

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAPTIONCALL, L.L.C. and
SORENSEN COMMUNICATIONS, INC.,
Petitioner,

v.

ULTRATEC, INC.,
Patent Owner.

Case IPR2015-00636
Patent 8,917,822 B2

Before WILLIAM V. SAINDON, BARBARA A. BENOIT, and
LYNNE E. PETTIGREW, *Administrative Patent Judges*.

BENOIT, *Administrative Patent Judge*.

DECISION

Final Written Decision

Denying Patent Owner's Motion to Amend
Granting Patent Owner's Motions to Seal
Granting-in-Part Petitioner's Motion to Exclude
37 C.F.R. §§ 42.73, 42.121, 42.54, 42.64

I. INTRODUCTION

This *inter partes* review, instituted pursuant to 35 U.S.C. § 314, challenges the patentability of certain claims of U.S. Patent No. 8,917,822 B2 (Ex. 1002, “the ’822 patent”), owned by Ultratec, Inc. (“Patent Owner”). We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that claims 1–29 of the ’822 patent are unpatentable. Furthermore, we deny Patent Owner’s Motion to Amend, grant-in-part Petitioner’s Motion to Exclude, and grant Patent Owner’s Motions to Seal.

A. Procedural History

CaptionCall, L.L.C. and Sorenson Communications, Inc. (collectively, “Petitioner”) filed a Petition for *inter partes* review of claims 1–29 of the ’822 patent. Paper 1 (“Pet.”). Patent Owner filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We instituted an *inter partes* review of claims 1–29 of the ’822 patent as unpatentable under 35 U.S.C. § 103(a)¹ over the following references. Paper 8 (“Institution Decision” or “Dec.”).

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), revised 35 U.S.C. § 103, effective March 16, 2013. Because the challenged patent was filed before March 16, 2013, we refer to the pre-AIA version of § 103 in this decision.

References	Claims Challenged
Liebermann, ² Engelke '405, ³ and Mukherji ⁴	1–7 and 10–29
Liebermann, Engelke '405, Mukherji, and Engelke '482 ⁵	2, 8–10, 13, 14

Dec. 19.

Subsequent to institution, Patent Owner filed a Patent Owner Response to the Petition (Paper 15, “PO Resp.”), along with a Contingent Motion to Amend (Paper 16, “Motion to Amend” or “Mot. Am.”), requesting substitution of various claims in the event certain claims in the '822 patent were found to be unpatentable. Petitioner filed a Reply to the Patent Owner Response (Paper 22, “Pet. Reply”) and an Opposition to Patent Owner’s Contingent Motion to Amend (Paper 23, “Opp. Am.”). Patent Owner filed a Reply in support of its Contingent Motion to Amend. Paper 53 (“Reply Am.”).

Petitioner also filed a Motion to Exclude (Paper 63, “Mot. Exc.”) certain exhibits, to which Patent Owner filed a Corrected Opposition to Petitioner’s Motion to Exclude (Paper 74, “Opp. Exc.”), and, in turn, Petitioner filed a Reply (Paper 77, “Reply Exc.”). Also, each party filed observations on deposition testimony of the other party’s expert.

² U.S. Patent No. 5,982,853, issued Nov. 9, 1999 (Ex. 1006; “Liebermann”).

³ U.S. Patent No. 5,724,405, issued Mar. 3, 1998 (Ex. 1005; “Engelke '405”).

⁴ U.S. Patent No. 7,117,152 B1, filed June 23, 2000, issued Oct. 3, 2006 (Ex. 1007; “Mukherji”).

⁵ U.S. Patent No. 5,909,482, issued June 1, 1999 (Ex. 1004; “Engelke '482”).

Specifically, Patent Owner filed observations on deposition testimony of Mr. Benedict J. Occhiogrosso (Paper 65), to which Petitioner filed a Response (Paper 73). Petitioner filed observations on deposition testimony of Mr. Ivan Zatkovich (Paper 64), to which Patent Owner filed a Response (Paper 72).

An oral hearing was held on April 6, 2016. A transcript of the hearing has been entered into the record.⁶ Paper 89 (“Tr.”; addressing case-in-chief); Paper 88 (addressing Patent Owner’s Motion to Dismiss).

B. Related Matters

The ’822 patent is the subject of *Ultratec, Inc. v. Sorenson Communications, Inc.*, Case No. 3:14-CV-00847 (W.D. Wis.). Pet. 2; Paper 4, 2. The ’822 patent claims priority to U.S. Patent No. 6,603,835 (Ex. 1003, “the ’835 patent”), which is the subject of two *inter partes* reviews, both of which are on appeal to the United States Court of Appeals for the Federal Circuit—*CaptionCall, L.L.C. v. Ultratec, Inc.*, Case IPR2013-00549 (PTAB) (Final Written Decision issued March 3, 2015 finding claims 1–5 and 7 unpatentable) and *CaptionCall, L.L.C. v. Ultratec, Inc.*, Case IPR2014-00780 (PTAB) (Final Written Decision issued December 1, 2015 finding claims 6 and 8 unpatentable). Pet. 2–3; IPR2013-00549, Papers 71, 74; IPR2014-00780 Papers 35, 45.

⁶ Patent Owner filed an objection to a slide in Petitioner’s Demonstrative Exhibit. Paper 83. At oral hearing, Patent Owner withdrew its objection. Tr. 24, 5:9.

The Petition was filed concurrently with another petition challenging U.S. Patent No. 8,908,838 B1 (Ex. 1001), which also claims priority to the '835 patent, *CaptionCall, L.L.C. v. Ultratec, Inc.*, Case IPR2015-00637. Pet. 3. An *inter partes* review also was instituted in that case (IPR2015-00637, Paper 8), for which a Final Written Decision is being issued concurrently with this Final Written Decision. A number of other *inter partes* reviews involving related patents are in various stages of review. See Pet. 3; Paper 4.

C. The '822 Patent

The '822 patent relates to ways to assist deaf, hard of hearing, or otherwise impaired individuals to use telephones. Ex. 1002, 1:23–27. The typical solution is a device having a keyboard and display, called, interchangeably, a telecommunications device for the deaf (TDD), a text telephone (TT), or a teletype (TTY). *Id.* at 1:35–40. When only one of the parties uses a TTY (e.g., in a phone conversation between a hearing and deaf person), a relay operator voices the deaf user's typed words to the hearing user, and types the hearing user's voiced words to the deaf person's TTY.⁷ *Id.* at 1:63–2:15.

The '822 patent describes “text enhanced telephony” that extends a relay system to users who have attenuated hearing capabilities. *Id.* at 2:16–21. “The text enhanced telephone call is connected through a relay which

⁷ The relay's delivery of text-assisted telephone service is called “captioned telephone.” See *id.* at 3:14–17.

transmits both the voice of the hearing user at the other end and a text stream of the words spoken by that user on the same telephone line.” *Id.* at 2:24–27.

One feature claimed in the ’822 patent uses a two-line captioned telephone, which uses one line for the voice telephone call between the hearing user and the assisted user, and another line for communicating with the relay. *Id.* at 7:31–43, Fig. 6. “A call can be initiated or received by the assisted user in the same manner as with a conventional telephone,” using the voice telephone call line. *Id.* at 7:51–53.

An advantage of a two-line captioned telephone “is that the captioned telephone service can be added to a telephone call already in progress.” *Id.* at 7:9–11. “When the [assisted] user wishes to invoke the captioning service, the assisted user presses a button . . . on the [captioned telephone] that causes the [captioned telephone] to automatically dial the relay on the second telephone line.” *Id.* at 7:53–56. “At the relay, the voice is converted into text and a text stream is sent back down the telephone connection” to the captioned telephone for display. *Id.* at 7:59–64. A “button” on the captioned telephone allows the relay to be dialed by the assisted user on demand. *Id.* at 7:14–21. The call may begin as a voice-only call, but when a user decides hearing assistance is needed, the user may activate, using the button, the relay service while the call is in progress. *Id.*

D. Illustrative Claim

Petitioner challenges all claims of the ’822 patent, of which claims 1, 10, 15, and 18 are independent. Claim 1 is illustrative:

1. A method for providing captioned services to an assisted user using a captioned device communicating with a hearing person using a hearing person's device wherein the captioned device and the hearing person's device are linkable via a first communication link, the method comprising the steps of, at a relay that is remote from the assisted user's device and a hearing person's device:

receiving a request for captioning service from the captioned device on a second communication link;

in response to the request for captioning service, invoking a captioning service at the relay wherein the relay performs the steps of:

receiving hearing user's voice signals from the captioned device;

providing the hearing user's voice signals to a call assistant to transcribe into text; and

transmitting the text to the captioned device to display;

wherein the step of receiving a request may occur prior to establishing the first communication link between the captioned device and the hearing person's device; and

wherein the step of receiving a request may occur subsequent to establishing the first communication link between the captioned device and the hearing person's device.

Ex. 1002, 9:11–34 (some formatting added).

II. DISCUSSION

A. Petitioner's Motion to Exclude

Petitioner filed a Motion to Exclude (Paper 63) portions of the declaration of Mr. Zatkovich (Ex. 2094), the entirety of the declarations of Ms. Kretschman (Exs. 2016 and 2096), as well as Exhibits 2045, 2046, 2048, and 2062. Mot. Exc. 1.

1. Certain Testimony of Mr. Zatkovich (Ex. 2094)

As to the portions of Mr. Zatkovich's testimony, Petitioner alleges that his testimony regarding "substantially simultaneously," found in proposed substitute independent claim 30 and its dependent claims 32–36, should be excluded because it is allegedly beyond the scope of his expertise. Mot. Exc. 4–7. Petitioner explains that, during cross examination, Mr. Zatkovich characterized himself as "an expert in the use of speech recognition for things like call centers," but that he would not be "a person of ordinary skill in the art that would know the expected rate of speaker-dependent voice recognition at the time of the invention." *Id.* at 6 (quoting Ex. 1043, 170:7–172:4). Patent Owner counters that it is not improper for us to consider testimony from persons who are not exactly persons of ordinary skill in the art. Opp. Exc. 3–6.

The relevant inquiry as to when we can consider testimony is whether the declarant is qualified in the pertinent art. *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1363–64 (Fed. Cir. 2008) (holding that testimony on the issue of unpatentability proffered by a witness who is not "qualified in the pertinent art" generally is not admissible under Federal

Rule of Evidence (“FRE”) 702). In determining who is “qualified in the pertinent art” under FRE 702, we need not find a complete overlap between the witness’s technical qualifications and the problem confronting the inventor or the field of endeavor for a witness to qualify as an expert. *SEB S.A. v. Montgomery Ward & Co., Inc.*, 594 F.3d 1360, 1372–73 (Fed. Cir. 2010) (upholding admission of the testimony of an expert who admittedly lacked expertise in the design of the patented invention, but had experience with materials selected for use in the invention); *Mytee Prods., Inc. v. Harris Research, Inc.*, 439 Fed. App’x 882, 886-87 (Fed. Cir. 2011) (non-precedential) (upholding admission of the testimony of an expert who “had experience relevant to the field of the invention,” despite admission that he was not a person of ordinary skill in the art). This is appropriate because a person of ordinary skill in the art is a hypothetical construct that, for example, is aware of all prior art in existence. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986) (“The person of ordinary skill is a hypothetical person who is presumed to be aware of all pertinent prior art.”); *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1454 (Fed. Cir. 1984) (“[r]eal inventors, as a class, vary in their capacities from ignorant geniuses to Nobel laureates; the courts have always applied a standard based on an imaginary worker of their own devising”); see also *id.* at 1449–54 (providing a comprehensive discourse on the evolution of the person of ordinary skill body of law). Thus, experts and witnesses offer approximations of this hypothetical construct and need not perfectly align with it.

On this basis, we deny Petitioner’s Motion to Exclude portions of the testimony of Mr. Zatkovich, who has experience in telecommunications and text-to-speech, which constitute pertinent technological knowledge for purposes of this proceeding. *See, e.g.*, Ex. 2013 ¶ 3. To the extent we consider his testimony regarding “substantially simultaneous,” we will take into account his statements regarding his skills, and weigh his testimony accordingly.⁸

2. Testimony of Ms. Kretschman (Exs. 2016, 2096)

Petitioner asserts that Ms. Kretschman provided expert testimony (Ex. 2016), but that Patent Owner did not provide evidence supporting her purported expertise in the field. Mot. Exc. 7–8. Petitioner timely objected (Paper 17, 2) and Patent Owner timely served supplemental evidence (*see* Paper 19; Ex. 2112; Ex. 2063). Patent Owner sought authorization in a conference call to supplement Ms. Kretschman’s declaration to overcome Petitioner’s objection. Ex. 2064 (transcript of the call). We denied authorization to file a motion for a supplemental declaration and instead instructed the parties to follow the motion to exclude practice in Rule 42.64(c). Paper 18, 2–3. Patent Owner then filed a second declaration of

⁸ The parties also discuss a timeliness aspect of Petitioner’s objection to Mr. Zatkovich’s testimony. *See* PO Opp. Exc. 1–3; Reply Exc. 1–2. Arguments not to consider papers because they are filed past a deadline should be made near the deadline that was missed. Because Patent Owner did not raise this issue timely, our ability to address and remedy the alleged defect is constrained. Accordingly, we deem Petitioner’s objections here to be filed timely.

Ms. Kretschman (Ex. 2096) with its Response. Petitioner objected again. Paper 58. The parties dispute whether the proper procedures for supplemental evidence were followed. *See* Mot. Exc. 7–9; Opp. Exc. 6–8; Reply Exc. 2–3. Patent Owner submitted to Petitioner its supplemental evidence in an attempt to overcome the objection, and Petitioner has maintained the objection. Accordingly, we proceed to the merits.

Patent Owner is holding Ms. Kretschman out as an expert in how CapTel operates. *See* Opp. Exc. 9. She is an employee at CapTel, and has experience as a call assistant and as the training and quality manager overseeing the training and evaluation of the call assistants. *Id.* (citing Ex. 2016 ¶ 1). Her testimony is not cited in Patent Owner’s papers, and is only cited by another of Patent Owner’s declarants, Mr. Ludwick, in connection with his opinions on nexus between Patent Owner’s secondary considerations evidence and the claimed invention. Opp. Exc. 11. We find Ms. Kretschman sufficiently qualified as to the features of CapTel, and deny Petitioner’s motion to exclude her testimony. As Patent Owner acknowledges, to the extent she offers testimony outside her area of expertise, we have “broad discretion to accord those particular statements less weight.” *Id.* at 11–12 (citing *Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (the Board has discretion to give more weight to one item of evidence over another “unless no reasonable trier of fact could have done so”); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declarations and conclude that the lack

of factual corroboration warrants discounting the opinions expressed in the declarations.”)).

3. *Trial Transcripts (Exs. 2045, 2046, 2048, 2062)*

Petitioner argues that Exhibits 2045, 2046, 2048, and 2062, which are transcripts of district court deposition testimony and trial testimony from current and former employees of Petitioner, are inadmissible hearsay. Mot. Exc. 12–13. Patent Owner responds that Exhibits 2045, 2046, and 2062 are not hearsay under FRE 801(d)(2) because they are statements of the opposing party (the testimony being given by current employees of Petitioner).⁹ Opp. Exc. 13. As to Exhibit 2048, the testimony of Mr. Puzey, a former employee of Petitioner, Patent Owner argues that his testimony is not being offered for the truth of the matter asserted and that his testimony is admissible because he is not available as a witness. *Id.* at 13–14. Patent Owner also argues that the residual exception to hearsay also is applicable. *Id.* at 14–15.

⁹ FRE 801(d)(2) reads:

An Opposing Party’s Statement. The statement is offered against an opposing party and: (A) was made by the party in an individual or representative capacity; (B) is one the party manifested that it adopted or believed to be true; (C) was made by a person whom the party authorized to make a statement on the subject; (D) was made by the party’s agent or employee on a matter within the scope of that relationship and while it existed; or (E) was made by the party’s coconspirator during and in furtherance of the conspiracy.

The statement must be considered but does not by itself establish the declarant’s authority under (C); the existence or scope of the relationship under (D); or the existence of the conspiracy or participation in it under (E).

a. Patent Owner's FRE 801(d)(2) Argument

Patent Owner offers the testimony with respect to secondary considerations of non-obviousness. PO Resp. 44 (citing Ex. 2062 (regarding alleged commercial success)), 47 (citing Ex. 2045 (regarding alleged copying)), 49 (citing Ex. 2048 (regarding alleged industry praise)), 49 (citing Ex. 2046 (regarding alleged industry praise)). Reviewing these passages, we are not persuaded that the exhibits fall under FRE 801(d)(2) because the testimony does not contain the admissions Patent Owner alleges were made.

Patent Owner cites Exhibit 2045 (testimony of Mr. Brian Chevrier, an employee of Petitioner), on page 46 of its Response. Patent Owner states:

Petitioner not only tested CapTel phones and service, but they had a third party vendor “tear down” CapTel phones to better observe CapTel’s technology. Ex. 2040, ¶ 5, Ex. 2045 at 49:16–50:7.

PO Resp. 47. At the cited portion of Exhibit 2045, Mr. Chevrier testifies that he “heard” that a teardown “has happened.” Ex. 2045, 50:7. This statement is offered for the truth of the matter asserted (that a teardown happened) but is not an admission against interest about copying, and is itself hearsay. Patent Owner makes no specific arguments explaining how Mr. Chevrier’s testimony here falls under FRE 801(d)(2). Therefore, we are not persuaded that this testimony qualifies under FRE 801(d)(2) as an opposing party statement.

Patent Owner cites Exhibit 2046 (testimony of Mr. Pat Nola, an employee of Petitioner) on page 49 of its Response. Patent Owner states:

Petitioner’s own internal documents and testimony make clear that Petitioners were praising the

patented inventions before designing the CaptionCall phone and service, recognizing, for example, that revoiced captions would “improve” the service and that CapTel set the standard they were trying to meet. Ex. 2040 ¶ 7, Ex. 2047 at 3, 6; ¶ 6, Ex. 2046 at 71:16-72:15.

PO Resp. 49. At the cited portion of Exhibit 2046, Mr. Nola testifies that “[t]he first company to do [voice recognition software with a relay] was CapTel.” Ex. 2046, 72:15. It is not clear to us how the cited testimony provides support for the statement Patent Owner makes that we reproduced above regarding praise. Further, it is not clear to us how this is a statement against interest. Patent Owner makes no specific arguments explaining how Mr. Nola’s testimony here falls under FRE 801(d)(2). Therefore, we are not persuaded that this testimony qualifies under FRE 801(d)(2) as an opposing party statement.

Patent Owner cites Exhibit 2048 (testimony of Mr. Robert Puzey, a former employee of Petitioner) on page 48 of its Response. Patent Owner states:

Mr. Puzey admitted that the patented features of voice and revoiced text are responsible for “giv[ing] the phone back to folks with hearing loss.” Ex. 2040, ¶ 8, Ex. 2048 at 13:04-14:21.

PO Resp. 49. At the cited portion of Exhibit 2048, Mr. Puzey testifies as follows:

Q. As it was developed. What [do] you refer to when you think of the CaptionCall product?

A. The CaptionCall product is a solution which provides – which gives the phone back to folks with

hearing loss. It allows those with hearing loss to –
to be able to use the phone again.

...

Q. How does the – what's the solution that allows
that?

A. There are multiple aspects to the solution.

...

A. Captioning.

Ex. 2048, 13:4–14:7.

It is not clear to us that there is an admission here, and Patent Owner provides no analysis in support of its blanket assertion. Primarily, there is no discussion of re-voicing in the cited testimony. *See* Ex. 2048, 13:4–14:21. Therefore, we are not persuaded that this testimony qualifies under FRE 801(d)(2) as an opposing party statement.

Patent Owner cites Exhibit 2062 (further testimony of Mr. Nola) on page 44 of its Response. Patent Owner states:

Even Petitioner's President and CEO admitted that commercial success of captioned telephones was attributable to Patent Owner's claimed inventions; specifically, delivery of captions and voice using voice recognition software and two-line captioned telephone service. Ex. 2040 (Hilley Decl.), ¶ 21, Ex. 2062 at 106:23–116:6.

PO Resp. 44. At the cited portion of Exhibit 2062, Mr. Nola fields many questions regarding the features of Petitioner's product, and questions asking Mr. Nola to guess as to whether various features were important to Petitioner's customers. *See* Ex. 2062, 106:23–116:6. The only discussion regarding Patent Owner in the cited portion is:

Q. All right. And you knew that Ultratec was already in the captioning market?

A. Yes.

Id. at 116:4–6. Again, it is not clear to us how this statement is an admission regarding commercial success, and Patent Owner provides no analysis in support of its assertion. Therefore, we are not persuaded that this testimony qualifies under FRE 801(d)(2) as an opposing party statement.

b. Patent Owner’s Non-Hearsay Argument

Patent Owner also argues that Mr. Puzey’s testimony in Exhibit 2048 is not offered for the truth of the matter asserted. Opp. Exc. 14–15. As we stated above, Mr. Puzey’s testimony is that CaptionCall (*Petitioner’s* product) “gives the phone back to folks with hearing loss” by using, among other features, captioning. Ex. 2048, 13:4–14:7. Patent Owner argues:

Patent Owner has not offered the evidence for the truth of that statement. *See* Patent Owner Opp. (Paper 15) at 2, 45-60. Mr. Puzey’s testimony is offered as evidence of a long-felt need for close to real-time captioning, which would be met by the invention, not *CaptionCall*, Patent Owner’s competitor.

Opp. Exc. 14.

Patent Owner is offering the testimony of Mr. Puzey to show that he “*admitted that the patented features* of voice and revoiced text are responsible for ‘giv[ing] the phone back to folks with hearing loss.’” PO Resp. 49 (emphasis added). Thus, Patent Owner is offering the statement for the truth that voice and re-voiced text gives the phone back to folks with hearing loss. Patent Owner’s argument that Mr. Puzey was discussing the

existence of features in his company's product rather than features in Patent Owner's product does not change that his statement is offered as proof regarding an alleged long-felt need for the features. Accordingly, his testimony is hearsay.

c. Patent Owner's FRE 804(b)(1) Argument

Patent Owner alleges that "Mr. Puzey is unavailable as a witness in this proceeding" and, therefore, argues his testimony is admissible under FRE 804(b)(1). Opp. Exc. 14. Patent Owner's evidence that Mr. Puzey is unavailable in this proceeding is Mr. Puzey's motion to quash a subpoena in co-pending district court litigation (Ex. 2114). Patent Owner does not identify any attempt to bring Mr. Puzey forward as a witness in this proceeding. Accordingly, we do not find that he is unavailable in this proceeding, and FRE 804(b)(1) does not apply to Exhibit 2048.

d. Patent Owner's Residual Exception Argument

Patent Owner lastly argues that the exhibits are admissible under the residual exception of FRE 807. The residual exception is to be "reserved for exceptional cases"¹⁰ and requires four elements:

- (1) the statement has equivalent circumstantial guarantees of trustworthiness;
- (2) it is offered as evidence of a material fact;
- (3) it is more probative on the point for which it is offered than any other evidence that the proponent can obtain through reasonable efforts; and

¹⁰ *Conoco v. Dep't of Energy*, 99 F.3d 387, 392 (Fed. Cir. 1996).

