

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMAZON.COM, INC. and AMAZON WEB SERVICES, LLC,
Petitioner,

v.

PERSONALIZED MEDIA COMMUNICATIONS, LLC,
Patent Owner.

Case IPR2014-01532
Patent 7,801,304 B1

Before KARL D. EASTHOM, TRENTON A. WARD, and
GEORGIANNA W. BRADEN, *Administrative Patent Judges*.

WARD, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318 and 37 C.F.R. § 42.73

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6(c), and this Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 11, 16, 18, 22, 23, and 24 of U.S. Patent No. 7,801,304 B1 (Ex. 1004, “the ’304 patent”) are unpatentable. We also determine that Patent Owner has not met its burden on its Motion to Amend regarding entry of the proposed substitute claims, and thus, we deny the Motion to Amend.

A. Procedural History

Amazon.Com, Inc. and Amazon Web Services, LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 1, 11, 16, 18, 22, 23, and 24 of the ’304 patent. Personalized Media Communications, LLC (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). Pursuant to 35 U.S.C. § 314(a), we instituted an *inter partes* review on three grounds: (1) claims 1, 11, 18, 23, and 24 as unpatentable under 35 U.S.C. § 103 in view of Guillou,¹ (2) claim 22 as unpatentable under 35 U.S.C. § 103 in view of Guillou, Block,² and Guillou ’011,³ and (3) claims 11 and 16 as unpatentable under 35 U.S.C. § 103 in view of Guillou and Block. See Paper 8 (“Dec. to Inst.”), 31.

¹ US Patent No. 4,337,483, filed Jan. 31, 1980 (Ex. 1007) (“Guillou”).

² US Patent No. 4,225,884, filed Jun. 30, 1978 (Ex. 1008) (“Block”).

³ US Patent No. 4,352,011, filed Jan. 23, 1980 (Ex. 1009) (“Guillou ’011”).

After institution of trial, Patent Owner then filed a Patent Owner Response (Paper 24, “PO Resp.”), to which Petitioner filed a Reply (Paper 35, “Reply”).

In addition, Patent Owner also filed a Contingent Motion to Amend (Paper 25), to which Petitioner filed an Opposition (Paper 36). Patent Owner then filed a Reply to Petitioner’s Opposition to the Contingent Motion. Paper 43.

Patent Owner filed observations on the cross-examination of Petitioner’s declarant (Paper 48), to which Petitioner filed a Response (Paper 51). Petitioner filed observations and amended observations on the cross-examination of Patent Owner’s declarant (Papers 49 and 53), to which Patent Owner filed a response (Paper 52).

An oral argument was held on Dec. 8, 2015. A transcript of the oral argument is included in the record. Paper 56 (“Tr.”).

B. Related Proceedings

Petitioner informs us that the ’304 patent is the subject of a lawsuit: *Personalized Media Commc’ns, LLC v. Amazon.com, Inc.*, No. 1:13-cv-1608-RGA (D. Del. Sept. 23, 2013). Pet. 1. According to Petitioner, the District Court’s judgment in the lawsuit has been appealed to the Court of Appeals for the Federal Circuit as Appeal No. 15-2008. Paper 38, 1. Six patents related to the ’304 patent are the subject of concurrently filed petitions for *inter partes* review. Pet. 1; Paper 38, 1; see IPR2014-01527, IPR2014-01528, IPR2014-01530, IPR2014-01531, IPR2014-01533, and IPR2014-01534.

C. The '304 Patent

The '304 patent is titled "Signal Processing Apparatus and Methods" and generally relates to a unified system of programming communication. Ex. 1004, Abstr. The challenged claims relate to methods of controlling the decryption of programming at a subscriber station or receiver station.

