorded audio data. *Id.* at 6–8 (citing Pet. 16–29; Ex. 1003, 12:31–39, 35:54–65). That is, Petitioner argues that Strub (alone or in combination with Nagai or Gleissner) teaches limitations of proposed substitute claims 15 and 26 for the same reasons discussed in the Petition. *Id.* at 6–8, 11 (citing Pet. 16–29); *see* Sections II.D.4, II.E. In this way, Petitioner asserts that, under Patent Owner's proposed construction (which we adopt), Strub (alone or in combination with Nagai or Gleissner) teaches all of the limitations of claims 15 and 26 except for the newly amended "replacing" limitation. Pet. Opp. to MTA 6–8, 11; *see* Section III.C.

Petitioner asserts that, although Strub discloses combining local and remotely recorded audio data, it does not expressly disclose "replacing said remotely recorded audio data with said local audio data." Pet. Opp. to MTA 8. For that limitation, Petitioner relies on the combined teachings of Strub and Wood. *Id.* at 8–11. Specifically, Petitioner asserts that Wood discloses a method to "fix defects or gaps in a recording of a received transmission ('*remotely recorded audio data*') by requesting an undamaged local copy and 'combining the replacement portions' ('*local audio data*') with the previously recorded transmission." *Id.* at 8 (citing Pet. 28–30); *see* Ex. 1008, 1:31–2:13, 3:22–29, 4:11–27, Figs. 1, 2; Ex. 1011 ¶ 58 (citing Ex. 1008, 1:31–2:13), ¶ 61 ("Wood discloses sending a request when a dropout is detected so that the content can be resent and combined with the

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previously received audio to repair the dropout."). Petitioner contends that, in the event of a transmission failure, it would have been obvious to a person of ordinary skill in the art to fix a defect in a remote recording of Strub's system by replacing the corrupt segment with a local copy. Pet. Opp. to MTA 9–10 (citing Pet. 28–29).

Patent Owner argues that Petitioner fails to demonstrate that Wood teaches "a local audio device locally recording local audio . . . because 'there is no local recording device in Wood.'" PO Reply to Opp. to MTA 7 (quoting Ex. 2086 ¶ 35). We are not persuaded by this argument because, as Petitioner responds, "Petitioner relied on Strub (alone or in combination with Nagai or Gleissner) to disclose each claim element (including the 'local audio device'), except for the 'replacing,' which is disclosed and rendered obvious by the Strub-Wood combination." Pet. Sur-Reply to Opp. to MTA 7 (citing Pet. Opp. to MTA 10–11). This argument by Patent Owner is tantamount to an attack on Wood alone, but Petitioner's argument is based on the combination of Strub (alone or in further combination with Nagai or Gleissner) and Wood. "Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references." *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Regarding the combination of Strub and Wood, Petitioner asserts that the addition of Wood's method for replacing a dropout would have been obvious because Strub contemplated the problem of deficient recordings and Wood provided a known solution. Pet. Opp. to MTA 9. Specifically, Petitioner asserts that Strub recognized the problem of deficient recordings, and a person of ordinary skill in the art would have known that one such deficiency would have been dropouts. Pet. 27 (citing Ex. 1003, 48:18–30,

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85:28–41 ("during an event, the recording obtained by a particular recording unit will be deficient in some way"); Ex. 1011 ¶ 60). In order to solve the problem of dropouts, Petitioner asserts a person of ordinary skill in the art would have combined Wood with Strub in order to improve signal quality and produce a program free of dropouts. *Id.* at 29 (citing Ex. 1003, 35:54–57, 37:53–38:4; Ex. 1008, 1:28–30, 3:4–6; Ex. 1011 ¶ 63). In Petitioner's view, the combination of Strub and Wood would have been expected because techniques for detecting dropouts and requesting replacements were well known, and Wood discloses such a technique. Pet. Opp. to MTA 9 (citing Ex. 1007); Pet. Sur-Reply to Opp. to MTA 8. Patent Owner's own expert, Mr. DeFilippis, explains that if backup audio was available, it was known to replace corrupted audio with replacement audio. *See generally* Ex. 1024, 19:2–21:12.