(4) admitting it will best serve the purposes of these rules and the interests of justice.

FRE 807.

Patent Owner's analysis (Opp. Exc. 14–15) alleges that the testimony is “offered regarding highly material facts relating to secondary considerations and is more probative on the point than any other evidence reasonabl[y] available to Patent Owner.” *Id.* at 15. As should be clear from our analysis above of why the testimony in the exhibits are not admissions, however, the testimony generally is not useful in showing the various things for which Patent Owner offers it. As we will discuss below in our analysis of Patent Owner's evidence of secondary considerations of non-obviousness, Patent Owner has offered evidence in the form of declarations, fund reports, internal documents from Petitioner, and the like, that are more probative on the point of secondary considerations than these out-of-court statements. *See United States v. Ismoila*, 100 F.3d 380, 393 (5th Cir. 1996) (requiring exceptions under the residual exception to be “sufficiently material [and] probative”). In addition, we are not persuaded why admission would be in the interests of justice—Patent Owner's argument here is simply an allegation that it is in the interests of justice. Accordingly, we do not find that Exhibits 2045, 2046, 2048, and 2062 should be admitted under the residual exception.

e. Conclusion Regarding Trial Transcripts

Exhibits 2045, 2046, 2048, and 2062 are hearsay and we have not been persuaded that they are admissible under any exception. Accordingly, we grant Petitioner's Motion to Exclude them and do not consider them.

B. Motions to Seal

Patent Owner filed several unopposed Motions to Seal and modifications to the Motions to Seal (Papers 28, 41, 47, 56, 66, and 79). We grant them all.

The Motion to Seal in Paper 28 addresses Exhibit 2071, which a Supplemental Motion to Seal (Paper 41) also addresses. Patent Owner asserts that Exhibit 2071 “contain[s] previously-proposed license terms between [the parties] which are of a competitively-sensitive nature.” Paper 28, 3. Patent Owner also asserts that Exhibit 2071 is in support of its Motion for Additional Discovery, not the case in chief. *Id.* Given the nature of the document’s contents and its use in this case, we grant Patent Owner’s Motion to Seal Exhibit 2071.

The Motion to Seal in Paper 47 addresses Exhibits 2086 and 2091, the redacted portions of Patent Owner’s Motion to Dismiss (Paper 48), and the Motion to Seal itself. These exhibits and papers are directed to Patent Owner’s Motion to Dismiss, not the case in chief. The Motion to Seal in Paper 56 addresses Exhibits 2107 and 2106. Patent Owner offers these documents, containing Petitioner’s financial statements, with respect to its Motion to Dismiss (Paper 45). The Motion to Seal in Paper 66 addresses portions of its Reply in Support of the Motion to Dismiss (Paper 67), as well as the Motion to Seal itself. The Motion to Seal in Paper 79 addresses Exhibit 2121 and the Motion to Seal itself. Exhibit 2121 contains Patent Owner’s demonstratives on the subject of Patent Owner’s Motion to Dismiss.

We denied Patent Owner's Motion to Dismiss. *See* Paper 95. Given the sensitive nature of the contents of the documents Patent Owner wishes to seal, and those document's ultimate use in this case (i.e., in a denied motion to dismiss and not in the case-in-chief), we grant Patent Owner's Motion to Seal Exhibits 2086, 2091, 2107, 2106, and 2121, the redacted portions of Papers 45 and 67, and the entirety of Papers 45 and 67.

We remind the parties that the documents in a proceeding may be made public. 37 C.F.R. § 42.14. The parties may move to expunge confidential information from the record after final judgment (and appeals, if any). 37 C.F.R. § 42.56.

C. Claim Construction

In an *inter partes* review, the Board interprets claims in an unexpired patent using the "broadest reasonable construction in light of the specification of the patent in which [they] appear[]." 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144 (2016) (holding that 37 C.F.R. § 42.100(b) "represents a reasonable exercise of the rulemaking authority that Congress delegated to the Patent Office"). Under that standard, claim terms are presumed to be given their ordinary and customary meaning, which "is the meaning that the term would have to a person of ordinary skill in the art in question" at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). To rebut this presumption by acting as a lexicographer, the patentee must give the term a particular meaning in the specification with "reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir.

1994). In addition, the Board may not “construe claims during [an *inter partes* review] so broadly that its constructions are unreasonable under general claim construction principles.” *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015).

We construe the challenged claims according to these principles.

1. Terms Construed in Prior Proceedings

Petitioner suggests that the terms “assisted user” and “hearing user,” construed in the *inter partes* reviews challenging the ’835 patent of which the ’822 patent claims the effective filing date and with which the ’822 patent shares a written description, also should be applied to this proceeding. Pet. 6. Patent Owner does not appear to dispute the construction of these terms. We adopt these constructions:

Term or Phrase	Prior Construction ¹¹
“assisted user”	The individual making use of the transcribed text, regardless of the individual’s actual hearing abilities.
“hearing user”	The individual in communication with the assisted user.

We also agree with Petitioner there is no distinction between a “hearing user” and a “hearing person.” Accordingly, we adopt the construction of “hearing user” as the broadest reasonable construction of “hearing person.”

¹¹ See, e.g., *CaptionCall, L.L.C. v. Ultratec, Inc.*, Case IPR2013-00549, slip op. at 8–9 (PTAB Mar. 5, 2014) (Paper 7, Decision to Institute); *id.* at Paper 71, 7 (Final Written Decision).

2. “activator”

Petitioner proposes that the term “activator,” recited in independent claim 15 and further limited by its dependent claims 16 and 17, should be construed indistinguishably from the “control limitation” discussed in the *inter partes* reviews involving the related ’835 patent. Pet. 6; *see, e.g., CaptionCall, L.L.C. v. Ultratec, Inc.*, Case IPR2013-00549, slip op. at 11–12 (PTAB) (Paper 7, Decision to Institute, discussing the “control limitation”). Patent Owner does not propose an express construction.

Although we agree that “activator” in the ’822 patent is similar to the “control limitation” in the related ’835 patent, we need not construe expressly “activator” because, as Petitioner points out, “the ’822 Patent more explicitly claims these features.” *Id.*

3. Other Claim Terms

To the extent it is necessary for us to construe other claim terms in this decision, we do so below in the context of analyzing whether the prior art renders the claims unpatentable.

D. Principles of Law

To prevail in challenging Patent Owner’s claims, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with

particularity . . . the evidence that supports the grounds for the challenge to each claim’’)). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review). Furthermore, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, No. 2015-1300, 2016 WL 3974202, at *10 (Fed. Cir. July 25, 2016).

Petitioner has asserted each of the claims in the ’822 patent is unpatentable under 35 U.S.C. § 103(a) over various references. A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *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) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

E. Level of Ordinary Skill

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to determine the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383

U.S. at 17. “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). The level of ordinary skill in the art is reflected by the prior art of record. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.* Generally, it is easier to establish obviousness under a higher level of ordinary skill in the art. *Innovation Toys, LLC v. MGA Entm’t, Inc.*, 637 F.3d 1314, 1323 (Fed. Cir. 2011) (“A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.”).

Petitioner’s declarant Mr. Occhiogrosso concludes that one of ordinary skill in the art “would have been a person with a bachelor’s degree in electrical engineering (or electrical and computer engineering) and a few years of experience with telephone communication system architecture, design and implementation, digitization of voice, speech recognition technology, and/or traditional relay systems.” Ex. 1009 ¶ 27. Mr. Occhiogrosso also offers that “someone with less technical education but more experience, or more technical education but less experience would

have also met this standard.” *Id.* Mr. Occhiogrosso enumerates several factors which he considered in determining the characteristics of a hypothetical person of ordinary skill in the art of the ’822 patent as of August 23, 2001. *Id.* at ¶ 26. Among the factors, Mr. Occhiogrosso identifies “various approaches to designing and implementing telephone communication systems in the prior art, the type of problems encountered, and the rapidity with which innovations were made in this field.” *Id.*

Patent Owner does not challenge directly Mr. Occhiogrosso’s testimony. *See generally* PO Resp. 3. Mr. Zatkovich, Patent Owner’s declarant, testifies that he views one of ordinary skill in the art as a person familiar with telecommunication systems “by way of background and/or experience.” Ex. 2013 ¶ 26. Thus, Mr. Zatkovich’s testimony is consistent with Mr. Occhiogrosso’s testimony, although Mr. Zatkovich’s testimony lacks the specificity provided by Mr. Occhiogrosso.

Because of the greater specificity and the explanation of the facts on which Mr. Occhiogrosso based his conclusion, we adopt Mr. Occhiogrosso’s characterization of the level of ordinary skill in the art.

*F. Asserted Ground of Obviousness of Claims 1–7 and 10–29
in view of Liebermann, Engelke ’405, and Mukherji*

Petitioner asserts that claims 1–7 and 10–29 would have been obvious in view of Liebermann, Engelke ’405, and Mukherji. Pet. 7–13 (summarizing prior art), 13–45 (asserted ground). Petitioner provides explanations, with liberal specific citations to the asserted references, how the references would have conveyed to one of ordinary skill in the art the

limitations of the challenged claims and reasons why one of ordinary skill in the art would have combined the references in the manner proposed by Petitioner. *Id.* Petitioner also relies on the declaration of Mr. Occhiogrosso (Ex. 1009).

With support of the declarations of Mr. Zatkovich (Exs. 2013, 2111) and others, Patent Owner challenges Petitioner's contentions, arguing that Petitioner failed to show several claim limitations (PO Resp. 18–23), that Petitioner has failed to show that it would have been obvious to combine the references (*id.* at 23–38), and that objective indicia of non-obviousness exist to overcome any obviousness case (*id.* at 38–60). In reply, Petitioner maintains its position that the challenged claims would have been obvious (Pet. Reply 1–12) and contends that Patent Owner's evidence of secondary considerations fails to establish non-obviousness (*id.* at 12–25).

We have reviewed the Petition, the Patent Owner's Response, and Petitioner's Reply, as well as the relevant evidence discussed in those papers, and other record papers. For reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence claims 1–7 and 10–29 would have been obvious in view of Liebermann, Engelke '405, and Mukherji.

1. Summary of Asserted Prior Art

a. Summary of Liebermann

Liebermann discloses a method for providing assisted telephone service to an assisted user communicating with a hearing user. The assisted user and hearing user first connect over a telephone connection. Ex. 1006,

6:64–65 (“[t]he normally hearing person who calls a deaf person dials the deaf person’s phone number”), 7:5–6 (“the line between the normally hearing person and the deaf person is analog for voice content only”), 7:25–26 (“the cellular phone maintains two cellular connections . . . one to the [hearing user].”). Then, the assisted user’s device connects to the relay on another line and arranges for all parties to be on line, thus facilitating the captioning service. *Id.* at 7:1–9 (“[t]he deaf person’s station also arranges for the *simultaneous transmission of both voice and data on the dedicated line*”) (emphasis added); 7:18–28 (explaining that “voice/data is sent to the center on the *dedicated line* assigned for the deaf person” and “the cellular phone maintains *two cellular connections* on line, one to the center (voice/data) and one to the caller”) (emphases added). The relay converts the spoken words of the hearing user into text, which is displayed to the assisted user. *Id.* at 7:10–17, Fig. 8 (showing the assisted user’s display, including the hearing user’s spoken words as text). Using Liebermann’s device, a hearing user may call an assisted user at the assisted user’s phone number directly (i.e., in lieu of calling a relay first). *Id.* at 6:64–65.

Based on these disclosures, we find that Liebermann teaches using a two-line communication device operated by an assisted user. Lieberman’s device operates in conjunction with a translation center that converts the spoken words of the hearing user into text, which is transmitted to the communication device and displayed for an assisted user.

b. Summary of Engelke '405

Engelke '405 explains that there are many people who are not deaf but would benefit from devices similar to those offered to the deaf, by offering a service providing simultaneous voice-and-text. Ex. 1005, 2:9–27, 2:30–45, Fig. 4. Accordingly, Engelke '405 describes a text-enhanced telephone, which allows for the assisted user to have both a voice connection with the hearing user and a text connection with the relay service at the same time. *Id.* at 3:31–37, Fig. 4. The device of Engelke '405 allows “the [hard-of-hearing] user to speak and to hear the words spoken by the other party [with] the . . . device also supplying to the user a text character stream of the words spoken by the other party.” *Id.* at Abstract. The device uses the voice-to-text relays used by deaf users already in existence. *Id.* Figure 4 of Engelke '405 is illustrative:

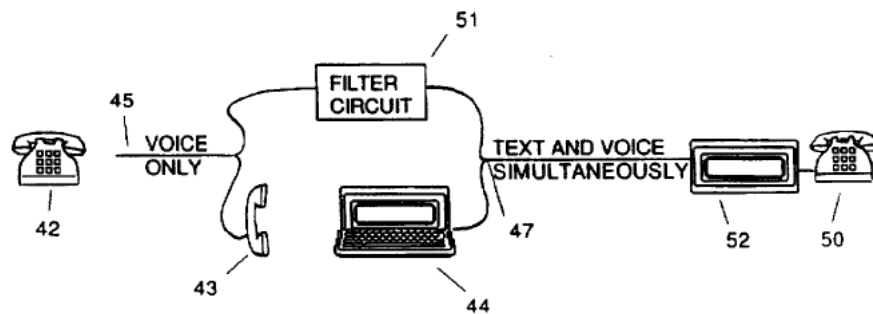


FIG. 4

Figure 4 of Engelke '405 depicts a text-enhanced telephone connection in which assisted user's telephone 50 can send and receive both text and voice, such that the hearing user (at telephone 42), assisted user (at telephone 50 and TET device 52), and relay operator (at relay 44) can all speak and hear each other, and the assisted user's TET appliance and the

relay operator's telecommunication device for the deaf (TDD) machine can send text back and forth. *Id.* at 6:29–52.

Engelke '405 discusses how assisted communications solutions have been available for the deaf but not for the hard-of-hearing. *Id.* at 2:9–27. The benefit of the system of Engelke '405 is that it allows users with some hearing or speaking capability to continue to use a telephone and to augment the spoken words of the hearing user with text from the relay service. *Id.*; *see also id.* at 3:30–42 (describing how the text-enhanced telephone allows the assisted user to use a telephone as they previously were accustomed). The text-assisted service can also be bypassed by using an “on/off” switch. *Id.* at 4:54–58. Thus, the system allows the assisted user to speak directly to the hearing user and to hear directly from the hearing user, with the relay service providing supplemental assistance, if needed. *Id.*; *id.* at 6:48–52.

Based on these disclosures, we find that Engelke '405 teaches a conventional relay system with a call assistant, who receives the hearing user's voice and transcribes it for the assisted user. Engelke '405 also teaches that assisted users may be deaf or hard of hearing. In addition, we find that Engelke '405 also teaches providing simultaneously both voice and text to an assisted user.

c. Summary of Mukherji

Mukherji recognizes that, in some circumstances, it is necessary to supplement voice communications with text. Ex. 1007, 4:35–38. Mukherji describes a text-assistance feature as one that could be enabled “[d]uring setup or at any other appropriate time during the session.” *Id.* at 3:19–22,

6:65–7:4. A graphical user interface is provided on the communications device for controlling the session. *Id.* at 6:33–42. Figure 4 of Mukherji is reproduced below:

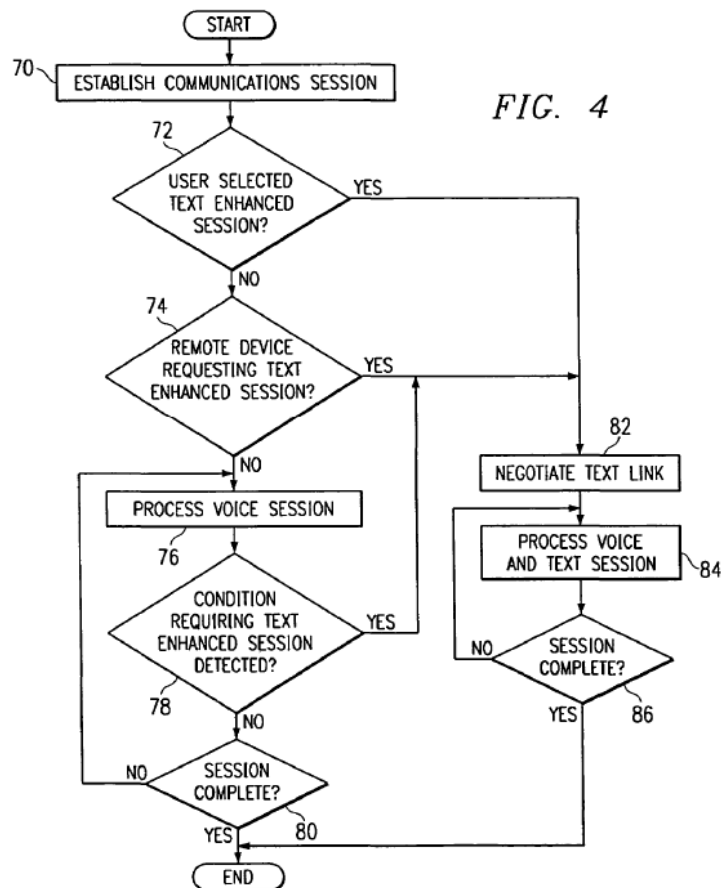


Figure 4 of Mukherji depicts a flowchart of a process for handling a communications session between users. Upon establishing communications (70), the process looks to see if a text enhanced session has been chosen by either user (72, 74). If not, a voice-only session is begun (76). If yes, a text link is added to the voice session (82). During the voice-only session, the process checks to see if a text enhanced session is required (78), and if so,

adds the text link (82). Accordingly, Mukherji provides text assistance on demand.

Based on these disclosures, we find that Mukherji teaches a user initiating receiving a text transcript of the other user's voice for display ("user-activated captioning"). Mukherji also teaches the text transcript could be initiated during set up or by user request during the conversation; therefore, Mukherji teaches that the text communication link can be enabled prior to or during a call. In addition, Mukherji teaches a device that will open a second, text communication link to provide voice-to-text in addition to a first, voice communication link. *See, e.g., id.* at 3:19–22 ("During setup or at any other appropriate time during the session, the participants may establish two communications streams using network 14, a voice link 20 and a text link 22."). In addition, Mukherji teaches transmitting packet-based voice and text transmissions over the internet. *See id.* at 1:18–24, 2:39–63.

2. Claim Limitations

a. Independent Claim 1

In general, independent claim 1 is directed to a method of providing captioned services to an assisted user and also involving a hearing user and a call assistant at a relay. Claim 1 is drafted at a high level of abstraction and recites four steps performed at the relay. The subject matter of claim 1, as a whole, requires a two-line architecture for providing text captioning—one line between the devices used by the assisted user and the hearing person, and another line between the devices used by the assisted user and the call assistant at the relay. The hearing user's voice signals are provided from the

assisted user's captioned device to the relay to be transcribed to text by the call assistant. The transcribed text is transmitted to the captioned device for display to the assisted user. The captioning service at the relay is invoked in response to receiving a request from the assisted user's captioned device.

Petitioner relies on the combination of Liebermann and Engelke '405 for teaching many limitations recited in claim 1. Pet. 26–32. As described previously in the Summary of Asserted Prior Art section, Engelke '405 teaches providing captioning for a telephone call between a hearing user and an assisted user in which the text transcription of the hearing user's voice is provided by a relay for display on a captioned device used by the assisted user. Petitioner relies on Liebermann for teaching a two-line communication device operated by an assisted user for the first and second communication links recited in independent claim 1—a communication link between the assisted user and the hearing person, and a communication link between the assisted user and the relay. *See, e.g., id.* at 10, 26–30. Petitioner additionally relies on Liebermann for teaching receiving the hearing user's voice signals from the captioned device. *Id.* at 29 (citing Ex. 1006, 5:14–21, 6:64–7:9, 7:18–26). Petitioner further relies on Engelke '405 for teaching that the hearing user's voice is provided to a call assistant to transcribe into text. *Id.* (citing Ex. 100:1:59–2:8, 6:67–7:4).

Petitioner contends that the asserted references (Liebermann, Engelke '405, and Mukherji) teach the timing required by claim 1—that receiving a request for captioning service may occur prior to, or subsequent to, establishing the first communication link between the captioned device and

the hearing person's device. *Id.* at 30–31. For the reasons noted previously, we agree that Mukherji teaches a user initiating, during a telephone conversation, receiving a text transcript of the other user's voice for display. Mukherji also teaches the text transcript could be initiated during set up or by user request during the conversation.

For these reasons, we agree with Petitioner's contention that the combination of Liebermann, Engelke '405, and Mukherji would have conveyed to one of ordinary skill in the art all limitations recited by claim 1.

b. Claims 2–7

Turning to claims 2–5 and 7, Petitioner additionally relies on teachings of Liebermann and/or Engelke '405 for the additional limitations recited in these claims, each of which depends from claim 1. *Id.* at 32–33. For example, Petitioner relies on Liebermann's two-line architecture for teaching that "the hearing user's voice is received at the relay on the second communication link" (claim 4) and that "the text is transmitted to the captioned device on the second communication link" (claim 5). *Id.* at 32 (citing Ex. 1006, 6:64–7:9, 7:18–26). In another example, Petitioner relies on the relay in Engelke '405 for teaching "broadcasting the hearing user's voice signals to the call assistant via a speaker" (claim 7). *Id.* at 33 (citing Ex. 1005, 1:59–2:8, 6:7–7:4, 13:58–14:25, Figs. 4, 5). Having reviewed the Petition, the Patent Owner's Response, and the Petitioner's Reply, as well as the relevant evident discussed therein, and other relevant record papers, we agree with and adopt Petitioner's contentions regarding these claims.

Regarding claim 6, which depends from claim 1, Petitioner additionally relies on Mukherji for teaching “the hearing user’s voice and the text are each transmitted via digital data packets.” *Id.* (citing Ex. 1007, Abstract, 6:64–7:9, 7:18–26). For the reasons discussed in the Summary of Prior Art section, we agree with Petitioner that Mukherji teaches this limitation.

Thus, we determine the combination of Liebermann, Engelke ’405, and Mukherji would have conveyed to one of ordinary skill in the art the additional limitations recited in claims 2–7.

c. Independent Claims 10, 15, and 18

Independent claim 10, similarly to independent claim 1, is directed to a method for providing captioned services to an assisted user by reciting steps performed at the relay. Independent claim 10 recites “waiting for a request from the captioned device for a captioning service,” whereas independent claim 1 recites “receiving a request for captioning service from the captioned device.” Independent claim 10 then requires recited actions to occur “upon receiving a request for the captioning service.”

Petitioner does not propose an express construction for “waiting for a request.” See Pet. 6–7. Petitioner, however, indicates that the same disclosures that would have conveyed “receiving a request” (claim 1) also would have conveyed “waiting for a request” (claim 10). Pet. 34. Indeed, Petitioner further indicates “[f]or each disclosure of each of the limitations of Claim 10, Petitioner relies on the same disclosure and arguments presented above for the corresponding limitation of Claim 1” and then

identifies the corresponding disclosures and arguments for each limitation in Claim 10. *Id.* The written description of the '822 patent does not indicate “waiting for a request” would not also be disclosed by “receiving a request.” *See* Ex. 1002, 1:65–2:15 (describing a relay); 5:49–6:12 (describing a re-voicing relay).