Claim 1 is reproduced below:

1. A method for controlling the decryption of programming at a subscriber station, said method comprising the steps of:

receiving programming, said programming having a first encrypted digital control signal portion and an encrypted digital information portion;

detecting said first encrypted digital control signal portion of said programming;

passing said first encrypted digital control signal portion of said programming to a decryptor at said subscriber station;

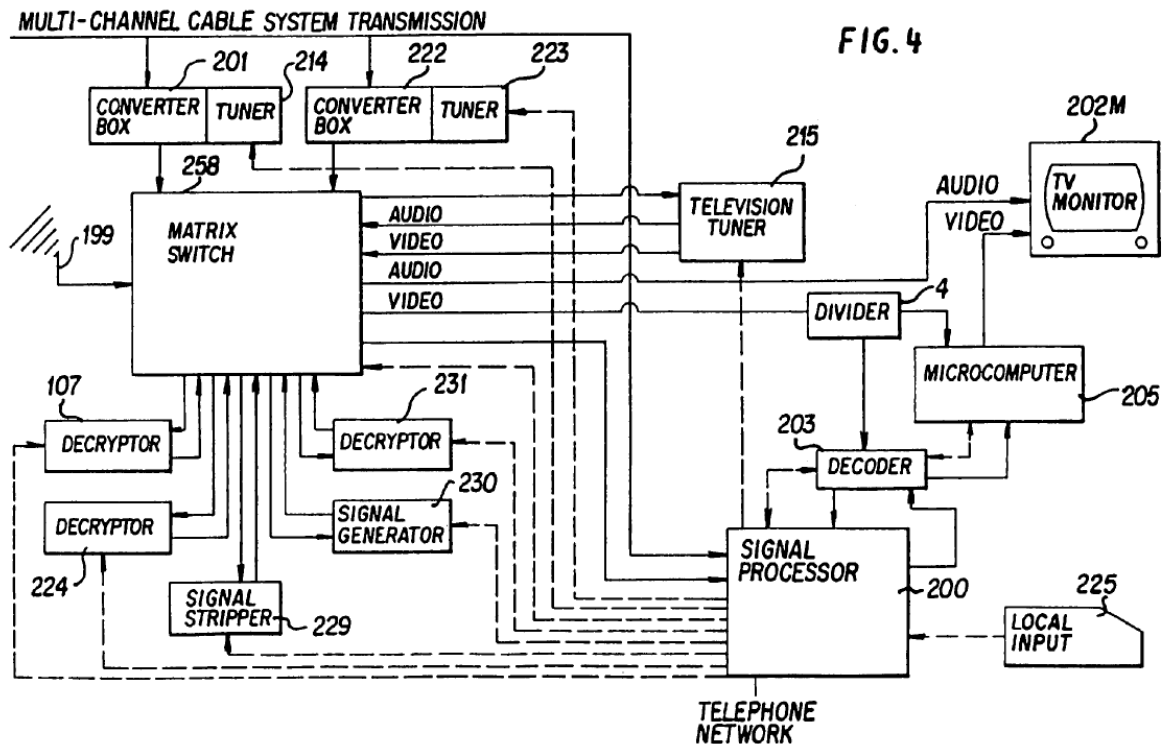
decrypting said first encrypted digital control signal portion of said programming using said decryptor at said subscriber station;

passing said encrypted digital information portion of said programming to said decryptor;

decrypting said encrypted digital information portion of said programming using said decryptor at said subscriber station based on the decrypted control signal portion; and
presenting said programming.

Patent Owner describes the '304 patent as directed to a system including doubly-encrypted content (e.g., digital video encrypted using two keys) and layered encryption (e.g., the content is encrypted with a key that is

itself encrypted). PO Resp. 4. The '304 patent describes access control to transmitted content at a receiver station. Ex. 1004, 143:39–49. Figure 4 of the '304 patent, reproduced below, illustrates a receiver station:



