

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 IPR2015-00637
Patent 8,908,838 B2

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

SAINDON, *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

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.

With respect to the grounds asserted in this trial, we have considered the papers submitted by the parties and the evidence cited therein. For the reasons discussed below, we determine that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 1–30 of U.S. Patent No. 8,908,838 B2 (Ex. 1001, “the ’838 patent”) is 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 to institute an *inter partes* review (Paper 1, “Pet.”) of claims 1–30 of the ’838 patent. Pet. 1. Ultratec, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We instituted an *inter partes* review of all challenged claims. Paper 8 (“Dec. on Inst.”). Patent Owner then filed its Response to the Petition (Paper 15, “PO Resp.”), to which Petitioner filed its Reply (Paper 23, “Pet. Reply”). An oral hearing was held on July 14, 2015. Paper 90 (“Tr.”).

This Decision also addresses several outstanding motions. Patent Owner filed a Contingent Motion to Amend (Paper 16, “Mot. Amend”), to which Petitioner filed an Opposition (Paper 24, “Opp. Mot. Amend”) and Patent Owner filed a Reply (Paper 54, “Reply Mot. Amend”). Petitioner filed a Motion to Exclude Evidence (Paper 64, “Mot. Exclude”), to which Patent Owner filed an

Opposition (Paper 75, “Opp. Mot. Exclude”)¹ and Petitioner filed a Reply (Paper 78, “Reply Mot. Exclude”). Patent Owner filed several unopposed Motions to Seal and modifications to the Motions to Seal (Papers 29, 42, 48, 57, 67, 80, and 85). Petitioner filed a Motion for Observations (Paper 65), to which Patent Owner filed an Opposition (Paper 73). Patent Owner filed a Motion for Observations (Paper 66), to which Petitioner filed a Reply (Paper 74).²

B. Related Matters

The ’838 patent claims priority to U.S. Patent No. 6,603,835 B2 (Ex. 1003, “the ’835 patent”), which was the subject of two *inter partes* reviews, *CaptionCall, LLC v. Ultratec, Inc.*, Case IPR2013-00549 (PTAB) (Final Written Decision issued March 3, 2015, finding claims 1–5 and 7 unpatentable; notice of appeal has been filed) and *CaptionCall, LLC v. Ultratec, Inc.*, Case IPR2014-00780 (PTAB) (Final Written Decision issued December 1, 2015, finding claims 6 and 8 unpatentable; notice of appeal has been filed). *See* Pet. 3; Paper 4.

The Petition in this case was filed concurrently with another petition challenging U.S. Patent No. 8,917,822 B2 (Ex. 1002), which also claims priority to the ’835 patent. Pet. 3 (directing our attention to IPR2015-00636). A number of other *inter partes* reviews involving related patents are in various stages of review. *See* Paper 4.

The parties are involved in a pending lawsuit involving the ’838 patent, *Ultratec, Inc. v. Sorenson Communications, Inc.*, No. 14-CV-00847 (W.D. Wis.).

¹ Patent Owner filed an original opposition as Paper 71, but later filed Paper 75 as a corrected opposition.

² The contents of the motions for observations have been considered but do not require any ruling.

Pet. 2; Paper 4. The parties are involved in another lawsuit involving the above-mentioned related patents, *Ultratec, Inc. v. Sorenson Communications, Inc.*, Case No. 3:13-CV-00346 (W.D. Wis.).

C. The '838 Patent

The '838 patent “relates to the general field of telephone communications” and, in particular, “relates to systems to assist telephone communications by those persons who are deaf, hard of hearing, or otherwise have impaired hearing capability.” Ex. 1001, 1:23–27. In traditional telecommunication devices for the deaf (TDD, TT, or TTY), a relay provides a service whereby a person serves as a human intermediary between the hearing and deaf user, typing the hearing user’s spoken words for display at the deaf user’s machine, and speaking the deaf user’s typed words for transmission to the hearing user’s telephone. *Id.* at 1:31–40, 2:1–15.

The '838 patent describes a system with more features than the traditional TDD, by extending the TDD device to users who are not deaf but are hard-of-hearing, and who may use the relay service to supplement what they hear. *Id.* at 2:17–21. This is achieved by providing the hard-of-hearing person with the voice of the hearing user as well as a text transcription of the hearing user’s spoken words. *See id.* at Abstract. This is called text-assisted telephone, or captioned telephone. *Id.* at 3:14–17. Another feature claimed in the '838 patent is directed to an “activator” that allows the relay to be dialed in on demand, such that the call may begin as a voice-only call, but when a user decides hearing assistance is needed, he or she may activate, using the activator, the relay service while the call is in progress. *Id.* at 7:13–20.

D. Exemplary Claim

Petitioner challenges all claims of the '838 patent, of which claims 1, 12, and 19 are independent. Claim 1 is exemplary:

1. A system for providing text captioned telephony services to an assisted user communicating with a hearing person, the system comprising:
 - a relay;
 - an assisted user's captioned device comprising:
 - (1) a captioned device processor linkable to first and second communication links;
 - (2) a visual display linked to the captioned device processor;
 - (3) a microphone linked to the captioned device processor for receiving voice signals from the assisted user using the assisted user's captioned device;
 - (4) a speaker linked to the captioned device processor for broadcasting voice signals received by the captioned device to the ear of the assisted user as voice signals from the hearing person are received at the captioned device;
 - (5) an activator linked to the captioned device processor, the activator controllable by the assisted user to invoke a captioning service;
 - the captioned device processor configured to perform the steps of:
 - (i) establishing-the first communication link between the assisted user's captioned device and the hearing person;
 - (ii) obtaining voice signals from the assisted user via the microphone;
 - (iii) transmitting the assisted user's voice signals from the captioned device to the hearing person via the first communication link;
 - (iv) receiving voice signals from the hearing person via the first communication link;
 - (v) broadcasting the voice signals from the hearing person via the speaker to the assisted user as the voice signals

from the hearing person are received at the captioned device;

- (vi) receiving a signal from the activator to invoke the captioning service;
- (vii) in response to receiving a signal from the activator:
 - (a) transmitting the hearing person's voice signals received at the captioned device to the relay via the second communication link;
 - (b) receiving text corresponding to the hearing person's voice signals from the relay via the second communication link; and
 - (c) displaying the text received from the relay via the visual display for the assisted user to view;

wherein the activator is activatable to establish the second communication link and invoke the captioning service subsequent to broadcasting at least some voice signals from the hearing person to the assisted user while a voice call between the assisted user and the hearing person is progressing; and

wherein the activator is further activatable to establish the second communication link and invoke the captioning service prior to broadcasting any of the hearing person's voice signals to the assisted user.

E. Prior Art & Instituted Grounds

We instituted *inter partes* review on the following grounds of unpatentability under 35 U.S.C. § 103:

References	Claims Challenged
Liebermann, ³ Engelke '405, ⁴ and Mukherji ⁵	1–9, 11–17, 19–25, and 27–29
Liebermann, Engelke '405, Mukherji, and Engelke '482 ⁶	10, 18, 26, and 30

Dec. on Inst. 23–24.

II. ANALYSIS

We first address Petitioner's Motion to Exclude. We then turn to the motions to seal, the claim constructions relevant to this proceeding, the relevant prior art, the asserted grounds of unpatentability, and finally to Patent Owner's Contingent Motion to Amend.

A. Petitioner's Motion to Exclude

Petitioner filed a Motion to Exclude (Paper 64) 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. Excl. 1.

³ U.S. Patent No. 5,982,853, issued Nov. 9, 1999 (Ex. 1006).

⁴ U.S. Patent No. 5,724,405, issued Mar. 3, 1998 (Ex. 1005).

⁵ U.S. Patent No. 7,117,152 B1, filed June 30, 2000, issued Oct. 3, 2006 (Ex. 1007).

⁶ U.S. Patent No. 5,909,482, issued June 1, 1999 (Ex. 1004).

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 claims 33 and 35, should be excluded because it is allegedly beyond the scope of his expertise. Mot. Excl. 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, 171:15–172:4). 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. Mot. Excl. 3–5.⁷

Indeed, 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 FRE 702). In determining who is "qualified in the pertinent art" under Federal Rule of Evidence ("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,

⁷ Patent Owner cites our prior decision making a similar ruling in *CaptionCall, LLC v. Ultratec, Inc.*, IPR2013-00549, 2015 WL 1263006 *6 (PTAB March 3, 2015). Patent Owner, however, mischaracterizes our ruling in that case, where we held that Mr. Occhiogrosso was qualified to testify as to the level of ordinary skill in the art. 2015 WL 1263006, at *6 ("we find Mr. Occhiogrosso to be qualified to testify as to the level of ordinary skill in the art").

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 fictional 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 in the art is a hypothetical person who is presumed to know the pertinent prior art.”); *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437 (Fed. Cir. 1984) (stating that “[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 fictional construct and need not perfectly align with it.

In this spirit, we deny Petitioner’s motion to exclude portions of the testimony of Mr. Zatkovich. Mr. Zatkovich 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

⁸ The parties also discuss a timeliness aspect of Petitioner’s objection to Mr. Zatkovich’s testimony. *See* PO Opp. Mot. Excl. 1–3; Reply Mot. Excl. 1–2.

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. Excl. 7–8. Petitioner timely objected (Paper 18, 2) and Patent Owner timely served supplemental evidence (*see* Paper 19; Ex. 2113; 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 19, 2–3. Patent Owner then filed a second declaration of Ms. Kretschman (Ex. 2096) with its Response. Petitioner objected again. Paper 59. The parties dispute whether the proper procedures for supplemental evidence were followed. *See* Mot. Excl. 7–9; Opp. Mot. Excl. 6–8; Reply Mot. Excl. 2–3. We see little benefit in sorting through the extensive procedural dispute. In the end, 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. Mot. Excl. 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

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 timely filed.

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. Mot. Excl. 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. Excl. 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 Mot. Excl. 13. As to Exhibit

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.

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 or 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 is also applicable. *Id.* at 14–15.

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

Patent Owner offers the testimony with respect to secondary considerations of non-obviousness. PO Resp. 43 (citing Ex. 2062 (regarding alleged commercial success)), 46 (citing Ex. 2045 (regarding alleged copying)), 48 (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 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. 46. 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

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).

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 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. 48–49. 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 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. 48. 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 43 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. 34. 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. Mot. Excl. 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. Mot. Excl. 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. 48 (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 argues his testimony is admissible under FRE 804(b)(1). Opp. Mot. Excl. 14. Patent Owner's evidence that Mr. Puzey is unavailable in this

proceeding is his motion to quash a subpoena in co-pending district court litigation (Ex. 2114). Patent Owner brings to our attention no 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
- (4) admitting it will best serve the purposes of these rules and the interests of justice.

FRE 807.

Patent Owner's analysis (Opp. Mot. Excl. 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 (Section II.I), Patent Owner has offered much more probative evidence in the form of declarations, fund reports, internal

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

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 while making our Decision.

B. Motions to Seal

Patent Owner filed several unopposed Motions to Seal and modifications to the Motions to Seal (Papers 29, 42, 48, 57, 67, 80, and 85). We grant them all.

The Motion to Seal in Paper 29 addresses Exhibit 2071. A Supplemental Motion to Seal was filed (Paper 42) also addresses Exhibit 2071. Patent Owner asserts that Exhibit 2071 “contain[s] previously-proposed license terms between [the parties] which are of a competitively-sensitive nature.” Paper 29, 3. Patent Owner also asserts that Exhibit 2071 is in support of its Motion for Additional Discovery, not the case in chief. *Id.* at 2. 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 48 addresses Exhibits 2086 and 2091, the redacted portions of Patent Owner's Motion to Dismiss (Paper 46), 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 57 addresses Exhibits 2107 and 2106. Patent Owner offers these documents, containing Petitioner's financial statements, with respect to its Motion to Dismiss (Paper 46). The Motion to Seal in Paper 67 addresses portions of its Reply in Support of the Motion to Dismiss (Paper 68), as well as the Motion to Seal itself. The Motion to Seal in Paper 80 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. The Modified Motion to Seal in Paper 85 modifies the Motion in Paper 80 to refer to Exhibit 2123, Patent Owner's re-filed demonstratives, which include discussion on the subject of Patent Owner's Motion to Dismiss.

We denied Patent Owner's Motion to Dismiss. *See* Paper 96. Given the sensitive nature of the contents of the documents Patent Owner wishes to seal, and those documents' 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, 2121, and 2123, the redacted portions of Papers 46 and 68, and the entirety of Papers 48, 67, and 80.

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

We interpret the claims of an unexpired patent using the broadest reasonable interpretation in light of the specification of the patent. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard in *inter partes* reviews). Under the broadest reasonable interpretation standard, claim terms are generally given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

1. Terms Construed in Prior Proceedings

Petitioner suggests that the terms “assisted user” and “hearing user,” construed in the *inter partes* reviews involving the parent of the ’838 patent, should also be applied to this proceeding. Pet. 6–7. Patent Owner does not appear to dispute the construction of these terms. We adopt these constructions and corresponding analyses for purposes of this Decision:

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.

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

2. “activator”

Petitioner proposes that the term “activator,” found in all claims, should be construed indistinguishably from the “control limitation” discussed in the *inter partes* reviews involving the parent of the ’838 patent. Pet. 6–7; *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”). Although we agree that the “activator” limitation in the ’838 patent generally is similar to the “control limitation” in related patents, we need not construe explicitly the “activator” limitation because, as Petitioner points out, “the ’838 Patent more explicitly claims these features.” Pet. 7.

3. “communication link”

Petitioner proposes that the term “communication link,” found in all claims, should be construed as “any communication session, protocol, link, connection, or path distinguishable from [another] communication link[.]” *Id.* Patent Owner does not offer its own construction and instead critiques Petitioner’s reading of the term on the prior art without providing its own analysis. *See, e.g.,* PO Resp. 16 (stating that “*Mukherji* simply describes sending streams of voice and text via separate packet protocols, but to and from the same locations over the same network connection”); *id.* at 19 (similar).

The claims utilize the term “communication link” to describe connections used by the entities of the overall system to communicate. For example, claim 19 describes a first communication link between the assisted user and the hearing user, and a second communication link between the assisted user and the relay. Ex. 1001, 11:66–67, 12:9–12. The second communication link “transmit[s] the hearing person’s voice signals received at the [assisted user’s] captioned device . . . to a

relay.” Claim 21 depends from claim 19 and further recites a third communication link, *also* between the assisted user and the relay, for receiving text.

The term “communication link” does not appear in the specification of the ’838 patent outside of the claims (it appeared in the originally filed claims). The term “link” appears twice in the written description:

The telephone line 34 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. 1001, 5:58–61 (emphasis added).

Thus the term telephone line as used in this specification is intended not only to apply to a traditional land-line two-wire telephone line, but also to all equivalents that offer similar functionality. Each of the telephone lines could be, for example, a portion of the bandwidth of an ISDN or DSL service. The telephone line could be an analog or digital cellular telephone **link** or a PCS connection. The PICT device could also be connected to the internet communication in IP, and in that event the two telephone lines would simply be simultaneous digital data exchange with two remote locations.

Id. at 8:60–9:3 (emphasis added).