Patent Owner argues that "it is unclear how the teachings of Strub and Wood could be combined in the manner suggested by Petitioner to achieve the claimed invention with a reasonable expectation of success." PO Resp. 40 (quoting Ex. 2086 ¶ 39). Specifically, Patent Owner asserts that Strub "allows the local audio data to be retrieved by transmitting the data to other devices via transmitter 309 or wired connections, such as USB," which differs substantially from Wood's combining of a broadcast signal transmitted on one channel with a replacement signal on another channel. *Id.* at 41 (citing Ex. 1003, 12:4–39, 66:7–25, Fig. 3). Patent Owner argues that Wood discloses a system for "TV broadcasting and addresses problems with a broadcasting channel using a second channel," and a person with ordinary skill in the art "would not have looked to Wood to address the

problem identified in the '307 patent." *Id.* at 44–45 (quoting Ex. 2086 ¶ 45).[9]

Patent Owner further argues that "Petitioner erred by focusing on whether the concept of repairing dropouts was known." PO Reply to Opp. to MTA 7–8. Patent Owner argues that Petitioner fails to establish that the "claimed combination as a whole" would have been obvious. *Id.* at 7. Patent Owner argues that "Wood would have taught repairing dropouts by a completely different approach using a server and recorder, neither of which is anywhere near the location of the locally generated audio." *Id.* at 8.

We are persuaded by Petitioner that Wood is analogous art, as it is reasonably pertinent to the problem faced by the inventors of the '307 patent. *See In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004); Pet. Reply 9 ("Wood and the '307 patent are in the field of wireless audio recording and processing" and both are "concerned with dropouts, corrupt audio, or the loss of audio associated with transmissions and combining recordings in order to provide a complete signal." (citing Ex. 1001, 16:53–61; Ex. 1008, 1:31–2:13)). Nevertheless, in view of the differences between the asserted prior art references and the subject matter of the proposed substitute claims, Petitioner presents a weak case of obviousness. For instance, although Strub recognizes that recordings may be deficient, Strub does not specifically contemplate deficiencies resulting from dropouts in transmission of local audio to a remote recorder or receiver. *See* Ex. 1003,

[9] Patent Owner presents several arguments towards the bodily incorporation of Wood in to Strub. PO Resp. 41–47. We are not persuaded by these arguments because the test for obviousness is what the combined teachings of the references would have suggested to a person with ordinary skill in the art. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

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48:18–30, 85:28–41. Moreover, even if a person of ordinary skill in the art would have understood that dropouts could be one cause of deficient recordings in Strub, as Petitioner's expert opines, and Wood teaches a method for repairing dropouts, Wood focuses on repairing dropouts in a received TV broadcast signal rather than during post-processing of a recording, as in the '307 patent. Furthermore, the evidence that a person with ordinary skill in the art would have looked to combine a small, wearable device for recording the audio of an event, as taught in Strub, with a method for repairing a TV broadcast signal, as taught in Wood, does not support a strong showing of obviousness. Considering all of the arguments and evidence of record, we conclude that Petitioner's proposed combination of the teachings of Wood with Strub, alone or combined with Nagai or Gleissner, at best only slightly weighs in favor of a conclusion of obviousness.

3. Objective Indicia of Nonobviousness

Patent Owner further argues that objective indicia of nonobviousness demonstrate that the substitute claims are patentable over the prior art. PO MTA 30. Patent Owner asserts that the submitted evidence demonstrates that: (1) there was a long-felt need for a wearable, wireless device that could reliably capture sound data from actors recording a movie or television show and the invention recited in the substitute claims satisfied this need; and (2) the invention received industry praise and recognition. *Id.* (citing Exs. 2103–2104, 2086–2087, 2098–2102); PO Resp. 52–59 (citing Exs. 2103–2108); PO Sur-Reply 28–32.

a. Nexus

As described above, for objective indicia of nonobviousness to be accorded substantial weight, its proponent must establish a nexus between

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the evidence and the merits of the claimed invention. *ClassCo*, 838 F.3d at 1220; *see* Section II.D.4.b.ii. "Where the offered secondary consideration actually results from something other than what is both claimed and *novel* in the claim, there is no nexus to the merits of the claimed invention," meaning that "there must be a nexus to some aspect of the claim not already in the prior art." *In re Kao*, 639 F.3d at 1068–69.