As shown above in Figure 4, the '304 patent discloses a receiver station having signal processor 200 to control tuners 214, 215, and 223, the switching of matrix switch 258, and decrypting by decryptors 107, 224, and 231. *Id.* at 148:12–16. In one example described in the specification, the “Wall Street Week” program is transmitted to the receiver station by a cable television head end. *Id.* at 149:5–8. Prior to transmission, the cable head end “encrypts the digital audio information of said transmission, in a fashion well known in the art, using particular cipher algorithm C and cipher key Ca, then transmits the information of said program on cable channel 13.” *Id.* at 149:8–12. Furthermore, a SPAM message consisting of a “01” header,

local-cable-enabling-message (#7), is transmitted with instructions that enable the “Wall Street Week” programming. *Id.* at 150:5–14. Executing the instructions at the receiver causes controller 20 (part of signal processor 200, *id.* at Fig. 3) to receive the cable channel transmission, select the information of a cipher key Ca from among the information portion, and transfer the cipher key to decryptor 107. Once the cipher key is received by decryptor 107, decryptor 107 then decrypts “using said key information and selected decryption cipher algorithm C, and output[s] [the] decrypted information of the audio portion of the ‘Wall Street Week’ program transmission.” *Id.* at 151:58–63, 152:25–30.

Subsequently, a second SPAM message that consists of an “01” header provides “1st-stage-enable-WSW-program” instructions as the information segment information. *Id.* at 153:19–24. Executing the “1st-stage-enable-WSW-program” instructions causes controller 20 to affect a first stage of decrypting the video information of the “Wall Street Week” program transmission. *Id.* at 153:47–50. Controller 20 selects the decryption cipher key Ba and transfers it to selected decryptor 224. *Id.* at 153:47–65, 154:10–11. Controller 20 causes decryptor 224 to commence decrypting the received information using decryption cipher key Ba and decryption cipher algorithm B. *Id.* at 154:10–14.

A third SPAM message provides “2nd-WSW-program enabling-message” instructions, causing the controller to affect a second stage of decrypting the digital video information of “Wall Street Week.” *Id.* at 156:44–56. The second stage of decrypting the video information of the “Wall Street Week” program transmission is completed using the decryption

cipher key Aa. *Id.* at 158:4–35. Finally, controller 20 causes the receiver station to commence the transfer of the decrypted television information of the “Wall Street Week” program to microcomputer 205 and monitor 202M. *Id.* at 159:34–40.

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015) (“Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation”), *cert. granted sub nom. Cuozzo Speed Techs. LLC v. Lee*, 136 S. Ct. 890 (mem.) (2016). Under that standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007)). With respect to this decision, our analysis would not be impacted by the application of the *Phillips* claim construction standard. *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005).

1. “decrypt and decryptor”

Patent Owner argues the Board should construe the term “decryptor” to mean “a device or method that uses a digital key in conjunction with an associated mathematical algorithm to decipher (render intelligible or usable)

digital data.” PO Resp. 9 (citing Ex. 2016 ¶¶ 47–48). Patent Owner argues that in the Decision on Institution, the Board incorrectly construed the term “decryptor” to include descramblers. PO Resp. 10 (citing Dec. to Inst. 25). Patent Owner notes that in discussing the construction of “decryptor” in the Decision on Institution, the Board relied upon the following express statement in the specification of the ’304 patent equating decryption and descrambling: “*decryptors*, 107, 224, and 231, *may be conventional descramblers*.” Dec. on. Inst. 25–26 (quoting Ex. 1004, 160:34–37) (emphases added)). “[T]here is a strong presumption against a claim construction that excludes a disclosed embodiment.” *See In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1324 (Fed. Cir. 2011). Patent Owner argues that the Board’s reliance on this statement in the specification of the ’304 patent is misplaced for three reasons discussed below.

First, Patent Owner argues that it disclaimed “decrypt” from encompassing analog descrambling during the reexamination of U.S. Patent No. 4,965,825 (“the ’825 patent”) and U.S. Patent No. 5,335,277 (“the ’277 patent”).⁴ PO Resp. 10 (citing Ex. 2016 ¶¶ 52–53). Petitioner argues that during those reexamination proceedings, the Board incorrectly concluded that the “decryption” excludes descrambling based on of the specification of U.S. Patent No. 4,694,490, which does not include the passage relied upon

⁴ The ’304 patent was filed on May 24, 1995 and is a continuation application of many applications, including both the ’825 patent and the ’277 patent, all of which are a continuation-in-part of US Patent No. 4,704,725, filed Feb. 14, 1986, which is a continuation of US Patent No. 4,694,490, filed Nov. 3, 1981.