Although the specification does not discuss “communication link,” the specification uses the term “line” in a manner consistent with how the claims use the term “communication link.” For example, the specification describes the subject matter in claim 21 (three communication links) as follows:

It is also envisioned that the captioned telephone service can be implemented in a way that uses three telephone lines. One line is for voice communications with the hearing user. The second line is directly connected to the first line so that the voice of the hearing user is transmitted to the relay. The third line is a connection to transmit the text stream from the relay to the station of the assisted user.

Id. at 8:41–47.

In view of the '838 specification, one of ordinary skill in the art would understand a “communication link,” as claimed, to refer to the “communication line” described in the specification. In particular, the link is “intended not only to apply to a traditional land-line . . . but also to all equivalents that offer similar functionality.” *Id.* at 8:60–63. A link could be “a portion of the bandwidth” of a particular connection, such that a single mode of connection (e.g., IP) could carry out two types of communication (voice and text), with each type corresponding to a different “communication link.” *See id.* at 8:44–47, 8:63–65. For example, as explained in the '838 patent, “[e]ach of the telephone lines could be . . . a portion of the bandwidth of an ISDN or DSL service.” *Id.* at 8:53–65. Accordingly, we adopt Petitioner’s construction of “communication link” as “any communication session, protocol, link, connection, or path distinguishable from [another] communication link[].”

*D. The Prior Art—Liebermann, Engelke '405,
Mukherji, Engelke '482*

1. 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”) (emphases 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.

2. *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:

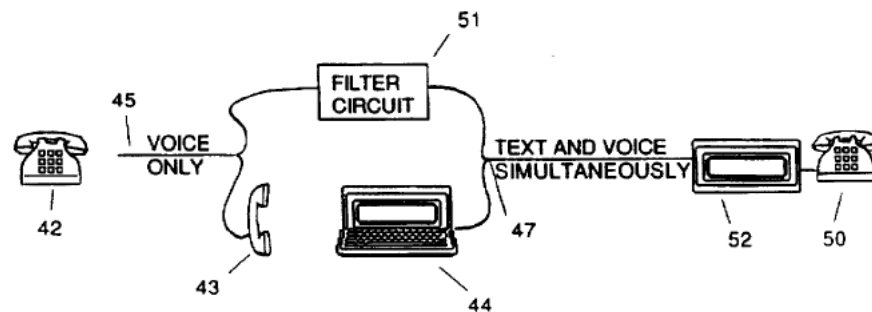


FIG. 4

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 simultaneously, such that the hearing user (at telephone 42), assisted user, and relay operator (at relay 44) can all speak and hear each other, and the assisted user's TTY machine and the relay operator's TTY machine can send text back and forth.

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. *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.*; *see also id.* at 6:48–52.

3. 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:

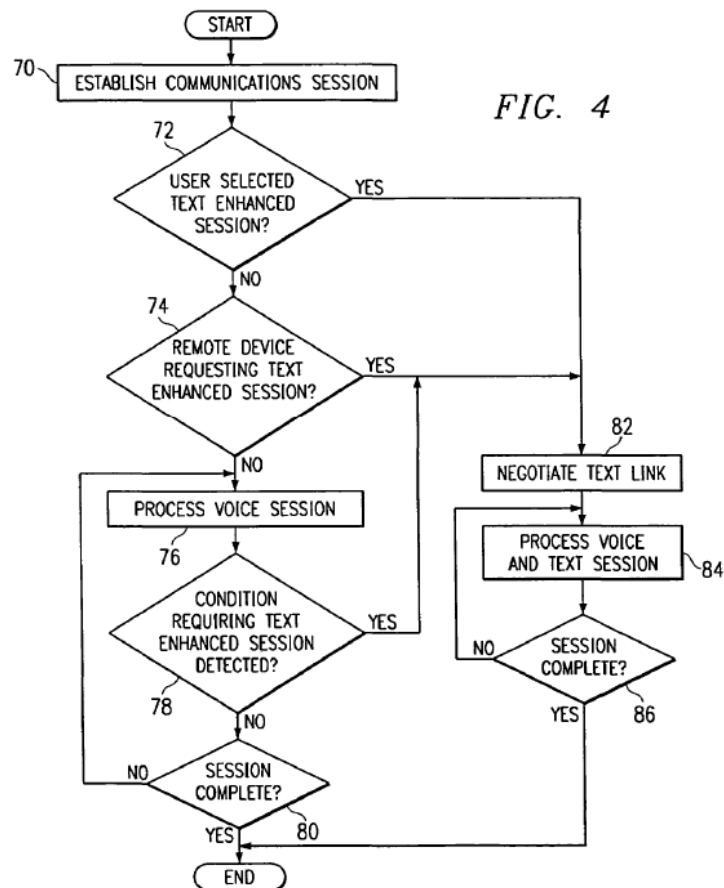


Figure 4 of Mukherji depicts a flowchart of a process for handling a communications session between users. Upon establishing communications (70), the process looks to see if a text-enhanced session has been chosen by either user (72, 74). If not, a voice-only session is begun (76). If yes, a text link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

4. 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, 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.

E. Analysis of Petitioner's Obviousness Ground

1. Petitioner's Contentions

Petitioner asserts that claims 1–9, 11–17, 19–25, and 27–29 would have been obvious in view of Liebermann, Engelke '405, and Mukherji. Pet. 13–45. Petitioner asserts that claims 10, 18, 26, and 30 would have been obvious in view of Liebermann, Engelke '405, Mukherji, and Engelke '482. *Id.* at 46–50.

a. Independent Claims 1, 12, and 19

In general, and with particular focus on claim 1, Petitioner asserts that Liebermann discloses the two-line aspects of the claims—the separate connections between the assisted user and the hearing user, and between the assisted user and

the relay. *See, e.g.*, Pet. 14. Petitioner asserts that Engelke '405 discloses the simultaneous voice-and-text aspects of the claims—wherein the assisted user receives both the hearing user's voice as well as text from the relay (which transcribes the hearing user's voice). *See, e.g., id.* Petitioner points out that, although Engelke '405 discloses a feature that allows the voice transcription feature to be enabled or disabled prior to making a call, Liebermann and Engelke '405 do not disclose the on-demand text aspects of the claims (i.e., the ability to enable voice-to-text in the middle of a call). *See, e.g., id.* at 14–16. Petitioner asserts, however, that Mukherji describes a voice communications system that supplements voice communications with supplemental text communications and, particularly, describes that the supplemental text communication may be enabled on demand. *See, e.g., id.* at 16. Along these lines, Petitioner asserts that these references disclose each feature of claims 1–9, 11–17, 19–25, and 27–29. *Id.* at 13–45.

Petitioner offers several explanations for why the claimed subject matter would have been obvious to a person of ordinary skill in the art at the time of invention. *See id.* at 16–25. For example, Petitioner asserts that Engelke '405 describes that it was known in the art to provide “tailored” services, according to the impairment of the individual, such as simultaneous voice and text. *Id.* at 14. We understand this rationale to be an example of the march-of-progress type rationales described in *KSR*, as well as simply following the suggestion in Engelke '405 itself that there is a large market for individuals “who have some degree of hearing capability left [but] do not consider themselves ‘deaf,’” and would benefit from a device that provides both voice and text at the same time. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (“a court 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)); Ex. 1005, 2:9–27 (advising of the benefit of extending devices intended for deaf users to those that are hard-of-hearing), 2:31–49 (advising to provide voice and text to provide services to the hard-of-hearing close to a conventional telephone). In this way, Engelke ’405 tells a person of ordinary skill in the art to look at devices made for deaf users, which convert voice to text and vice versa, and extending them to service the large market of hard-of-hearing individuals, by adding voice. *See* Ex. 1005, Abstract.

As to why it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate the on-demand text feature of Mukherji, Petitioner asserts, for example, that applying Mukherji’s teaching to Lieberman/Engelke ’405 would be the use of a known technique to improve similar devices in the same way. Pet. 15 (citing *KSR*, 550 U.S. at 417). In other words, reviewing the Petition, we understand Petitioner’s reasoning to be that Mukherji describes providing on-demand text services for any individual that would require them, and a person of ordinary skill in the art would recognize that the users of Liebermann/Engelke ’405 would also benefit, not only because those users are a subclass of the users already assisted by Mukherji (everyone), but because they have a recognized need for voice-to-text services and already provide similar types of services (i.e., those in Liebermann and Engelke ’405). This line of reasoning is simply taking the on-demand aspect of Mukherji and applying it to the Liebermann/Engelke ’405 combination to extend to that combination the ability to turn on voice-to-text service when required.

Petitioner's analysis for independent claims 12 and 19 are largely repetitive of the analysis just described and need not be repeated. Pet. 40–41 (claim 12); *id.* at 42–43 (claim 19).

b. Dependent Claims 2–9, 11, 13–17, 20–25, and 27–29

Petitioner also provides analyses for the dependent claims. *Id.* at 37–40 (dependent claims 2–9 and 11); *id.* at 42 (dependent claims 13–17); *id.* at 44–45 (dependent claims 20–25 and 27–29). We briefly discuss them. Petitioner asserts that the limitations of dependent claims 2–5, directed to establishing a connection to a particular relay prior to connecting to the hearing user, are the mode of operation described by Liebermann and Engelke '405, which also describe establishing communication with the relay prior to the assisted user. *See id.* at 37–39 (citing Ex. 1005, 4:59–5:15, Ex. 1006, Fig. 4). Claim 6 specifies that the communication links use digital data packets, which Petitioner asserts is the mode of operation in Mukherji, which also uses digital data packets. *Id.* at 39 (citing Ex. 1007, Abstract). Petitioner explains that using packet-based and internet-based communications as taught in Mukherji would be common sense (Pet. 23–24 (citing Ex. 1009 ¶¶ 62–63)) and a simple, predictable improvement over traditional telephone systems (*id.* at 24–25). *See also W. Union Co. v. MoneyGram Payment Sys., Inc.*, 626 F.3d 1361, 1370–71 (Fed. Cir. 2010) (discussing how merely using internet protocol as communication means is obvious and noting several other Federal Circuit cases standing for the same proposition); *Arendi S.A.R.L. v. Apple Inc.*, 2016 WL 4205964, *4 (Fed. Cir. Aug. 10, 2016 (setting forth three caveats to applying “common sense,” such as recognition that it is typically invoked for the rationale to combine); Ex. 1008, 30:46–58 (describing a two-line system connecting to a relay and using internet communications). Claims 7 and 8 require the relay to be remote from the users,

and to send the text from the relay via the second link, both of which Petitioner asserts are how Liebermann operates. *Id.* at 39–40 (citing Ex. 1006, 6:64–7:9, 7:18–26, claim 24). Claim 9 requires a button, which Petitioner asserts is taught in Mukherji and Engelke '405. *Id.* at 40 (citing Ex. 1007, 6:33–42, 6:65–7:4, 8:35–37; Ex. 1005, 4:54–58, 13:30–35). Claim 11 requires receiving an indication from the device invoking the first link, which Petitioner asserts is taught by Liebermann's device calling the hearing user. *Id.* at 40 (citing Ex. 1006, Fig. 4).

We now turn to the claims that depend from claim 12. As to claims 13 and 15–17, Petitioner refers back to similar limitations in other claims, which need not be repeated. *Id.* at 42. Claim 14 requires that the device is usable without operating the activator, i.e., that the device works like a normal phone. Petitioner asserts that the activators of Engelke '405 and Mukherji perform this function. *Id.* at 42 (citing Ex. 1005, 4:54–58, Ex. 1007, Fig. 4).

As to the claims that depend from claim 19, claims 20, 22–25, 27, and 29 repeat limitations addressed by claims already discussed, which need not be repeated. *Id.* at 44. Claim 21 specifies a third link for providing the text to the device, which Petitioner asserts is found in Mukherji's provision of digital packet streams of voice and text. *Id.* at 44 (citing Ex. 1007, 3:59–4:8, 5:20–22); *see also id.* at 23–25 (discussing obviousness of including packet-based communications). Claim 28 specifies that the second communication link is an internet link, which Petitioner asserts is also taught in Mukherji. *Id.* (citing Ex. 1007, 3:51–58); *see also id.* at 23–25.

c. Dependent Claims 10, 18, 26, and 30

Finally, we turn to Petitioner's ground for claims 10, 18, 26, and 30 (*see* Pet. 46–50). These claims add re-voicing and error correction features to captioned telephone service. Petitioner asserts that Engelke '482 describes these features. *Id.*

at 46. Engelke '482 recognized the frustration of slow captions, and suggested using re-voicing to speed them up, and error corrections to assist accuracy. Ex. 1004, 2:9–38 (discussing the frustrations of users having slow captions), 2:53–57 (describing re-voicing as the solution), 6:32–39 (describing an error-correction feature for the re-voiced text). According to Petitioner, adding these features is the use of a known technique to improve similar devices in the same way and would have yielded predictable results. *Id.* at 46–47 (citing Ex. 1009 ¶¶ 71–74).

2. Analysis of Petitioner's Contentions

We have reviewed Petitioner's assertions with respect to the Liebermann, Engelke '405, and Mukherji ground. We adopt as our own Petitioner's findings and explanations, in the claim charts and accompanying text on pages 14–45 of the Petition, with one caveat explained below.¹² Likewise, we have reviewed Petitioner's assertions regarding the Liebermann, Engelke '405, Mukherji, and Engelke '482 ground and adopt as our own Petitioner's findings and explanations in the claim charts and accompanying text on pages 46–50 of the Petition. Our reasons are as follows.

We find that Liebermann describes a system that includes two separate connections—from an assisted user to a hearing user and from the assisted user to a relay that includes a voice-to-text feature. *See supra* Section II.D.1 (describing the features of Liebermann). A benefit to the two-line framework is that it allows

¹² As we explain in more detail below in Section II.H.5.a, we do not adopt all of Petitioner's "Use of known technique" rationale here. Pet. 20–23. Specifically, we do not agree that the fact that Liebermann, Engelke '405, and Mukherji discuss providing aid in a foreign language or business call context necessarily provides a reason to modify Liebermann/Engelke '405 to include the activator feature of Mukherji.

the hearing user to dial the assisted person directly and in the usual manner, i.e., not through a relay intermediary. Ex. 1006, 6:64–65. Liebermann, however, is concerned with deaf users, specifically users that use sign language. See Ex. 1006, Abstract. That specific application does not take away from Liebermann’s disclosure of the two-line framework, however, or its inherent benefit of allowing direct dial to an assisted user. See *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985) (“A reference must be considered for everything it *teaches* by way of technology and is not limited to the particular *invention* it is describing and attempting to protect.”); *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”).

Petitioner proposes that it would have been obvious to take this two-line framework and combine with it the teachings of Engelke ’405, which we find teaches to extend devices intended for the deaf, and provide them to the hard-of-hearing, by providing simultaneous voice and text, so as to make the experience more like a conventional telephone. Pet. 14; see *supra* Section II.D.2 (describing the features of Engelke ’405). In this way, the Liebermann/Engelke ’405 combination uses the base two-line architecture of Liebermann and adds to it the simultaneous voice and text streams of Engelke ’405. This modifies the first line between the assisted and hearing users to be open for bi-directional voice transmission, instead of just having the assisted user’s device redirect the analog voice signal of the hearing user on the first line to the relay on the dedicated voice/text line. See Ex. 1006, 7:5–9. Using the text-to-speech service of Engelke ’405 means that the connection between the assisted user and the relay on the dedicated line in Lieberman essentially remains the same, in that it would still provide voice-to-text.