In contrast to the original claims of the '307 patent, we construe substitute claims 15–28 as being directed to repairing dropouts by receiving local audio data and replacing remotely recorded audio data with the received local audio data. *See* Section III.C. In light of the different scope of proposed substitute claims 15–28, we consider the issue of nexus anew.

In its Motion to Amend, Patent Owner argues that there was a "long felt need for a wearable wireless device that could reliably capture sound data from actors recording a movie or television show" and the "invention received industry praise and recognition including an Emmy award and a Technical Achievement Award from the Academy of Motion Picture Arts and Sciences." PO MTA 30 (citing Exs. 2086, 2098–2102, 2087). Although Patent Owner does not provide any more analysis in its Motion to Amend (Pet. Opp. to MTA 25–26), Patent Owner's arguments and evidence submitted in its Response are directed to the scope of the proposed substitute claims, and we therefore consider the totality of the evidence regarding objective indicia of nonobviousness.

Patent Owner submits the testimony of Mr. Wexler, who explains: "I have been in many situations where for a variety of reasons there have been *RF dropouts and in some cases the wireless on the talent has moved way out of range . . . . [P]rior to Zaxcom's invention, the audio would be lost forever in these situations*." PO Resp. 52 (citing Ex. 2104 ¶ 6) (emphasis

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added). That is, Mr. Wexler refers generally to the prevention of dropouts and lost audio, i.e., the "replacing" limitation. *See* Section III.C. Mr. Wexler's testimony has probative value in establishing that the asserted objective evidence is tied to the proposed substitute claims.

Patent Owner also cites the following testimony from Mr. Sarokin and Mr. Wexler:

> I can say without the slightest qualification that the work of Zaxcom as described and claimed in the '307 patent has revolutionized the sound for picture industry . . . .
>
> Mr. Sanders announced his 3rd generation units. I purchased 12 TRX 900 transmitters and these included a mini SD card slot for recording and a built in remote control receiver . . . Not only could they transmit audio, they could also receive time code sync signals and remote control commands. Zaxcom combined this incredible capability with a built in digital recorder, making his digital transmitters full synchronous recording systems. This capability solved the major limitation of radio mics … radio mics had a very limited range. Depending on what else is on the frequency, the range can be as little as 50 feet. In a big motion picture scene, especially on a film that Ridley Scott is directing, there can be simultaneous action hundreds of feet apart. Prior to Zaxcom's invention of recording radios, the field mixer would capture as much of the dialog as his equipment would allow and the rest would have to be dubbed in post production. I can't emphasize enough the revolution these recording radios brought on. If the actors in a scene went in and out of radio range the SD card on the transmitter would continue to record the audio . . . Zaxcom also integrated all their equipment so a sound mixer could hit a single button on a Zaxcom recorder and all the radios in use would play back from a certain take or time code start point so the scene could be remixed without any radio drop outs. Zaxcom has been doing this since 2005. 14 years! . . .
>
> Each Zaxcom transmitter can digitally record the output of the microphone along with transmitting the signal to the receiver.

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> If there is a drop out of the RF signal, the identical recording in the transmitter can be used by post production. . .
>
> With the Zaxcom recording transmitters, the audio will always be available directly from the transmitter. I have done scenes where the actors have gone out of wireless range resulting in no audio at the receiver, but when the transmitters are back in range I have played back the full track from the transmitters, re-mixed and delivered to post production. The microSD cards from the transmitter can be directly delivered to post for their use as well . . . .

PO Resp. 53–55 (citing Ex. 2103 ¶¶ 3, 4, 6; Ex. 2104 ¶ 6). Mr. Sarokin and Mr. Wexler refer specifically to the "replacing" limitation of the '307 patent recited by the proposed substitute claims. For instance, Mr. Wexler states that each "transmitter can digitally record the output of the microphone along with transmitting the signal to the receiver. If there is a drop out of the RF signal, the identical recording in the transmitter can be used by post production." Ex. 2104 ¶ 6. In other words, a dropout causing an issue with remotely recorded audio can be fixed by "replacing" the remotely recorded audio with local audio data from a recording transmitter. We determine that this evidence is strongly probative in establishing that the asserted objective evidence is tied to the invention recited in the proposed substitute claims.