in the Decision on Institution, “decryptors . . . may be conventional descramblers,” because that passage was added in a later continuation-in-part application. Reply 2–3 (citing Ex. 2005, 53, Ex. 2001, 67). Regardless, in rendering its decision in both of the reexamination proceedings, the Board did not address the express statement set forth in the specification of the ’304 patent at issue here that “the decryptors, 107, 224, and 231, may be conventional descramblers” (Ex. 1004, 160:34–37). See Ex. 2001, Ex. 2005. Therefore, we determine that any implication from the Board’s reexamination decisions is not applicable here in the context of construing the term “decryptor” with respect to the ’304 patent.

Second, Patent Owner argues that the ordinary and customary meaning of “decrypt” is to use a digital key to unlock encoded digital data and “descrambling” involves operations on reordering analog information. PO Resp. 12–13. As an example, Patent Owner cites Mr. Wechselberger’s statement in a declaration in unrelated litigation, *Broadcast Innovation, LLC v. Echostar Comm’s Corp.*, No. 01-WY-2201 (D. Col. Sept. 11, 2002), that “it is understood and accepted by those knowledgeable in the art that ‘encryption’ is a digital process.” PO Resp. 13 (quoting Ex. 2037, 8). In that same declaration, however, Mr. Wechselberger further explained that “the evolution of digital encryption-based security systems ultimately *resulted in more than one meaning for ‘scrambling’* in the TV security field” including to describe hard encryption processes performed on digital signals, but the “*specific system described would typically indicate to one of skill in the art which meaning was intended.*” Ex. 2037, 8 n.2 (emphasis added). In fact, the specification of the ’304 patent expressly states which meaning of

decryptor was intended with respect to the '304 patent, “decryptors . . . may be conventional descramblers.” Ex. 1004, 160:34–37.

Third, Patent Owner also attempts to explain away the express statement in the specification of the '304 patent by arguing that this passage from column 160 discusses a different embodiment where descramblers replace decryptors because the digital television programming content has been replaced with analog television programming content. The relevant passage from column 160 of the specification of the '304 patent is reproduced below:

For example, the decryption cipher key information and/or algorithm instructions and/or the location or locations of said key information and/or instructions may be computed in other, more complex or less complex, fashions. And for example, the transmitted programming may be processed through fewer than three steps of decryption or more than three. And for example, the “Wall Street Week” transmission may be of conventional analog television, and the *decryptors, 107, 224, and 231, may be conventional descramblers, well, known in the art, that descramble analog television transmissions and are actuated by receiving digital key information.*

Ex. 1004, 160:27–37 (emphasis added). Contrary to Patent Owner’s argument, the '304 patent describes that even the analog television transmission can be actuated by receiving digital key information. *See id.*

Despite Patent Owner’s many citations to related patents and related litigation, Patent Owner fails to cite to any evidence in the record directed specifically to the '304 patent of a disavowal or waiver of the express statement in specification of the '304 patent that decryptors may be descramblers. Accordingly, we construe the term “decryptor” with respect to the '304 patent to include descramblers.

2. “processor”

Petitioner argues that in the Decision on Institution, the Board correctly construed “processor” to mean “a device that operates on data.” Reply 5 (citing Dec. on Inst. 8). Petitioner argues that this construction matches Patent Owner’s proposed construction in the co-pending District Court litigation involving the ’304 patent. Pet Reply 5 (citing Ex. 1021, 2). In the related District Court litigation, Patent Owner proposed that “processor” be construed as “*any device capable of performing operations on data.*” Ex. 1021, 2 (emphasis added). Additionally, Mr. Wechselberger argues that the specification of the ’304 patent refers to many components as “processors” including components that perform a decrypting function. Ex. 1035 ¶¶ 34–37 (citing Ex. 1004, 75:30–34 (“A match results with particular comparison information that is the bit image of particular SPAM execution segment information that instructs URS signal processors, 200, to decrypt.”), 83:43–45 (“Said decryptor, 39K, is a conventional decryptor that is identical to decryptor, 10, of signal processor, 200.”))).