The last piece of the combination is the on-demand feature. Liebermann deals with deaf users, so there was no need for an on-demand feature there. Engelke '405 provides an on/off switch, but its functionality only has effect prior to a call being placed, by bypassing the entire device. Ex. 1005, 4:54–58. We find that Mukherji, however, describes an on-demand voice-to-text feature. *See supra* Section II.D.3 (describing the features of Mukherji). We find that Mukherji teaches that suitable conditions may indicate enhancing a voice session with text, such as if the quality of voice communications is low, or simply upon request. Ex. 1007, 6:65– 7:4. We find that Mukherji provides an advancement for the assisted telecommunications field, such that it would be considered by a person of ordinary skill in the art. Ex. 1009 ¶¶ 50–54 (explaining that Mukherji is in the same field of endeavor); *Custom Accessories*, 807 F.2d at 962 (“The person of ordinary skill in the art is a hypothetical person who is presumed to know the pertinent prior art.”). We further find that incorporation of Mukherji’s on-demand voice-to-text feature would be a predictable improvement, applying a known technique in the field to another device to improve it in the same way. Specifically, Mukherji describes an existing voice connection that can be supplemented at any time (pre- or post-call initiation) with text. *See supra* Section II.D.3. The Liebermann/Engelke '405 combination is a two-line system that uses a regular voice connection between the assisted user and the hearing user, and a voice and text connection between the assisted user and the relay—this remains the same. The difference is that, instead of connecting the second line to the relay right away, that connection becomes on-demand, as taught in Mukherji. When text is demanded, then the existing

connection mechanisms between assisted user and the relay are carried out in essentially the same way (*see, e.g.*, Ex. 1006, 6:65–7:9), just at a later time.¹³

Building off of this core analysis, Petitioner also has addressed independent claims 12 and 19, as well as dependent claims 2–9, 11, 13–17, 20–25, and 27–29 (Pet. 36–45) and dependent claims 10, 18, 26, and 30 (*id.* at 46–50). We have adopted Petitioner’s analysis of these claims, and there is no dispute between the parties as to any particular aspect of these claims. The disputes, and Patent Owner’s arguments, are directed to aspects common to all claims, e.g., claim 1.¹⁴ Accordingly, having determined that Petitioner has addressed each limitation and articulated reasons for combination for all of the challenged claims, our analysis focuses on the disputed aspects of the ground, using claim 1 as a template, and treats all non-disputed facts to be admitted. 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”). Likewise, this Decision considers any issue not raised by a party in an appropriate paper to have been waived. For example, any argument for unpatentability not proffered by Petitioner in an appropriate paper will not be considered. *See id.* § 42.22(a)(2). Likewise, any argument for patentability not proffered by Patent Owner in an appropriate paper will not be considered. *See id.* § 42.23(a).

We now turn to the particular disputes between the parties.

¹³ Petitioner offers several rationales; we only briefly discuss one here. We discuss all of the rationales in further detail in Section II.H.2, below.

¹⁴ Patent Owner does mention dependent claims 3, 4, 8, 17, and 24 in a paragraph (PO Resp. 9–10), but this discussion is to characterize the claimed invention rather than dispute any particular aspect of Petitioner’s ground.

F. Overview of Patent Owner's Response

Patent Owner's Response is broken into three main issues. See PO Resp. 1–2. The first is the argument that Petitioner has failed to show several claim limitations. *Id.* at 1; see also *id.* at 5–22 (setting forth detailed arguments). The second is the argument that Petitioner has failed to show that it would have been obvious to combine the references. *Id.* at 1–2; see also *id.* at 22–38 (setting forth detailed arguments). The third is the argument that objective indicia of non-obviousness exist to overcome any obviousness case. *Id.* at 2; see also *id.* at 38–60 (setting forth detailed arguments). Before turning to these issues, we address Patent Owner's discussion of the level of ordinary skill in the art (*id.* at 3) and its characterization of the claims (*id.* at 5–10).

In a prior *inter partes* review of a related patent, we held that “the pertinent art is telecommunication systems. Thus, a [POSA] is a person familiar with at least that technology by way of background and/or experience.” *CaptionCall, LLC v. Ultratec, Inc.*, Case IPR2013-00549, Paper 71, 13 (Final Written Decision) (PTAB 2015); see also *CaptionCall, LLC v. Ultratec, Inc.*, Case IPR2013-00780, Paper 35, 9 (Final Written Decision) (PTAB 2015) (reaffirming our finding in IPR2013-00549). Patent Owner states that it “does not agree” with that definition of a person of ordinary skill in the art, and that, “without waiving the foregoing objection and reserving all rights,” states that it will “appl[y]” our prior definition of a person of ordinary skill in the art “for purposes of this Response.” PO Resp. 3. By not setting forth arguments advocating a particular definition of the level of ordinary skill in the art, and by applying our prior definition, Patent Owner has waived arguments for any other definition. Accordingly, we adopt Petitioner's proposed level of ordinary skill in the art, as expressed by its declarant, Mr. Occhiogrosso. Ex. 1009 ¶¶ 26–27. This person typically has “a bachelor's degree

in electrical engineering . . . and a few years of experience with telephone communications system architecture, design and implementation, digitization of voice, speech recognition technology, and/or traditional relay systems.” *Id.* ¶ 27.

Patent Owner also spends several pages setting forth its characterization of the claimed invention. PO Resp. 5–10. Given that these characterizations permeate Patent Owner’s arguments throughout its Response, we discuss them here. Patent Owner stresses that the claimed invention involves “using the assisted user’s device as the central control point.” *Id.* at 6. Intrinsic to this is the two-line architecture. *Id.* at 5–6. Patent Owner argues that two-line “was a fundamental shift in the industry,” that “the [] industry focused on deaf users only,” and that “the industry standard . . . required . . . the establishment of an initial connection to a relay before a user could communicate.” *Id.* at 6. These arguments by Patent Owner reflect an attempt to define the prior art to be limited to the relevant market for a commercial embodiment of the claimed invention. The scope of the prior art is not so limited. Instead, the hypothetical person of ordinary skill in the art is attributed with knowledge “of all prior art in the field of the inventor’s endeavor and of prior art solutions for a common problem even if outside that field.” *In re Nilssen*, 851 F.2d 1401, 1403 (Fed. Cir. 1988). Accordingly, Patent Owner’s arguments that attempt to distinguish the claimed invention from existing products in the marketplace fail to address the true scope of the prior art.

We now turn to the particular issues raised by Patent Owner.

G. Dispute Over Claim Limitations

Patent Owner specifically identifies three limitations it argues Petitioner has failed to address:

- (1) the assisted user’s device to be the central control point of the captioned telephone call,

(2) a second communication link between the assisted user's device and the relay that is separate and distinct from the first communication link between the assisted user's device and the hearing user, and

(3) an activator that, when activated by the assisted user, establishes the second communication link and invokes the captioning service.

PO Resp. 1 (formatting added); *see also id.* at 5 (similar list); *id.* at 10–14 (arguments directed to items (1) and (2), with respect to Liebermann); *id.* at 14–15 (arguments directed to item (3), with respect to Engelke '405); *id.* at 15–16 (arguments directed to item (3), with respect to Mukherji); *id.* at 18–19 (further arguments directed to item (1)); *id.* at 19–20 (further arguments directed to item (2)); *id.* at 20–22 (further arguments directed to item (3)). Patent Owner also makes arguments directed to the combined teachings of the references. *Id.* at 16–17

1. Central Control Point / Two Communication Links

Items (1) and (2) are directed to, essentially, the same subject matter, which we characterize as “two-line.” In particular, claim 1 requires a captioned device processor that “establish[es] the first communication link between the assisted user's captioned device and the hearing person” and “transmitting the hearing person's voice signals received at the captioned device to the relay via the second communication link.”

Petitioner relies on Liebermann to teach the two-line architecture. Pet. 14, 27–28; Pet. Reply 3–4; *see also* Ex. 1019 ¶¶ 14–19 (Petitioner's declarant, Mr. Occhiogrosso, testifying on this matter). As we explained above in Section II.D.1, Liebermann discloses a voice content line between the assisted user and the hearing user, and a voice and data content line between the assisted user and the relay. These are the two lines. Patent Owner argues that we have misinterpreted Liebermann, and that Liebermann instead describes a particular configuration

wherein “the participants each connect over a single standard telephone line to equipment in the network that merges the audio so that each party can hear the other parties.” PO Resp. 11; *see also id.* at 10–14 (further expounding on this point); *id.* at 18–19 (similarly arguing that the claims require a central control point and that Liebermann is single-line); Ex. 2013 ¶¶ 51–77 (Patent Owner’s declarant, Mr. Zatkovich, providing technical details for Patent Owner’s argument). We have reviewed the record with respect to this issue and find that Liebermann describes the two-line architecture required by the claims.

First, as we just discussed, Liebermann explicitly describes two separate analog lines, one for voice and one for voice and data. Ex. 1006, 7:5–9. We acknowledge that Liebermann also includes a discussion of a “party call” (*see, e.g., id.* at 7:3), and that there are times when a person of ordinary skill in the art would understand a “party call” to be a conference call with each user having a single line switched at a central location, as Patent Owner argues. *See* PO Resp. 10 (citing Ex. 2013 ¶¶ 58–61). Notwithstanding, Liebermann explicitly describes the “party call” as one involving two distinct lines carrying two distinct types of information. Ex. 1006, 7:5–9 (“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*.”) (emphases added); 7:23–26 (“voice/data is sent to the center on the dedicated line assigned for the deaf person. However, in this case, the cellular phone maintains two cellular connections on line, *one to the center (voice/data)* and *one to the caller*”) (emphases added). As Patent Owner acknowledges, the assisted user in the examples in Liebermann is deaf. PO Resp. 10. It makes no sense for Liebermann’s device to have a voice connection with the hearing user and a voice and text connection with the relay, unless the deaf user’s device is acting as a

conduit, i.e., central control point, between the two other endpoints (the hearing user and the relay). The deaf user's device has no need for the hearing user's voice, except to pass that voice information along to the relay. Indeed, Liebermann explicitly states that the "deaf person's device arranges for switching." Ex. 1006, 7:1. Read in context, this disclosure means what it literally says: that the assisted user's device acts as the switch, i.e., central control point, between the two separate lines. Further, if it were a simple one-line conference call in the manner Patent Owner proposes, there would be no reason for Liebermann to discuss two lines carrying *different* information. *See also* Ex. 1019 ¶ 17 ("If *Liebermann* were actually disclosing this variant of the three way conference call, all three lines would carry both voice and data, and *Liebermann's* first link would not be 'analog for voice content only.'").

Second, we understand Figure 2 of Liebermann to be a high-level representation of the communications between the parties, and we do not understand it to undo the more specific and clear disclosures made in column 7 that we cited above. *See* PO Resp. 13–14 (arguing Figure 2 of Liebermann). As Petitioner's declarant, Mr. Occhiogrosso, testifies, "[y]ou need to read the spec in order to figure [what Figure 2 represents]." Ex. 2017, 123:9–10. Mr. Occhiogrosso further testifies, "Figure 2 does not contain adequate detail in the figure itself or in the corresponding portion of the specification to make meaningful sense of what that figure depicts." Ex. 1019 ¶ 24. This is consistent with our understanding of Figure 2 as being high level. Further, even if Figure 2, or any other portion of Liebermann, did describe a three-way call or party call in the manner Patent Owner advocates, none of that disclosure would undo the disclosure at column 7, which is irreconcilable with Patent Owner's party call argument. Thus, even if Liebermann describes a single-line embodiment,

arguendo, the portions of the specification relied on by Petitioner in column 7 explicitly describe a two line embodiment.

2. *The Activator*

Claim 1 requires “an activator . . . controllable by the assisted user to invoke a captioning service,” with additional limitations relating to the activator found throughout the claim. For example, claim 1 specifies two complementary use scenarios, wherein the activator establishes the second communication link “while a voice call . . . is progressing” or “prior to broadcasting any of the hearing person’s voice signals to the assisted user.” In other words, the activator establishes the second connection (to the relay), and can do so before *or* after talking to the hearing user over the first line. As a practical matter, this means that captions can be initiated prior to a call or on-demand during a call. *See, e.g.*, Ex. 1001, 7:8–21 (describing activation during a call).

Petitioner’s ground with respect to this element of the claim relies on the teachings of Engelke ’405 and Mukherji. Pet. 30–35 (claim chart addressing the activator element, which is broken into several limitations in the claim); *id.* at 15–25 (setting forth various reasons for combining). Specifically, Engelke ’405 describes an on/off switch for captions. If the switch is off, the captioning feature is off, and the phone acts as a typical voice phone. *See* Ex. 1005, 4:54–58; Ex. 1019 ¶¶ 24–27 (Petitioner’s declarant discussing this feature of Engelke ’405); PO Resp. 14 (“bypass . . . so that the device can be operated as a standard telephone”). The switch must be “on” prior to a call being placed or received for captioning to work. *See* Ex. 1005, 4:59–5:15 (describing sequence for placing a call); Ex. 1019 ¶ 26 (Petitioner’s declarant describing how the on/off switch works). In this way, the Engelke ’405 switch is unlike the claimed activator in that the Engelke ’405

switch allows captioning, but does not invoke captioning itself, e.g., after a call has begun. *See* Ex. 2013 ¶ 81 (Patent Owner’s declarant explaining that “[Engelke ’405’s] switch does not invoke the captioning process”). Notwithstanding, Engelke ’405 informs us that a person of ordinary skill in the art would appreciate that there is an understanding in the art that some amount of control over when captioning occurs is desirable; that the prior art recognized that captions need not always be on in a captioning device. *See* Ex. 1019 ¶ 26 (Petitioner’s declarant stating “this teaching . . . would explicitly teach a person of ordinary skill in the art the desirability of allowing an assisted user some selecting control over when or when not to have captions”). Given the teachings of Engelke ’405, Petitioner relies on Mukherji for the bulk of the activator element of the claim. *See, e.g.*, Pet. 30–31 (citing to Mukherji for the activator features such as invoking captions).

Mukherji describes a telecommunications system having a voice communication link wherein a text communications link can be added prior to or during a call. Ex. 1007, 3:19–22 (“During setup or at any other appropriate time during the session, the participants may establish two communication streams using network 14, a voice link 20 and a text link 22”), 6:65–67 (“During this voice session [the device] monitors activity to determine whether a condition requiring text enhanced communications has been detected”). Thus, Mukherji has an activator in that it is “controllable by the assisted user to invoke a captioning service,” as required by the claim. Patent Owner’s arguments against Mukherji are based on the fact that Mukherji does not involve a separate relay connection. *See* PO Resp. 15–16, 21. Instead, Mukherji’s voice and text links are directly between users, without a relay. *See id.* Although it is true that Mukherji does not teach a relay, the combination of Liebermann and Engelke ’405 has the relay and two-line configuration, with Petitioner bringing in Mukherji for the notion of adding the text

link prior to or during a call. *See, e.g.*, Pet 16 (“a POSITA 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”). Accordingly, Patent Owner’s argument is against *Mukherji* in isolation. *See In re Merck & Co. Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (“Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.”).