Similarly, Patent Owner's evidence of praise in the form of the Technical Achievement Award from the Academy of Motion Picture Arts and Sciences and the Emmy award from the Academy of Television Arts and Sciences awarded to Patent Owner also has probative value in establishing that the asserted objective evidence is tied to the invention disclosed and claimed in the substitute claims. For example, the Emmy award specifically praises the digital recording of microphone signals in the wireless transmitter to provide *backup* recording of the original microphone signal. PO Resp. 59 (citing Ex. 2106). That is, the Emmy award praises the

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"replacing" feature recited by the proposed substitute claims. We determine that this evidence is probative in establishing that the asserted objective evidence is tied to the invention disclosed in the substitute claims.

Petitioner contends that Patent Owner "presents no nexus argument, referring only to '[t]he invention.'" Pet. Opp. to MTA 26 (citing PO MTA 30). Petitioner specifically argues that Mr. Wexler and Mr. Sarokin praise unclaimed features. *Id.* at 28–29; PO Resp. 28–29. Petitioner further argues that the Technical Achievement Award and Emmy focus on "digital modulation technology," and "merely mention[] the ability to also record audio in the transmitter bodypack as one feature of the system." *Id.* (citing Ex. 2102, 1); *see* PO Resp. 29–30.

A presumption of nexus exists for objective considerations when the objective evidence is tied to a specific product and that product is the invention disclosed and claimed in the patent. *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 (Fed. Cir. 2016). Proposed substitute claims 15 and 26 recite the "replacing" limitation, which is supported by the '307 patent specification and is the key feature included in Patent Owner's product. *See* Section III.C. Accordingly, we determine that there is a presumption of a nexus for Patent Owner's evidence of secondary evidence, and the evidence cited by Patent Owner further supports a finding of a nexus. We are not persuaded by Petitioner's argument that the testimony of Mr. Wexler and Mr. Sarokin, and the Technical Achievement Award and Emmy, are directed to unclaimed features. As discussed above, both Mr. Wexler and Mr. Sarokin specifically identify the "replacing" limitation as a basis for the praise. *See* Ex. 2104 ¶ 6; Ex. 2103 ¶¶ 3, 4, 6. The Emmy similarly discusses providing a backup recording to the original recording, and identifies the "replacing" limitation. *See* PO Resp. 59.

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Accordingly, considering the totality of evidence before us, we determine that Patent Owner has established a nexus between the evidence of industry praise and long-felt need and the "replacing" limitation of the proposed substitute claims.

b. Long-Felt Need

"Evidence of a long-felt but unresolved need can weigh in favor of the non-obviousness of an invention because it is reasonable to infer that the need would not have persisted had the solution been obvious." *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1056 (Fed. Cir. 2016). Patent Owner asserts that there was a long-felt need for a "wireless, wearable, transmitting and recording device that could reliably capture sound data from actors recording a movie or television show." PO Resp. 52.

Patent Owner argues that the "claimed invention of the '307 patent satisfied this long felt need." *Id.* at 53. As support, Patent Owner submits the declarations of Mr. Sarokin and Mr. Wexler. PO Resp. 52–56 (citing Exs. 2103, 2104). For example, Mr. Sarokin explains that "[f]or the first time radio mic transmitters were now transceivers. Not only could they transmit audio, they could also receive time code sync signals and remote control commands. Zaxcom combined this incredible capability with a built in digital recorder, making his digital transmitters full synchronous recording systems. This capability solved the major limitation of radio mics." Ex. 2103 ¶ 6. Mr. Sarokin goes on to explain that "Zaxcom also integrated all of their equipment so a sound mixer could hit a single button on a Zaxcom recorder and all the radios in use would playback from a certain take or time code start point so the scene could be re-mixed without any radio drop outs." *Id*. Mr. Wexler also explains that "[i]n the past, prior to Zaxcom's invention, the audio would be lost forever in these situations

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[where there has been a dropout]. With Zaxcom recording transmitters, the audio will always be available directly from the transmitter." Ex. 2104 ¶ 6.