Webster’s Ninth Collegiate Dictionary ©1988 defines “processor” as “the part of a computer system that operates on data.” Ex. 2002, 3. An earlier edition of Webster’s Collegiate Dictionary ©1979, provides the same definition for processor as “the part of a computer system that operates on data.” Ex. 3001, 3.

Patent Owner argues that the term “processor” cannot be read so broadly as to ignore the teachings of the specification, and Patent Owner argues that the specification describes the processor as distinct and separate from a decryptor. PO Resp. 17 (citing Ex. 1004, 156:52–58). Patent Owner

fails to address, however, the portions of the specification in which “processors” include components that perform a decrypting function. *See e.g.*, Ex. 1004, 75:30–34, 83:43–45 (quoted above).

Accordingly, we maintain our construction from the Decision on Institution (Dec. to Inst. 8) and determine that the broadest reasonable construction of “processor” is “a device that operates on data.”⁵

B. Principles of Law

To prevail in its challenges to the patentability of the claims, a petitioner must establish facts supporting its challenges by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

⁵ This construction is consistent with the final written decision in related Case IPR2014-01534, wherein the Board determined that a “processor instruction” includes “a command or an instruction used or executed by a processor”; i.e., a “processor” is “a device that operates on data” (which operation may be pursuant to a processor instruction). *See IPR2014-01534*, Paper 55, 12.

We analyze the instituted grounds of unpatentability in accordance with the above-stated principles.

C. Level of Ordinary Skill in the Art

According to Petitioner's declarant, Mr. Wechselberger, a person of ordinary skill in the art relevant to the '304 patent would have had "a bachelor's degree in electrical engineering" and would have had between two to four years of experience in "broadcast or cablecast television transmission fields." Ex. 1006 ¶ 28. Patent Owner's declarant, Dr. Alfred Weaver ("Dr. Weaver") stated that a person of ordinary skill in the art relevant to the '304 patent would have had at least the equivalent of a bachelor of science in digital electronics, electrical engineering, computer engineering, computer science, or related technical degree, and two to five years of post-degree experience in a similar field. Ex. 2016 ¶ 31. Thus, the parties' assessments of the level of ordinary skill in the art are roughly equivalent.

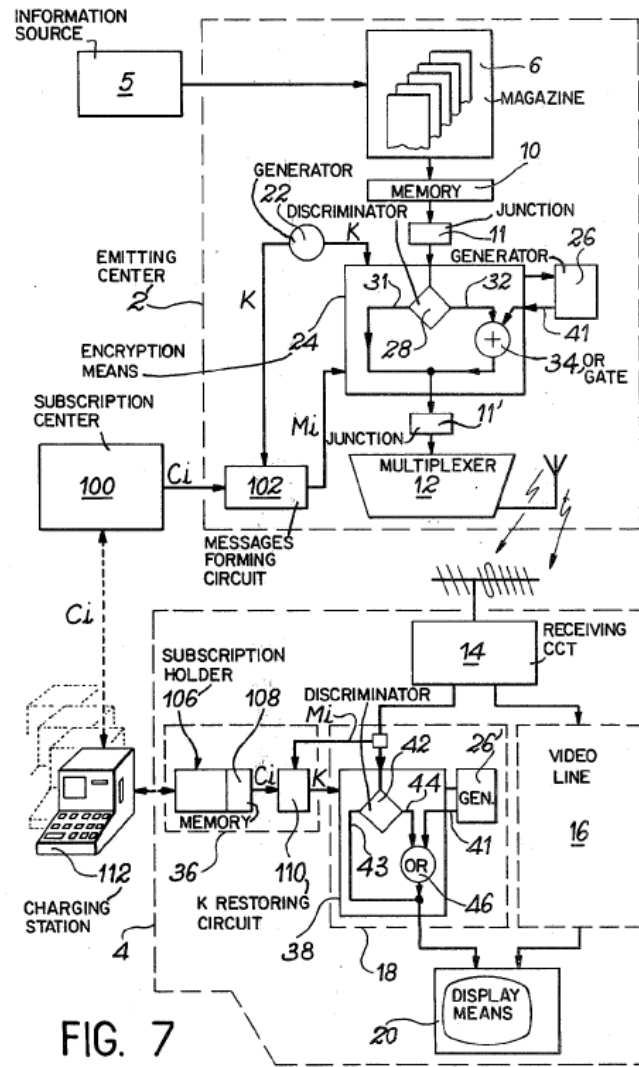
Based on our review of the '304 patent, the types of problems and solutions described in the '304 patent and cited prior art, and the testimony of Petitioner's declarant and Patent Owner's declarant, we adopt Patent Owner's definition of a person of ordinary skill in the art at the time of the claimed invention. We note that the applied prior art also reflects the appropriate level of skill at the time of the claimed invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