Patent Owner also argues that the voice and text communication links in *Mukherji* are not communication links as claimed. PO Resp. 15–16, 20–21. Patent Owner argues that, instead, the voice and text “are over the same network interface” and are “merely streams of packets that exist in the same network connection.” *Id.* at 16. This argument is inconsistent with the scope of “communication link” in the claim, which we discussed in our claim construction of that term. Patent Owner has not argued a different construction of the term, and does not explain how the disclosure of *Mukherji* is inconsistent with our construction. Instead, Patent Owner just alleges that the claimed “communication link” is different from the communication link in *Mukherji*. Patent Owner’s declarant, Mr. Zatkovich, explains that “sending streams of voice and text via separate packet protocols” is not what is claimed, and that “a multiplex line, i.e., one that carries both voice and data, is not a first . . . and a second communication link, as those terms are defined by the claim.” Ex. 2013 ¶¶ 95–96. But Mr. Zatkovich does not explain persuasively what the claim term does encompass or how *Mukherji*’s links are different. Indeed, Mr. Zatkovich states he “applied [the Board’s construction of communication link] in [his] analysis” (*id.* ¶ 27), but fails to address our construction.

As we explained in our claim construction of “communication link,” a link could be a portion of the bandwidth of a particular connection. *See supra* Section II.C.3. As the ’838 patent contemplates, a single physical connection using multiplexing can provide two communications links. Ex. 1001, 8:63–65 (“*Each of the telephone lines could be, for example, a portion of the bandwidth of an ISDN or DSL service.*”) (emphases added), 8:67–9:3 (“The PICT device could also be connected to the internet communication in IP, and in that event *the two telephone lines would simply be simultaneous digital data exchange* with two remote locations.”) (emphasis added); Ex. 1019 ¶ 30 (Petitioner’s declarant agreeing that the “portion of the bandwidth” disclosure in the specification supports a finding that Mukherji’s text link is a second communications link as claimed). Thus, the DSL, ISDN, or IP connection would provide for both links in the ’838 patent, such that our construction of “communication link” properly considers the term in view of the specification, and permits, just like in the ’838 patent, separate links through the same transmission medium.¹⁵ Accordingly, we find the separate links of Mukherji to be two separate links as claimed. We acknowledge that the links in Mukherji do not go to the same places as the links in the claims, but that claimed features is taught by the combination of references, not Mukherji alone, as we will discuss in the next section.

3. *Combination of References*

As we discussed above, Petitioner’s combination takes the two-line architecture of Liebermann, and uses it for hard-of-hearing individuals, as taught in

¹⁵ Indeed, claim 21 of the ’838 patent recites a third communication link for receiving text from the relay at the assisted user’s device, in addition to a second communication link already existing between the relay and assisted user.

Engelke '405, by having the first connection be open to voice between the assisted user and the hearing user. Then, the combination further makes the second line, between the assisted user and the relay, activatable prior to or during a call, as taught in Mukherji.

Patent Owner argues that the cited references only teach a one-line call and that “the combined teachings would still conform to the industry standard.” PO Resp. 16–17; *see also id.* at 18 (similar argument). We found that Liebermann shows a two-line architecture, however, for the reasons expressed above. Accordingly, Patent Owner’s characterization of the prior art is factually erroneous.

4. Conclusion

Considering the evidence and arguments before us, we find that Petitioner has established that the prior art describes each element of the claims. We now turn to the issue of whether Petitioner has established sufficient reasons for combining the references in the manner proposed.

H. Dispute Over Reasons for Combining the Teachings of the Prior Art References

Petitioner’s proposed combination involves two steps, applying the teachings of Engelke '405 to Liebermann, then applying the teachings of Mukherji to Liebermann/Engelke '405. *See* Pet. 14–15 (discussing Liebermann/Engelke '405), 15–25 (discussing Lieberman/Engelke '405 and Mukherji).¹⁶ We will first

¹⁶ We leave out discussion here of the additional modification regarding Engelke '482, which we discussed above in Section II.E.1 as it applies to dependent claims 10, 18, 26, and 30 (*see* Pet. 46–50), and which we adopted in Section II.E.2. This additional combination for these claims is not in dispute.

discuss these two steps of the combination, then turn to the disputed aspects of the combination.

1. Liebermann and Engelke '405

As we explained above in Section II.E.2, we find that Engelke '405 teaches taking a device intended for deaf users and providing simultaneous voice and text so that the device can now be used for hard-of-hearing users. *See* Ex. 1005, 2:9–27 (extending devices for deaf users to hard-of-hearing users), 2:30–37 (describing simultaneous voice and text). Petitioner also provides evidence that similar tactics were employed in the art—of providing additional features to extend devices for the deaf for use by hard-of-hearing users or users requiring voice and/or speech assistance. Pet. 14 (citing Ex. 1009 ¶¶ 37–38); Ex. 1009 ¶ 37 (citing Ex. 1012, 1:40–52 (describing VCO and HCO)¹⁷; Ex. 1008, 294–30:12 (describing VCO and HCO); Ex. 1011, 1:65–2:15 (describing combination VCO and traditional telephone)). Given this, we find reason to modify the two-line configuration of Liebermann, intended for deaf users, so that it can provide simultaneous voice and text, making the device usable by hard-of-hearing users.¹⁸

Petitioner also proposes to incorporate the on/off switch of Engelke '405 into the proposed combination. Pet. 14–15 (citing Ex. 1009 ¶¶ 39–43). This modification “would have allowed families with both hearing-impaired and unimpaired members to utilize a single device.” *Id.* at 15. Engelke '405 does not

¹⁷ “VCO” is voice carry over, where the assisted user’s voice is sent to the hearing user. Ex. 2013 ¶ 128. “HCO” is hearing carry over, where the hearing user’s voice is sent to the assisted user. *Id.*

¹⁸ *See also, e.g.*, Ex. 2043, 10 (providing evidence that the estimated market size for hard-of-hearing users—28,000,000—vastly exceeds the market size for deaf users—500,000—further incentive to address this market’s needs).

go into detail as to why an on/off switch is provided, suggesting that a person of ordinary skill in the art already would have known its purpose. See Ex. 1005, 4:54–58 (describing the on/off switch as “bypassing the entire internal components of the device of FIG. 1”)¹⁹; 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”). As to what a person of ordinary skill in the art would have known, Petitioner’s declarant, Mr. Occhiogrosso, points out 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 ¶ 40 (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. Accordingly, we find reason to modify the two-line configuration of Liebermann to have an on/off switch, so that the device is usable by assisted and hearing users, as was known in the art.

Further, it is apparent that these modifications are within the level of ordinary skill. Liebermann already has the voice of the hearing user going to the assisted user’s device (*e.g.*, Ex. 1006, 5–6 (“the line between the normally hearing person and the deaf person is analog for voice content only”)), so the modification is 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.²⁰ A person of ordinary skill in the

¹⁹ Patent Owner’s declarant, Mr. Zatkovich, testifies that the bypassed Engelke ’405 device would operate as a normal telephone. Ex. 2013 ¶ 81 (testifying that the on/off switch “literally caused a bypass of the entire internal components of the captioned telephone device so that the device could be operated as a standard telephone without connecting to the relay”).

²⁰ Even if Liebermann did not have a speaker and microphone, Engelke ’405 does.

telecommunications art has engineering or equivalent technical experience with telephone systems, and we find no evidence suggesting that the modification would be beyond that level of skill. *See* Ex. 1009 ¶¶ 27, 34; Ex. 2013 ¶ 26 (applying a level of ordinary skill as a person familiar with telecommunication systems); PO Resp. 3 (not arguing the level of ordinary skill). As to the addition of an on/off switch, we likewise find the simple electrical switch of Engelke '405 (*see* Ex. 1005, Fig. 1) to be within the level of skill of an engineer or a person with equivalent technical experience. Ex. 1019 ¶ 35.

2. Liebermann, Engelke '405, and Mukherji

As we explained in Section II.E.2, 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 communication 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 during a call. *Id.* Petitioner offers several reasons why it would have been obvious to have incorporated these features into the Liebermann/Engelke '405 combination discussed above. We discuss each of them in turn.

a. Known Technique Predictably Applied to a Known Device

Petitioner asserts that “a POSITA would recognize that the [captioning] could be invoked before a call started or after a call started.” Pet. 17 (citing Ex. 1009 ¶¶ 57–59); 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

Ex. 1005, claim 18.

“the architecture was in place” and Mukherji “provides the recognition that it is desirable in some circumstances to invoke text assistance mid-conversions.” 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.* (citing Ex. 1009 ¶¶ 58–59); Ex. 1009 ¶ 58 (“[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. 18; Ex. 1009 ¶ 59; Ex. 1019 ¶¶ 39–40.

Evidence and reason support Petitioner’s assertions. At base, Mukherji teaches a control that causes invocation of a text line in addition to a voice line. Providing such a feature in the Liebermann/Engelke ’405 device would operate in the same way, as Liebermann/Engelke ’405 already includes invocation of a text line in addition to a voice line, just 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 Liebermann/Engelke ’405.²¹ Thus, the added feature would operate in the same way as before (i.e., activating captions during a call), but would also operate on the existing two-line architecture of Liebermann/Engelke ’405. We recognize this would not be a copy-and-paste modification, as there would need to be some supporting circuitry and/or software to enact and accommodate the Mukherji

²¹ We reference the on/off switch of Engelke ’405 here. The passive on/off control in Engelke ’405 is similar to, but different from, the active control of Mukherji, as Patent Owner acknowledges throughout its Response. *See, e.g.*, PO Resp. 20–21.

activator control, but we find no evidence that this would be outside the level of ordinary skill. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (“the [obviousness] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ”). A person of ordinary skill in the art has a bachelor’s degree in electrical or computer engineering and experience in telephone communication system architecture, design, and implementation. Ex. 1009 ¶ 27. Thus, they have a skill set that allows them to implement disclosed functions via software and/or electronics. *See also id.* ¶ 58–59 (Petitioner’s declarant, Mr. Occhiogrosso, testifying why the proposed modification would be readily implementable). Further evidence shows that a person of ordinary skill in the art needs little guidance to implement disclosed functions. For example, Mukherji itself speaks very little of how to enact the activator control, leaving it to the level of ordinary skill in the art. *See Hybritech*, 802 F.2d at 1384. Likewise, the ’838 patent speaks very little of how to enact its activator control. *See* Ex. 1001, 7:31–8:11 (describing the device implementing the claimed feature in little technical detail).

In addition, the existing two-line architecture of Liebermann/Engelke ’405, which provides simultaneous voice and text, would provide the underlying voice and text services. Mukherji’s connections do not involve a relay, but Mukherji is not relied on to teach the physical layer of the two-line architecture, and we find no evidence or logical reason that the notion of providing voice-to-text service during a voice call is dependent upon a particular physical layer. *See* Ex. 1009 ¶¶ 58–59 (Petitioner’s declarant testifying that the combination simply provides making an automatic feature manual, and that that would be predictable).

b. Obvious to Try

Petitioner asserts 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. Pet. 19. Petitioner asserts that a person of ordinary skill in the art would look to Mukherji’s teaching and try to implement it (when considering another text assistance device, such as Liebermann/Engelke ’405). *See id.* We find that Mukherji teaches all of the possible logical permutations for how to use text assistance and that the universe of possibilities is very small. We also find that Mukherji, directed to the general telecommunications field, would commend itself to a person of ordinary skill in the art when considering problems involving deaf and hard-of-hearing users. Lastly, we find ample reason to look for solutions for hard-of-hearing users in terms of offering them telephone services more like conventional telephones. Ex. 1005, 2:9–27, 31–49; Ex. 2035, 10. Accordingly, we find that a person of ordinary skill in the art would have a design need or market incentive and would be apprised of the known options for when to provide text assistance during a voice call (start of call, during call, not at all). *KSR*, 550 U.S. at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.”).

c. Use of Known Technique to Improve Similar Devices in the Same Way

This rationale is similar to the rationale discussed above in Section II.H.2.a. *See* Pet. 20–23. Petitioner first describes the Liebermann/Engelke ’405 combination. *Id.* at 20–21. Then, Petitioner asserts that Mukherji is in the same field of endeavor as Liebermann and Engelke ’405. *Id.* at 21. Petitioner asserts that the devices are similar in that they are intended to assist with understanding foreign language speakers, store copies of transcripts, contemplate a speech-only

or speech-and-text mode of operation, and they generally deal with the problem of assisting users in comprehension. *Id.* (citing Ex. 1007, 6:20–32 (foreign language), 2:4–7 (transcripts), 6:65–7:4 (modes), 1:32–36 (comprehension); Ex. 1005, 14:51–61 (foreign language), 14:61–15:3 (transcripts), 4:54–58 (modes), 2:39–45 (comprehension); *see also* Ex. 1009 ¶¶ 50–53 (Petitioner’s declarants testimony as to the same). Petitioner further explains that the references deal with these problems of understanding in the same way, by providing text of the voice conversations. Pet. 21–22. Accordingly, Petitioner concludes that it would have been obvious to look to improvements in Mukherji to provide the same benefits to Lieberman/Engelke ’405. *Id.* at 22; *see also id.* at 22–23 (providing further explanation).

Based on this evidence, we find that these references are all addressing similar problems in the art. That they are addressing similar problems in similar ways (e.g., providing voice-to-text) is further evidence that a person of ordinary skill in the art would have considered each of them to determine its contributions to the art. But, that they are addressing similar problems does not necessarily mean that all possible combinations of their teachings would have been obvious. Notwithstanding, there are instances where it is legally sufficient for the reason given in an obviousness analysis to be little more than observing that the feature provides a benefit and by adding that feature, the benefit of having that feature would be obtained, when the result is predictable. As the Supreme Court stated in *KSR*, this is appropriate when “the improvement is [no] more than the predictable use of prior art elements according to their established functions.” *KSR*, 550 U.S. at 417. In *KSR*, the Court described a situation where the combination was to take an existing device and add a second device, where each were doing what they did before, just in combination. *Id.* at 416–17 (discussing *Anderson’s–Black Rock*,

Inc. v. Pavement Salvage Co., 396 U.S. 57, 60–62 (1969)). Although that case essentially involved the grafting of physical structures performing related but independent functions, it is still instructive here. The analogous situation here is that adding Mukherji’s on-demand activator adds a new function to the Liebermann/Engelke ’405 device without changing the essence of what Liebermann/Engelke ’405 did before, and by adding that new function in a way such that it performed the same function as it does in Mukherji. In other words, the established function of Mukherji is to provide on-demand text, and that is exactly what it would do in Petitioner’s proposed combination. As Petitioner’s declarant testifies, the result is predictable in that the feature described in Mukherji would then be available in the Liebermann/Engelke ’405 device. Ex. 1009 ¶ 59.

3. *The Proposed Combination is not Hindsight*

Patent Owner argues that Petitioner’s proposed combination relies on hindsight. PO Resp. 22–26. Specifically, Patent Owner first argues that “a Petitioner must prove that a POSA would have recognized the specific problem *recognized by the inventors* and found it obvious to produce the claimed invention to solve that problem.” *Id.* at 22–23 (citing *Source Search Techs., LLC v. LendingTree, LLC*, 588 F.3d 1063, 1072–73 (Fed. Cir. 2009)). This argument is in direct conflict with Supreme Court precedent, and Patent Owner’s cite to *Source Search* is inapt. 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.* Effectively,

“neither the particular motivation nor the avowed purpose of the patentee controls.” *Id.* at 419.