Petitioner asserts that Patent Owner has failed to provide evidence of long-felt need, specifically arguing that Patent Owner "presents no evidence of the field requesting such a device at any time, much less before the '307 patent, and no evidence of efforts to meet such a request." Pet. Opp. to MTA 27; *see* Pet. Reply 26–27. More specifically, Petitioner argues that Patent Owner "only generally discusses RF dropouts and talent moving out of range, without discussing the significance of the problem, if any, before 2005." Pet. Opp. to MTA at 27–28; Pet. Reply 27. Petitioner also argues that Patent Owner fails to show "the claimed features—without unclaimed features in the specification—filled the need." Pet. Reply. 26.

Considering the totality of the evidence, we determine that Patent Owner has demonstrated that a long-felt need existed for a "wireless, wearable, transmitting and recording device that could reliably capture sound data from actors recording a movie or television show." As discussed above, we credit the testimony of Mr. Sarokin and Mr. Wexler, who both identify repairing dropouts as a long-felt need. PO Resp. 52–56 (citing Ex. 2103 ¶ 6; Ex. 2104 ¶ 6). As also discussed above, we credit the testimony of Mr. Sarokin, who explains that "[b]y 2005 my sound cart was fully digital . . . I purchased 12 TRX 900 transmitters . . . Zaxcom combined this incredible capability [of transmitting audio, receiving time code sync signals, and remote control commands] with a built in digital recorder, making his digital transmitters full synchronous recording systems." Ex. 2103 ¶ 6. Mr. Sarokin explains that "[t]his capability solved the major limitation of radio mics." *Id.* We also credit the testimony of Mr. Wexler in explaining how the "replacing" limitation solved the long-felt need of

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repairing dropouts. PO Resp. 52–56 (citing Ex. 2104 ¶ 6). As such, we are not persuaded by Petitioner's arguments that Patent Owner does not provide evidence of a long-felt need, and that claimed features solved that long-felt need.

We, however, agree with Petitioner that Patent Owner's evidence demonstrating that "the need was long felt based on the date when the problem to be solved was identified and efforts were made to solve the problem" is not strong. Pet. Opp. to MTA Reply 26–27 (citing *Texas Instruments Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1178 (Fed. Cir. 1993). Although Mr. Sarokin generally alleges that there was a long-felt need as of 2005, we are not persuaded by the evidence of a date of the identified problem, and efforts to solve that problem. As such, the lack of evidence on these points does not provide additional weight in favor of Patent Owner.

In sum, the evidence provided by Patent Owner establishes there was a persistent need, recognized by those of ordinary skill in the art, for a wireless, wearable, transmitting and recording device that could reliably capture sound data from actors recording a movie or television show." We determine that the evidence of long-felt need weighs in favor of nonobviousness.

c. Industry Praise

Evidence that the industry praised a claimed invention or a product that embodies the patent claims weighs against an assertion that the same claim would have been obvious. *WBIP*, 829 F.3d at 1334. As evidence of industry praise, Patent Owner relies upon the Declarations of Mr. Sarokin and Mr. Wexler. PO Resp. 52–59; PO Sur-Reply 31. Patent Owner further relies on the evidence of the awards for its products: the Technical

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Achievement Award from the Academy of Motion Picture Arts and Sciences and the Emmy award from the Academy of Television Arts and Sciences. *Id*.

For example, Mr. Wexler states that "[w]ith Zaxcom's brilliant invention . . . I could always deliver a track to post production even . . . where there were failures of the RF transmission" and "nothing else even came close." PO Resp. 57 (citing Ex. 2104 ¶ 7). Mr. Sarokin further explains that he "can say without the slightest qualification that the work of Zaxcom as described and claimed in the '307 patent has revolutionized the sound for picture industry" and Mr. Sarokin "can't emphasize enough the revolution these recording radios brought on." *Id.* at 53 (quoting Ex. 2103 ¶ 3); Ex. 2103 ¶ 6. Mr. Sarokin further explains that "[n]o other company has anything remotely close" and "[t]here is nothing even remotely comparable." Ex. 2103 ¶¶ 6, 8.