D. Asserted Obviousness In View of Guillou

Petitioner argues that claims 1, 11, 18, 23, and 24 would have been obvious in view of Guillou. Pet. 13–37; Reply 8–18. Patent Owner disputes Petitioner’s position, arguing that the cited references fail to teach or suggest all the elements required by the challenged claims. PO Resp. 18–51. We have reviewed the Petition, the Patent Owner’s Response, and Petitioner’s Reply, as well as the relevant evidence discussed in those papers and other record papers. We determine the record supports Petitioner’s contentions and adopt Petitioner’s contentions discussed below as our own. For reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 11, 18, 23, and 24 would have been obvious in view of Guillou.

1. Overview of Guillou

Guillou is titled “Text Video-Transmission System Provided With Means For Controlling Access To The Information” and describes a system having an information-emitting center, including an encryption means using an operating key, and receiving stations, which provides a decryption means using the operating key. Ex. 1007, Abstr. Figure 7 of Guillou illustrates one embodiment of system, and is reproduced below:



As shown above in Figure 7, Guillou discloses emitting center 2, including automatic encryption means 24, and receiving station 4, including automatic decryption means 38. *Id.* at 10:3–42. Guillou discloses that automatic decryption means 38 includes discriminator 42, adapted to distinguish among coded octets, and logic circuit 46 to output the decoded octets d_j to display means 20. *Id.* at 10:42–56. Additionally, Guillou discloses restoring circuit 110 for restoring the operating key K from message M_i . *Id.* at 16:1–7. The message forming circuit 102 forms messages M_i using the

subscriber's keys C_i and the operating key K according to an algorithm, $M_i = F_{C_i}(K)$. *Id.* at 15:51–57. Additionally, restoring circuit 110 in receiving station 4 receives the messages M_i and relies upon an algorithm, $K = G_{C_i}(M_i)$, to restore the signal corresponding to the operating key K used in the emitting station. *Id.* at 16:1–10. Guillou also discloses that “[a]s soon as a distribution centre generates a new operating key K , it calculates, for each current subscribers' key in use C_i for this service, a message M_i by means of an algorithm $M_i = F_{C_i}(K)$, with the keys C_i acting as parameters.” *Id.* at 8:44–48.

2. Analysis

a. Claim 1

Petitioner argues that Guillou teaches the method recited in claim 1 by teaching a digital encrypted key delivery process in which the encrypted digital data and the encrypted digital key are transmitted from an emitter center and received by a subscriber station. Pet. 17 (citing Ex. 1007, 2:8–14, 6:62–68, 8:5–43, 9:60–64, Figs. 1, 2, 7, 9). Petitioner argues that the claimed “first encrypted digital control signal portion” is taught by the disclosure of Guillou's message M_i , which contains the operating key K . *Id.* (citing Ex. 1007, 10, 8:55–58, 8:59–9:12, 15:42–16:17, 16:63–17:15, 18:19–59, 20:53–21:14, Figs. 2, 7, 8, 10). Furthermore, Petitioner argues that the claimed “encrypted digital information portion” is taught by the disclosure of Guillou's coded octets D_j , which are transmitted from the emitter center and received by the subscriber station. *Id.* at 18 (citing Ex. 1007, 2:23–27; 2:64–3:3; 5:53–57; 6:50–60; 7:33–42; 10:28–36; 11:3–10; Figs. 2, 7, 8).