Nothing in *Source Search* constrains the Supreme Court’s holding in *KSR*. In *Source Search*, the Federal Circuit discussed the state of the art and found that the prior art “lacked any meaningful filtering process,” a limitation required by the claim. *Source Search*, 588 F.3d at 1073. The Federal Circuit then stated that the patent “places great emphasis on addressing this problem,” with “problem” meaning the filtering feature, as explained in the next sentence: “[a] person of ordinary skill in this art may not have even recognized the problem addressed by the filtering feature of the claimed invention.” *Id.* Accordingly, the Federal Circuit was not discussing reasons for combination, or requiring that a problem must be identified in order to avoid hindsight. Instead, it was simply observing that a limitation was missing from the prior art, highlighting that the limitation was important, and then further discussing how the prior art may not have even understood the importance of the feature recited in the limitation. Accordingly, the applicable legal precedent does not require Petitioner to provide reasons for combination that match the reasons inspiring Patent Owner’s invention.

Patent Owner also has not established what, if any, problem the inventors of the ’838 patent addressed. Patent Owner argues:

The problem the inventors of the ’838 Patent set out to address was the need to HOH^[22] users to have real time captions available on-demand before and during a phone call so that HOH users could use their residual hearing to the extent possible and be able to invoke captioning at any time it was needed.

²² “HOH” is an abbreviation for “hard of hearing.”

PO Resp. 23 (citing Ex. 2013 ¶ 126). Patent Owner cites to no portion of the '838 patent, or any other credible evidence, that the problem it now articulates was a problem considered by the inventors of the '838 patent. The declaration cited merely mimics the language in the Response with no supporting evidence, and is not sufficient to provide evidence in support of the argument. Ex. 2013 ¶ 126; see 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."). Accordingly, Patent Owner's argument attempting to establish a particular problem solved by the '838 patent fails.

Patent Owner then argues that the existence of some forms of assistance to hard-of-hearing users "does not make it obvious to tailor devices to the capabilities of users with *any* impairment in *any* way." PO Resp. 24. Here, however, Petitioner proposed to tailor the devices in the same way shown in the prior art. Specifically, Petitioner proposes to provide simultaneous voice and text as taught in Engelke '405, and Petitioner proposes to provide on-demand activation as taught in Mukherji. *See supra* Section E.1. We have found above that Petitioner's assertions in this regard were supported by evidence. Accordingly, the actual modifications to the prior art proposed are consistent with the articulated rationales. To put it another way, Petitioner's ground is not that all modifications would have been obvious, only those particularly set forth.

Patent Owner then discusses the individual problems addressed by the prior art. PO Resp. 24. Patent Owner points out that Liebermann is intended to be used by deaf persons, who do not need captioning, and that Engelke '405 only allowed turning on or off captions in advance of a call. *Id.* But, as we explained above, Engelke '405 recognized the problem of providing simultaneous voice and text to hard-of-hearing users and Mukherji recognized the problem of poor quality voice

communications requiring on-demand text transcriptions. *See, e.g., supra* Sections II.D.2 and II.D.3. Accordingly, Patent Owner is arguing the references in isolation.

Patent Owner lastly argues that “no relay service existed that provided both voice and text for a user that had diminished, but still functional hearing.” PO Resp. 25. This argument is unpersuasive because it fails to consider Engelke ’405 and Mukherji, both of which provide the exact service described by Patent Owner. What Patent Owner appears to be arguing is that no *commercial products* were on the market. Whether or not this is true is irrelevant; the relevant scope of the prior art is not so limited.

In conclusion, there is no legal requirement that the prior art recognize the problem solved by the inventor, there is no evidence supporting Patent Owner’s assertion of the problem the ’838 patent solves, and there is sufficient evidence in the record before us supporting the proposed combination to ensure that Petitioner’s proposed combination does not rely impermissibly on hindsight.

4. The Proposed Combination Does not Render Liebermann Inoperable

Patent Owner argues that Liebermann “embraces a specific function: allowing the deaf to communicate through the use of digitized ASL signals.” PO Resp. 27. Patent Owner argues that “adding voice and text functionality . . . would render *Liebermann* inoperable for its intended purpose.” *Id.* at 28; *see also id.* at 27–30 (further exposition of this argument). Patent Owner adds that “Liebermann’s intended purpose is directly tied to its principle of operation” and that adding voice and text would “frustrate its principle of operation.” *Id.* at 30–31. In support of its arguments, Patent Owner relies on *Plas-Pak Indus., Inc. v. Sulzer Mixpac AG*, 600 Fed. Appx. 755, 759 (Fed. Cir. 2015).

Patent Owner's argument, taken to its logical conclusion, would classify virtually every modification to a stated intent of a prior art device as a case for inoperability. *Plas-Pak* is not so restrictive. In *Plas-Pak*, the Federal Circuit found substantial evidence supporting the Board's finding that combining two references "would fundamentally alter [the first reference's] 'principle of operation.'" *Plas-Pak*, 600 Fed. Appx. at 758. The Board found that the particular mixing apparatus in the first reference prevents backflow in a unique and specific way. *Id.* The Board found that the proposed modification, however, would destroy the backflow functionality. *Id.* Because the backflow functionality was destroyed, the Board found the modification changed the first reference's "principle of operation." *Id.* at 759. In other words, the Board found it improper to remove the core component of the device in the manner proposed.

Here, Patent Owner points to specific uses of the device that change in the proposed modification to Liebermann (e.g., deaf vs. hard-of-hearing), but we do not find these changes to change the core features. That is, the structural connections that form the two-line architecture remain the same whether the signals carried between contain voice and text, or voice, text, and visual signals. The modifications are to features of Liebermann, and may affect the audience of users, but neither defines the core of what Liebermann is structurally. A non-deaf person could use Liebermann and it would still work—the user is not the principle of operation. Further, a proposed modification to change the audience of users from deaf persons to hearing persons does not mean that Petitioner is proposing to preclude deaf users from taking advantage of an unmodified Liebermann device. A proposed modification does not destroy or replace all prior instances of the prior art. Therefore, Patent Owner's arguments focused on the loss of features to deaf users do not tend to show non-obviousness; we do not find Petitioner's proposed

combination to fundamentally alter Liebermann's principle of operation. In addition, as Petitioner points out, Liebermann already contemplates sending text to the assisted user. Pet. Reply 8–9 (citing Ex. 1019 ¶¶ 36–37).

Liebermann is an electronic communications system that connects an assisted user, a hearing user, and a relay. *See, e.g.*, Ex. 1006, 6:64–7:9. We do not find sufficient evidence that the proposed modifications change the principle of operation or otherwise render it unfit. Instead, the proposed changes serve to build on an existing architecture for a new group of assisted users, as taught in Engelke '405.

5. The Articulated Rationales Are Legally Sufficient

a. Problems Allegedly Solved Already by Mukherji

Patent Owner argues that “Petitioner fails to identify a problem that was not already solved by Mukherji alone.” PO Resp. 31; *see also id.* at 32–33. Patent Owner is addressing the rationale we discussed in Section II.H.2.c, “Use of Known Technique to Improve Similar Devices in the Same Way.” *See id.* at 32 (citing Pet. 21–22). We agree with Patent Owner that the fact that the references share a desire to help foreign language speakers does not necessarily provide a reason to combine them in the manner proposed. *See id.* at 32. It simply establishes them as resolving a common problem in the field of endeavor. That the references are analogous art does not mean any combination of them would have been obvious. Notwithstanding, we are still persuaded by Petitioner's rationale. As explained by Petitioner, the overlap in problems solved means that a person of ordinary skill in the art would look to Mukherji “for additional teachings to improve the functionality and capabilities of Liebermann and Engelke '405.” Pet. 21–22. In other words, Petitioner is arguing Mukherji would be in the mind of a person of

ordinary skill in the art because of this overlap. As in *Anderson's–Black Rock*, combining closely related things to receive the benefits of both may be obvious. 396 U.S. at 60–62. As set out in further detail above in Section II.H.2.c, Petitioner has shown that the proposed combination is the use of a known technique to improve a similar device in the same way.

Patent Owner argues that Mukherji alone provides a solution to the problem of communicating over the internet, such that a person of ordinary skill in the art would not have considered the combination obvious. PO Resp. 33 (citing Pet. 23–25). Patent Owner's argument is in response to a rationale we did not discuss above because it only appears to pertain to certain dependent claims, e.g., claims 6, 16, 23, and 28. In particular, Petitioner proposes that it would have been obvious to include the packet-based internet communications of Mukherji in the proposed combination. Pet. 23–25. This rationale does not serve to provide a reason why it would have been obvious to provide the on-demand feature, and as such, we did not discuss it above. To the extent Patent Owner argues that this rationale at pages 23–25 of the Petition does not provide sufficient reasoning for adding the on-demand feature, we agree, but this does not affect our analysis because there are other rationales for adding the on-demand feature (*see supra* Sections II.E.2 and II.H.2.a–c).

b. Using Mukherji in the Same Way

Patent Owner argues that the technique of Mukherji could not improve Liebermann/Engelke '405 in the same way. PO Resp. 34; *see also id.* at 34–35. Patent Owner characterizes Mukherji as “initiat[ing] the sole session between the two callers directly and then either starts sending text packets or not.” *Id.* at 34. Patent Owner further argues that this “conflicts with *Liebermann's* common ‘center’ and *Engelke '405's* Call Assistant Relay.” *Id.* This argument either

misunderstands the proposed combination or improperly assumes bodily incorporation. *See also* Pet. Reply 10 (“Patent Owner narrowly characterizes the ‘way’ that these references work to make this point.”). The technique taken from *Mukherji* is to open up the second, text line prior to or during the call. Pet. 16 (“a POSITA 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”). Thus, the proposed combination is not to replace all of the connections of *Liebermann/Engelke* ’405, but rather to provide for the technique of on-demand text assistance. As such, there is no conflict.

Patent Owner also argues that *Liebermann* and *Engelke* ’405 were not ready for improvement because “[p]ost-*KSR* jurisprudence has only considered prior art ready for improvement where the asserted prior art is actually commercially available.” PO Resp. 34–35 (citing *Ohio Willow Wood Co. v. Thermo-Ply, Inc.*, 2009 WL 6499349, at *6 (E.D. Tex. Nov. 20, 2009)). This argument misunderstands the implication of the case law, and is logically deficient.

First, from a logical standpoint, even if all cases finding the prior art ready for improvement involved a finding that there was a commercially available product, that does not mean that every ready-for-improvement rationale requires a commercially available product.

Second, the *Ohio Willow Wood* case cited by Patent Owner, which is not binding precedent, does not stand for the provision Patent Owner advocates. The court there reasoned that “use of an appropriate fabric is not sufficiently unpredictable to create a patentable invention.” 2009 WL 6499349, at *6; *id.* at *6 n.5 (citing *Ball Aerosol & Specialty Container, Inc. v. Limited Brands, Inc.*, 555 F.3d 984, 992–93 (Fed. Cir. 2009) (holding that the combination of placing feet on the bottom of a candle holder and using the cover as a base for the holder in order

to reduce heat transfer from the candle holder to the adjacent surface, was predictable and predicated upon common sense)). The court characterized this rationale as fitting the “application of a known technique to a piece of prior art ready for the improvement,” citing *KSR*. *Id.* Only after this did the court conclude that “all claim limitations are met by the combination of the Silosheath and Klasson patent, as commercially embodied in the ICEROSS liner.” In other words, the fact that the ICEROSS liner had a commercial embodiment did not come into play with the reason to combine, but rather as teaching limitations in the prior art.²³ The court did not state that ICEROSS being a commercial embodiment played into its decision regarding rationale.

Third, and last, Petitioner provides a counterexample that renders invalid Patent Owner’s assertion that a product must be commercially available to be ready for improvement. Pet. Reply 10 (citing *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1367 (Fed. Cir. 2008)). In *Sundance*, our reviewing court held that the claims of a patent were the mere application of a known technique to a piece of prior art ready for the improvement. 550 F.3d at 1367. There is no discussion of whether the prior art references, which were patents (*id.* at 1359), were commercially available.

c. Teaching Away – Mukherji

Patent Owner argues that Mukherji teaches away from the use of two lines. PO Resp. 35–36. Patent Owner argues that Mukherji teaches away from using a

²³ ICEROSS is the commercial embodiment of one of the patents, Klasson, in the obviousness challenge. 2009 WL 6499349, at *5. The relevance of citing to the ICEROSS embodiment rather than just the patent is to provide additional evidence regarding the features of the Klasson patent. See *id.* (citing to evidence regarding the size of the ICEROSS liner and a journal article discussing ICEROSS).

relay, and that Mukherji “uses local conversion of voice to text to prevent the degradation of voice communications over the internet.” *Id.* at 35. According to Patent Owner, this means 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.” *Id.* (citing Ex. 2013 ¶ 169).

We do not find Mukherji to teach away. Mukherji does not discuss two-line relays implicitly or explicitly, let alone criticize or disparage them. Patent Owner cites to *DePuy Spine*, but only includes the language from another case cited therein, *Ricoh*, and fails to include the important “however” in the following sentence of *DePuy Spine*, as shown in the excerpt below:

“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.” *Ricoh Co., Ltd. v. Quanta Computer Inc.*, 550 F.3d 1325, 1332 (Fed.Cir.2008) (quoting *In re Kahn*, 441 F.3d 977, 990 (Fed.Cir.2006)). 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. *In re Fulton*, 391 F.3d 1195, 1201 (Fed.Cir. 2004).

DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc., 567 F.3d 1314, 1327 (Fed. Cir. 2009) (emphasis added). Thus, teaching away requires an explicit teaching of some kind, not just the presence of something different. Mukherji does not discuss, nor does Patent Owner allege that it discusses, relays or two-line architectures. Accordingly, it does not teach away from them.

Further, we do not find Mukherji’s “packet degradation problem,” as Patent Owner terms it (PO Resp. 35), to weigh against Petitioner’s proposed combination. Patent Owner has not set forth sufficient facts to establish that the problem it

mentions exists in the proposed combination. Patent Owner cites to the declaration of Mr. Zatkovich, but his testimony merely mimics the Patent Owner Response, and contains insufficient explanation or evidence on point. *See* Ex. 2013 ¶¶ 167–169. Accordingly, we see no logical or evidentiary basis to find 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.” PO Resp. 35.

Instead, we find evidence that supports Petitioner’s assertion that one of ordinary skill in the art would have considered Mukherji and considered it obvious to utilize its on-demand voice-to-text features. Mukherji, in the fields of telephone communications and in assisted telephone communications, teaches a solution to a problem in those fields by providing on-demand voice-to-text when voice communications become difficult, or when simply desired by a user. Ex. 1007, 6:65–7:11 (“if a condition requiring a text enhanced session has been detected,” such as “upon a request from [either party],” voice-to-text transmission begins).