Also probative is Patent Owner's evidence of the received awards. Patent Owner asserts the Emmy award specifically praises features of the proposed substitute claims including the digital recording of microphone signals in the wireless transmitter "to provide *backup recording* of the original microphone signal." PO Resp. 59 (quoting Ex. 2106) (emphasis added). Patent Owner further relies on, and we credit, the testimony of Mr. DeFilippis, a member of the committee who granted the award, who explains that "Mr. Sanders also received the Emmy award from the Academy of Television Arts and Sciences for the Zaxcom, Inc. digital recording wireless products that embody the claimed invention of the '307 patent." Ex. 2086 ¶ 76; *see* PO Sur-Reply 32–33. Patent Owner further asserts that "Glenn Sanders and the co-inventor of the '307 patent, Howard Stark, received the Technical Achievement Award from the Academy of

Motion Picture Arts and Sciences for the digital recording wireless products that embody the claimed invention of the '307 patent." PO Resp. 57–58 (citing Ex. 2101; Ex. 2102; Ex. 2087 ¶¶ 9, 10). Patent Owner further provides a press release for the Emmy that praises Patent Owner's "digital wireless transmission system for microphones *and a production tool that married wireless transmission with a recording device* located within the actor's body pack." Ex. 2107 (emphasis added).

Petitioner argues that the evidence of industry praise submitted by Patent Owner is directed to features that are "unclaimed, known in the art, or both." PO Opp. to MTA 28. Specifically, Petitioner argues that Mr. Wexler and Mr. Sarokin praise features directed to digital recording, wireless transmission, and time code signals, features that Petitioner alleges are not present in the claims. *Id.* at 28–29.

Although we agree with Petitioner that Patent Owner provides some evidence of industry praise toward features not recited by proposed substitute claims 15–28, we are persuaded that Patent Owner provides evidence of industry praise towards the "replacing" limitation that specifically addresses dropouts. *See* PO Resp. 52–58. The evidence of features that are not recited by proposed substitute claims 15–28 weighs neither for nor against nonobviousness. However, the testimonial evidence by Mr. Sarokin and Mr. Wexler praising Patent Owner's dropout correction features, as recited by the "replacing" limitation, weighs in favor of nonobviousness. Furthermore, the awards evidence that praises Patent Owner's digital recording devices that "married wireless transmission with a recording device located within the actor's body pack" also strongly weighs in favor of nonobviousness.

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In sum, we determine that Patent Owner's evidence of industry praise weighs in favor of nonobviousness.

d. Failure of Others

Patent Owner asserts that others tried and failed to provide a device with similar features to the '307 patent, namely, "a wireless, wearable, local, transmitter/recorder, that stores the locally generated audio and transmits the same audio to a remote recorder so that the audio data from the local and remote devices can later be combined to fix dropouts."[10] PO Sur-Reply 30; *see* PO Resp. 56–57. More specifically, Patent Owner relies on the Declaration of Mr. Sarokin who states:

> Zaxcom would have no competition for almost 8 years. It was 2009 before SONY engineers were able to figure out the algorithms pioneered by Zaxcom. By the time Sony came out with their first digital radio Zaxcom was already on their 3rd generation . . .
>
> NO ONE else has recording capability, NO ONE else has systems integration. NO ONE else has reduced bandwidth digital radios, and NO ONE else has micro sized digital radios period.

PO Sur-Reply 30 (citing Ex. 2103 ¶¶ 5, 7); *see* PO Resp. 56–57.

Petitioner argues that Patent Owner provides no relevant evidence that others tried and failed to create the claimed technology, and that those failures were attributable to the claimed features. Pet. Reply 27–28 (citing *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1313 (Fed. Cir. 2006)). According to Petitioner, Patent Owner's evidence of the failure of others at

[10] Although Patent Owner presents the failure of others arguments as directed to the original claims of the '307 patent, we understand these arguments also to apply to the proposed substitute claims for the same reasons discussed above.

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most demonstrates an attempt at digital modulation. *Id.* (citing PO Resp. 56).