Petitioner further relies on Mr. Occhiogrosso’s testimony that one of ordinary skill in the art would understand that a relay (one with either an automated voice recognition system as in Liebermann or one with human transcriptionists as in Engelke ’405) would monitor communication lines for an incoming call. Ex. 1009 ¶ 49; Pet. 35 (citing Ex. 1009 ¶ 49). In addition, Petitioner relies on Mr. Occhiogrosso’s testimony for “upon receiving a request for the captioning service: where the request is received prior to establishing the first communication link between the captioned device and the hearing person's device, invoking the captioning service and waiting for the first communication link to be established,” as recited in independent claim 10. Pet. 35 (citing Ex. 1009 ¶ 50). Mr. Occhiogrosso opines that Liebermann would have conveyed this limitation to one of ordinary skill in the art. Ex. 1009 ¶ 50. Mr. Occhiogrosso explains that “in the situation where the second connection is established first, the center/relay would have to wait to transcribe the hearing user’s voice until after the establishment of the first connection.” *Id.* We find Mr. Occhiogrosso’s testimony (Ex. 1009 ¶¶ 49, 50) to be supported by analysis and reasoning to meet the requirements of expert testimony in 37 C.F.R. § 42.65(a).

For these reasons, we determine that the combination of Liebermann, Engelke '405, and Mukherji also would have conveyed to one of ordinary skill in the art all limitations recited in independent claim 10.

We turn to independent claims 15 and 18, each of which is directed to an assisted user's captioned device linkable to two communication links and comprising a microphone, a speaker, and a display. The claims recite many of the same high-level functions required by the method recited in independent claims 1 and 10. In addition, independent claim 15 recites "an activator" and independent claim 18 recites "a button." Both the activator in independent claim 15 and the button in independent claim 18 recite the same limitation—an activator or a button "linked to the processor and selectable by an assisted user to invoke a captioning process wherein the hearing user's voice signals received at the captioned device are transmitted to a remote captioning relay and text is received from the remote captioning relay via the second communication link."

Much of Petitioner's analysis for independent claims 15 and 18 relies on the same disclosures as Petitioner's contentions regarding independent claim 1. Pet. 36–40 (claim 15), *id.* at 42–43 (claim 18). In addition, regarding the "activator" recited in independent claim 15 and the "button" recited in independent claim 18, Petitioner relies on the on-off switch of Engelke '405 and Mukherji's "DISPLAY button 62 on user interface 50" that enables text display. *Id.* at 13, 39 (citing Ex. 1007, 3:19–22, 4:67–53, 6:33–42, 6:65–7:4, 8:35–37; Ex. 1005, 4:54–58, 13:30–35). As discussed previously in the Summary of Prior Art, we agree that Engelke '405 and

Mukherji support Petitioner's position and would have conveyed to one of ordinary skill in the art the limitations recited in independent claims 15 and 18.

d. Dependent Claims 11–14, 16, 17, and 19–29

Claim 23, which depends from independent claim 18 directed to an assisted user's captioned device, additionally recites "wherein the first communication link is a telephone line and wherein the second communication link includes a communication link that is completely independent of the telephone line." For this further limitation, Petitioner relies on Liebermann's teaching of a two-line communication device discussed previously. Pet. 44 (citing Ex. 1006, 6:64–7:9, 7:18–26). We agree with Petitioner that Liebermann's two-line communication device teaches this limitation. Whether Liebermann teaches this limitation is disputed by the parties. We address that dispute in detail later.

For the reasons discussed previously, we agree with and adopt Petitioner's position that its proffered combination of Liebermann, Engelke '405, and Mukherji would have conveyed to one of ordinary skill in the art all limitations recited in dependent claim 23. In addition, having reviewed the Petition and the evidence on which the Petition relies, we agree with, and adopt, Petitioner's position that its proffered combination of Liebermann, Engelke '405, and Mukherji would have conveyed to one of ordinary skill in the art all limitations recited in dependent claims 11–14, 16, 17, and 19–29.

e. Disputed Limitations

We next address Patent Owner’s contentions regarding purported differences between the claimed invention and the prior art. For the reasons set forth below, we do not agree with Patent Owner’s contentions.

First, Patent Owner contends “that the prior art fails to teach a system that uses a non-industry standard configuration, and specifically one where the captioned device is the central control point.” PO Resp. 18–19 (citing Ex. 2013 ¶¶ 114–16). According to Patent Owner, Liebermann, Engelke ’405, and Mukherji are limited to the “industry standard” captioned service in which “the central control point always remains at the relay.” *Id.* at 19. Patent Owner indicates having the captioned device as a central control point is reflected by the claim requirements of the first and second communication links and the user-controlled captioning (i.e., activator or button on the captioned device). *Id.* at 8, 18.

We do not agree with Patent Owner’s position because, as explained previously, we find that the combination of Liebermann, Engelke ’405, and Mukherji would have conveyed to one of ordinary skill in the art all of the limitations recited in the claims. More specifically addressing Patent Owner’s contention here, Liebermann teaches the claimed first and second communication links (*see, e.g.*, Ex. 1006, 6:64–7:9, 7:18–26) and Mukherji teaches user-controlled captioning (including a user-operated control) (Ex. 1007, 3:19–22, 4:67–53, 6:33–42, 6:65–7:4, 8:35–37). Thus, the asserted references would have conveyed to one of ordinary skill in the art having the captioned device as “the central control point” to the extent the

claims require such. Moreover, the plain language of independent claims 1 and 10, each of which recites steps performed at the relay—including transcribing the hearing user’s voice into text and sending the transcribed text to the assisted user’s device for display—further undermines Patent Owner’s position.

Second, Patent Owner contends that the prior art does not teach the second communication link that connects the assisted user’s device with a different end point from the first communication link. PO Resp. 19–20 (citing Ex. 2013 ¶¶ 117–18). According to Patent Owner, Liebermann does not teach the requisite two communication links because “Liebermann’s system uses a single-line multiparty call where the parties and relay are connected by single telephone lines and the network merges the audio of the conversation.” *Id.* at 19. For the reasons discussed previously, we do not agree with Patent Owner’s position regarding Liebermann’s teaching. Rather, for the reasons discussed previously, Liebermann teaches the required two communication links in Liebermann’s two-line architecture and so teaches the required second communication link. *See, e.g.*, Ex. 1006, 6:64–7:9, 7:18–26

Third, Patent Owner contends that “the prior art does not teach an active feature on the assisted user’s device that has the functionality required by the claimed activator.” PO Resp. 20. Patent Owner more specifically contends that the activator is required “to invoke the captioning service . . . and establish the second communication link.” *Id.* (citing claims 15–29 for invoking the captioning service and claim 19 for establishing the second

communication link). Patent Owner contends that Petitioner improperly parses the claims into “isolated elements” and does not consider the activator “in terms of the claimed functionality as that is what the claim as a whole recites and it is the invention achieved by the combination of elements that must be shown to be obvious.” *Id.* Patent Owner argues that Engelke ’405 only has an on/off switch and Mukherji does not “use a relay and therefore, . . . [any] user controlled feature for receiving text captioning . . . does not ‘establish’ a second communications link with a relay.” *Id.* at 21 (citing Ex. 2013 ¶¶ 119–24).

We do not agree with Patent Owner’s argument, which attacks Mukherji individually. “The test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art.” *In re Mouttet*, 686 F.3d 1322, 1333 (Fed. Cir. 2012) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). Rather, for the reasons noted above, we find that the combination of Mukherji’s user-initiated text captioning with Liebermann’s two-line architecture and Engelke ’405’s relay system would have conveyed to one of ordinary skill in the art the requisite activator establishing a second communications link with a relay, as required by claim 19. Moreover, for the reasons given previously, we find that the combination of Liebermann, Engelke ’405, and Mukherji collectively would have conveyed the recited “activator” and “button” to one of ordinary skill in the art.

Fourth, Patent Owner contends that claim 23, which indirectly depends from independent claim 18 directed to an assisted user’s captioned

device and requires that the communication links are “completely independent,” is not met by the communication links in Liebermann’s two-line communication device. PO Resp. 21–23. Claim 23 additionally recites “the first communication link is a telephone line” and “the second communication link includes a communication link that is completely independent of the telephone line.”

According to Patent Owner, Mr. Occhiogrosso (Petitioner’s declarant) construes “‘completely independent’ first and second communication links as “*physically* separate links.” For this assertion, Patent Owner relies on Mr. Occhiogrosso’s testimony regarding the meaning that a relay is “remote” from the assisted user’s captioned device and the hearing user, as recited in claim 8 of U.S. Patent No. 8,908,838 B2. PO Resp. 21–22 (citing Ex. 2017, 56:15–57:10) (testifying that, if a relay is remote from both the assisted user and the hearing user, the first communication link and the second communication link would be separate and distinct communication links). On this basis, Patent Owner contends that, because “both of Liebermann’s cellular connections share a physical medium,” Liebermann does not teach a telephone line established between the assisted user’s captioned device and the hearing user’s captioned device that is “completely independent” from the second communication link that receives text from the remote captioning relay.

By contrast, Petitioner contends that “a communication link that is completely independent of the telephone line” should be construed “as any communication session, protocol, link, or path distinguishable from the

claimed telephone line.” Pet. 6–7. Petitioner further indicates that the written description of the ’822 patent does not use the term “completely independent.” *Id.* at 7. Petitioner argues, although without providing further explanation or evidence, that the term “could be referring to physical independence, logical independence, individual usability, or any other of a variety of potential meanings of ‘independent.’” *Id.* at 7.

We do not agree that the two cellular connections of Liebermann’s device are not “completely independent” because, according to Patent Owner, the two cellular connections transmit through the air, which apparently is the “physical medium” to which the Patent Owner refers. First, there is insufficient evidence to conclude Mr. Occhiogrosso’s testimony (i.e., that “remote” means “separate and distinct”) would require the transmission medium of the two communication links to be physically separate links. Mr. Occhiogrosso’s testimony cited by Patent Owner does not preclude communication links that are logically “separate and distinct.” Moreover, the value of Mr. Occhiogrosso’s testimony cited by Patent Owner is diminished further because it does not address directly the meaning of “completely separate” communication links where one of the communication links is a telephone. Rather, Mr. Occhiogrosso’s testimony relates to the relationship between the relay and the two user devices (i.e., the assisted user’s captioned device and the hearing user’s device).

As for the reference itself, Liebermann describes the operation of the cellular phone in Liebermann’s device as being the same “as the hard wired telephone the cellular phone maintains two cellular connections on line,

one to the center (voice/data) and one to the caller.” Ex. 1006, 7:18–26; Pet. 44 (relying on Ex. 1006, 6:64–7:9, 7:18–26 for claim 23). Thus, the two cellular connections disclose at least two logical connections.

Furthermore, Petitioner does not rely merely on the two cellular connections of Liebermann’s device. Rather, Petitioner also relies on Liebermann’s disclosure of two lines—(i) a dedicated line that transmits both voice and data between the device and the center and (ii) the analog line between the hearing user and the assisted user for voice only. Ex. 1006, 7:5–7:9 (“Thus, the line between the normally hearing person and the deaf person is analog for voice content only, while the line between the deaf person (and now the normally hearing person too) is analog but transfers both voice and data); Pet. 44 (relying on Ex. 1006, 6:64–7:9, 7:18–26 for claim 23). These analog lines also would have conveyed to one of ordinary skill in the art the requisite telephone line that is completely separate from the second communication link, as recited in claim 23.¹² Accordingly, we do not agree with Patent Owner’s position that Liebermann’s communication links do not meet the requirements of claim 23.

¹² The written description of the ’822 patent indicates a telephone line “can be an actual physical land line, or two pair between the telephones, or can be a cellular or other over-the-air telephone linkage.” Ex. 1002, 5:59–62 (describing telephone line 34 depicted in Fig. 1). In distinguishing between a physical land line and a cellular, over-the-air telephone linkage, the written description provides some additional support that a cellular telephone linkage may be considered as a separate communication link.

3. *Rationale to Combine References*

Having determined that Petitioner's combination of Liebermann, Engelke '405, and Mukherji would have conveyed to one of ordinary skill in the art the limitations in claims 1–7 and 10–29, our inquiry continues because “[a] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. Rather, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *Id.* In other words, “there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

In addition, “[c]are must be taken to avoid hindsight reconstruction by using ‘the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.’” *Grain Processing Corp. v. Am.-Maize Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988) (quoting *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1012 (Fed. Cir. 1983)).

Petitioner presents reasons why one of ordinary skill in the art would have combined the teachings of Liebermann and Engelke '405 and presents reasons why one of ordinary skill in the art would have additionally combined the teaching of Mukherji with those of Liebermann and Engelke '405.

a. Liebermann and Engelke '405

We first turn to Petitioner's proffered rationale for combining Engelke '405's teaching of sending voice and text to the assisted user with Liebermann's device. Then we address Petitioner's proffered rationale for combining Engelke '405's on/off switch with Liebermann's device.

(i) Adding Voice and Text

Petitioner, with support from Mr. Occhiogrosso, indicates one reason that one of ordinary skill in the art would have configured the two-line device of Liebermann to output both voice and text to the assisted user would have been "to cater to the particular impairment or needs of a user," such as by providing both voice and text to a user who had attenuated but functional hearing (as described in Engelke '405). Pet. 14 (citing Ex. 1009 ¶ 41). We credit Mr. Occhiogrosso's testimony, which is consistent with our previous findings that Engelke '405 teaches extending devices intended for the deaf to assist users who are hard-of-hearing, by providing simultaneous voice and text, so as to make the experience more like a conventional telephone (*see* Ex. 1005, 2:9–27 (extending devices for deaf users to hard-of-hearing users; providing assistance to "emulate, to the fullest extent possible, the normal telephonic communication patterns of hearing people"), 2:30–37 (describing simultaneous voice and text)). In addition, Mr. Occhiogrosso's testimony is consistent with our finding that Engelke '405 also teaches providing tailored services based on particular impairments of the assisted user. *See* Ex. 1005, 5:64–6:3 (describing different modes of operation for particular user impairments). Moreover,

Mr. Occhiogrosso provides prior art evidence of other instances of describing extending devices for a deaf person for users who are not deaf but requiring voice and/or speech assistance, such as hard-of-hearing users. Ex. 1009 ¶ 40 (citing Ex. 1012, 1:40–52 (describing “Voice Carry Over” or “VCO,”¹³ and “Hearing Carry Over” or “HCO”); Ex. 1008, 2:94–30:12 (describing VCO and HCO); Ex. 1011, 1:65–2:15 (describing combination VCO and traditional telephone)).

Patent Owner challenges, with Mr. Zatkovich’s support, Petitioner’s position by contending that the existence of two forms of assistance—VCO that allows “a deaf person who can speak to use their voice while receiving responses from a person via typed text from a relay” and HCO that allows “a hearing but non-speaking person to receive the voice of a caller and to respond in text via a relay”—“does not make it obvious to tailor devices to the capabilities of users with *any* impairment in *any* way.” PO Resp. 25; Ex. 2013 ¶ 129.

Weighing Mr. Occhiogrosso’s testimony and Mr. Zatkovich’s testimony, we give more weight to Mr. Occhiogrosso’s testimony, which relies on citations to prior art of record for support. 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *see Yorkey*, 601 F.3d at 1284 (holding the Board has discretion to give more weight to

¹³ “VCO” is voice carry over, where the assisted user’s voice is sent to the hearing user. Ex. 2013 ¶ 129. “HCO” is hearing carry over, where the hearing user’s voice is sent to the assisted user. *Id.*

one item of evidence over another “unless no reasonable trier of fact could have done so”); *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368 (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”). In addition, Mr. Zatkovich’s testimony is conclusory and does not provide sufficient explanation as to why the disclosure of two different kinds of assistance for users with different impairments does not support Mr. Occhiogrosso’s position that it was known to tailor devices to the capabilities of users with impairments. 37 C.F.R. § 42.65(a).

Relying on citations to Liebermann and Mr. Zatkovich’s testimony, Patent Owner also contends that modifying Liebermann to add voice and text would render Liebermann inoperable for its intended purpose and frustrate its principle of operation. PO Resp. 27–32. Patent Owner contends that Liebermann’s intended purpose is enabling a deaf person to communicate through the use of digitized sign language. *Id.* at 28–32 (citing, e.g., Ex. 1006, 1:10–15, 3:11–13, 3:28–33, 3:54–58, 5:35–40, 12:30–39, 13:32–37); *id.* at 29 (citing Ex. 2013 ¶¶ 134–148). Patent Owner contends that Liebermann’s “principle of operation is directed to the very manner in which its intended purpose is achieved.” *Id.* at 31–32 (citing Ex. 2013 ¶¶ 147–48). For instance, Mr. Zatkovich testifies that, because of differences between sign language symbols and English language text, the signs and text would not correspond perfectly and would confuse a deaf user that received both. Ex. 2013 ¶ 143; PO Resp. 30. Mr. Zatkovich testifies further that if a deaf user were to receive voice and text at the same time the

user received digitized signals, the user could not be able to make use of the voice component. Ex. 2013 ¶ 145; PO Resp. 31.

Mr. Zatkovich does not address, however, Liebermann's disclosure of displaying incoming text to the assisted user. *See* Ex. 1006, Fig. 8; Ex. 1019 ¶ 36 (Mr. Occhiogrosso explaining that Liebermann's Figure 8 depicts an incoming text screen). Moreover, we agree with Mr. Zatkovich's testimony that sending voice would have no effect on a deaf user. Thus, we do not agree with Mr. Zatkovich's position that sending text and voice would change the principle of operation of Liebermann's device or render Liebermann inoperable for its intended purpose.

Furthermore, we credit Mr. Occhiogrosso's testimony that hard of hearing assisted users would receive some benefits from having voice, such as obtaining benefit from contextual clues in the audio stream. Ex. 1019 ¶ 37. Mr. Occhiogrosso's testimony is supported with citations to prior art. *Id.* (quoting Ex. 1005, 3:35–43 (indicating benefits of non-verbal spoken cues to hearing-impaired but not deaf assisted users)). We, therefore, do not conclude that adding voice and text to Liebermann's device would render it inoperable for its intended purpose or change Liebermann's principle of operation.

After considering the evidence and arguments presented, we find reason to modify the two-line configuration of Liebermann (intended for deaf users) to provide simultaneous voice and text, making the device usable by hard-of-hearing users. *See KSR*, 550 U.S. at 418 (explaining an asserted

ground of obviousness must demonstrate articulated reasoning with rational underpinning to support the legal conclusion of obviousness).

(ii) Adding the On/Off Switch

We turn to reasons why one of ordinary skill in the art would have combined the on/off switch Engelke '405 with the teachings of Liebermann. According to Petitioner, with support of Mr. Occhiogrosso, incorporating the on/off switch of Engelke '405 into the proposed combination “would have allowed families with both hearing-impaired and unimpaired members to utilize a single device.” Pet. 15; Ex. 1009 ¶¶ 42–44, 47–48.

Mr. Occhiogrosso supports his conclusion with citations to prior art of record. Ex. 1009 ¶ 43 (“It was common in the art to configure communication devices for the hearing and/or speech impaired to also be used by non-impaired individuals (e.g., non-impaired family members).”) (citing Ex. 1011, 2:22–34 (“Hearing-impaired individuals . . . often would prefer that the text transmission device look like a telephone . . . particularly . . . where the telephone communication device is used in a household which has both hearing-impaired and nonhearing-impaired members.”)).

Mr. Occhiogrosso also testifies that such on/off switches were a common feature in the art to allow the device to be used by assisted and non-assisted users. Ex. 1009 ¶ 43 (citing Ex. 1011, 2:22–34 (describing that devices are used by both impaired and non-impaired users), 9:8–32 (describing telephone keypad that alternates between TTY and telephone modes)); Ex. 1019 ¶ 35.

Having reviewed the Petition, the Patent Owner's Response, and the Petitioner's Reply, as well as the relevant evidence discussed therein, and other relevant record papers relevant to this issue, we agree with and adopt Petitioner's contentions regarding adding the on/off switch to Petitioner's proposed combination.

(iii) Modifications Are Within Level of Ordinary Skill

We conclude that both of these modifications—adding voice and text and adding the on/off switch—are within the level of ordinary skill. Liebermann teaches that the voice of the hearing user is transmitted to the assisted user's device (*e.g.*, Ex. 1006, 7:5–6 (“the line between the normally hearing person and the deaf person is analog for voice content only”)). Thus, as Petitioner and Mr. Occhiogrosso indicate, the modification would be to use the speakers and microphone in Liebermann (*e.g.*, *id.* at 7:29–31 (“[w]hen the phone for the deaf is equipped with a microphone and a speaker”)) to allow communication over that link. *See* Ex. 1009 ¶ 41. A person of ordinary skill in the telecommunications art has engineering or equivalent technical experience with telephone systems. This relatively high level of ordinary skill in a technical art (telecommunications) lends further support to finding that the modification would be with that level of skill. As to the addition of an on/off switch, we similarly find the simple electrical switch of Engelke '405 (*see* Ex. 1005, Fig. 1) to be within the level of ordinary skill of an engineer with a relevant bachelor's degree and several years of technical experience, as discussed previously.

Indeed, the relatively high level of ordinary skill further supports a conclusion of obviousness because it is easier to establish obviousness under a higher level of ordinary skill in the art. *Innovention Toys*, 637 F.3d at 1323 (“A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.”).

Thus, for these reasons, we conclude that the combination of Liebermann and Engelke ’405, as proposed by Petitioner, would be the application of known methods, the results of which would have been predictable to one of ordinary skill in the art and would have been within the ordinary level of skill of one of ordinary skill in the art. This further supports the conclusion of obviousness. *KSR*, 550 U.S. at 416 (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”).

b. Liebermann, Engelke ’405, and Mukherji

For the reasons explained in the Summary of Asserted Prior Art, we find that Mukherji teaches a device that will open a second, text communication link to provide voice-to-text in addition to a first, voice communication link. *See, e.g.*, Ex. 1007, 3:19–22 (“During setup or at any other appropriate time during the session, the participants may establish two communications streams using network 14, a voice link 20 and a text link 22.”). We further find that Mukherji teaches that the text communication link can be enabled prior to or by a user-activated control during a call. *Id.*

(i) Reason to Combine Mukherji with Liebermann/Engelke '405

We turn to reasons why it would have been obvious for one of ordinary skill in the art to have incorporated these features taught by Mukherji into the Liebermann/Engelke '405 combination discussed above.

We agree with Petitioner that one of ordinary skill in the art would have recognized that Mukherji and Liebermann/Engelke '405 are in the same field of endeavor (telecommunications and voice-to-text transcription), address the same problem (assisting a user in understanding a telephonic conversation), and solve it in the same way (providing text of the telephonic conversation to an assisted user). Pet. 21–22; Ex. 1009 ¶ 56; Ex. 1007, 1:32–36. We find ample support in the record that one of ordinary skill in the art would have looked to solutions for hard-of-hearing users that offered telephone services more like conventional telephones. Ex. 1005, 2:9–27, 31–49; Ex. 2035, 10. For this reason, one of ordinary skill in the art would have looked to Mukherji to improve the Liebermann/Engelke '405 device. *KSR*, 550 U.S. at 420 (“Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”).