We acknowledge Patent Owner’s argument that it was degradation in communication quality of the transmission medium that seems to have originally driven Mukherji’s invention. *See, e.g., id.* at 1:21–24. The Supreme Court has held, however, that it is error to only consider prior art for those things it was designed to solve. *KSR*, 550 U.S. at 420 (it is error to “assum[e] that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem”). A person of ordinary skill in the art knew that hard-of-hearing persons would benefit from voice-to-text services. Ex. 1005, 2:9–27, 2:30–37. Mukherji provides a voice-to-text service. Ex. 1007, Abstract. Mukherji also teaches an improvement in voice-to-text service, to make it on-demand. *Id.* at 6:65–7:11. Faced with these teachings, we are persuaded that this is a case of “a technique . . . used to improve one device, and a person of

ordinary skill in the art would recognize that it would improve similar devices in the same way.” *KSR*, 550 U.S. at 417.

d. Matching Rationales to Combine

Patent Owner argues that the reason Petitioner offers to combine Liebermann and Engelke ’405 is different from the reason to combine Liebermann, Engelke ’405, and Mukherji. PO Resp. 36–37. Patent Owner argues that something is improper with this, but provides no persuasive explanation why, and no case law in support of this line of reasoning. Indeed, when questioned during oral argument as to the basis for this argument, Patent Owner’s counsel clarified that it was not arguing that the rationales had to be the same when there were two modifications. *See* Tr. 40:22–42:6.

6. Conclusions for Reasons to Combine

We find that Liebermann, Engelke ’405, Mukherji, and Engelke ’482²⁴ describe each limitation of the challenged claims. We find that Petitioner has articulated reasons, supported by evidence, explaining why the proposed combination of the teachings of Liebermann, Engelke ’405, and Mukherji, and of Liebermann, Engelke ’405, Mukherji, and Engelke ’482 would have been obvious. Prior to making our ultimate conclusion regarding obviousness, however, we must consider the evidence of secondary considerations.

I. Secondary Considerations of Non-Obviousness

Patent Owner offers arguments directed to evidence of secondary considerations of non-obviousness. PO Resp. 38–59. Evidence of secondary

²⁴ With respect to Engelke ’482, *see supra* n. 16. In particular, the rationale for this reference for claims 10, 18, 26, and 30 is not in dispute, and we have agreed with and adopted Petitioner’s rationale and analysis as our own.

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 counting 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 or services 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 or services (i.e., Patent Owner’s product). Ex. 2014 ¶ 54 (“The CaptionCall phone and service copied the ’838 Patent’s claimed features, as demonstrated in the chart below”); PO Resp. 39–40 (incorrectly asserting that Ex. 2014 ¶ 54 establishes that CapTel telephones and service perform the elements of the challenged claims).

c. Patent Owner’s Evidence is Lacking

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. 41. 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 1–30 of the ’838 Patent.” *Id.* ¶ 60. The sixty-seven 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. *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 of 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.

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 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 2015,²⁵ 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 ’838 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

²⁵ 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 product to which the asserted objective considerations are tied). We do not extend the presumption to the other CapTel models, or to the 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” Products and Services and/or Competitor’s Products as a Proxy for the Claimed Invention

Further, Patent Owner attempts to link “CapTel” in general, which potentially covers multiple captioning products and services, to the claimed invention. *See, e.g.*, PO Resp. 39 (“CapTel telephones and the CapTel service perform 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 41–42 (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 840i model of late 2015, 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 services²⁶ should be attributable to the claimed invention.

(1) “CapTel” Products

A trade name identifies a source of goods, not the goods themselves. What “CapTel” is, or what various structural devices or methods are marketed under that name, is fluid. Accordingly, something having the CapTel name does not necessarily refer to the same thing, especially at different points in time. For example, there have been several different models bearing the CapTel name and

²⁶ A discussion of the captioned telephone service market and how it operates is described in further detail below in Section II.I.2.b.

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.

(2) Captioned Telephone Industry

Even if the various products in the captioned telephone industry, and specifically captioned telephone service, share similar features, that does not 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 captioning products and 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”).²⁷ Although we have some evidence

²⁷ The “companies that provide the CapTel service” referred to by Petitioner’s counsel would be those companies licensing CapTel service. *See* Ex. 2060, 4

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,²⁸ and what product features were in the market during the 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

(discussing “companies that resell Ultratec's ‘CapTel’ service, such as Hamilton Relay and Sprint” and further noting that “Ultratec is not an FCC-certified IP CTS provider and thus does not directly provide service to consumers”).

²⁸ 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 that the captions are generated by voice recognition technology or any other particular way”); *see also infra* n.40 (explaining that we enter this Exhibit into the record because it was referenced in one of Patent Owner's Exhibits).

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 in an appropriate manner in an appropriate paper, and Patent Owner’s evidence of non-obviousness cannot be shown to be directed to the claimed invention. This, in and of itself, would allow us to conclude that the evidence of obviousness outweighs the evidence of non-obviousness. Notwithstanding, we discuss Patent Owner’s evidence of non-obviousness for the sake of completeness and because, as we explained in Section II.I.1.c, we can presume a nexus for a particular, late 2015 CapTel 840i model if we consider Patent Owner’s uncited evidence. Even if there were some amount of nexus between the claimed invention and the evidence of non-obviousness, however, the evidence of non-obviousness is not compelling. Our reasons follow.

a. Overview of Patent Owner’s Position

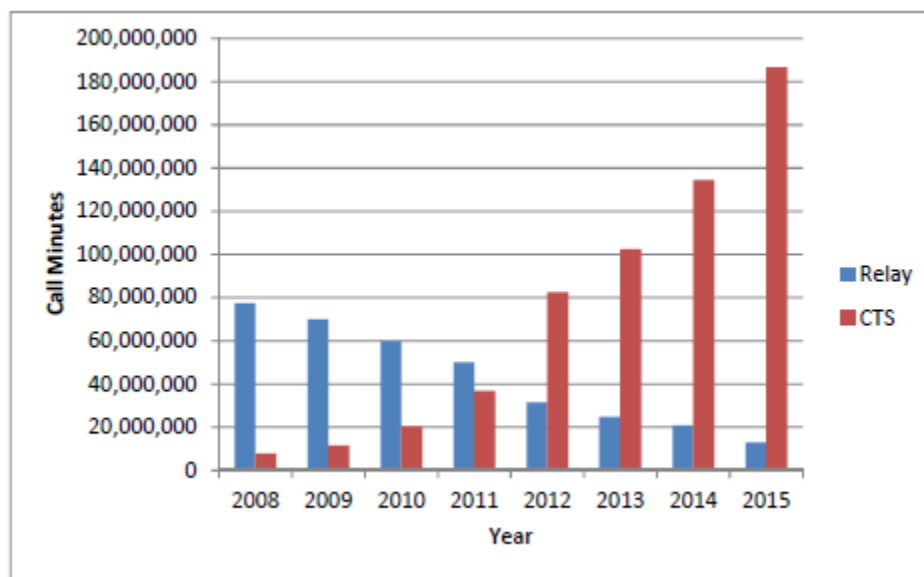
Patent Owner argues that CapTel was commercially successful. PO Resp. 40–44. Patent Owner argues that three features provide this success:

- (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 40 (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 40–41 (citing *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008)). As we discussed above, the only evidence here is the testimony of Mr. Ludwick’s declaration regarding the

CapTel 840i model of September of 2015. As evidence of commercial success, Patent Owner provides the reimbursement summaries for the federal telephone relay service fund.²⁹ According to Patent Owner, the reimbursements for captioned telephone has increased, while the reimbursements for standard relays have declined. *Id.* at 42. 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).

²⁹ 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.

b. Overview of the Relevant Marketplace

Commercial success, as a secondary consideration of non-obviousness, is premised on the idea that the marketplace will reward superior products. For example, if the introduction of a new feature causes a product to suddenly sell much better, then there is an indication that the new feature was highly desirable, and possibly non-obvious. There are several important caveats to analyzing the data, however, based on the notion that not all marketplaces are equal, and that context matters. *See 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”); *Schwinn Bicycle Co. v. Goodyear Tire & Rubber Co.*, 444 F.2d 295, 300, (9th Cir. 1970) (sponsorship by market leader “may be largely responsible for the success of the design”); *Cable Elec. Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1027 (Fed. Cir. 1985) (“this court . . . has unequivocally stated that for commercial success of a product embodying a claimed invention to have true relevance to the issue of non-obviousness, that success must be shown to have in some way been due to the nature of the claimed invention, as opposed to other economic and commercial factors unrelated to the technical quality of the patented subject matter.”) (overruled on other grounds in *Midwest Industries, Inc. v. Karavan Trailers, Inc.*, 175 F.3d 1356 (Fed. Cir. 1999)). For example, a large firm may be able to provide discounts that a smaller firm cannot afford, and if sale price is a major consideration for sales, that could affect the marketplace more than merit. Similarly, a heavily regulated marketplace can raise entry barriers that preclude competition, or may dictate certain requirements for products.

The market for telephone relay services is the latter—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;³⁰ (2) firms must be pre-approved to compete;³¹ and (3) features are dictated by regulation.³²

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. 42. This is not an apples-to-apples comparison 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 Commission (FCC) was petitioned to make captioned telephone service (i.e., simultaneous voice and text) reimbursable, and the petition

³⁰ *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.”

³¹ *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.”).

³² *See, e.g.*, Ex. 2049, 1 n.1 (discussing features required by federal regulation of captioned telephone service providers to be eligible for reimbursement).

was granted in 2005. *Id.* ¶ 29.³³ 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 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 &*

³³ *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.

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 in Sections II.I.1.c and d, 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. 40. We address the evidence directed to each of these three features, and then make our determination as to the evidence as a whole.

(1) 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 (emphasis added); *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 30 claims in the '838 patent. Only dependent claims 10, 18, and 26 require re-voicing. Patent Owner takes the position that all of the claims require re-voicing (*see* PO Resp. 49), 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 '838 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. *See* Ex. 1005, 14:35–47 (at a time prior to the earliest priority date of the '838 patent, contemplating the captioned telephone industry moving to wholly automated voice-to-text service). 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 10, 18, and 26, re-voicing was an already established feature in the art, and is being used in the '838 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, while two-line allows an assisted user to be dialed directly, this feature was also known in the art and is being used in the '838 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 to provide those benefits. Success in bringing known features to the market is not sufficient for showing non-obviousness. *Ormco*, 463 F.3d at 1312.

(2) 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.

(3) Commercial Success Was Due to Business Practices

Petitioner has also brought forward unrebutted evidence that business practices, rather than the merits of the invention, drove sales of captioned telephone devices. Pet. Reply 24. As we discussed above in Section II.I.2.b, 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.

This is where marketing incentives become instrumental. The FCC found that the expected reimbursement rate of CTS services began to exceed projected rates greatly around 2011. Ex. 1026 ¶ 8.³⁴ 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

³⁴ Perhaps coincidentally, this is when Petitioner’s competing product, CaptionCall, entered the market. Ex. 2060, 4.

seed the Texas market.”).³⁵ 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 preponderance of the 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 (*see supra* Section II.H.1) 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) (stating that “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 in Section II.I.1, that Patent Owner has not shown it should

³⁵ 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.*

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 infer³⁶ 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 unrebutted 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. 44–46. Patent Owner asserts that Petitioner had access to CapTel because the phone and service were publicly available in 2005. *Id.* at 45. 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 46

³⁶ See *supra* n.**Error! Bookmark not defined..**

(citing Ex. 2040 ¶¶ 3–5; Ex. 2044, 4, 12–14³⁷; Ex. 2043, 12, 18³⁸; Ex. 2045, 49:16–50:7³⁹).

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.” *Ecolchem, Inc. v. So. Cal. Edison Co.*, 227 F.3d 1361 (Fed. Cir. 2000). One reason why is that other competitors might not view the product as something protectable by patent, e.g., it being a straightforward design or simply containing known features. *See Cable Elec. Products*, 770 F.2d at 1028.

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, it seems entirely logical that Petitioner would

³⁷ 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.

³⁸ 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.

³⁹ Exhibit 2045 has been excluded and is not considered.

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))).⁴⁰ 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 SWOT⁴¹ 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 copying and again appears to be nothing more than due diligence.⁴² Petitioner argues that its employees have denied

⁴⁰ This Declaratory Ruling is entered into the record as Exhibit 3001.

⁴¹ Strengths, Weaknesses, Opportunities, Threats.

⁴² 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

copying and attempted to design its own product. Pet. Reply 20–21 (citing Ex. 2062, 116:7–13, Ex. 2048, 45:22–46:1⁴³). 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. 46–59. Patent Owner alleges it received praise in the form of awards, praise from telecommunications companies, hard-of-hearing associations, customers, and family members, and Petitioner. *Id.* at 47–48. Patent Owner provides specific arguments and evidence directed to the voice and re-voicing features (*id.* at 48–54), the two-line feature (*id.* at 54–57), and the activator feature (*id.* at 57–59).

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

by evidence of record.

⁴³ Exhibits 2048 and 2062 have been excluded pursuant to Petitioner’s motion to exclude and are not considered for supporting this assertion.

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 in Section II.I.2.c.(1), 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. 51 (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 52 (citing Ex. 2014 ¶¶ 44–46).⁴⁴

⁴⁴ 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.

Patent Owner asserts that people with hearing loss pushed the FCC to have CapTel become a reimbursable service. *Id.* (citing Ex. 2015 ¶ 42).⁴⁵ 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 53–54 (citing Ex. 2015 ¶¶ 46–47). Patent Owner asserts that Sprint and Hamilton are licensees of its technology. *Id.* at 54 (pointing to no credible evidence in the record for the assertion that Sprint and Hamilton are licensees, or the context of the licenses).

(1) 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.

⁴⁵ 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.

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.⁴⁶

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. 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

⁴⁶ We further note that we have appropriately considered the praise from customers, as we considered it indicative of what features drove commercial success in Section II.I.2.

to the licenses as there is no credible evidence of record of them or whether the '838 patent or features described therein were the subject of the license.

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.

(2) 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. 50–52. However, this need was already recognized and met in the art, as disclosed 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.* 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 55–66 (citing Ex. 2015 ¶¶ 54–55).

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 in Section II.D.1, 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 '838 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 '838 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

(1) 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. 57. 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, simply 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).

(2) 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 (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.* at 98.⁴⁷ In other words, the

⁴⁷ 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.

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 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)⁴⁸). 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.

(3) Awards

Patent Owner asserts that the inventors of the '838 patent "have been the recipients of extensive praise in the industry in the form of industry awards." PO Resp. 47, 58–59 (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

⁴⁸ 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.").

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 Saks awards discussed in Ms. Battat’s testimony.⁴⁹ Accordingly, we find Ms. Battat’s testimony unpersuasive and not credible in this regard.

(4) Mr. Puzey

Patent Owner asserts that a former employee of Petitioner, Mr. Puzey, praised CapTel. PO Resp. 48 (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.

⁴⁹ 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 ’838 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 ’838 patent.

J. Conclusions for the Obviousness Analysis

We have discussed the evidence and arguments raised above. 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 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. But that idea already was dedicated to the public as of the effective filing date of the '838 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). 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 the common-sense business practice of looking at it for the purpose of determining a competitor's features). The alleged evidence of long-felt and unresolved need is also 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 1–30 of the '838 patent would have been obvious to a person of ordinary skill in the art at the time of invention.

III. CONTINGENT MOTION TO AMEND

A. Introduction

Patent Owner filed a Contingent Motion to Amend, requesting substitution of various claims in the event certain claims in the '838 patent were found to be unpatentable, an event that has come to pass as just explained. Having reviewed the briefing on Patent Owner's Contingent Motion to Amend, we determine that there are dispositive issues under 35 U.S.C. § 112 that preclude entry of the proposed substitute claims. We first discuss the relevant principles of law and then address the § 112 issues in turn.