We agree with Petitioner. We find Patent Owner's evidence of the failure of others to be conclusory and without adequate support for the proposition that others failed. Mr. Sarokin describes a lack of competition and states, without evidentiary support, that "it was 2009 before SONY engineers *were able to figure out* the algorithms." Ex. 2103 ¶ 5 (emphasis added). The submitted evidence, by itself, is insufficient for us to find that Sony, or any other industry competitor, failed in developing a competing product as other business or economic factors may have come into play. The lack of a competing product is insufficient evidence of whether others tried and failed at development. Accordingly, we do not find Patent Owner's evidence of the failure of others to weigh in favor of nonobviousness.

4. Weighing the Objective Indicia of Nonobviousness

"The objective indicia of non-obviousness play an important role as a guard against the statutorily proscribed hindsight reasoning in the obviousness analysis." *WBIP*, 829 F.3d at 1328. Indeed, the Federal Circuit has held that such evidence "may often be the most probative and cogent evidence in the record." *Id.* (quoting *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983)). We determine that Patent Owner has provided strong evidence of the nonobviousness of proposed substitute claims 15–28. Specifically, we find that the factors of long-felt need and industry praise weigh heavily towards nonobviousness. We do, however, agree with Petitioner that the evidence of the failure of others does not weigh towards nonobviousness. In sum, we are persuaded by Patent Owner that

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the objective indicia of nonobviousness weighs towards a conclusion of nonobviousness.

5. Conclusion

Factual inquiries for an obviousness determination include secondary considerations based on objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Weighing all four *Graham* factors, we conclude that Petitioner has not shown by a preponderance of the evidence that substitute claims 15–28 would have been obvious over the combination of Strub and Wood (with or without Nagai or Gleissner) because we determine that Petitioner's proposed combination of the teachings of the references presents a weak case of obviousness, whereas the objective indicia of nonobviousness weigh heavily in favor of nonobviousness.

G. Patentability of substitute claims over Lee alone or Lee in combination with Nagai

Petitioner contends that substitute claims 15–28 are unpatentable under 35 U.S.C. § 102 as anticipated by Lee or 35 U.S.C. § 103 as obvious over Lee and Nagai. Pet. Opp. to MTA. 11–13; Pet. 48–76. For the same reasons discussed above, we determine that Patent Owner has produced evidence sufficient to demonstrate conception and diligence to constructive reduction to practice to antedate Lee. *See* Section II.H.2. Thus, we are not persuaded that Petitioner has shown by a preponderance of the evidence that substitute claims 15–28 are anticipated by Lee or would have been obvious over the combination of Lee and Nagai.

H. Conclusion

Based on the foregoing, we grant Patent Owner's Contingent Motion to Amend.

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IV. MOTION TO EXCLUDE

Petitioner moves to exclude Exhibit 2105, the declaration of Mr. Donavan Dear, because Patent Owner did not make him available for cross-examination. Paper 30. Patent Owner does not oppose the motion. Paper 35. Accordingly, Petitioner's motion to exclude Exhibit 2105 is granted.

V. CONCLUSION

Based on the information presented, we conclude that Petitioner has shown, by a preponderance of the evidence, that claims 1–14 of the '307 patent are unpatentable. We also grant Patent Owner's Motion to Amend to replace claims 1–14 with proposed substitute claims 15–28.

In summary:

Reference(s)	Basis	Claims	Claims Shown Unpatentable	Claims Not shown Unpatentable
Strub, and Nagai or Gleissner	§ 103	1–11	1–11	
Strub	§ 102	12–14	12–14	
Lee and Nagai	§ 103	1–14		1–14
Overall Outcome			1–14	

Motion to Amend Outcome	Claims
Original Claims Cancelled by Amendment	1–14
Substitute Claims Proposed in the Amendment	15–28
Substitute Claims: Motion to Amend Granted	15–28

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VI. ORDER

After due consideration of the record before us, and for the foregoing reasons, it is:

ORDERED that claims 1–14 of the ’307 patent are held unpatentable;

FURTHER ORDERED that Petitioner’s Motion to Exclude is granted;

FURTHER ORDERED Patent Owner’s Contingent Motion to Amend is granted as to proposed substitute claims 15–28, and claims 1–14 are cancelled and replaced by proposed substitute claims 15–28; and

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.

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