Furthermore, we agree with Petitioner that one of ordinary skill in the art would recognize the benefit of Mukherji’s teaching of invoking text assistance in mid-conversation by a request from a user and configuring the on/off switch of Engelke '405 to be operable at the times taught by Mukherji—mid-conversation. Pet. 16–17. For example, as noted above,

Mukherji teaches that a user may wish to invoke text assistance during a call based on low-quality voice transmissions. Ex. 1007, 3:19–22, 6:65–7:4.

On the other hand, we accord little weight to Mr. Occhiogrosso’s testimony that one of ordinary skill in the art would have been motivated to add the activator of Mukherji to solve the problem of needing language translation assistance when a call was ongoing. Although Mr. Occhiogrosso supports his conclusion with prior art of record—Engelke ’405—that recognizes that problem (Ex. 1009 ¶¶ 60–61; see Pet. 21–22), we find his reasoning to be incomplete. We agree with Patent Owner that there would be little reason for one of ordinary skill in the art to combine the activator of Mukherji with Liebermann and Engelke ’405 based on Mukherji’s discussion of aiding foreign language speakers. See PO Resp. 33–34. Notwithstanding, Petitioner articulates sufficient rationale based on other theories, which we have analyzed above, that explain sufficiently why a person of ordinary skill in the art would have considered it obvious to combine the activator of Mukherji with Liebermann and Engelke ’405.

Patent Owner also contends that the technique of Mukherji could not improve Liebermann/Engelke ’405 in the same way. PO Resp. 35; see also *id.* at 35–36. Patent Owner characterizes Mukherji as “initiat[ing] the sole session between the two callers directly and then either start[ing to] send[] text packets or not.” *Id.* at 35. Patent Owner further contends, with Mr. Zatkovich’s support, that this “conflicts with *Liebermann*’s common ‘center’ and *Engelke* ’405’s Call Assistant Relay.” *Id.*; Ex. 2013 ¶¶ 163–64. Mr. Zatkovich, however, does not provide support or further explanation for

his conclusory assertions and, accordingly, we accord it little weight. 37 C.F.R. § 42.65(a); *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368 (indicating the Board is entitled to weigh declaration testimony).

Moreover, we do not agree that on-demand text assistance conflicts with Petitioner’s proposed combination involving a relay. Recall the technique taken from Mukherji is to open up the second, text line prior to or during the call. Pet. 16–17 (one of ordinary skill in the art “would have recognized that the teaching of *Mukherji* that text assistance could be invoked mid-conversation by a request from a user . . . would be beneficial to include”); *id.* at 12–13 (“For example, if a voice session started without text assistance, the text assistance could nonetheless be initiated mid-conversation after ‘a request from the user,’ [which] would cause the negotiation of another link for text.” (citing Ex. 1007, 6:65–7:4, Fig. 4)). The technique of on-demand text assistance from Mukherji relates to the timing of opening a second connection to the relay. As such, there is no conflict with Liebermann’s two-line architecture or Engelke ’405’s call assistant relay.

Patent Owner also contends that Liebermann/Engelke ’405 was not “ready for improvement” because to be “ready for improvement” the prior art must be “actually commercially available.” PO Resp. 35–36. Because the asserted references allegedly were not commercially available (either individually or together), Patent Owner contends the combination was not “ready for improvement.” *Id.* at 36. Patent Owner’s argument is based on *Ohio Willow Wood Co. v. Thermo-Ply, Inc.*, 2009 WL 6499349, at *6 (E.D.

Tex. Nov. 20, 2009). Patent Owner characterizes the holding of *Ohio Willow Wood*, which is not binding precedent, as: “finding that a prior art fabric liner ICE[]ROSS, the commercial embodiment of U.S. Patent No. 4,923,474, was ready for improvement.” PO Resp. 36. We disagree. Rather, the court characterized the rationale for an obviousness conclusion as the “application of a known technique to a piece of prior art ready for the improvement.” *Ohio Willow Wood*, 2009 WL 6499349, at *6. Although the court recognized “all claim limitations are met by the combination of the Silosheath and Klasson patent, as commercially embodied in the ICEROSS liner,” the court did not limit a determination that a prior art reference was “ready for improvement” to references that are commercially available. *Id.*

(ii) Known Technique Predictably Applied to a Known Device

We also conclude that combining Mukherji with Liebermann and Engelke '405 would have been applying a known technique to a known device ready for improvement to yield predictable results. *See* Pet. 17–19. More specifically, we agree with Petitioner that “a POSITA would recognize that the [captioning] could be invoked before a call started or after a call started.” Pet. 18 (citing Ex. 1009 ¶¶ 65–65); Ex. 1009 ¶ 57 (“it would be a simple matter of waiting to initiate the second telephone call to the center until requested”). Petitioner points out that “the architecture was in place” and Mukherji “provides the recognition that it is desirable in some circumstances to invoke text assistance mid-conversation.” Pet. 18. According to Petitioner, “[t]he practical effect would simply change the initiation [of the call to the relay in Liebermann] from an automated function

to one that awaited a request . . . as disclosed in Mukherji.” *Id.* at 18–19 (citing Ex. 1009 ¶¶ 64–65); Ex. 1009 ¶ 64 (“[w]ith such an architecture in place, a person of ordinary skill in the art would have readily recognized that the device was ready for an improvement”). Petitioner asserts that the combination is predictable because the same effect in Mukherji would occur in the proposed combination—“an additional connection would be initiated to receive text assistance upon actuation of the button or feature.” Pet. 19; Ex. 1009 ¶¶ 64–65. We also note that telecommunications (the pertinent art) is a generally predictable art as compared with other arts, such as chemistry.

Evidence and reason support Petitioner’s assertions. Mukherji teaches a control that causes invocation of a text line in addition to a voice line. In Petitioner’s proposed combination of Liebermann, Engelke ’405, and Mukherji, the Liebermann/Engelke ’405 device would operate in the same way because Liebermann/Engelke ’405 already includes invocation of a text line in addition to a voice line, merely at a different period of time. The difference is that the text connection also could be invoked by the control, as taught by Mukherji, in addition to being invoked right away or not at all, as taught by the on/off switch taught by Engelke ’405. Thus, the added feature would operate in the same way as taught in Mukherji (i.e., activating captions during a call), but would also operate on the existing two-line architecture of Liebermann/Engelke ’405.

We acknowledge that this modification would require some supporting circuitry and/or software to enact and accommodate the Mukherji activator control. Based on the prior art of record and the disclosure of the

activator in the challenged patent, we credit Mr. Occhiogrosso's testimony (Ex. 1009 ¶ 63) that this modification would be within the level of ordinary skill in the telecommunications field. Mukherji itself speaks very little of how to enact the activator control, leaving it to the level of ordinary skill in the art. *See, e.g.*, Ex. 1007, 3:19–22; *see also Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384 (Fed. Cir. 1986) (“a patent need not teach, and preferably omits, what is well known in the art”). Likewise, the challenged patent speaks very little of how to enact its activator control. *See* Ex. 1002, 8:20–24 (describing the device implementing the claimed feature in little technical detail).

We also credit Mr. Occhiogrosso's testimony that the Liebermann and Engelke '405 combination was ready for the improvement of Mukherji's mid-conversation invocation of text assistance. Pet. 18 (citing Ex. 1009 ¶¶ 64–65). Mr. Occhiogrosso testifies that the architecture of the two-line device in Liebermann and the on/off switch of Engelke '405 provided an architecture ready to include the timing of manually initiating text assistance upon a request by the user, as taught by Mukherji, and would have the same predictable result of initiating an additional connection to receive text assistance upon activation of a control, as discussed above. Ex. 1009 ¶¶ 64–65.

Thus, we conclude that “the improvement is [no] more than the predictable use of prior art elements according to their established functions,” which further supports a finding of obviousness. *KSR*, 550 U.S. at 417.

(iii) Combination Would Have Been Obvious to Try

We also conclude that a preponderance of evidence supports a finding that combining Mukherji's control for invoking text assistance mid-conversation would have been obvious to try and one of ordinary skill in the art would have had a reasonable expectation of success. *See* Pet. 19–20. We credit Mr. Occhiogrosso's testimony and agree with Petitioner that Mukherji teaches all of the finite possibilities for when to use text assistance—at the beginning of the call, during the call, or not at all. Ex. 1009 ¶¶ 66–67. The universe of possibilities of initiating text assistance is very small, having three general options. This also supports a determination that one of ordinary skill in the art would have a reasonable expectation of success, particularly in view of Mr. Occhiogrosso's testimony that it would have been a simple change of an automated connection over the second telephone line to one in which the device would wait until a request was received before connecting to the center. Ex. 1009 ¶¶ 66–67; *see* Pet. 20.

(iv) “digital data packets”

As noted previously, claim 6 recites, among other limitations, “the hearing user's voice and the text are each transmitted via digital data packets” for which Petitioner relies on the teaching of Mukherji.

Regarding the combination of this aspect of Mukherji with Liebermann/Engelke '405, Petitioner contends, with support of Mr. Occhiogrosso's testimony, that Mukherji indicates that “the use of packet-based communication and Internet-based communication, like the use of internet protocol,” was well known and application of those techniques

would have been within the ordinary skill level at the time of the invention of the '822 patent. Pet. 24 (citing Ex. 1009 ¶¶ 68–69). Mr. Occhiogrosso testifies that “[t]he use of the Internet (for example using internet protocol, a packet-based protocol) grew in prevalence in the 1990s, and by the year 2000, any person working in virtually any branch relating to telecommunications understood that using the Internet was a useful, viable, and readily substitutable alternative for transmitting and receiving data,” including voice data and text data. Ex. 1009 ¶ 68. Mr. Occhiogrosso supports his opinion with citations to prior art references, including Mukherji. *Id.* (citing Ex. 1007, Abstract, 2:39–63; Ex. 1008, 1:28–36, 30:46–58). We credit Mr. Occhiogrosso’s testimony, which we find supported by analysis and evidence.

Petitioner repeats its contention that Mukherji solves a similar problem as Liebermann/Engelke '405 and so one of ordinary skill in the art would have looked to Mukherji for other beneficial features, including the use of packet-based or Internet-based communications. Pet. 25. Petitioner further contends that combining Mukherji’s internet-based communication with Liebermann/Engelke '405 would be applying a known technique to a known device in the same way to yield predictable results and also would be applying a known technique to a known device ready for improvement to yield predictable results. *Id.*

Patent Owner repeats its contention that one of ordinary skill in the art would look to Mukherji to solve a problem of foreign language translation and also contends that Petitioner has failed to articulate why one of ordinary

skill in the art would be dissatisfied with its use of telephone lines and be motivated to use a packetized communication system. PO Resp. 34.

On balance, we agree with Petitioner that combining Mukherji's internet-based communication with Liebermann/Engelke '405 would have been obvious to one of ordinary skill in the art because it was a predictable use of prior art elements according to their established functions. *See KSR*, 550 U.S. at 417 (one "must ask whether the improvement is more than the predictable use of prior art elements according to their established functions"); *id.* ("when a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious.") (citing *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)). Thus, we conclude that Petitioner has provided articulated reasoning with rational underpinning to support the legal conclusion of obviousness.

c. The Proposed Combination is Not Hindsight

Patent Owner argues that Petitioner's proposed combination relies on impermissible hindsight because "a Petitioner must prove that [one of ordinary skill in the art] would have recognized the specific problem *recognized by the inventors* and found it obvious to produce the claimed invention to solve that problem." PO Resp. 24 (citing *Source Search Techs., LLC v. LendingTree, LLC*, 588 F.3d 1063, 1072–73 (Fed. Cir. 2009)); *see generally* PO Resp. 23–26 (contending that Petitioner's failure to identify the problem intended to be solved by the invention in the art is fatal to its

motivation to combine arguments and reveals Petitioner's reasoning is based on impermissible hindsight).

We disagree. As the Supreme Court stated in *KSR*, it is “error . . . [to] hold[] that courts and patent examiners should look only to the problem the patentee was trying to solve.” *KSR*, 550 U.S. at 420. The Supreme Court recognized that a reason to combine the elements in the manner claimed can come from “any need or problem known in the field of endeavor at the time of invention.” *Id.*

d. Mukherji Does Not Teach Away from the Use of Two Lines

Patent Owner contends, with Mr. Zatkovich's support, that Mukherji teaches away from the use of two lines because Mukherji would discourage a use of a relay. PO Resp. 36 (citing Ex. 2013 ¶¶ 168–70). Mr. Zatkovich testifies that “Mukherji is a system that uses a local conversion of voice to text to prevent the degradation of voice communications over the internet” Ex. 2013 ¶ 169 (citing Ex. 1007 1:21–24, 1:35–36, 1:57–64, 2:1–2); PO Resp. 36. We credit this testimony because Mr. Zatkovich provides citations to Mukherji to support his conclusion. This testimony, however, is insufficient to establish that Mukherji teaches away.

Mr. Zatkovich further testifies that a person of ordinary skill in the art “would recognize that the use of a two-line relay would make Mukherji's packet degradation problem worse, by requiring that voice information be sent on a first connection . . . and then on a second line to the relay.” Ex. 2013 ¶ 170; PO Resp. 36 (paraphrasing Ex. 2013 ¶ 170). Mr. Zatkovich, however, does not support his conclusion with analysis or evidence.

Accordingly, we accord Mr. Zatkovich's testimony little weight. 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."); *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368 (indicating the Board is entitled to weigh declaration testimony).

Moreover, neither Patent Owner nor Mr. Zatkovich identifies a portion of Mukherji that discusses two-line relays, much less criticizes, disparages, or otherwise discourages investigation into two-line relays. Accordingly, we do not agree that Mukherji teaches away from the use of a two-line architecture. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed Cir. 2009) (citations omitted). "A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not 'criticize, discredit, or otherwise discourage' investigation into the invention claimed." *Id.* (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)).

4. Conclusion

For these reasons, we determine that Petitioner demonstrates by a preponderance of evidence articulated reasoning with some rational underpinning to support the legal conclusion that the subject matter of claims 1–7 and 10–29 would have been obvious to one of ordinary skill in

the art in view of the teachings of Liebermann, Engelke '405, and Mukherji as combined in the manner proposed by Petitioner. *See KSR*, 550 U.S. at 418.

G. Asserted Ground of Obviousness of Claims 2, 8–10, 13, and 14 in view of Liebermann, Engelke '405, Mukherji, and Engelke '482

Petitioner asserts that claims 2, 8–10, 13, and 14 would have been obvious in view of Liebermann, Engelke '405, Mukherji, and Engelke '482. Pet. 46–49. Petitioner provides explanations, with liberal specific citations to the asserted references, how the references would have conveyed to one of ordinary skill in the art the limitations of the challenged claims and reasons why one of ordinary skill in the art would have combined the references in the manner proposed by Petitioner. *Id.* Petitioner also relies on the declaration of Mr. Occhiogrosso (Ex. 1009).

1. Summary of Engelke '482

Engelke '482 is directed to a relay system that facilitates communication between deaf and hearing persons by using a call assistant that re-voices the words of the hearing person into a speech recognition program, which sends text of the hearing person's words to the assisted user. Ex. 1004, Abstract, 2:41–49. Engelke '482 discusses how prior art systems typically involved the call assistants typing the words of the hearing user, but that system “tries the patience” of the users because it is slow compared to the speed of speech conversations. *Id.* at 2:9–38. Engelke '482 states that re-voicing will “dramatically increase[]” the speed of the conversations. *Id.* at 2:53–57. Engelke '482 also describes a buffer used as an error correction

feature, to allow the call assistant to fix words the speech recognition program misinterprets. *Id.* at 6:29–43.

2. Claims 8 and 9

Claims 8 and 9 both depend indirectly from independent claim 1 and further recite features related to re-voicing. Claim 9 depends from claim 8 and additionally recites features allowing a call assistant to correct any perceived errors in the generated text.

Petitioner relies on Engelke '482 for teaching a relay that utilizes re-voicing. Ex. 1004, Abstract, 2:41–52; Pet. 48–49. Petitioner also relies on Engelke '482 for teaching a relay operator re-voicing the words of the hearing user sees their spoken words appear on a computer screen and has the opportunity to edit the text before it is sent to the assisted user, to correct misinterpretations or misspelled words. Ex. 1004, 6:29–43; Pet. 49. As evidenced by the previous summary of Engelke '482, we agree with Petitioner's contentions that Engelke '482 would have conveyed the limitations recited in claims 8 and 9 to one of ordinary skill in the art.

Petitioner contends, with support of Mr. Occhiogrosso, that one of ordinary skill in the art “would have been motivated to include the revoicing and error correction of Engelke '482 into the combination [of Liebermann, Engelke '405, and Mukherji] to improve the efficiency and accuracy” of the captioning service resulting from the combined references. Pet. 46 (citing Ex. 1009 ¶¶ 76–79). Specifically, Mr. Occhiogrosso testifies that “it would have been obvious to incorporate the re-voicing scheme of Engelke '482 into the relay of Engelke '405 in order to increase the speed of the voice-to-text

translations.” Ex. 1009 ¶ 76. For support, Mr. Occhiogrosso relies on a disclosure in Engelke ’482 that indicates the speed benefits of revoicing. *Id.* (quoting Ex. 1004, 7:48–52) (“the revoicing methodology combined with speech recognition by the call assistant results in a through put of communication two to four times faster than the typing which can be achieved by a normal call assistant operating a keyboard.”). Mr. Occhiogrosso also testifies that “error correction would yield more accurate text for the assisted user.” Ex. 1009 ¶ 79. Mr. Occhiogrosso explains his conclusion is based on his awareness of advertising of manufacturers of voice recognition software, who advertise that “[t]he voice recognition software would provide increased speed and accuracy over keyboard typing.” *Id.* We conclude that Petitioner has provided some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR*, 500 U.S. at 418.

Furthermore, Petitioner and Mr. Occhiogrosso characterize the inclusion of re-voicing with error correction taught by Engelke ’482 into the Liebermann, Engelke ’405, and Mukherji combination, as the use of a known technique to improve similar devices in the same way and would yield predictable results. Pet. 46–47 (citing Ex. 1009 ¶¶ 76–79). Mr. Occhiogrosso opines that voice recognition software was available off-the-shelf and would be used “exactly as intended” and that correction features were “simply the use of word-processing techniques that have been commonly used for even longer than voice recognition software.” Ex. 1009 ¶ 78.

After reviewing Petitioner's evidence and arguments, we conclude that "the improvement is [no] more than the predictable use of prior art elements according to their established functions," which further supports a finding of obviousness. *KSR*, 550 U.S. at 417.

3. Claims 2, 10, 13, and 14

Petitioner bolsters its position regarding the unpatentability of claims 2, 10, 13, and 14 by asserting these claims also would have been obvious in view of Liebermann, Engelke '405, and Mukherji as discussed previously, and in view of Engelke '482. Pet. 47–48. Specifically, Petitioner contends that Engelke '482 has the same written description regarding operation of prior art relays as the challenged '822 patent. Pet. 48 (citing Ex. 1004, 5:8–35; Ex. 1002, 5:50–6:11; Ex. 1009 ¶ 74). Thus, according to Petitioner, certain features recited in claim 2 ("selecting a call assistant"), claim 10 ("waiting for a request from the captioned device" and "waiting for the first communication link"), claim 13 ("identifying a call assistant"), and claim 14 ("monitoring incoming requests for captioning service on a communication line") would have the same disclosure in both the challenged '822 patent and prior art Engelke '482. *Id.* at 48. Petitioner concludes that claims 2, 10, 13, and 14 would have been rendered obvious by the combination of Liebermann, Engelke '405, Mukherji, and Engelke '482. *Id.*

Petitioner contends, more generally, that one of ordinary skill in the art would have looked to Engelke '482 because Engelke '405 and Engelke '482 share a common inventor and assignee and because the references

(including Liebermann and Mukherji) “contemplate providing text to assist a user in understanding a telephonic conversation.” *Id.* at 46. We determine that Petitioner has provided some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR*, 550 U.S. at 418; *cf. KSR*, 550 U.S. at 420 (“Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”). We also determine that the relatively high level of ordinary skill in telecommunications also weighs towards finding obviousness. *Innovation Toys*, 637 F.3d at 1323 (“A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.”).

4. Conclusion

For the reasons explained above, we conclude that the combination of Liebermann, Engelke ’405, Mukherji, and Engelke ’482 proposed by Petitioner would have conveyed to one of ordinary skill in the art all limitations recited in claims 2, 8–10, 13, and 14 and that Petitioner has articulated and provided sufficient evidence in support for its obviousness conclusion.

H. Secondary Considerations of Nonobviousness

For the reasons set forth in our discussion of Petitioner’s contentions that claims 1–7 and 10–29 would have been obvious over Liebermann, Engelke ’405, and Mukherji and that claims 2, 8–10, 13, and 14 would have been obvious over Liebermann, Engelke ’405, Mukherji, and Engelke ’482,

we determine that the asserted references would have conveyed to one of ordinary skill in the art all limitations of the claims and that Petitioner articulated some reasoning with some rational underpinning to support legal conclusions that the subject matter of the claims would have been obvious. Notwithstanding that determination, however, evaluation and crediting of secondary considerations of nonobviousness may lead to a conclusion that the challenged claims would not have been obvious to one with ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984); see *Graham v. John Deere Co.*, 383 U.S. at 17 (identifying factual inquiries for an obviousness determination).

Patent Owner offers arguments directed to evidence of secondary considerations of non-obviousness. PO Resp. 38–60. Evidence of secondary considerations “may often establish that an invention appearing to have been obvious in light of the prior art was not.” *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1378 (Fed. Cir. 2012). Evidence of non-obviousness must be commensurate in scope with the claimed invention, however. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (citing *In re Tiffin*, 448 F.2d 791, 792 (CCPA 1971)); *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998). In particular, to be accorded substantial weight, there must be a *nexus* between the merits of the claimed invention and the evidence of secondary considerations. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995). “Nexus” is a legally and factually sufficient connection between the objective evidence and the claimed invention, such that the objective evidence should be considered in determining non-obviousness.

Demaco Corp. v. F. Von Langsdorff Licensing Ltd., 851 F.2d 1387, 1392 (Fed. Cir. 1988).

1. Nexus

Although proving nexus is critical to an analysis of secondary considerations, Patent Owner does not discuss a particular nexus in its analysis. Its analysis (not including recitation of case law) under the heading “nexus” is one sentence, which is reproduced below:

On a claim-by-claim basis, expert Paul Ludwick has established that the CapTel telephones and the CapTel service perform the elements of the challenged claims, which have enjoyed tremendous commercial success, been copied by competitors, satisfied long-felt need, and engendered praise. Ex. 2014 (Ludwick Decl.), ¶ 54.