1. Principles of Law – Motion to Amend in Inter Partes Review

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 claim. 35 U.S.C. § 316(d)(1)(B); 37 C.F.R. § 42.121(a)(3). Among other requirements, a patent owner must show support in the original disclosure of the patent for each claim that is added or amended. 37 C.F.R. § 32.121(a)(b)(1). 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 1292, 1306 (Fed. Cir. 2015) (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)).

2. Principles of Law – Written Description

“[T]he test for sufficiency [under 35 U.S.C. § 112(a) for written description] is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharm., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). This test “requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.” *Id.* “Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed.” *Id.* 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 Pharm.*, 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 Pharm.*, 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.” *Ariad Pharm.*, 598 F.3d at 1351. This inquiry is a question of fact. *Ariad*, 598 F.3d at 1351 (citing *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1575 (Fed. Cir. 1985)).

3. Principles of Law – Indefiniteness

The test for definiteness under 35 U.S.C. § 112(b) is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted); *In re Packard*, 751 F.3d 1307, 1313 (Fed. Cir. 2014) (“claims are required to be cast in clear – as opposed to ambiguous, vague, indefinite – terms. It is the claims that notify the public of what is within the protections of the patent, and what is not.”). The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.*, competitors of the patent owner, can determine whether or not they infringe. *All Dental Prodx, LLC v. Advantage Dental Products, Inc.*, 309 F.3d 774, 779–80 (Fed. Cir. 2002); *Packard*, 751 F.3d at 1313. In determining whether this standard is met, the definiteness of the language employed in the claim must be analyzed, not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. *In re Johnson*, 558 F.2d 1008, 1015 (CCPA 1977).

*B. Written Description – Linked Processor
(Claim 31)*

Proposed substitute claim 31 modifies independent claim 1 to contain the following limitation (among others):

wherein the captioned device processor is linked to the first communication link and the second communication link such that use of the captioning service by the assisted user is transparent to the hearing person for both incoming and outgoing calls

Mot. Amend, Appx. A, 3 (emphasis added). Patent Owner asserts that written description support for this limitation is found in the following passages:

Note that in this arrangement, as indicated in FIG. 5, voice and text are transmitted in opposite directions over a single telephone line between the PICT device and the relay, voice going to the relay and text returning on the same line. This arrangement of voice and text is the same as used for the personal interpreter.

...

However, that telephone connection is also connected through a transformer 82 to a 2-wire to 4-wire converter 84. Connected to the output of the converter 84 is a low pass filter 86, the output of which is the input to an amplifier 88. The output of the amplifier 88 is connected to a 2-wire to 4-wire converter 89 which connects, in turn, to the telephone line 78 which connects to the relay (not shown here).

...

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.

...

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. Amend 3 (citing Ex. 1001, 7:25–29, 37–43, 64–67, 8:33–40).⁵⁰ Patent Owner also cites to Figure 5 of the '838 patent and the testimony of Petitioner's declarant. Mot. Amend 3 (citing Ex. 2017, 109–111:1). Patent Owner provides no further explanation or analysis in its Motion.

Petitioner asserts that Patent Owner has not shown where this new limitation has sufficient written description support. Opp. Mot. Amend 10–11. Petitioner states that the relied-upon portion of the '838 patent does not discuss a processor, and the only mention of a processor in the written description states that the “microprocessor [would] be programmed . . . to operate the personal interpreter and perform its functions, in a manner well known in the art.” *Id.* at 10 (citing Ex. 1001, 4:9–14, Ex. 1019 ¶ 66). Petitioner also asserts that the '838 patent discusses a “microcontroller,” but that that component only operates the display and dials the relay on the second line. *Id.* at 10–11 (citing Ex. 1001, 7:43–49). Petitioner concludes that “[n]either of these functions relate to ‘transparency’ or indicate that the ‘microcontroller’ is connected to both links.” *Id.* at 11.⁵¹

Patent Owner asserts that the microcontroller 94 is linked to the first link via transformer 82 and components therebetween in Figure 5 of the '838 patent.

Reply. Mot. Amend 5.⁵² Patent Owner also asserts that “the way the

⁵⁰ There does not appear to be any dispute that the '838 patent specification is representative of the original disclosure. *See also* Mot. Amend 1–2 (mapping the '838 patent specification to the specifications of various parent applications).

⁵¹ We understand the terms “processor,” “microcontroller,” and “microprocessor,” as used by the parties and in the evidence, to be interchangeable.

⁵² Patent Owner fails to provide page numbers. Our citations count the number of pages past the cover page.

microcontroller is linked to the first and second line ensures that no signals from the second line are imposed onto the first line – an example of a captioning service that is ‘transparent’ to the hearing user.” *Id.* at 5–6 (citing Ex. 2094 ¶ 48). Lastly, Patent Owner asserts that the ’838 patent discloses that the first and second lines may be IP connections, “meaning the first line would necessarily be linked to the processor of the captioned telephone device.” *Id.* at 6 (citing Ex. 2094 ¶ 47).

Reviewing the arguments and evidence, we find that the “processor is linked” limitation in proposed substitute claim 31 does not have sufficient written description support. The limitation requires that the processor is “linked” to both communication links, and further requires that this link causes captioning service to be “transparent to the hearing person.” The ’838 patent does not provide sufficient written description support for at least the requirement that the processor is linked to the first communication link. We address Patent Owner’s three arguments in support.

1. Figure 6

Patent Owner cites to Figure 5 for support, but Figure 5 shows nothing relating to a microprocessor. We assume Patent Owner intended to cite to Figure 6, reproduced below:

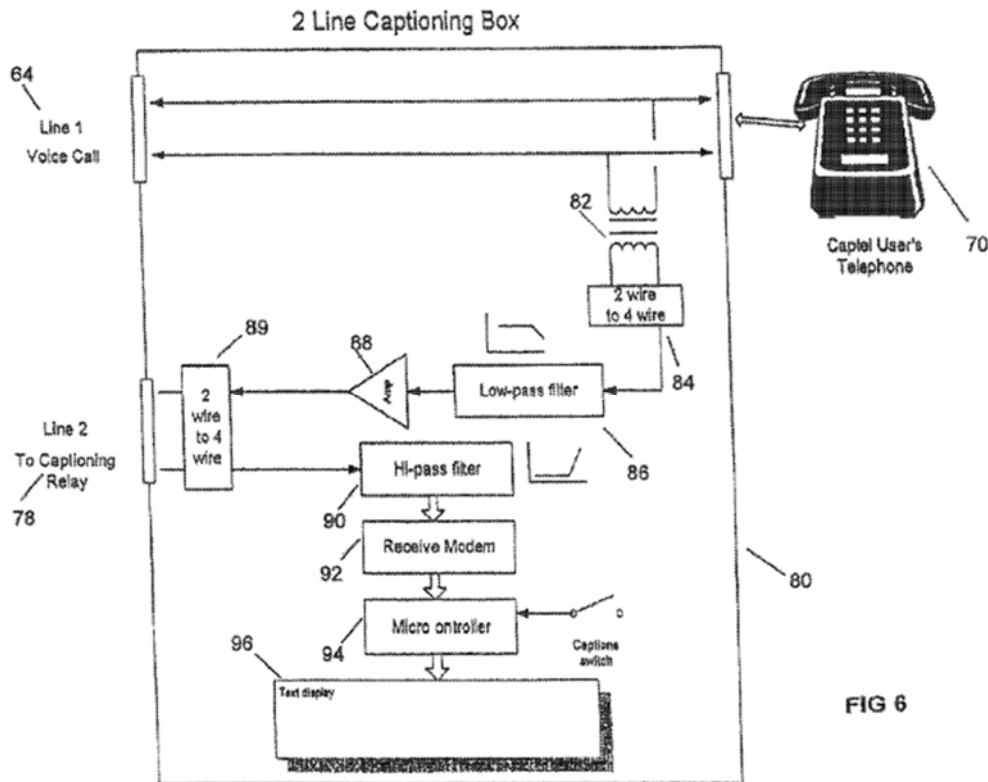


Figure 6 of the '838 patent depicts a schematic view of the internal components of a two-line device. We find that Figure 6 does not depict a connection between microcontroller 94 and first communication link 64. As the '838 patent makes clear, signals come off first communication link 64, are “output” from transformer 82 and converter 84 to amp 88, “output” from amp 88 to converter 89, which is then connected to second communication link 78. Ex. 1001, 7:37–43. These components are what takes the voice of the hearing user and feeds it back to the relay (for transcription to text). Signals coming from second communication link 78, i.e., from the relay, go to hi-pass filter 90, “the output of which passes through a receive modem 92 to a microcontroller 94.” *Id.* at 7:43–46. Microcontroller 94 also can generate DTMF dialing tones on second communication link 78, although that connection is not depicted in Figure 6 or

otherwise described. *Id.* at 7:47–49. Notably absent from this description is any link of the microcontroller to the first telephone line. Signals go off the first link to the second link, signals come back from the second link and go to the microcontroller, and signals somehow go from the microcontroller to the second link.

Patent Owner’s declarant, Mr. Zatkovich, testifies that there is a link, pointing to Figure 6, but provides no explanation in support of his position, which appears contrary to the disclosure and specification just described. Ex. 2094 ¶ 46. Accordingly, it is given little weight. Further, Patent Owner cites to the testimony of Petitioner’s declarant, Mr. Occhiogrosso, for the premise that “a POSA would understand the transformer 82 in Fig. 6 is used to isolate the incoming and outgoing signals, and that the arrows in Fig. 6 exiting transformer 82 depict a unidirectional signal flow.” Mot. Amend 3–4 (citing Ex. 2017, 109:6–111:11). This is evidence that microcontroller 94 is isolated from the first communications link, i.e., that it has nothing to do with it. Thus, the microcontroller 94 could not be “linked” to it.

2. *Implicit Because “Transparent”*

Patent Owner’s second argument, that the “transparent” limitation somehow implies a connection to the first link, also fails. Reply Mot. Amend 5–6. Patent Owner cites to its declarant, Mr. Zatkovich, for support, but his testimony is conclusory:

Furthermore, the way the microcontroller is linked to the first and second line in Figure [6] ensures that no signals from the second line are passed on to the first line to be detected by the hearing user. Indeed, considering the schematic shown in Figure [6], there is no path for voice or data from line two to travel to line one. This complete segregation of

all incoming signals on line two is a way of ensuring that the captioning service is “transparent” to the hearing user.

Ex. 2094 ¶ 48. Mr. Zatkovich does not explain how the *microcontroller* segregates the incoming signals. As explained in the ’838 patent, the signals coming from the second link go to converter 89, hi-pass filter 90, receive modem 92, and then to microcontroller 94. Ex. 1001, 7:43–46, Fig. 6. Microcontroller 94 sits at the end of a series of components *receiving* a signal. To the extent any splitting or segregation of a signal is described, it is converter 89 that performs such a function. See Fig. 6. Accordingly, we find that it is not implicit or inherent that microcontroller 94 operates the separate incoming signals.

3. *Inherent Because of IP Connections*

Patent Owner’s third argument, that if the first and second lines were IP connections, then the microcontroller would inherently be connected to the first line, also fails. See Reply Mot. Amend 6. Patent Owner cites to its declarant, Mr. Zatkovich, for support, but he merely asserts, without providing analysis or evidence, that “the first connection would inherently need to be connected to the microcontroller in order for . . . the connection to operate.” Ex. 2094 ¶ 47. His testimony is insufficient to establish inherent disclosure. See *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991) (to establish inherency, the extrinsic evidence “must make clear that the missing descriptive matter is necessarily present in the thing described in the reference”). There is no reason that the device itself needs a microprocessor at all to have the first line be an IP connection. The ’838 patent talks about providing alternatives to “traditional land-line two-wire telephone line[s],” such as ISDN, DSL, PCS/cell, or IP. Ex. 1001, 8:60–9:3. But *using Voice over IP (VoIP)* does not mean that the device necessarily is decoding packets and *acting as a VoIP service*. Indeed, Patent

Owner's CapTel 840i User Manual shows a VoIP connection that comes in the form of a standard telephone line. Ex. 2055, 13 ("Phone cord can be for analog, VOIP, fiber optic, Digital Cable service, or analog with DSL service."). Nor does it mean that the same microcontroller 92 that handles the display needs to also perform VoIP service, even if it did. Therefore, we find that it is not implicit or inherent that microprocessor 94 must be linked to the first communications link in order for the device to operate when using IP connections.

4. Conclusion Regarding the Linked Processor Limitations

We find that the '838 patent does not provide written description support for the limitation wherein "the captioned device processor is linked to the first communication link." As such, proposed substitute claim 31 does not satisfy the requirements of 35 U.S.C. § 112(a) for failure to meet the written description requirement.

C. Written Description – Processor Programmed Not to Initiate Captioning (Claims 32 and 34)

Proposed claim 32 would be a substitute for claim 2, and would depend from proposed claim 31. Proposed claim 34 would be a substitute for claim 14, and would depend from existing dependent claim 13, which depends from existing independent claim 12. Both of these proposed claims include new limitation "C":

[C] the captioned device processor is further programmed not to initiate the IP connection to the relay to invoke the captioning service unless the assisted user has operated the activator

Mot. Amend, Appx. A, 3–4, 6. Limitation C therefore is directed to a feature wherein the processor is not to initiate captioning unless the activator is operated. Patent Owner cites to the following as support:

By contrast, to use single line captioned telephone for an incoming call, the call must be directed through the relay to the assisted user at the beginning of the call. For a two-line captioned telephone call, however, the call can be started as a normal telephone communication session, without the relay or the captioning. Then, if the assisted user decides captioning would be helpful to his or her understanding of the conversation, the captioning service can be added while the call is in progress. To add the captioning service, the assisted user simply has the PICT device dial the relay over the second telephone line.

. . .

A call can be initiated or received by the assisted user in the same manner as with a conventional telephone, using only the first telephone line 64. When the user wishes to invoke the captioning service, the assisted user presses a button, 97, on the PICT device 80 that causes the device to automatically dial the relay on the second telephone line 78. 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.

Mot. Amend 4 (citing Ex. 1001, 7:10–21, 51–59). Patent Owner provides no further analysis or explanation in its Motion.

Petitioner asserts that neither of the cited portions “relates to programming the processor to not initiate the IP connection.” Opp. Mot. Amend 18. Petitioner adds that there is no support for the processor performing the claimed function, and “[t]his is not one of the two functions performed by the ‘microcontroller’ in the PICT device.” *Id.* Patent Owner replies that the microcontroller generates DTMF tones to dial the relay “only when the user operates button 97,” and the “device operates as a conventional telephone call . . . until the user activates captioning.” Reply Mot. Amend 7 (citing Ex. 1001, 7:47–56; Ex. 2094 ¶¶ 49–52).