PO Resp. 39–40. There are several fatal flaws in this analysis.

a. Patent Owner Attempts to Incorporate by Reference

First, it is impermissible to incorporate by reference arguments from another paper. 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”). Although it is acceptable to cite to other documents for support for an argument, it is not proper to cite to other documents for the entire argument. Here, there is no exposition as to what Patent Owner’s nexus argument is; we must go to the cited document to find out anything regarding Patent Owner’s argument. This is an impermissible circumvention of our page limits. See 37 C.F.R. § 42.24. Because showing nexus is required for any secondary considerations analysis, *GPAC Inc.*, 57 F.3d at 1573, Patent Owner’s evidence of secondary considerations is not afforded substantial weight.

b. Patent Owner's Citations Are Erroneous

Second, even if we were persuaded to waive our Rules regarding Patent Owner's improper incorporation by reference and improper expansion of page limits, the citation Patent Owner provides does not contain any analysis regarding nexus between Patent Owner's products and the merits of the claimed invention. Rather, paragraph 54 of Exhibit 2014 discusses a CaptionCall telephone (i.e., Petitioner's product) in the context of evidence of copying, rather than a claim-by-claim analysis of CapTel phones. PO Resp. 40 (incorrectly asserting that Ex. 2014 ¶ 54 establishes that "CapTel" products and service perform the elements of the challenged claims); Ex. 2014 ¶ 54 ("Years after CapTel introduced its captioned telephone service, Petitioner introduced the CaptionCall phone to the market, a very similar captioned telephone. . . . The CaptionCall phone and service copies the '822 Patent's claimed features, as demonstrated in the chart below.").

c. Mr. Ludwick's Testimony Is Conclusory

Third, Patent Owner contends "[t]he CapTel two-line phone, and the related service, embodied all of the features discussed above," relying on Mr. Ludwick's declaration testimony in paragraph 59 and a claim chart (Ex. 2042) to which Mr. Ludwick refers. PO Resp. 42. At paragraph 59 of Mr. Ludwick's declaration, he testifies that he observed relay operations at a CapTel call center, during which he observed five particular phone models, he discussed other phone models with unspecified CapTel employees, and he observed CapTel call assistants handling various calls. Ex. 2014 ¶ 59.

He does not indicate when this event occurred and does not indicate what, specifically, he saw.

Mr. Ludwick also testifies that he “placed and received calls using various CapTel phones in a test environment to view the operation of the phone and the CapTel service.” *Id.* He, however, does not describe what models were tested, when he tested the phones, or what he observed. Mr. Ludwick further testifies that he looked at phone user guides, one of which is entered as Exhibit 2055. *Id.* ¶ 59.

We find Mr. Ludwick’s testimony in paragraph 59 conclusory, reporting his conclusions about what he observed without describing what he observed and how such observations evidence the claimed invention. 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). Nor does Mr. Ludwick’s testimony provide facts or data about the time period in which his observations took place or how the phone models he observed relate to the relevant period of analysis.

Mr. Ludwick then concludes that “[b]ased on my observations, Ex. 2042 is a claim chart for showing whether the CapTel Service and/or CapTel Phones perform the elements of claims 1–29 of the ’822 Patent.” *Id.* ¶ 60. The fifty-three page claim chart in Exhibit 2042, however, does not record personal observations. *See generally* Ex. 2042. Instead, the claim chart appears to correspond to portions of the user guide for the CapTel 840i

phone. Notably, Exhibit 2042 cites to Exhibits 2040 and 2055.¹⁴ *See, e.g.*, Ex. 2042, 1. Exhibit 2055 is the CapTel 840i user manual. Exhibit 2040 is a declaration from a paralegal at Patent Owner’s firm, and in relevant part she states that “Exhibit 2055 is a true and correct copy of the CapTel 840i User Manual, available at [hyperlink] (last visited Nov. 22, 2015).” Ex. 2040 ¶ 15; *see also* Ex. 2055, 1 (suggesting this version was released “9/15,” or September 2015), 207 (asserting a copyright year of 2015).

In sum, the testimony of Patent Owner’s declarant, Mr. Ludwick, is conclusory and, to the extent it relies on evidence, the evidence discusses features of a product (CapTel 840i phone) that the evidence before us indicates was available well after the filing date of the patent and even about three-quarters of a year after the Petition was filed (January 2015). For these reasons, we accord little weight to Mr. Ludwick’s conclusory testimony about his personal observations. We, however, credit Mr. Ludwick’s testimony about the claim-by-claim analysis comparing the 2015 CapTel 804i model in Exhibit 2042.

In addition, we acknowledge that “there is a presumption of nexus for objective considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product ‘is the invention

¹⁴ Citations to Exhibit 2055 are to the page numbers stamped on the lower right corner and not to the original pagination. We follow the same practice for all exhibits except for documents containing numbered paragraphs or columns (e.g., patents, transcripts, declarations).

disclosed and claimed in the patent.”” *WBIP, LLC v. Kohler Co.*, 2016 WL 3902668, *6 (Fed. Cir. 2016) (quoting *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997)); *see also* PO Resp. 40–41 (arguing a presumption of nexus applies for its commercial success evidence). This presumption appears to apply to the CapTel 840i model available around September–November 2015,¹⁵ as Patent Owner has shown that the claimed features are present in it, and the claimed features are not merely a small subcomponent thereof. *See* Ex. 2042 (claim chart mapping the ’822 patent claims to a recent CapTel model); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988) (an exception to the presumption of nexus exists where the patented invention is only a component of the product to which the asserted objective considerations are tied). We do not extend the presumption to the other CapTel models, or to an 840i model from an earlier era (if it existed) because Patent Owner has not shown that the asserted objective evidence is tied to those specific products. *See WBIP*, 2016 WL 3902668 at *6.

d. Patent Owner’s “CapTel” Multiple Products and/or Captioning Industry as a Whole as a Proxy for the Claimed Invention

Further, Patent Owner attempts to link “CapTel” in general, which covers multiple products and captioning services, to the claimed invention. *See, e.g.*, PO Resp. 41 (“CapTel telephones and the CapTel service perform

¹⁵ Patent Owner does not direct us to further evidence as to the public availability of the 840i device or the manual, but we take the dates on the document at face value for purposes of our analysis.

the elements of the challenged claims”). Similarly, Patent Owner attempts to link the size and success of the entire captioned telephone service industry as a proxy for its claimed invention. *See, e.g., id.* at 42–44 (citing to all captioned telephone service reimbursements for the premise of commercial success). But Patent Owner provides no cogent analysis or evidence, aside from the September 2015 840i model, as to the nexus between the claims and particular CapTel products. In addition, Patent Owner does not explain why the entire market of captioned telephone services¹⁶ should be attributable to the claimed invention.

(i) “CapTel” Products

There have been several different models bearing the CapTel name and having different features. *See, e.g.,* Ex. 2014 ¶ 59 (mentioning eight different CapTel phone models). Based on the evidence to which Patent Owner directs us, we find that we cannot apply the *WBIP* presumption of nexus to simply any product labeled “CapTel,” or simply any product or service provided by Ultratec. Instead, we consider any mention of the product in terms of what is described specifically for that product in that piece of evidence.

(ii) Captioned Telephone Industry

Even if the various products in the captioned telephone industry, and specifically captioned telephone service, share similar features, that does not

¹⁶ A discussion of the captioned telephone service market and how it operates is described in further detail below.

mean necessarily that all have the claimed features. As Patent Owner’s declarant, Mr. Ludwick, admits, the “CTS” (Captioned Telephone Service) market it relies on as evidence of usage of the claimed invention includes Petitioner’s products as well as Patent Owner’s. Ex. 2014 ¶ 49; *see also* Ex. 2051, 47 (listing 10 providers receiving reimbursements for CTS services). Mr. Ludwick asserts that “the claimed features are the distinguishing characteristics of captioned telephone service over traditional relay service,” but provides no credible evidence equating the two. *See id.* There is evidence that Patent Owner’s product is not the leading provider of captioned telephone service, meaning that a large portion of the market does not necessarily have the same features as CapTel (which itself refers to multiple products and captioning services, as we explained above). *Id.* ¶ 51 (“[u]ntil Petitioner started infringing, Patent Owner . . . [was] the leading provider of IP [CTS]”); *see also* Ex. 2060, 4 (Petitioner’s counsel representing to the Federal Communications Commission that its “market share now exceeds that of companies that provide the CapTel service”). Although we have some evidence that Petitioner’s product contained similar features to the claimed invention, Ex. 2014 ¶ 54, the record is nearly silent on whether other products in the remainder of the market require the claimed features,¹⁷ and what product features were in the market during the

¹⁷ Indeed, it appears that captioned telephone service requires a feature set substantially less than the claimed invention. *See* Ex. 3001 ¶ 23 (FCC explaining that “[t]he principle characteristic of any captioned telephone service is that the consumer nearly simultaneously receives both the actual voice of the other party to the call *and* text of what the party is saying, not

remainder of the relevant time frame. Accordingly, the evidence linking the claimed invention and the alleged success of captioned telephone service is tenuous, and we do not apply the *WBIP* presumption of nexus to the entire captioned telephone industry.

2. *Commercial Success*

“Demonstrating that an invention has commercial value, that it is commercially successful, weighs in favor of its non-obviousness.” *WBIP*, 2016 WL 3902668, *6 (citing *Magowan v. N.Y. Belting & Packing Co.*, 141 U.S. 332, 343 (1891) (holding extensive public use of a patented invention is “evidence of its novelty, value, and usefulness”)). In considering a commercial success argument, the Board must make “a factual determination as to whether the commercial success of the embodying product resulted from the merits of the claimed invention as opposed to the prior art or other extrinsic factors.” *Kao*, 639 F.3d at 1070; *see also Solder Removal Co. v. United States Int’l Trade Comm’n.*, 582 F.2d 628, 637 (CCPA 1978) (“[c]ommercial success due only to superior business acumen, or effective advertising, is of no relevance”).

For the reasons explained above, Patent Owner fails to establish nexus, except perhaps for a presumed nexus for a particular, late 2015 CapTel 840i model. Even so, the evidence of non-obviousness is not compelling. For the reasons that follow, we determine that Patent Owner’s evidence indicates that commercial success of CapTel was due to extrinsic

that the captions are generated by voice recognition technology or any other particular way”).

factors of the marketplace, rather than due to the merits of the claimed invention.

a. Overview of Patent Owner's Position

Patent Owner argues that CapTel was commercially successful. PO Resp. 41–45. Patent Owner argues that three features provide this success:

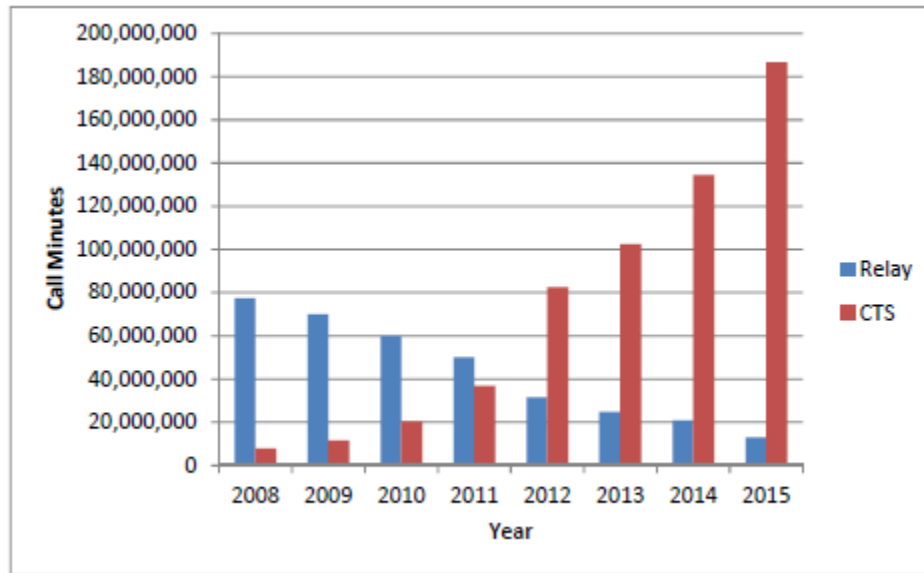
- (1) providing both the revoiced captions and the voice of the hearing user to the assisted user;
- (2) two-lined captioned telephone service; and
- (3) an activator to establish the second communication line and invoke the captioning service

Id. at 41 (formatting added).

Patent Owner argues that commercial success is presumptively attributed to the CapTel telephones, and thus the burden is on Petitioner to show the commercial success is due to other factors. *Id.* at 41–42 (citing *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008)). As we discussed above, the only evidence is the uncited testimony of Mr. Ludwick's declaration regarding the CapTel 840i model of September of 2015. As evidence of commercial success, Patent Owner provides as evidence of commercial success the reimbursement summaries for the federal telephone relay service fund.¹⁸ According to Patent Owner, the reimbursements for captioned telephone has increased, while the

¹⁸ We will discuss the fund and the relevant marketplace in the next section. For purposes of this section, consider the reimbursement minutes as an approximation of the usage of captioned telephone services.

reimbursements for standard relays have declined. *Id.* at 43. Patent Owner provides the following graphic purportedly illustrating this trend.



The above figure depicts the number of call minutes for “CTS” and “Relay” from 2008 to 2015. The “Relay” numbers decline, whereas the “CTS” minutes increase, as time goes on. Patent Owner’s declarant, Mr. Ludwick, explains that this information is derived from data in Exhibit 2051, which is a series of monthly fund reports. See Ex. 2014 ¶¶ 47–51 (declaration of Mr. Ludwick, discussing the graph and the fund reports).

b. Overview of the Relevant Marketplace

The market for telephone relay services is a heavily regulated market. See Ex. 2043, 4 (Petitioner describing the captioned telephone market as one having “high revenue, high margin, and high barriers to competitive entry”). Key dynamics in this marketplace are that (1) government funds, not

consumers, pay for the service;¹⁹ (2) firms must be pre-approved to compete;²⁰ and (3) features are dictated by regulation.²¹

A further important consideration of the marketplace for telephone relay services is the distinction between captioned telephone and the prior relay service. Patent Owner's chart highlights "Relay" and "CTS" reimbursement minutes, and emphasizes that the "CTS" minutes come at the expense of "Relay" minutes. *See* PO Resp. 43. Such a comparison between Relay and CTS reimbursement minutes is not straightforward because they are not in the same product space. The various forms of telecommunications assistance have some overlap, but are directed to assisting different needs. As explained by Patent Owner's declarant, Ms. Battat, prior to CTS, various services were available to assist deaf users and users with speech disabilities, but not to provide equivalent accommodation for hard-of-hearing users. Ex. 2015 ¶ 8. Existing devices intended for deaf users were upgraded to attempt to accommodate users that had some hearing or some speaking ability (HCO and VCO), but those solutions were only capable of partially addressing the problem. *See id.* ¶¶ 10–15. Accordingly, the Federal Communications

¹⁹ *See, e.g.*, Ex. 1026 ¶ 7 (By law, "the costs caused by CTS [are] be shared by all subscribers to telecommunications and VoIP services"). We refer to this practice as "reimbursement."

²⁰ *See, e.g.*, Ex. 2083, 1, n.3 ("providers of Internet-based TRS must be granted certification by the Commission in order to receive compensation from the TRS fund.").

²¹ *See, e.g.*, Ex. 2049, 1 n.1 (discussing features required by federal regulation of captioned telephone service providers to be eligible for reimbursement).

Commission (FCC) was petitioned to make captioned telephone service (i.e., simultaneous voice and text) reimbursable, and the petition was granted in 2005. *Id.* ¶ 29.²² The new captioned telephone service could also be used by deaf users. *Id.* ¶ 30. Accordingly, we find that Patent Owner’s argument that “Relay” minutes were at the expense of “CTS” minutes is not very meaningful. Instead, the “Relay” minutes represent a different product intended for a different user. “Relay” minutes represent the traditional service used by deaf persons, with some features to partially accommodate hard-of-hearing persons (HCO, VCO). “CTS” minutes are usable by *both* deaf persons as well as hard-of-hearing persons. *Id.* In other words, “CTS” is both a replacement for “Relay” as well as a product to capture a new group of users. This new group of users is vastly more numerous than just deaf users. *See, e.g.*, Ex. 2043, 10 (table depicting the marketplace for deaf users at 500,000 and the marketplace for hard-of-hearing users at 28,000,000). Thus, we find that external factors, including actions by the FCC, significantly contribute to the increase in minutes of “CTS” and the decrease in minutes of “Relay.”

c. Commercial Success Analysis

One of the key tenets of commercial success case law is that the commercial success must come from the merits of the invention and not from external factors, or features already known in the art. *Kao*, 639 F.3d at

²² *But see* Ex. 1026 ¶ 6 (FCC indicating that CTS over phone lines was approved in 2003 and over the internet in 2007). To the extent there is a discrepancy in the timeline here, it does not affect the analysis.

1070 (requiring the Board consider “whether the commercial success of the embodying product resulted from the merits of the claimed invention as opposed to the prior art or other extrinsic factors”); *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006) (finding unconvincing secondary evidence directed to unclaimed features or to features known in the prior art); see also *J.T. Eaton & Co., Inc. v. Atlantic Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) (“[T]he asserted commercial success of the product must be due to the merits of the claimed invention beyond what was readily available in the prior art.”); *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1580 (Fed. Cir. 1983) (holding claims obvious despite purported showing of commercial success when patentee failed to show that “such commercial success as its marketed system enjoyed was due to anything disclosed in the patent in suit which was not readily available in the prior art”).

We must be careful when discounting evidence tending to show that commercial success was due to features “known in the prior art” because virtually every device is a combination of known features. “[P]roof of nexus is not limited to only when objective evidence is tied to the supposedly ‘new’ feature(s).” *WBIP*, 2016 WL 3902668 at *7. We must consider “the claimed combination as a whole that serves as a nexus for the objective evidence.” *Id.*

In this case, Patent Owner has provided evidence that “CTS,” to the extent “CTS” even embodies the claims, has enjoyed significant growth (see chart above). As explained below, however, there is significant evidence

that marketing practices drove much of the growth. Further, as explained above, Patent Owner has not provided evidence to tie the claims to the proffered evidence, except to the extent it applies to the 840i model available in September or November of 2015. Accordingly, there is little evidence of non-obviousness with respect to commercial success.

Patent Owner argues that “the combination” of three features was non-obvious. PO Resp. 41. We address the evidence directed to each of these three features, and then make our determination as to the evidence as a whole.

(i) Two-Line and Re-voicing

We find that the two-line aspect of captioned telephone service, in combination with the re-voicing feature, were the features most responsible for the increase in minutes of CTS. Patent Owner’s declarant, Ms. Battat, testifies that:

What I learned from interacting with consumers in the ways I have described was that consumers much preferred captioned telephone services to the other telecommunication options they had. When consumers first tried CapTel *they could not believe how fast the captions appeared and that the captions kept up with the conversation.* Further, *being able to hear the conversation and at the same time read the captioned speech was exactly what consumers wanted to be able to do*—it fit their functioning perfectly. This was because consumers who are hard-of- hearing are not usually born deaf but lose their hearing gradually over time. They are therefore intimately familiar with the level of service available for hearing users having used the service themselves before losing their hearing. With their background using traditional telephones as hearing users, these consumers who are hard-of-hearing want to hear to the extent possible with

their residual hearing, but also needed faster, reliable and accurate captions to supplement anything they have trouble hearing.

Ex. 2015 ¶ 9; *see also id.* ¶ 40 (comments from CapTel users praising these features). Ms. Battat’s testimony highlights the new market that CTS intends to capture—people that had been able to converse normally on a telephone for years, but now have difficulty doing so. Fast captioning and the ability to hear the other person, therefore, are key features to making the telephone call more like how they were able to prior to hearing loss. PO Resp. 49 (“[h]earing the conversation and reading the captions more closely together in time was a huge breakthrough for [hard-of-hearing] people”).

Re-voicing, however, is not recited in 27 of the 29 claims in the ’822 patent. Only dependent claims 8 and 9 require re-voicing. Patent Owner takes the position that claims 1, 10, 12, 18, 19, and 26 require re-voicing (*see* PO Resp. 50), but provides no cogent claim construction analysis. Patent Owner cites to the testimony of Mr. Ludwick (Ex. 2014 ¶ 26), but he provides no analysis either. We are not apprised of anything in the claims or the specification of the ’822 patent that would require re-voicing in the claims in which re-voicing is not explicitly recited. The broader claims permit other forms of relay services, such as completely automated voice-to-text. Thus, the presumption of claim differentiation holds. *See Seachange Int’l, Inc. v. C-COR Inc.*, 413 F.3d 1361, 1368–1369 (Fed. Cir. 2005) (“the doctrine is at its strongest ‘where the limitation sought to be “read into” an independent claim already appears in a dependent claim’”) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004).

As to dependent claims 8 and 9, re-voicing was an already established feature in the art, and is being used in the '822 patent for the exact reason the feature exists—speed. *See Ormco*, 463 F.3d at 1312. For example, Engelke '482 explains that “[t]o overcome the speed limitations inherent in typing, the call assistant at the relay . . . revoices the words spoken by the hearing person into a computer.” Ex. 1004, Abstract. Engelke '405 discusses how re-voicing will not be necessary once technology has improved enough to completely automate voice-to-text. Ex. 1005, 14:45–48.

Similarly, although two-line allows an assisted user to be dialed directly, this feature was also known in the art and is being used in the '822 patent for the same benefit: direct dial. For example, Liebermann explains the benefit of its two-line system is that “the normally hearing person . . . dials the deaf person’s phone number.” Ex. 1006, 6:64–65. Another reference of record, McLaughlin, makes a similar observation. Ex. 1008, 30:15–39 (“An object of the invention is to allow a hearing/speaking person to call the phone number of a deaf and/or speech impaired person directly”); Ex. 1019 ¶ 51. Accordingly, the speed and convenience of re-voicing and two-line that forms the basis for Patent Owner’s commercial success were from features already known in the art. Success in bringing known features to the market is not sufficient for showing non-obviousness. *Ormco*, 463 F.3d at 1312.

(ii) The Activator

We do not find sufficient evidence that the other feature Patent Owner holds out as driving secondary considerations of non-obviousness, the

activator, was involved in the commercial success of CTS or the claimed invention. In contrast to the volume of praise directed to the speed and convenience of CTS, Patent Owner offers very little praise directed to the activator feature. *See* Ex. 2015 ¶ 68 (only providing one comment praising the activator feature). As Petitioner points out, Patent Owner has not disclosed a substantial volume of criticism that it and its customers have directed to the functionality enabled by the activator. Pet. Reply 22–23. In particular, Petitioner provides evidence that CTS devices were configured to, by default, automatically provide captions as soon as the call began (“default on”) and that users greatly disliked having to activate captions themselves (“default off”). *Id.*; Ex. 1025, 9 (Patent Owner arguing to the FCC that “[s]ince implementing . . . ‘default off’ . . . Ultratec has received hundreds of complaints, and the number is increasing hourly”); *id.* at 10 (“Many users expressed simple frustration and dissatisfaction with the additional step suddenly required to place and receive calls with captions.”); *id.* at Appendix A (providing a sample of user complaints). What this evidence shows is that users of CTS devices wanted the captions to be on all the time. This is evidence that the activator feature (to enable/disable captions *during* the call) was not a driving factor of sales because it was generally not used and not sought after.

(iii) Commercial Success Was Due to Business Practices

Petitioner has also brought forward evidence that business practices, rather than the merits of the invention, drove sales of captioned telephone devices. Pet. Reply 24. As we discussed above, the revenues for the

companies providing captioned telephone services are not from consumer bills but rather state and federal government reimbursements. Accordingly, there is a high incentive to get captioned telephone devices into the hands of as many users as possible and to get them to use it as much as possible, as the user does not pay for their use, only for the device.

The FCC found that the expected reimbursement rate of CTS services began to exceed projected rates greatly around 2011. Ex. 1026 ¶ 8.²³ The FCC investigated into why this was happening, as the reimbursement fund depletion rate triggered a violation of the Anti-Deficiency Act. *Id.*; *id.* at n.16 (explaining the Anti-Deficiency Act). The FCC found that the growth in CTS use was due to “provider practices that appeared to be directly causing the sharp increase in IP CTS usage by individuals who did not need this service.” *Id.* Specifically, the FCC found “financial incentives,” “rewards to use [the service],” and “direct or indirect inducements, financial or otherwise, to subscribe to or use, or encourage subscription to or use of, IP CTS.” *Id.*; *see also id.* ¶¶ 16–29 (describing some of the incentives); Ex. 2043, 13 (“Sprint and UltraTec are footing the bill for this promotion in order to seed the Texas market.”).²⁴ Not coincidentally, the sharp increase in minutes used in Patent Owner’s chart, above, coincides with the FCC’s finding of marketing practices driving usage. Accordingly, we find that the

²³ Perhaps coincidentally, this is when Petitioner’s competing product, CaptionCall, entered the market. Ex. 2060, 4.

²⁴ The promotion was to offer the \$500 CapTel phone for \$99. Ex. 2043, 13. The promotion also mentions that the devices were previously given away for free. *Id.*

preponderance of evidence indicates that the increase in minutes of CTS were driven by marketing practices. Even if customers liked the features provided, such as the speed and convenience, these marketing practices appear to be the proximal cause of success. Further, we note that Patent Owner was aware of this evidence (*see, e.g.*, Ex. 1026 ¶ 93 (showing Patent Owner was aware of the FCC investigation and provided comments)) but chose not to present any rebuttal arguments or evidence.

In summary, we find that the success of captioned telephone was praised because users liked the fast captions and the ability to speak to the hearing user. We find that these features, however, were already known in the art. Although we do not find evidence that it was known to provide two-line and re-voicing together, we have found strong motivation to provide re-voicing to all devices involving a voice-to-text relay because of the speed improvements. *Ohio Willow Wood Co., v. Alps South, LLC*, 735 F.3d 1333 (Fed. Cir. 2013) (“where a claimed invention represents no more than the predictable use of prior art elements according to established functions, as here, evidence of secondary indicia are frequently deemed inadequate to establish non-obviousness”); *Western Union Co. v. MoneyGram Payment Sys., Inc.*, 626 F.3d 1361, 1373 (Fed.Cir.2010) (“weak secondary considerations generally do not overcome a strong prima facie case of obviousness”). We further find, as we explained previously, that Patent Owner has not shown it should be entitled to offer as evidence of secondary considerations of its claimed invention the entire CTS industry, except for possibly late 2015, which is the last year in the chart, in which we infer the

840i model was available, although we do not know what percent of the marketplace was held by this model. Accordingly, the connection between the evidence and the claimed invention is tenuous. Further, we find that Petitioner has successfully rebutted any presumption of nexus or commercial success argument by providing un rebutted evidence that the commercial success was driven significantly by marketing and business practices. *WBIP*, 2016 WL 3902668 at *6 (“a patent challenger . . . must present evidence” to successfully rebut nexus to secondary considerations (citing *Brown & Williamson Tobacco Corp. v. Philip Morris, Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000))). Lastly, we do not find that the activator feature was a basis for success. Accordingly, we do not find the evidence relating to commercial success tends to show non-obviousness.

3. Copying

Patent Owner argues that Petitioner copied its CapTel phone and service. PO Resp. 45–47. Patent Owner asserts that Petitioner had access to CapTel because the phone and service were publicly available in 2005. *Id.* at 46. Patent Owner asserts that Petitioner’s CaptionCall service had the same features. *Id.* (citing Ex. 2014 ¶ 54). Lastly, Patent Owner points to Petitioner’s internal documents describing the very benefits of Patent

Owner's technology. *Id.* at 47 (citing Ex. 2040 ¶¶ 3–5; Ex. 2044, 4, 12–14²⁵; Ex. 2043, 12, 18²⁶; Ex. 2045, 49:16–50:7²⁷).

For copying to be effective in showing non-obviousness, there must be more than simply a competing version of the product. *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004) (“Not every competing product that arguably fails within the scope of a patent is evidence of copying. Otherwise every infringement suit would automatically confirm the nonobviousness of the patent.”). Evidence of copying can be particularly persuasive when a competitor had tried and failed to introduce a competing product until the patented product became available. *Vandenberg v. Dairy Equipment Co., a Div. of DEC Int’l, Inc.*, 740 F.2d 1560, 1567 (Fed. Cir. 1984). Copying, however, “is only equivocal evidence of non-obviousness in the absence of more compelling objective indicia.” *Ecolochem, Inc. v. So. Cal. Edison Co.*, 227 F.3d 1361 (Fed. Cir. 2000).

In this case, we find that Petitioner’s “copying” is no more than providing a competing product according to the FCC’s authorization to provide captioned telephone service. *See, e.g.*, Ex. 1026 ¶ 6 (describing captioned telephone service as having a re-voicing feature to provide captions). Given that the FCC authorized reimbursement for such services,

²⁵ Pages 11–14 included in Petitioner’s internal document is a copy of another document written by a third party, and not Petitioner’s own document.

²⁶ It is not clear to us what Patent Owner is citing to on page 18 as it does not contain a description of CapTel, either on the original or stamped pagination.

²⁷ Exhibit 2045 has been excluded and is not considered.

it seems entirely logical that Petitioner would attempt to provide a product for that service. *See also* Ex. 2060, 1 (Petitioner stating that the FCC “determined that IP CTS should ‘not be a service under the control of one vendor or provider’” (quoting *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Declaratory Ruling, 22 FCC Rcd. 379 ¶ 24 (2007))).²⁸ The FCC acknowledged that “Ultratec was the only company offering consumers any type of captioned telephone service [at the time reimbursement of IP CTS was allowed]” but that its ruling allowing IP CTS was worded “to avoid authorizing a particular proprietary technology.” Ex. 3001 ¶ 10. This is evidence that a firm simply providing a competing IP CTS product does not mean that the firm necessarily had to copy Patent Owner’s technology.

Patent Owner provides no more evidence than showing that Petitioner performed its due diligence in identifying competing products. For example, Petitioner’s internal documents show that they were trying to bring a captioned telephone service to compete with Patent Owner’s service under the FCC-authorized captioned telephone service. Ex. 2043, 11–12 (using a basic SWOT²⁹ analysis regarding Patent Owner’s product); *id.* at 16 (setting out how Petitioner’s product would be different from Patent Owner’s). Patent Owner argues that Petitioner hired a company to do a “teardown” of one of Patent Owner’s products, but this, in and of itself, does not establish

²⁸ This Declaratory Ruling is entered into the record as Exhibit 3001.

²⁹ Strengths, Weaknesses, Opportunities, Threats.

copying and again appears to be nothing more than due diligence.³⁰

Petitioner argues that its employees have denied copying and attempted to design its own product. Pet. Reply 20–21 (citing Ex. 2062, 116:7–13, Ex. 2048, 45:22–46:1³¹). Petitioner adds that there is no evidence that Petitioner had tried and failed to introduce a captioned telephone device prior to Patent Owner’s product’s release or the authorization by the FCC to provide captioned telephone services. *Id.* at 21.

Accordingly, we do not find evidence of copying that tends to show non-obviousness. Instead, we find evidence that Petitioner was trying to introduce a competing product to provide an FCC-approved captioned telephone service.

4. Long-Felt, Unmet Need; Praise

Patent Owner argues that the claimed invention satisfied an unmet, long-felt need and that there was substantial consumer praise. PO Resp. 47–60. Patent Owner alleges it received praise in the form of awards, praise from telecommunications companies, hard-of-hearing associations, customers, family members, and Petitioner. *Id.* at 48–49. Patent Owner provides specific arguments and evidence directed to the voice and re-

³⁰ Patent Owner here cites Ex. 2045, 49:6–50:7, as evidence, but this exhibit has been excluded and is not considered. Accordingly, in addition to being unpersuasive, Patent Owner’s argument regarding a “teardown” is not supported by evidence of record.

³¹ Exhibits 2048 and 2062 have been excluded pursuant to Petitioner’s motion to exclude and are not considered for supporting this assertion.

voicing features (*id.* at 50–55), the two-line feature (*id.* at 55–57), and the activator feature (*id.* at 58–60).

The secondary consideration of long-felt need is addressed by evidence that tends to show that the prior art had a recognized need for a solution to the problem and that others had tried, and failed, to find a solution to that problem. *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1325 (Fed. Cir. 1999); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1540 (Fed. Cir. 1983). Notably, the case law characterizes the need in terms of a long-felt but *unresolved* need. *Al-Site*, 174 F.3d at 1325 (discussing “long felt but unresolved needs”). Accordingly, Patent Owner must show that the need was both known and not resolved.

The secondary consideration of praise is addressed by evidence that a person of ordinary skill in the art recognized the inventiveness of the product. *Vulcan Eng'g Co. v. Fata Aluminium, Inc.*, 278 F.3d 1366, 1373 (Fed. Cir. 2002) (“Appreciation by contemporaries skilled in the field of the invention is a useful indicator of whether the invention would have been obvious to such persons at the time it was made.”). Similarly, evidence that shows the product was “warmly received in the [relevant] industry” may indicate non-obviousness. *Ecolochem*, 227 F.3d at 1380.

Patent Owner breaks its arguments up into three features, which we address in turn.

a. Voice and Re-voice

As we explained above, there is evidence that consumers viewed the speed provided by re-voiced captions, along with the convenience of having

the voice of the hearing user, as desirable features. Patent Owner provides evidence that Petitioner was aware of the benefits of faster captions. PO Resp. 52 (citing Ex. 2044, 10 (explaining that Automatic Speech Recognition—ASR—should “prove to be a powerful differentiator affording significant improvements in speed, efficiency, and customer satisfaction – resulting in a larger market share and improved margins”)). Patent Owner asserts that its customer, Sprint, praised the invention. *Id.* at 54 (citing Ex. 2015 ¶¶ 44–46).³² Patent Owner asserts that people with hearing loss pushed the FCC to have CapTel become a reimbursable service. *Id.* at 54 (citing Ex. 2015 ¶ 42).³³ Patent Owner asserts that various state administrators of telephone relay systems lobbied the FCC to make CapTel reimbursable. *Id.* at 53 (citing Ex. 2015 ¶ 45). Patent Owner asserts that Sprint and Hamilton, CapTel customers, described favorably CapTel to the FCC. *Id.* at 54–55 (citing Ex. 2015 ¶¶ 46–47). Patent Owner asserts that Sprint and Hamilton are licensees of its technology. *Id.* at 54 (without pointing to any credible evidence in the record for the assertion that Sprint and Hamilton are licensees, or the context of the licenses).

³² The evidence here is only that Patent Owner’s declarant, Mr. Ludwick, then a Sprint employee, recalls reviewing the CapTel service. Ex. 2014 ¶ 44. Accordingly, we do not credit this testimony as being praise from Sprint but rather from Mr. Ludwick. There is no evidence here that Sprint itself praised CapTel.

³³ Patent Owner characterizes this evidence as the positions of “[a]ssociations representing people with hearing loss,” PO Resp. 52, but the evidence cited are the positions of individual persons, not associations.

(i) *Praise*

Patent Owner's praise by consumers, consumer associations, and administrators of state funds servicing those consumers do not tend to show the non-obviousness of the patented invention. Praise by a person of ordinary skill in the art, or by firms in the relevant field of endeavor, may indicate non-obviousness because it shows that a person of ordinary skill in the art might not have considered the claimed invention obvious. *See, e.g., WBIP*, 2016 WL 3902668 at *10 ("Industry participants, especially competitors, are not likely to praise an obvious advance over the known art."); *Institut Pasteur & Universite Pierre Et Marie Curie v. Focarino*, 738 F.3d 1337, 1347 (Fed. Cir. 2013) ("[I]ndustry praise ... provides probative and cogent evidence that one of ordinary skill in the art would not have reasonably expected [the claimed invention]."). Praise by other people may show the practical benefits of the claimed invention, but is not indicative of whether a person of ordinary skill in the art would have considered the invention obvious. *See Vulcan Eng'g*, 278 F.3d at 1373 (framing the relevant praise in terms of what "contemporaries skilled in the field of the invention" thought). This makes sense because what appears to be non-obvious by an unskilled person is different from what appears to be non-obvious by an ordinarily-skilled person. Accordingly, the praise offered from customers, customer associations, and relay administrators does not

indicate whether a person of ordinary skill in the art considered the claimed invention non-obvious.³⁴

The evidence of praise from Sprint and Hamilton is more relevant but still not given much weight because Sprint and Hamilton are Ultratec *customers* and stand to benefit from the praise given, in terms of being able to receive additional government funds if the FCC allowed reimbursement on a national level. Thus, this praise is not from a competitor and is in the companies' self-interest, i.e., they are likely to praise the Patent Owner. *Cf. WBIP*, 2016 WL 3902668 at *10 ("Industry participants, especially competitors, are not likely to praise an obvious advance over the known art."). As to the licenses, Patent Owner has not directed us to where in the record the evidence describes these relationships. As Petitioner points out, Patent Owner "does not actually argue that these licensees entered into these agreements out of appreciation of the novel aspects of the claimed invention." Pet. Reply 24–25. Petitioner further points out that Patent Owner does not provide evidence of the licenses, aside from Mr. Ludwick's statement that "I understand that Hamilton Relay and AT&T similarly licensed CapTel's technology." *Id.* at 25 (citing Ex. 2014 ¶ 46). Accordingly, we cannot give weight to the licenses as there is no credible evidence of record of them or whether the '822 patent or features described therein were the subject of the license.

³⁴ We further note that we have appropriately considered the praise from customers, as we considered it indicative of what features drove commercial success.

In summary, we find that the record is lacking sufficient evidence of praise from the relevant audience—a person of ordinary skill in the art—such as to inform us that the voice and re-voice concepts were non-obvious. Further, as we pointed out above, these concepts were already known in the prior art, as shown in Engelke '405 (benefits of providing voice and text services to hard-of-hearing) and Engelke '482 (speed benefits of re-voicing), further reducing the weight attributable to this evidence.

(ii) Long-Felt Need

Patent Owner's arguments regarding long-felt need are directed to its evidence that consumers liked the speed that re-voicing provided. *See* PO Resp. 51–52. This need, however, was already recognized and met in the art, as suggested by Engelke '405 and Engelke '482 and explained above. Thus, the claimed invention did not satisfy a long-felt but unmet need because that need was already recognized and met. *See, e.g., Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004) (“Absent a showing of long-felt need or the failure of others, the mere passage of time without the claimed invention is not evidence of nonobviousness.”). To the extent Patent Owner's first move into the market provided it with recognition, it was taking recognition of a feature already known in the art.

Further, Patent Owner does not offer evidence showing that providing voice and re-voicing was a recognized need that was a known need that had been unfulfilled, or that prior development efforts had failed. *See Iron Grip Barbell*, 392 F.3d at 1325; *cf. WBIP*, 2016 WL 3902668 at *8–9 (discussing

evidence that the patent challenger was aware of a problem and tried to address it but was not fully able to). Instead, Patent Owner offers evidence that its product was well received, but that occurs after the marketing of the product, and does not speak to whether the need was long-felt or unresolved. Taken to its logical conclusion, Patent Owner would have any successful product satisfy a long-felt need, even if the customers never expressed a demand for it, simply because it was popular. Further, to the extent the evidence suggests that persons in one state wanted the CTS service in another, and were required to petition the government to do so, the hurdle is not a technological one but rather a legal one, due to constraints inherent in the FCC reimbursement scheme.

In conclusion, we do not find evidence of a long-felt need for voice and re-voice. These features were already known, and there is no evidence that anyone was demanding them but that no one was technically able to provide them.

b. Two-Line

Patent Owner argues that the “two-line feature met the long-felt need for increased flexibility and control for the assisted user over his or her calls.” PO Resp. 55. Specifically, Patent Owner asserts the two-line feature allows for control over when the captions are provided and allows an assisted user to be dialed directly. *Id.* at 55–56. Patent Owner also asserts that the two-line feature allows various other features, such as 911, “star codes and call waiting, three-way calling, call forwarding, direct billing,

carrier of choice, and other functions available to conventional voice telephone users.” *Id.* at 56 (citing Ex. 2015 ¶¶ 53–54).

Patent Owner has not offered credible evidence that two-line was a long-felt but unresolved need. Patent Owner has not shown that the claimed invention resolved a need because Liebermann and McLaughlin already resolved the two-line need. As explained above, Liebermann discloses a two-line architecture, which would allow the functions available to conventional voice telephone users for the same reasons it does for the ’822 patent. Similarly, McLaughlin teaches a two-line architecture that would provide the same benefits. *See* Ex. 1008, 30:15–39 (“An object of the invention is to allow a hearing/speaking person to call the phone number of a deaf and/or speech impaired person directly”); *id.* at 30:39–45 (discussing more features of the first line). Accordingly, the ’822 patent did not resolve a long felt need with respect to two-line, it simply brought to market an existing feature known to a person of ordinary skill in the art.

c. Activator

(i) Long-Felt Need

Patent Owner alleges that the activator feature “met the long-felt need for increased flexibility and control over one’s calls because it enabled the user to choose if and when to use captions.” PO Resp. 58. Patent Owner, however, does not offer credible evidence that the activator feature was a long-felt but unresolved need. Patent Owner’s citation to its declarant, Ms. Battat, lists some benefits of the activator, but there is no evidence regarding long-felt or unresolved need. Patent Owner asserts that “assisted

users highly praised the added functionality of being able to activate captions at will” (*id.*), but the only evidence Patent Owner offers is a single comment (Ex. 2015 ¶ 68). As Petitioner points out, Patent Owner was aware of, but did not disclose, a significant amount of evidence indicating that users never used the activator feature, and were upset with the prospects of having to use it. Pet. Reply 17–18 (citing Ex. 1025, 7); Ex. 1025, 7 (Patent Owner describing a phone that did not automatically start captioning at the start of a call an “encumbrance on IP CTS users that impedes their reliance on IP CTS to communicate”); *id.* at 9 (explaining that since turning off automatic captioning, “Ultratec has received hundreds of complaints”); *id.* at 23–32 (Patent Owner listing complaints from customers over not having the captions automatic). Accordingly, the weight of the evidence suggests that users wanted their phones to use captioning automatically, and did not want to deal with the hassle of turning captions on and/or off during a call (i.e., the activator feature).

(ii) Mr. Nakahata

Patent Owner argues that Petitioner’s counsel, Mr. Nakahata, asked the FCC to compel Patent Owner to license some of Patent Owner’s patents, and that Petitioner’s counsel believed “that the use of the control limitation of the claims to turn on or off captioning is advantageous feature for users, and . . . necessary for competitors to use in order to succeed in this market.” PO Resp. 58–59 (citing Ex. 2049; Ex. 2050). Patent Owner’s characterization of Mr. Nakahata’s statements must be understood in the proper context.

As we explained above, the FCC investigated the misuse of CTS by the various service providers and vendors (including Petitioner and Patent Owner), and as a result, the FCC implemented a series of interim rules intended to curb “certain improper practices.” Ex. 1026 ¶¶ 1–3, 8. One of these rules was called “default-off.” *Id.* ¶ 2 (item (3)). Specifically, the FCC found that captioned telephones at that time (circa 2011) “automatically connected to a captioned telephone [call assistant] at the time she or he reaches the called party.” *Id.* ¶ 6. In other words, the captions were set to begin automatically at the beginning of a call, or “default-on.” The FCC was concerned that “default-on” “would lead to casual or inadvertent use of IP CTS.” *Id.* ¶ 91. Accordingly, the FCC required that “each time a consumer initiates or answers an IP CTS call, the consumer [must] be required to affirmatively turn on the captions.” *Id.*; *id.* ¶ 98.³⁵ In other words, the FCC required that all captioned telephone devices have a feature that enables captioning on demand, similar to the activator feature.

Mr. Nakahata’s comments must be analyzed in this context. In the first letter, Mr. Nakahata is essentially asking the FCC to clarify that its rule requires “consumers to turn captions on and off during a call.” Ex. 2049, 1. Mr. Nakahata runs through the various permutations of what he thinks that means, which serves to make clear that Mr. Nakahata is describing the activator feature. Ex. 2049, 1–2. Why it is important for Mr. Nakahata to

³⁵ According to the FCC, implementation of the interim order, which included the default-off provision, changed a 7.5% per month growth into 3.7% per month decline in CTS usage. Ex. 1026 ¶ 96.

equate the FCC ruling to the activator feature is apparent in the next letter. If the FCC is essentially requiring captioned telephone companies to perform the activator feature, then “the United States government . . . would step into [Petitioner]’s place in the ongoing patent litigation [in which Petitioner is a defendant].” Ex. 2050, 1–2 (citing 28 U.S.C. § 1498(a)³⁶). Accordingly, Mr. Nakahata is not praising Patent Owner’s activator feature, but trying to clarify whether the FCC has required providers to perform the activator feature, as a litigation strategy.

(iii) Awards

Patent Owner asserts that the inventors of the ’822 patent “have been the recipients of extensive praise in the industry in the form of industry awards.” PO Resp. 48, 59–60 (citing Ex. 2015 ¶¶ 60–62, 70). At the cited portions of the testimony of Patent Owner’s declarant, Ms. Battat, she cites to paragraphs of a declaration of Patent Owner’s counsel’s paralegal that does not exist (paragraph 22), or is to the wrong exhibit (paragraph 20). Ms. Battat also cites to exhibits that do not exist (“Ex. 18” and “Ex. 20”), or impermissibly cites to hyperlinks rather than evidence of record (37 C.F.R. § 42.63(a) (“All evidence must be filed in the form of an exhibit.”)). Reviewing the declaration of Ms. Hilley, we do not find a citation to the

³⁶ 28 U.S.C. § 1498(a) (“Whenever an invention described in and covered by a patent of the United States is used or manufactured . . . for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner’s remedy shall be by action against the United States in the United States Court of Federal Claims for the recovery of his reasonable and entire compensation for such use and manufacture.”).

Saks awards discussed in Ms. Battat’s testimony.³⁷ Accordingly, we find Ms. Battat’s testimony unpersuasive and not credible in this regard.

(iv) Mr. Puzey

Patent Owner asserts that a former employee of Petitioner, Mr. Puzey, praised CapTel. PO Resp. 49 (citing Ex. 2043, 82). Mr. Puzey, speaking to a focus group on captioned telephone devices, said that he “will say good things about a competitor” and then said that CapTel was “really nice.” Ex. 2043, 82. The focus group then spent a significant amount of time discussing the problems they had with CapTel, features they would like to see, and other topics one would expect at a product focus group. *See id.* at 82–83. Mr. Puzey’s words are the words of an employee running a focus group with customers or potential customers, and trying to figure out what features customers liked or did not like. We do not assign weight to his so-called praise. The praise is weak (“really nice”), even when taken at face value and out of context, and is not public praise from a competitor.