Patent Owner seeks to take a recitation of a device performing a feature to achieve a result, and then attempts to claim the contrapositive of that.⁵³ The cited portions of the '838 patent describes a scenario: if a button is pressed, then captioning is initiated. The contrapositive of the described scenario is that captioning will not be initiated unless a button is pressed. From a logical standpoint, however, one can only convert the scenario into the contrapositive when the statement is an “if and only if” scenario, as opposed to an “if” scenario. For example, consider this scenario: “He will eat the donut if it is a jelly donut.” The scenario informs us that if the donut is a jelly donut, then he will eat it. What the scenario does not inform us, however, is if the donut is a glazed donut, whether he will eat it. In other words, because the scenario is not an “if and only if” scenario, we cannot assume the contrapositive. That is the case here. We know that if a button is activated, then the captioning will be initiated. But nothing in the '838 patent tells us that the only way to have captioning is if the button is activated. Accordingly, the contrapositive is not disclosed, nor logically inferable.

This is analogous to the case law surrounding negative limitations. A patentee cannot necessarily claim the absence of something just because that something was not disclosed in the written description. What is required is an indication that the inventor invented a device that did not have that something. *Santarus, Inc. v. Par Pharma., Inc.*, 694 F.3d 1344, 1351 (Fed. Cir. 2012) (“Negative claim limitations are adequately supported when the specification describes a reason to exclude the relevant limitation.”); *see also Inphi Corp. v. Netlist, Inc.*, 805 F.3d 1350, 1356 (Fed. Cir. 2015) (*Santarus* can be satisfied, in

⁵³ The contrapositive of $A \rightarrow B$ is $\text{not-}B \rightarrow \text{not-}A$. For example, if something is a dog, then it is an animal. If something is not an animal, then it is not a dog.

some instances, by listing alternatives). A key insight in *Inphi* is that a patentee may not “arbitrarily dissect its invention by amending the claims in order to avoid the prior art” through the use of negative limitations. *Inphi*, 805 F.3d at 1356. This arbitrary dissection is what Patent Owner is attempting to do here.

The example cited by Patent Owner in the specification explains that captioning begins when the user activates the button, but that does not disclose that captioning begins *only* when the user activates the button. The specification does not provide any particular reason or explanation that tends to put the reader on notice that captioning is *only* invoked when the assisted user activates that activator. We simply have been directed to an example where captioning begins after pressing a button. In this instance, we do not find that the example of how to invoke captioning provided by the specification would confer to a person of ordinary skill in the art that the only way to invoke captioning is through the example. As a person of ordinary skill in the art would be aware, captioning is often invoked immediately upon the receipt or placement of a call, without the user activating a button. *See, e.g.*, Ex. 1026 ¶ 6 (describing captioned telephone as where the “user’s phone is automatically connected to a captioned telephone CA at the same time she or he reaches the called party”). Thus, there is no reason for a person of ordinary skill in the art to assume that the specific example is the only way to have captions. Accordingly, we do not find written description support for limitation C in proposed substitute claims 32 and 34.

*D. Written Description – Processor Programmed
to Establish a Telephone Call
(Claims 32 and 34)*

Proposed substitute claims 32 and 34 also include a limitation D:

[D] wherein the captioned device processor is further programmed to, upon dialing by the assisted user but without the assisted user having selectively operated the activator, establish a telephone call solely using the telephone line, directly between the assisted user's captioned device and a conventional telephone device of the hearing person in the same manner as with a conventional telephone, such that the assisted user and hearing person can carry on a telephone conversation while the IP connection to the relay has not been established.

Mot. Amend, Appx. A, 3–4, 6. Limitation D is directed to the processor establishing a normal telephone call, without captioning. Patent Owner cites to the following for written description support:

By contrast, to use single line captioned telephone for an incoming call, the call must be directed through the relay to the assisted user at the beginning of the call. For a two-line captioned telephone call, however, the call can be started as a normal telephone communication session, without the relay or the captioning. Then, if the assisted user decides captioning would be helpful to his or her understanding of the conversation, the captioning service can be added while the call is in progress. To add the captioning service, the assisted user simply has the PICT device dial the relay over the second telephone line.

...

A call can be initiated or received by the assisted user in the same manner as with a conventional telephone, using only the first telephone line 64.

...

It may also be convenient for the user to package the PICT device as a single two-line unit intended to provide both conventional telephone service

Mot. Amend 4 (citing Ex. 1001, 7:10–21, 51–53, 8:16–18). Patent Owner provides no further analysis or explanation in its Motion.

Petitioner argues that there is no support for a processor programmed to allow a hearing person to carry on a conventional telephone conversation without the relay. Opp. Mot. Amend 18. Petitioner points out that the microcontroller is not described as having this feature. *Id.* at 18–19. Patent Owner responds that the two lines can be IP connections. Reply Mot. Amend 6.

As we found above in Section III.B.3, that the two lines can be IP connections does not mean that microcontroller 94, let alone any microcontroller, is required to assist in providing that connection. An IP connection may connect to a telephone in the customary manner without requiring a further microprocessor, and Patent Owner has not offered any evidence in support of its assertion. Accordingly, we do not find written description support for limitation D.

*E. Written Description – Processor at Call
Assistant’s Workstation (Claims 33 and 35)*

Proposed substitute claim 33 would replace claim 3 and would depend from proposed substitute claim 32. Proposed substitute claim 35 would replace claim 15 and would depend from claim 12. Both of these proposed claims include limitation F:

[F] wherein the processor at the call assistant’s workstation is further programmed not to send any voice signals from the call assistant to the captioned device

Mot. Amend, Appx. A, 7. Patent Owner proposes that the following provides written description support:

The PICT 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.

...

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. Amend 5 (citing Ex. 1001, 7:62–68, 8:33–40). Patent Owner provides no further analysis or explanation in its Motion.

Petitioner points out that the claim limitation is directed to a processor in the call assistant’s workstation, whereas the first cited portion is directed to the assisted user’s device. Opp. Mot. Amend 24. Petitioner points out that the second cited portion simply discusses what “transparent” means. *Id.* Patent Owner replies that the cited portions are discussing re-voicing relays, and that “a revoicing relay sends only text to the assisted user and not any voice signals.” Reply Mot. Amend 6 (citing Ex. 1001, 6:26–28; Ex. 1004, 6:53–60, 7:4–10; Ex. 2094 ¶¶ 53–54).

The cited passages do not describe a processor specifically programmed “not to send any voice signals.” Patent Owner’s argument seems to be that one would be obvious given the context of the disclosure, but even if this were true, that is insufficient to show written description. *Ariad*, 598 F.3d at 1352 (“a description that merely renders the invention obvious does not satisfy the [written description] requirement” (citing *Lockwood v. Am. Airlines*, 107 F.3d 1565, 1571–72 (Fed. Cir. 1997))). The cited passages do not even discuss a processor at the call assistant’s workstation, or voice signals not going to the captioned device, let alone a processor there that somehow specifically prohibits such a thing.

*F. Written Description – Linked Processor
(Claim 36)*

Proposed substitute claim 36 would replace claim 17 and would depend from existing independent claim 12. The claim includes a limitation wherein:

the captioned device processor is further programmed to maintain the second communication link directly between the relay and the captioned device and the first communication link directly between the captioned device and the hearing user

Mot. Amend, Appx. A, 7–8. Patent Owner alleges that support can be found in the following passages:

Thus in FIG. 5, the telephone of the hearing user 62 and the telephone of the assisted user 70 are connected directly by a simple single telephone connection, indicated by the telephone line 64. The assisted user then uses a personal interpreter/captioned telephone (“PICT”) device 74 to connect to a relay 76 over a second telephone line or connection, indicated at 78.

...

For a two-line captioned telephone call, however, the call can be started as a normal telephone communication session, without the relay or the captioning. Then, if the assisted user decides captioning would be helpful to his or her understanding of the conversation, the captioning service can be added while the call is in progress. To add the captioning service, the assisted user simply has the PICT device dial the relay over the second telephone line.

Mot. Amend 4 (citing Ex. 1001, 6:51–57, 7:14–21). Patent Owner provides no further analysis or explanation in its Motion.

For the reasons we found the processor is not linked to the first communications link, explained above in Section III.B, the processor cannot be programmed to do anything to it. The cited passages above add nothing to the analysis.

*G. Definiteness – Captioning Without Awareness
(Claim 36)*

Proposed substitute claim 36 includes a further limitation wherein:

the captioned device processor is further programmed to provide the captioning service to the assisted user without making the hearing person aware that captioning from the relay is being used, for both incoming and outgoing calls

Mot. Amend, Appx. A, 8. Patent Owner proposes that this limitation means “the captioning service can be provided without having to make the hearing person aware that a relay is being used, such that the hearing person perceives the call as simply a conventional telephone call.” Mot. Amend 6.⁵⁴

Petitioner alleges that this limitation is indefinite. Opp. Mot. Amend 4–5. Petitioner alleges that the ’838 patent “does not describe in what circumstances a hearing user may or may not be aware of a relay.” *Id.* at 4. Petitioner adds that the specification does not serve to provide “an objective standard when, and in what ways, a hearing user may or may not be aware of the captioning service.” *Id.* at 5. Finally, Petitioner argues that “Patent Owner elected to draft a claim that depends on the perceptions of the user, not one that prohibits ‘indication[s] to the hearing user that captioning is taking place.’” *Id.* at 4 (quoting Mot. Amend 7). Patent Owner responds that “whether any given hearing user is actually aware of captioning is immaterial - the *device* must simply be configured to provide the service without performing an overt action that makes hearing users necessarily aware of the service.” Reply Mot. Amend 3.

⁵⁴ This awareness limitation is similar to the “transparent” limitation of claim 31, as Patent Owner argues the two limitations together. *See* Mot. Amend 6–7; *see also* Ex. 2013 ¶ 175 (Patent Owner’s declarant, Mr. Zatkovich, addressing these two limitations as one). We consider arguments and evidence directed to “transparent” to be equally applicable to “aware.”

Patent Owner’s argument highlights the ambiguity of its claim. The claim is directed to a structure (a programmed processor) but its scope is defined in terms of the subjective experience of a person (hearing person’s awareness). It is not clear what the scope is of things the processor must be, or cannot be, programmed to do in order to not “mak[e] the hearing person aware that captioning from the relay is being used” as claimed.

The ’838 patent offers hints as to what “aware” might mean.

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.

...

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 outgoing calls.

Ex. 1001, 7:64–67, 8:33–40.

The ’838 patent here states that an absence of awareness is the absence of the captioning signals being heard, and as the ability to invoke captioning without involving the hearing user (i.e., without requiring the hearing user from dialing into a relay first, or vice versa). But neither of these features is attributable to a processor. As shown in Figure 6 of the ’838 patent, filter 90 removes the captioning signals, which do not continue onto the line to the assisted user’s phone or to the first communication link. *Id.* at Fig. 6, 7:31–47. Likewise, the ability to invoke captioning without first going through a relay is a function of the two-line architecture. The only role the microcontroller plays is to dial the relay (*id.* at 7:47–49), but that functionality is already present in claim 12 from which claim 36

is to depend. *Id.* at 10:56–57, 11:1–3. This begs the question of what the processor is “further programmed” to do in proposed substitute claim 36.

Patent Owner’s argument appears to answer the question with a response of *anything else*, but what that *else* would be is undefined. *See* Reply Mot. Amend 3 (“the *device* must simply be configured to provide the service without performing an overt action that makes hearing users necessarily aware of the service”). Patent Owner alleges that there are five things recited in the ’838 patent as describing an unaware hearing user (*id.* (citing Ex. 1001, 7:62–67)), but this cite is to the reproduced portion above regarding not passing the captioning signals along, something the device does without use of the processor.

Accordingly, while it is possible to ascribe some meaning to the “aware” limitation, it is not clear what structure the claim requires. Those structures described in the ’838 patent regarding transparency and awareness do not involve a processor or are already claimed. Accordingly, it is not clear how a person of ordinary skill in the art reading the specification would know the scope of the claims, i.e., how to avoid infringement. *See All Dental Prodx, LLC v. Advantage Dental Products, Inc.*, 309 F.3d 774, 779–80 (Fed. Cir. 2002) (“The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.*, competitors of the patent owner, can determine whether or not they infringe.”).

In addition, we do not find evidence that the scope of “transparent” or unaware captioning is otherwise understood to be a specific set of features in the relevant art. For example, the FCC considers a call to be “completely transparent” even if the call is placed on a one-line system where the users must call through a

relay. See Ex. 2013 ¶ 36 (quoting an FCC document).⁵⁵ Specifically, the feature the FCC credits to provide transparency is the speed of the captions and the fact that the call assistants do not need to interact with the users. See *id.* Patent Owner’s declarant, Mr. Ludwick, provides a similar definition of “transparent.” Ex. 2014 ¶ 35 (“because the call assistant is merely providing captions . . . and is able to do so at a speed roughly equivalent to the rate at which most people speak . . . the call assistants in CapTel service are transparent”). Other declarants similarly express their understanding of transparency in terms of speed of service and/or the two-line architecture. See, e.g., Ex. 2014 ¶¶ 39, 45, 49 (Patent Owner’s declarant, Mr. Ludwick, crediting transparency to the two-line architecture, i.e., not having to dial the relay first); Ex. 2015 ¶¶ 45, 46, 49, 52, 56 (Patent Owner’s declarant, Ms. Battat, crediting transparency to the speed of service and/or the two-line architecture); Ex. 2017, 158:14–25 (Petitioner’s declarant, Mr. Occhiogrosso, crediting transparency to the two-line architecture). Accordingly, we do not find “transparent” or not “aware” to be understood by a person of ordinary skill in the art to have a particular meaning outside of that already discussed and not attributable to the further programmed processor of claim 36.

Thus, we find that a person of ordinary skill in the art would not understand what “the captioned device processor” is “further programmed” to do. As such, the limitation is not sufficiently definite.

⁵⁵ Mr. Zatkovich here cites *Telecommunications Relay Services, and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CC Dkt No. 98-67, CG Docket No. 03-123, FCC 05-141, ¶¶ 3–4 Order (July 19, 2005).

H. Conclusions Regarding Motion to Amend

We do not find sufficient written description support for the linked processor limitation of proposed substitute claim 31. This deficiency extends to proposed substitute claims 32 and 33, which depend therefrom. We do not find sufficient written description support for the processor programmed not to initiate limitation of proposed substitute claims 32 and 34. This deficiency extends to proposed substitute claim 33, which depends from claim 32. We do not find sufficient written description support for the processor programmed to initiate a telephone call of proposed substitute claims 32 and 34. This deficiency extends to proposed substitute claim 33, which depends from claim 32. We do not find sufficient written description support for the processor at a call assistant's workstation of proposed substitute claims 33 and 35. We do not find sufficient written description support for the linked processor of proposed substitute claim 36. We do not find sufficiently definite the processor that captions without awareness of proposed substitute claims 36.

Accordingly, proposed substitute claims 31–36 lack written description support under 35 U.S.C. § 112(a) and proposed substitute claim 36 is indefinite under 35 U.S.C. § 112(b). The Contingent Motion to Amend must, therefore, be denied.

IV. ORDER

In consideration of the foregoing, it is hereby:

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

FURTHER ORDERED that Petitioner's Motion to Exclude is *granted* as to Exhibits 2045, 2046, 2048, and 2062, but otherwise *denied*;

FURTHER ORDERED that claims 1–30 of the '838 patent have been determined to be *unpatentable*;

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

FURTHER ORDERED that this is a Final Written Decision under 35 U.S.C. § 318(a) and that parties to the proceeding seeking judicial review of the decision under 35 U.S.C. § 319 must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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