I. Conclusions for the Obviousness Analysis

Weighing the evidence of obviousness against the evidence of non-obviousness, we determine that the evidence strongly favors obviousness. The direction of Engelke ’405 to provide simultaneous voice and text to

³⁷ Petitioner asserts that Patent Owner’s evidence establishes the Saks award date for Mr. Engelke to be 1999, two years before the priority date of the ’822 patent. Pet. Reply 23 (citing Ex. 2057, 10). If this is the same Saks award Patent Owner alleges exists, it clearly is not germane because of the timing, well before the potential priority dates of the ’822 patent.

allow devices for the deaf to serve hard-of-hearing users is a key motivator because it provides reason to modify the two-line system of Liebermann to provide simultaneous voice and text and to offer it to hard-of-hearing users. *See* Ex. 1005, 2:9–27 (recognizing the differing problems between deaf and hard-of-hearing users), 2:31–49 (characterizing the voice and text feature as making the device more like a conventional telephone). Engelke ’405 suggests that the hard-of-hearing market is underserved and wants a device that provides as much as possible the ability to use a telephone as they did prior to becoming hard-of hearing. *Id.*; *id.* at 3:30–42 (describing making the device “in accord with their usual habit”). Much of the evidence offered by Patent Owner simply confirms that following the direction of Engelke ’405 is a good idea. That idea, however, already was dedicated to the public as of the effective filing date of the ’822 patent.

Patent Owner’s evidence tending to show that two-line and re-voicing were well-received simply shows that ideas already in the public sphere were good ideas. Liebermann recognized the benefit of two-line being that it allows the hearing user to call the assisted user directly. Ex. 1006, 6:64–65; *see also* Ex. 1008, 30:15–39 (“An object of the invention is to allow a hearing/speaking person to call the phone number of a deaf and/or speech impaired person directly”). Engelke ’405 recognized that hard-of-hearing persons were being underserved and suggested a device that operated more like they were used to (voice and text at the same time). Ex. 1005, 2:9–27, 2:31–49, 3:30–42. Engelke ’482 recognized the frustration of slow captions, and suggested using re-voicing to speed them up. Ex. 1004, 2:9–38

(discussing the frustrations of users having slow captions), 2:53–57 (describing re-voicing as the solution). Although there is secondary evidence that customers liked having two-line and re-voicing, as they provide convenience and speed, Engelke '482 provides very strong motivation to have re-voicing for speed purposes. The evidence also shows that any commercial success possibly stemming from these features is rebutted by the impact of business practices that were so greatly affecting and shaping the market that the FCC was required to investigate. The evidence does not show that Patent Owner should be entitled to exclude others from using these known ideas for their intended purposes, even if we assume *arguendo* that Patent Owner was the first to commercially exploit these ideas. *Ormco*, 463 F.3d at 1312.

In addition, any alleged evidence of copying these features can be contrasted by the fact that they were already in the public sphere, and also contrasted by the lack of evidence that Petitioner specifically sought to learn from Patent Owner's device *how* to make a similar device (as opposed to looking at it for the purpose of determining a competitor's features). The alleged evidence of long-felt and unresolved need also is mitigated by the fact that these features were known in the art and the lack of evidence specifically calling for the features (such as to demonstrate recognized need).

Similarly, adding the on-demand feature of Mukherji is a straightforward and predictable use of prior technology. Patent Owner offers little evidence of commercial success based on this feature. Instead,

there is a significant amount of criticism surrounding phones that are not automatically activated for captioning. The evidence of record shows that the desire of this feature stems from federal regulations and the parties' litigation strategies. In other words, it is important due to the FCC rule requiring it and potential litigation outcomes, but not because of any particular commercial success or long-felt need of the feature.

Reviewing the evidence and arguments brought before us, we determine that Petitioner has established by a preponderance of the evidence that the subject matter of claims 1–29 of the '822 patent would have been obvious to a person of ordinary skill in the art at the time of invention.

J. Contingent Motion to Amend

Patent Owner filed a Contingent Motion to Amend, requesting substitution of various claims in the event certain claims in the '822 patent were found to be unpatentable. Paper 16 (“Motion to Amend” or “Mot.”). In an *inter partes* review, a patent owner may file a motion to amend to propose a reasonable number of substitute claims for each challenged claims. 35 U.S.C. § 316(d)(1)(B); 37 C.F.R. § 42.121(a)(3). As the moving party, Patent Owner has the burden to establish it is entitled to the requested relief. 37 C.F.R. § 42.20(c); *MasterImage 3D, Inc. v. RealD Inc.*, Case IPR2015-00040, slip op. at 4 (PTAB July 15, 2015) (Paper 42) (precedential) (indicating a patent owner, as movant, bears “the ultimate burden of persuasion . . . to demonstrate the patentability of the amended claims”); see *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d at 1306 (indicating 37 C.F.R. § 42.20(c) is “plainly applicable to motions to amend

filed during [*inter partes* reviews]”); *but see In re Aqua Products*, No. 2015-1177, 2016 WL 4375651, at *1 (Fed. Cir. Aug. 12, 2016) (order granting rehearing en banc to address burdens of persuasion and production regarding motions to amend under 35 U.S.C. § 316(d) and vacating *In re Aqua Products*, 823 F.3d 1369 (Fed. Cir. 2016)).

1. Proposed Substitute Claims 30–36

Patent Owner proposes independent claim 30 as a substitute for claim 1 if it is found unpatentable. Mot. Am. App. A, 1–2. Claim 30 incorporates all limitations of claim 1 and adds several limitations. *Id.* Claim 30 is reproduced below, with underlining representing additions and double-brackets indicating deletions with respect to claim 1. *Id.*

30. [[1.]] A method for providing captioned services to an assisted user using a captioned device communicating with a hearing person using a hearing person’s device wherein the captioned device and the hearing person’s device are linkable via a first communication link directly between the assisted user and the hearing person,

the method comprising the steps of, at a relay that is remote from the assisted user’s device and a hearing person’s device:

receiving a request for captioning service from the captioned device on a second direct communication link;

in response to the request for captioning service, invoking a captioning service at the relay wherein the relay performs the steps of:

receiving a hearing user’s voice signals from the captioned device on the second direct communication link;

providing the hearing user’s voice signals, comprising words spoken by the hearing user, to a call assistant to transcribe into text;

at a processor running voice recognition software trained to recognize the unique voice of that particular call assistant, receiving from the call assistant spoken audio of the words spoken by the hearing user;

and transmitting the text to the captioned device to display, wherein the stream of text words is generated and transmitted to the captioned device

at a rate such that the transmitted text may be displayed substantially simultaneously with a broadcasting of the hearing user's voice signals received at the captioned device;

wherein the step of receiving a request may occur prior to establishing the first communication link between the captioned device and the hearing person's device; and wherein the step of receiving a request may occur subsequent to establishing the first communication link between the captioned device and the hearing person's device;

wherein the relay is prevented from being able to communicate with the hearing user and is able to communicate with the assisted user only by providing text to the assisted user.

Patent Owner proposes claim constructions for the additional limitations. Mot. Am. 6–9. Patent Owner characterizes its amendments as “recit[ing] various aspects of *isolation* of the hearing user and the assisted user from the relay and *transparency*, that is, the hearing user being unaware that a relay is involved on the call.” *Id.* at 10–11. Patent Owner indicates it further added the “‘revoicing’ feature . . . in combination with the provision of voice and text ‘substantially simultaneously’ to the assisted user, via a two-line captioned telephone system upon request” to recite more clearly the nexus required to support Patent Owner’s contentions that claim 30 would have been non-obvious and asserts that substantial evidence of objective indicia of nonobviousness “warrant a finding that substitute claim 30 is patentable over the prior art.” *Id.* at 15–16. Patent Owner also contends that no combination of prior art of record and no prior art outside the record of the Petition would have rendered obvious claim 30. *Id.* at 10–15, 18–25. Patent Owner distinguishes the proposed substitute claims from several references outside of the record of the Petition. *Id.* at 18–25.

A dispute between the parties concerns whether the written description of the '822 patent provides the support required by 35 U.S.C. § 112, first paragraph, for the added limitation “wherein the relay is prevented from being able to communicate with the hearing user” (“the relay prevention limitation”). See Opp. Am. 5, 10.

a. Principles of Law

“[T]he purpose of the written description requirement is to ‘ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor's contribution to the field of art as described in the patent specification.’” *Ariad Pharms., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1353–54 (Fed. Cir 2010) (en banc) (quoting *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 920 (Fed. Cir. 2004)). To satisfy the written description requirement, the focus is not just on whether the claims are supported by the specification, but whether one of ordinary skill in the art reasonably would conclude from the original disclosure that the inventor had possession of the claimed invention. See, e.g., *Ariad Pharms.*, 598 F.3d at 1351.

The written description requirement is met if the specification shows that the inventor has invented what is claimed—that is, the inventor had possession of it. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed.Cir.1991). The written description requirement does not demand any particular form of disclosure; however, “a description that merely renders the invention obvious does not satisfy the requirement.” *Ariad Pharms.*, 598 F.3d at 1352 (citations omitted). Moreover, the “level of detail required . . .

varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology.” *Id.* at 1351.

*b. Party Positions Concerning Written Description
Support for Substitute Claim 30*

Patent Owner contends the relay prevention limitation means “that the relay has no ability to communicate with the hearing user.” Mot. Am. 7. For written description support of the relay prevention limitation, Patent Owner relies on (i) Figure 6, (ii) six lines in column 7 discussing Figure 6 (“the column 7 passage”), and (iii) eight lines in column 8 describing that “the use of the captioning service is transparent to the hearing user” (“the column 8 passage”). Mot. Am. 4–5 (quoting Ex. 1002, 7:62–68, Fig. 6, 8:33 – 40); *id.* at 7 (citing Ex. 1002, 7:62–68, Fig. 6). Patent Owner also relies on testimony from its expert, Mr. Zatkovich, who provides supporting analysis for his conclusion that “the architecture of the captioned device [shown in Figure 6] itself prevents any communication between the relay and the hearing user.” Ex. 2013 ¶¶ 180–81; *see also* Mot. Am. 7 (citing Ex. 2013 ¶¶ 178–82).

In opposition, Petitioner contends that the written description of the ’822 patent is insufficient to support the relay prevention limitation because the relay prevention limitation is broader than Patent Owner’s construction. Opp. Am. 10. Specifically, Petitioner argues (i) the limitation is not restricted to prohibiting transmissions by the relay to the hearing user, (ii) the ’822 patent describes that, in the context of a two-line captioned telephone, “the relay *always* communicates with the hearing user because the hearing user’s voice is always transmitted to the relay (via the assisted

user's device),” and (iii) therefore, there is no written description support for preventing the relay from receiving voice signals from the hearing user. *Id.*

c. Figure 6 of the '822 Patent

Figure 6 of the '822 patent, on which Patent Owner and Mr. Zatkovich rely, is shown below.

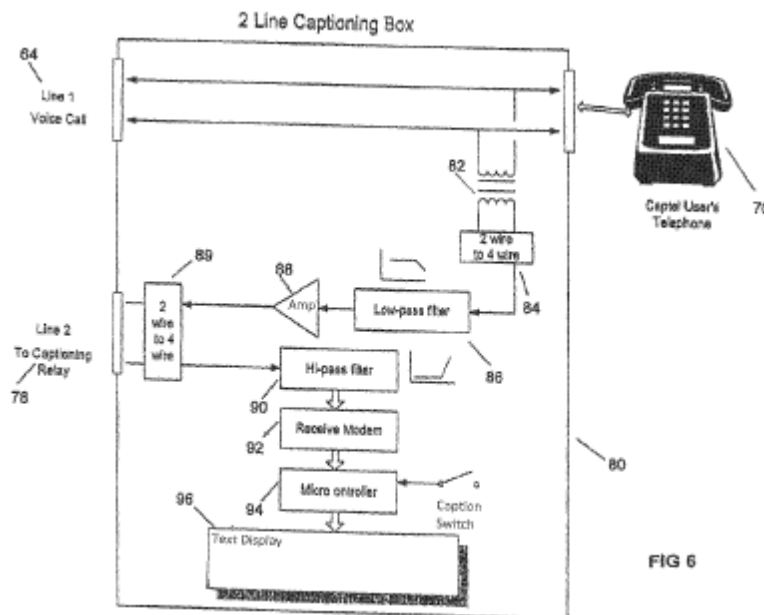


Figure 6 shows “personal interpreter/captioned telephone device” or “PICT” 80, which Mr. Zatkovich explains is an embodiment of an assisted user’s captioned device. Ex. 1002, 7:31–33; Ex. 2013 ¶ 180; *see also* Ex. 1002, 6:56–57 (indicating a “personal interpreter/captioned telephone device” also may be referred to as a “PICT”). As the '822 patent indicates, PICT 80 is “connected in series between the telephone line 64 to the hearing user and the telephone 70 of the assisted user.” Ex. 1002, 7:31–35. In other words, “the telephone line 64 [to the hearing user] is connected directly through the PICT device 80 to the telephone 70 [of the assisted user]” and

“that telephone connection is also connected through” various devices in PICT 80 to “telephone line 78 which connects to the relay (not shown in [Figure 6]).” *Id.* at 7:35–43. According to the ’822 patent, “the PICT device automatically transmits the voice signals on the first telephone line [64 to the hearing user] to the second telephone line [78] . . . for transmission to the relay.” *Id.* at 7:57–59. Thus, the ’822 patent unambiguously describes voice signals as being transmitted from the hearing user to the relay.

d. Analysis of Written Description Support for Substitute Claim 30

We analyze (i) the passage in column 7 of the written description of the ’822 patent cited by Patent Owner (Mot. Am. 4), (ii) the direction of signal flow in Figure 6 identified by Patent Owner (*id.* at 4–5), (iii) the passage in column 8 of the written description of the ’822 patent cited by Patent Owner (Mot. Am. 5), and (iv) the testimony of Mr. Zatkovich relevant to written description support for the relay prevention limitation and cited by Patent Owner (Ex. 2013 ¶¶ 179–81; Mot. Am. 5).

(i) The Column 7 Passage

We turn first to the column 7 passage relied on by Patent Owner. The cited passage states:

The PICT device [personal interpreter/captioned telephone device] filters the text data, at the hi-pass filter 90, and transmits it to the microcontroller 94 for display to the user. None of the text data, and no digital carrier signals are heard by either the hearing user or the assisted user. Normally the hearing user does not even need to be aware that captioning is being used on the call.

Mot. Am. 7 (citing Ex. 1002, 7:62–68).

First, the cited passage describes “filtering” text data and “transmitting” the filtered text data to a microcontroller in the PICT device for display to the assisted user. Ex. 1002, 7:62–64. The filtering and transmitting activities occur after the voice of the hearing user “is converted into text and a text stream is sent back down the telephone connection 78 to the PICT device.” Ex. 1002, 7:59–61. Thus, the “filtering” and “transmitting” activities, at the PICT device used by the assisted user, process a text stream (representing the hearing user’s voice) received from the relay. The context is processing one type of data—a text stream received from the relay—and, as such, the passage itself does not describe the broader concept of preventing the relay from being able to communicate with the hearing user.

Second, the cited passage also indicates that “[n]one of the text data, and no digital carrier signals are heard by either the hearing user or the assisted user.” *Id.* at 7:64–65. First we note that “text data” not being “heard” is a non sequitur. We understand none of the text data being heard to mean that the text data signals are not heard. Even so, the cited passage itself does not describe the broader concept of preventing or otherwise keeping the relay from communicating with the hearing user. The cited passage itself is limited to not hearing text data signals and digital carrier signals, which do not address voice communication. Thus, here, too, the cited passage is more limited than the language of the claim, which requires preventing the relay from being able to communicate with the hearing user.

Third, the last statement in the cited passage—“[n]ormally the hearing user does not even need to be aware that captioning is being used on the call”—indicates there is no requirement for the hearing user to perceive that a relay is involved with the call. This itself does not indicate that the relay is prevented from being able to communicate with the hearing user.

Thus, the column 7 passage cited by Patent Owner does not, in itself, provide sufficient written description support under 35 U.S.C. § 112, first paragraph, for “wherein the relay is prevented from being able to communicate with the hearing user,” as recited in substitute claim 30.

(ii) Signal Flow in Figure 6

In addition to citing the passage in column 7, Patent Owner contends that high-pass filter 90, converter 89, and the arrows showing direction of signal flow in Figure 6 provide written description support for the relay prevention limitation. As shown in Figure 6 (depicted previously), the arrows indicate the signal flow is from the relay in series to various devices in the PICT—to the converter 89 and then to high-pass filter 90, and eventually to microcontroller 94, which controls the display of text on the PICT. *See* Ex. 1002, 7:42–47 (“The input signals from the telephone line 78 [connecting the PICT with the relay] are connected to a hi[gh]-pass filter 90, the output of which passes through a receive modem 92 to a microcontroller 94” that operates display 96 on the PICT.).

Here, too, the signal flow from the relay to the PICT which displays text received from the relay is insufficient by itself to provide sufficient written description support for the broader concept of preventing the relay

from being able to communicate with the hearing user, as required by substitute claim 30.

(iii) The Column 8 Passage

Patent Owner also relies on a column 8 passage in the written description of the '822 patent. The passage states:

It is a desirable feature of the two-line captioned telephone arrangement that the use of the captioning service is transparent to the hearing user. The hearing user would dial to connect to the assisted user as with any other telephone user. The assisted user invokes the captioned telephone service without the need to involve the hearing user at all. The service can be used equally well and transparently for both incoming and outgoing calls.

Mot. Am. 5 (citing Ex. 1002, 8:33–40). The passage describes the desirability of having the use of the captioning service be transparent to the hearing user and the hearing user operates the telephone “as with any other telephone user” to communicate with the assisted user. Here, too, the passage itself does not indicate that the relay is *prevented* from being able to communicate with the hearing user.

(iv) Mr. Zatkovich’s Testimony

Having determined that the three portions of the written description cited by Patent Owner for providing support for the relay prevention limitation do not themselves do so, we turn to Mr. Zatkovich’s testimony. Ex. 2013 ¶¶ 179–81. Mr. Zatkovich concludes that “the architecture of the captioned device [shown in Figure 6] itself prevents any communication between the relay and the hearing user.” *Id.* ¶ 181. Mr. Zatkovich’s analysis, however, does not support such a broad conclusion.

First, the written description contradicts Mr. Zatkovich's conclusion that the architecture "prevents any communication between the relay and the hearing user" (Ex. 2013 ¶ 181). Rather, the written description unambiguously describes voice signals from the hearing user's telephone being transmitted through the PICT to the relay. *See* Ex. 1002, 7:57–59 ("The PICT device automatically transmits the voice signals on the first telephone line to the second telephone line (through the low-pass filter 86) for transmission to the relay."). Thus, the transmission of voice signals from the hearing user to the relay contradicts Mr. Zatkovich's conclusion that the architecture "prevents *any communication* between the relay and the hearing user" (Ex. 2013 ¶ 181).

Second, Mr. Zatkovich explains that "any *voice* signals coming back from the relay . . . would be filtered by high-pass filter 90 which passes only displayable text data." *Id.* (emphasis added). Thus, here, Mr. Zatkovich limits his analysis to *voice* signals from the relay to the hearing user, whereas his conclusion concerns "any communication between the relay and the hearing user" (Ex. 2013 ¶ 181).

Moreover, Mr. Zatkovich testifies that "[t]he captioned device [PICT 80] also *limits communication from the relay to the hearing user to only text*, which is displayed at display 96" at PICT 80. *Id.* (emphasis added). Although Mr. Zatkovich concludes the two-line architecture does not allow *voice* signals from the relay to be communicated to the hearing user, Mr. Zatkovich also concludes that the PICT allows text communication. *Id.* Specifically, Mr. Zatkovich concludes that the PICT *limits communication*

from the relay to the hearing user *to text communication* and, more specifically, the same text communication that is displayed on the PICT device to the assisted user. *Id.* In other words, Mr. Zatkovich implicitly acknowledges that the PICT does not prevent the relay from being able to communicate with the hearing user. Rather, Mr. Zatkovich indicates the PICT only limits communication from the relay to the hearing user to the same text communication displayed at the PICT for the assisted user.

Third, Mr. Zatkovich also describes the signal flow depicted in Figure 6 in which signals arriving from the relay at the PICT device flow through converter 89 to high-pass filter 90 for display on the PICT device. Ex. 2013 ¶ 180. Mr. Zatkovich concludes from this signal flow that “[t]here is no provision in Fig. 6 for any signals arriving from the relay being provided . . . to [the] hearing user over the first line 64.” *Id.* We accord this testimony relatively little weight because, as discussed previously, the written description indicates the flow relates only to the text stream sent from the relay, not to all types of signals, as Mr. Zatkovich contends. *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368 (indicating the Board is entitled to weigh declaration testimony).

Furthermore, this testimony contradicts his other testimony acknowledging that text communication may be provided to the hearing user, as discussed previously. Moreover, we do not agree with Mr. Zatkovich that “[t]he specification of the ’822 patent is clear on this

point³⁸ when it says ‘none of the text data, and no digital carrier signals, are heard by . . . the hearing user.’ Ex. 2013 ¶ 180. As explained previously, we do not agree that not hearing text data transmission signals or digital carrier signals equates to not receiving any signals. We also discount this testimony relying on the ’822 patent’s disclosure that “text data [transmission] is not heard” in light of Mr. Zatkovich’s acknowledgement that, in fact, some text data (i.e., that displayed on the PICT device) may be provided to the hearing user. *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368.

For these reasons, Mr. Zatkovich’s analysis is insufficient to support his conclusion that the two-line architecture “prevents *any communication between the relay and the hearing user*” (Ex. 2013 ¶ 181). *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368; *cf.* 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). Additionally, we note claim 30 recites that “the relay is prevented from being able to communicate with the hearing user and is able to communicate with the assisted user only by providing text to the assisted user.” As such, the plain language of claim 30 indicates “providing text” as a way “to communicate” with a user. This further supports our determination that, based on Mr. Zatkovich’s conclusion that the written description describes limiting the relay transmission capabilities to providing text to the hearing user, the written description does not provide

³⁸ The point to which Mr. Zatkovich refers is that there is no provision for *any* signals arriving from the relay being provided to the hearing user over the first line 64.

sufficient support for “wherein the relay is prevented from being able to communicate with the hearing user,” as recited by claim 30. See Ex. 2013 ¶ 181 (“The captioned device also limits communication from the relay to the hearing user to only text, which is displayed at display 96.”).

e. Conclusion

After considering Petitioner’s and Patent Owner’s positions, as well as their supporting evidence, we determine that the written description of the ’822 patent does not provide sufficient support under 35 U.S.C. § 112, first paragraph, for “wherein the relay is prevented from being able to communicate with the hearing user,” as recited in substitute claim 30. Thus, Patent Owner has failed to identify “support in the original disclosure of the patent” for substitute claim 30, as required by 37 C.F.R. § 42.121(b)(2).³⁹

Therefore, we deny Patent Owner’s request to substitute claim 30 for claim 1. Each of substitute claims 31–36 depends from substitute claim 30 and similarly lacks written description support for the relay prevention limitation. Accordingly, we also deny Patent Owner’s requests to substitute claims 31–36.

2. Proposed Substitute Claims 37, 40, and 41

Patent Owner proposes independent claim 37 as a substitute for independent claim 18 if it is found unpatentable. Mot. Am. App. A, 4–6. Claim 37 incorporates all limitations of claim 18 and adds several

³⁹ Both parties accept the written description of the ’822 patent as equivalent to the original disclosure of the patent.

limitations. *Id.* Claim 37 is reproduced below, with underlining representing additions and double-brackets indicating deletions with respect to claim 18. *Id.*

37. ~~[[18.]]~~ An assisted user's captioned device comprising:
an assisted user's captioned device processor linkable to first direct and second direct communication links;
a microphone linked to the processor for receiving voice signals from an assisted user using the captioned device processor;
a speaker linked to the processor for broadcasting the hearing user's voice signals received by the captioned device to the ear of the assisted user upon reception of the hearing user's voice signals;
a button linked to the processor and selectable by an assisted user to invoke a captioning process wherein the hearing user's voice signals received at the captioned device are transmitted to a remote captioning relay and signals comprising text are ~~[[is]]~~ received from the remote captioning relay via the second direct communication link;
and a display for presenting the text received from the remote captioning relay for the assisted user to view;
wherein the first direct communication link can be established by an assisted user using the captioned device;
and wherein the button is selectable subsequent to establishing the first direct communication link between the captioned device and the hearing person's device to invoke the captioning service subsequent to establishing the first direct communication link; and
wherein, the captioned device is further configured not to transmit over the first direct communication link to the hearing user the signals received from the remote captioning relay via the second direct communication link.

Patent Owner characterizes independent claim 37 as “includ[ing] a limitation requiring one type of isolation of the hearing user from the relay, where the assisted user's device is configured ‘not to transmit over the first direct communication link to the hearing user the signals received from the

remote captioning relay via the second communication link.” Mot. Am. 18. Patent Owner further characterizes independent claim 37 as requiring “that the assisted user’s device not alert the hearing user to [the] captioning by transmitting any signals received from the relay.” *Id.* For the additional limitations in claim 37, Patent Owner provides citations to the written description of the ’822 patent and proposes claim constructions. *Id.*

*a. Claim Construction and Written Description Support for
“the Configured Not to Transmit” Limitation*

In our analysis we address claim construction and written description support for “the configured not to transmit” limitation. Beginning with claim construction, Patent Owner contends that “wherein, the captioned device is further configured not to transmit over the first direct communication link to the hearing user the signals received from the remote captioning relay via the second direct communication link” (“the configured not to transmit” limitation) “means that the captioned device does not transmit to the hearing user *any* signal received from the relay.” Mot. Am. 9 (citing Ex. 1002, 7:62–67, Fig. 6; Ex. 2013 ¶ 182) (emphasis added).

Petitioner challenges Patent Owner’s proposed construction as unduly narrow because the antecedent basis for the term “the signals received from the remote captioning relay via the second direct communication link” in claim 37 is “signals comprising text.” Opp. Am. 8–9. Petitioner concludes that the plain language of claim 37 must only preclude the assisted user’s captioned device from transmitting to the hearing user the signals comprising text, which have been received from the remote captioning relay. *Id.* at 9.

In reply, Patent Owner contends Petitioner “ignores that [the claim term] ‘comprising’ is open-ended, meaning *including but not limited to*.” Reply Am. 2 (citing *Lochner Tech. LLC v. Vizio, Inc.*, 567 Fed. App’x. 931 (Fed. Cir. 2014)). Patent Owner, therefore, concludes that “[c]laim 37 must be construed to prevent transmission of signals, including *but not limited to text (i.e., any signals)*.” *Id.* at 2–3 (citing Ex. 2094 ¶¶ 78, 80). That is, Patent Owner maintains its position that claim 37 requires the captioned device be configured to prevent transmission of any signals.

We agree with Patent Owner that the claim term “comprising” allows the scope of a claim to encompass a device with an element that is not recited in the claim. *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1214 (Fed. Cir. 2008) (indicating “comprising” means “listed elements . . . are essential but other elements may be added”). Thus, “the configured not to transmit” limitation requires the captioned device to prevent transmission of signals including text but does not preclude the captioned device from preventing transmission of other types of signals. Patent Owner is mistaken that use of the open-ended “comprising” term means the captioned device must be configured to “not transmit” additional, unspecified types of signals—i.e., any signals.

Regarding written description support for “the configured not to transmit” limitation, Patent Owner contends that “the configured not to transmit” limitation is supported by the same portions of the written description that Patent Owner uses to support the relay prevention limitation

recited in claim 30. *Compare* Mot. Am. 5 (citing Ex. 1002, 7:62–68, 8:33–40, Fig. 6), *with id.* at 4 (citing Ex. 1002, 7:62–68, 8:33–40, Fig. 6).

We note salient differences between the plain language of claim 37 and that of claim 30. First, claim 30 recites a broad proposition concerning the relay—“the relay is prevented from being able to communicate with the hearing user.” By contrast, claim 37 concerns how the assisted user’s captioned device is configured for transmission—“the captioned device is further configured not to transmit over the first direct communication link to the hearing user the signals received from the remote captioning relay via the second direct communication link.” Thus, claim 37 does not preclude receiving signals. Another difference is that claim 30 recites limiting communication with a person (i.e., “the hearing user”), whereas claim 37 recites that the captioned device is configured not to transmit certain signals received from the remote captioning relay over a particular communication link (i.e., “the first direct communication link to the hearing user”). Because of these differences, we do not apply our analysis regarding the lack of written description support for claim 30 to claim 37. Also, we note that, although Petitioner contends that claim 30 lacks written description support, Petitioner does not provide arguments or evidence that claim 37 lacks written description support.⁴⁰ With the differences in mind as well as the

⁴⁰ Petitioner states, in contending the claim scope of “the configured not to transmit” limitation, “[a]ssuming that the disclosure of the ’822 Patent provided adequate written support (it does not).” Opp. Am. 9. Petitioner, however, does not present arguments or evidence regarding its conclusory assertion that the written description does not provide sufficient support for

column 7 passage of the '822 patent, we agree with Patent Owner that the description supports the additional limitation in claim 37. *See* PO Resp. 5 (citing Ex. 1002, 7:62–68, 8:33– 40, Fig. 6; Ex. 2013 ¶ 182).

b. Obviousness of Independent Claim 37

Patent Owner contends that the captioned device configured not to transmit to the hearing user, as required by claim 37, is distinct from the two-line architecture in Liebermann that “transmit[s] the synthesized voice received at the deaf user’s station to the hearing user” and is distinct from the two-line architecture in U.S. Patent No. 6,181,736 B1 (Ex. 1008, “McLaughlin”) that describes a direct connection between a hearing user and an assisted user, which “allows a relay to speak to a hearing user and to send various automated messages to an assisted user.” Mot. Am. 13.

Patent Owner further contends that “none of the one-line references (such as Engelke '405, Engelke '482, and Mukherji) teaches or suggests . . . [the] isolation limitations.” *Id.* at 14. Patent Owner continues by contending that “the hearing user would always necessarily be aware that a relay is involved on the call because the hearing user would be directly connected to the relay.” *Id.* With specific regard to Mukherji’s system, Patent Owner contends that “because the system in Mukherji requires both users to be operating specialized software from their computers, they would inherently know they were not merely on a conventional telephone call.” *Id.* at 14–15. As noted previously, Patent Owner also distinguishes the proposed substitute

“the configured not to transmit” limitation.

claims from several references outside of the record of the Petition. *Id.* at 18–25.

Petitioner contends one of ordinary skill in the art would have found claim 37 obvious, citing its prior arguments that “either Liebermann or McLaughlin with Engelke ’405, Mukherji, or Engelke ’482 teaches a two-line captioned telephone device where the relay does not transmit voice to either user, and only text is sent to the assisted user.” Opp. Am. 20–21. Based on those arguments supported by testimony of Mr. Occhiogrosso, Petitioner contends that “the proposed combination discloses a system where the caption telephone device prevents every signal received from the relay (i.e., the text) from being transmitted to the hearing user, thereby disclosing the isolation limitation of Claim 37.” *Id.* at 21.

Previously in this decision, after considering evidence and analysis proffered by each party (including evidence of secondary considerations presented by Patent Owner), we concluded that all limitations recited in independent claim 18 would have been obvious to one of ordinary skill in the art over Liebermann, Engelke ’405, and Mukherji. Thus, in considering whether claim 37 would have been obvious, we focus our analysis on “the configured not to transmit” limitation added to substitute independent claim 37.

As described previously, Engelke ’405 discloses a text-enhanced telephone (“TET”), which allows for the assisted user to have both a voice connection with the hearing user and a text connection with the relay service

at the same time. Ex. 1005, 3:31–37, Fig. 4. Figure 4 of Engelke '405 is illustrative:

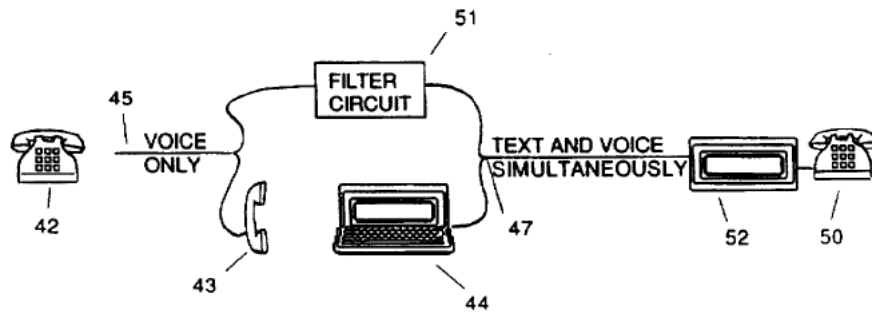


FIG. 4

As noted previously, Figure 4 of Engelke '405 depicts a text-enhanced telephone connection in which assisted user's telephone 50 can send and receive both text and voice, such that the hearing user (at telephone 42), assisted user (at telephone 50 and TET device 52), and relay operator (at relay 44) can all speak and hear each other, and the assisted user's TET appliance and the relay operator's telecommunication device for the deaf (TDD) machine can send text back and forth. *Id.* at 6:29–52.

Notably, “the TET device 52 filters from the telephone line 47 the communication signals so that the [assisted] user on telephone 50 only hears the voice communications.” *Id.* at 6:45–47. In addition, “filter circuit 51 connects the telephone line 45 from the hearing user's telephone 43 to the telephone line 47.” *Id.* at 6:36–38. “The filter circuit 51 is constructed such that all voice communications, but no data signals from text, pass through the filter circuit 51, so that the hearing user does not hear the communication tones of the text transmissions.” *Id.* at 6:38–42.

Furthermore, Engelke '405 describes a circuit to implement the TET relay shown in Figure 4. *Id.* at 2:66–67, 6:53–59. Figure 5 of Engelke '405 is shown below.

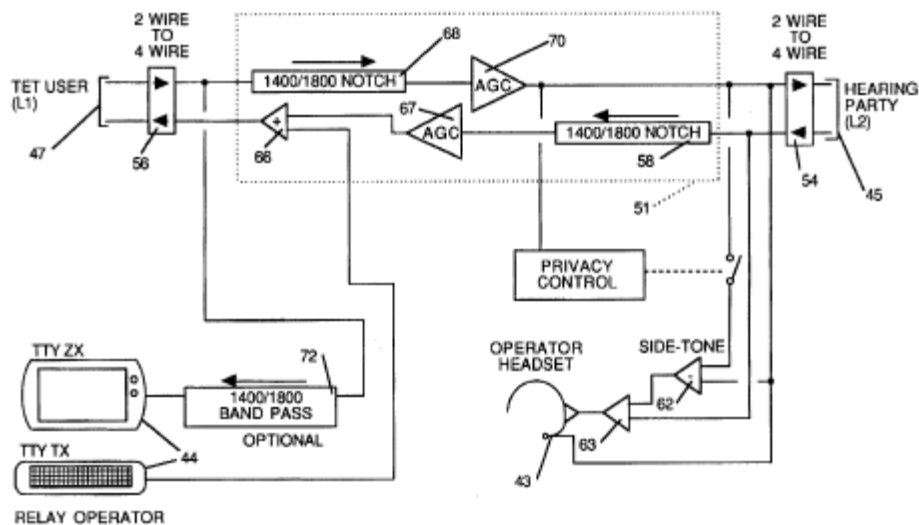


FIG. 5

Figure 5 of Engelke '405 depicts a TET relay having filter circuit 51. *Id.* at 6:56–59. “The telephone line 47 from the [assisted] TET user . . . is passed through a notch filter 68, then [after passing through amplifier 70] to the telephone line 45 to the hearing user.” *Id.* at 7:8–11. “The text communication frequencies are filtered out by the notch filter 68, so that the hearing user . . . will not hear the text communication tones” but allows voice signals to pass. *Id.* at 7:20–24.

Thus, Engelke '405 discloses two embodiments of devices that filter received text transmissions on a telephone line, leaving only voice signals on the telephone line. First, Engelke '405 discloses a TET device 52 that filters text from telephone line 47 that connects the TET device 52 and the relay

44. Thus, here, Engelke '405 discloses a TET device 52 configured not to transmit text signals. Second, Engelke '405 discloses filter circuit 51 on telephone line 47 that filters text received from the relay 44 “so that the hearing user does not hear the communication tones of the text transmissions.” *Id.* at 6:38–42. Thus, here, Engelke '405 discloses filtering text transmissions, while leaving voice signals, on a telephone line to a hearing user.

Similarly, Engelke '405 discloses other notch filters that “pass signals of all frequencies except those at the digital text communication frequencies” in other TET devices. Ex. 1005, 4:13–24. For example, Engelke '405 discloses notch filters 20 and 22 as depicted in an embodiment of a TET shown in Figure 1. *Id.* Engelke '405 also indicates that such notch filters are “of conventional design in the art.” *Id.* at 4:13–17.

Based on these disclosures and the level of ordinary skill in the art of telecommunications at the time of the claimed invention (as reflected by Mr. Occhiogrosso’s testimony discussed previously as well as the types of problems and solutions described in the '822 patent and the prior art of record), we find that Engelke '405 would have conveyed to one of ordinary skill in the art a TET device configured “not to transmit” text signals on a telephone line to the hearing user.

Patent Owner characterizes Engelke '405 as a “one-line system” that would not have conveyed to one of ordinary skill in the art the isolation limitation recited in claim 37. Mot. Am. 14. Patent Owner, however, does not provide specific arguments or evidence to support this contention. *Id.*

Nor does Patent Owner address the unambiguous disclosures of filtering text transmissions so that the receiving party hears voice but not the sound of text transmissions in Engelke '405.

We explained previously reasons why one of ordinary skill in the art would have modified the two-line configuration of Liebermann, intended for deaf users, so that it can provide simultaneous voice and text (as disclosed in Engelke '405), making the device usable by hard-of-hearing users. Filtering text transmission signals from a line providing simultaneous voice and text so that voice only would be provided to the hearing user is a critical aspect of Engelke '405, as discussed above with respect to Figures 1, 4, and 5. Thus, for the reasons explained previously, we determine one of ordinary skill in the art would have reason to combine a notch filter of Engelke '405 with Liebermann's two-line configuration.

In addition, we note that Engelke '405 describes notch filters that filter text transmissions and leave voice signals for transmission as conventional components known in the art. Ex. 1005, 4:13–17. Based on that disclosure, we determine that including a notch filter in a captioned device to filter text transmissions is a use of a prior art element according to its established function and that the notch filter would result in filtering text transmissions, as one would expect how a notch filter would perform. See *KSR*, 550 U.S. at 417 (one “must ask whether the improvement is more than the predictable use of prior art elements according to their established functions”); *id.* (“when a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no

more than one would expect from such an arrangement, the combination is obvious.”) (*citing Sakraida*, 425 U.S. at 282).

c. Conclusion

For these reasons, we determine that the only significant additional limitation in claim 37—“the captioned device is further configured not to transmit over the first direct communication link to the hearing user the signals received from the remote captioning relay via the second direct communication link”—would have been obvious. Moreover, considering claim 37 as a whole and in view of our previous analysis concluding the subject matter of claim 18 as a whole would have been obvious to one of ordinary skill in the art over Liebermann, Engelke ’405, and Mukherji, we similarly conclude that the subject matter of claim 37 as a whole would have been obvious. Therefore, we deny Patent Owner’s request to substitute claim 37 for claim 18.

Patent Owner further requests that each of substitute claims 40 and 41 be entered only if claim 37 is entered. Therefore, we also deny Patent Owner’s requests to substitute claims 40 and 41.

3. Proposed Substitute Claims 38, 39, 42, and 43

Patent Owner proposes claim 38, which depends from proposed independent claim 37, as a substitute for independent claim 19 if claim 18 and proposed substitute claim 37 are determined to be unpatentable. Mot. Am. App. A, 6. Claim 38 incorporates all limitations of claim 19 and adds other limitations. *Id.* Claim 38 is reproduced below, with underlining

representing additions and double-brackets indicating deletions with respect to claim 19. *Id.*

38. [[19.]] The device of claim 37[[18]] wherein selection of the button causes the captioned device processor to link via the second direct communication link to the remote captioning relay, and wherein, the captioned device provides the captioning service such that the hearing user is not necessarily aware that a relay is providing assistance on the call, for both outgoing and incoming calls.

Patent Owner proposes that “the captioned device provides the captioning service such that the hearing user is not necessarily aware that a relay is providing assistance on the call, for both outgoing and incoming calls,” as recited in claim 38, “means that the hearing user is not necessarily made aware that a third party relay is being used by the assisted user.”

Mot. Am. 8. Petitioner challenges the patentability of proposed claim 39 as indefinite in light of the claim term “not necessarily aware.” Opp. Am. 7. In reply, Patent Owner contends “not necessarily aware” depends on objective criteria because “either the [captioning] service has a feature that necessarily makes the hearing user aware of it . . . or it does not.” Reply Am. 4–5.

We need not reach the issue of whether “not necessarily aware” is indefinite because “not necessarily aware” does not further limit claim 37, which we determined to be unpatentable. Because “necessarily” means of necessity or inevitably, it follows that the term “not necessarily” means not of necessity or not inevitably. *See* Ex. 3002.⁴¹ Thus, the plain language of

⁴¹ THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 1207 (3d ed. 1992) (defining “necessarily” as “[o]f necessity; inevitably”).

the term “not necessarily aware” means that the hearing user may be aware but does not require the hearing user to be aware. Because the plain language of claim 38 allows the hearing user to be both aware that a relay is providing assistance on the call and unaware that a relay is providing such assistant, claim 38 does not further limit claim 37.

This construction of claim 38 is supported by the written description of the ’822 patent that indicates “[n]ormally the hearing user does not even need to be aware that captioning is being used on the call.” The use of “normally” and “does not even need to be aware” in the written description does not require that the user to perceive that captioning is being used. Nor does that statement require the user to be unaware that captioning is being used.

Because claim 38 does not further limit unpatentable claim 37, we deny Patent Owner’s request to substitute claim 38 for claim 19. Patent Owner requests that each of substitute claims 39, 42, and 43 be entered only if either claim 37 or claim 38 is entered. We have denied Patent Owner’s requests to substitute claims 37 and 38; therefore, we also deny Patent Owner’s requests to substitute claims 39, 42, and 43.

*K. Motions for Observation
Regarding Cross-Examination Testimony*

Each party filed a motion for observation regarding cross-examination testimony. Patent Owner’s observations are directed to the cross-examination testimony of Mr. Occhiogrosso obtained on March 4, 2016 and concerning his declaration (Ex. 1019), which was provided in support of

Petitioner's Reply (Paper 22). Paper 65; Ex. 2093 (Deposition Transcript). We have considered Patent Owner's observations and Petitioner's responses (Paper 73) in rendering our decision, and have accorded the testimony appropriate weight. *See, e.g., Yorkey*, 601 F.3d at 1284 (holding the Board has discretion to give more weight to one item of evidence over another "unless no reasonable trier of fact could have done so"); *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368 (indicating the Board is entitled to weigh declaration testimony).

We address with particularity Patent Owner's assertion that we should give little or no weight to Mr. Occhiogrosso's supplemental declaration (Ex. 1019) concerning circumstances surrounding drafting his supplemental declaration. Paper 65, Obs. 2. In executing his declaration, Mr. Occhiogrosso declared, among other statements, that the statements of his own knowledge in Exhibit 1019 are true and he acknowledged that a willful false statement is punishable, under Section 1001 of Title 18 of the United States Code, by a fine or imprisonment. Ex. 1019, 58. Accordingly, we do not agree with Patent Owner's position that the supplemental declaration should be given little to no weight.

Petitioner's observations are directed to the cross-examination testimony of Mr. Zatkovich obtained on March 18, 2016 and concerning his declaration (Ex. 2013), which was provided in support of Patent Owner Response under 37 C.F.R. § 42.107 (Paper 15). Paper 64; Ex. 1043 (Deposition Transcript). We have considered Petitioner's observations and Patent Owner's responses (Paper 72) in rendering our decision, and have

accorded the testimony appropriate weight. *See Yorkey*, 601 F.3d at 1284; *Am. Acad. of Sci. Tech Ctr.*, 367 F.3d at 1368.

III. CONCLUSION

Based on the evidence and arguments, Petitioner has demonstrated by a preponderance of the evidence that (i) claims 1–7 and 10–29 of the '822 patent would have been obvious over Liebermann, Engelke '405, and Mukherji, and (ii) claims 2, 8–10, 13, and 14 of the '822 patent would have been obvious over Liebermann, Engelke '405, Mukherji, and Engelke '482.

Also, after reviewing Patent Owner's Motion to Amend, Petitioner's Opposition, and Patent Owner's Response in support of its Motion to Amend, as well as the relevant evidence discussed in those papers, we deny entry of substitute claims 30–43 for the reasons given.

IV. ORDER

Accordingly, it is:

ORDERED that claims 1–29 of U.S. Patent No. 8,917,822 B2 have been shown to be unpatentable;

FURTHER ORDERED that Patent Owner's Contingent Motion to Amend is denied;

FURTHER ORDERED that Petitioner's Motion to Exclude is granted-in-part;

FURTHER ORDERED that Patent Owner's Motions to Seal are granted; and

IPR2015-00636
Patent 8,917,822 B2

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.

FOR PETITIONER:

Todd E. Landis
Eric J. Klein
Ruben Munoz
Akin Gump Strauss Hauer & Feld LLP
tlandis@akingump.com
eklein@akingump.com
rmunoz@akingump.com

FOR PATENT OWNER:

Michael Jaskolski
Michael J. Curley
Martha Jahn Snyder
Nikia L. Gray
Stephen J. Gardner
QUARLES & BRADY, LLP
michael.jaskolski@quarles.com
michael.curley@quarles.com
martha.snyder@quarles.com
nikia.gray@quarles.com
stephen.gardner@quarles.com