Patent Owner argues that Petitioner's challenge is insufficient because Guillou fails to disclose the "decryptor," recited in claim 1. PO Resp. 52. More particularly, Patent Owner argues that claim 1 requires a *single decryptor* to perform both decrypting of the "first encrypted digital control signal portion" and the "encrypted digital information portion." *Id.* Petitioner contends, however, that Patent Owner improperly attempts to place arbitrary physical boundaries around Guillou's circuits but that a person of ordinary skill in the art would understand that Guillou's K-restoring circuit 110 and the automatic decryption means constitute a single, multi-stage decryptor. Reply 8–9 (Ex. 1035 ¶¶ 51–52). Furthermore, Petitioner argues that claim 1 merely requires a "decryptor," not a "single-stage decryptor"; thus, the claimed decryptor can contain any number of stages. Reply 9.

Petitioner also argues that to the extent that Guillou does not expressly disclose the claimed "decryptor," it would have been obvious to a person having ordinary skill in the art to combine both Guillou's K-restoring circuit 110 and automatic decryption means 38 (discriminator 42 and logic circuit 46) to constitute a single multipurpose decryptor. Pet. 24 (citing Ex. 1006 ¶¶ 58, 60–62, 67); Reply 10 (citing Ex. 1006 ¶ 61; Ex. 1035 ¶¶ 54–65). As a rationale for this modification, Petitioner states it would have been obvious for a person having ordinary skill in the art to consider or refer to both K-restoring circuit 110 and discriminator 42 logically as a single decryptor and that this would merely be a matter of design tradeoffs, such as signal processing requirements and cost. *Id.* Petitioner's declarant, Mr. Wechselberger, states that if the expected sales for the device were

sufficiently high, it would have been cost effective to design an Application Specific Integrated Circuit (“ASIC”) to implement K-restoring circuit 110 and discriminator 42 in one semiconductor chip. Ex. 1006 ¶ 61.

Mr. Wechselberger states that by 1981 the use of custom integrated circuits, such as ASICs, was common and there could have been significant cost savings by using a single integrated circuit over using discrete components to build the K-restoring circuit 110 and the automatic decryption means 38. *Id.* at ¶ 61.

Patent Owner disagrees and states such a combination is beyond the skillset of a person with a bachelor’s degree and 2–5 years of post-degree work experience in the field of communications. PO Resp. 52–53 (citing Ex. 2016 ¶ 87). Specifically, Patent Owner argues that nothing in the prior art suggests how a single decryptor would be capable of performing two different forms of alleged decryption in parallel. *Id.* 53 (citing Ex. 2016 ¶¶ 87–95). Furthermore, Patent Owner argues that substantial engineering would be required to build a single semiconductor chip and the costs of designing and implementing a decryptor would be very high. *Id.* at 54 (citing Ex. 2016 ¶¶ 95–101).

We are not persuaded by Patent Owner’s arguments. While less cost may provide motivation, merely because something has a high cost does not show unobviousness. *See Dystar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick*, 464 F.3d 1356, 1368 (Fed. Cir. 2006) (making something “stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient” constitutes a “commonsensical . . . motivation”). Rather, “if a technique has been 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, using the technique is obvious unless its actual application is beyond his or her skill.” *KSR*, 550 U.S. at 417. Contrary to Patent Owner’s arguments regarding substantial engineering and similar arguments about an alleged lack of capability, as summarized above and as discussed further below, Petitioner establishes that an artisan of ordinary skill could have implemented Gillou’s decryptor as an ASIC using known methods and would have had ample reason for doing so.

Even if the alleged high cost somehow shows unobviousness in designing an ASIC to implement Guillou’s K-restoring circuit 110 and the automatic decryption means 38, Patent Owner fails to address Mr. Wechselberger’s testimony that the decision to pursue a custom integrated circuit involves a cost analysis, such that if the “expected sales were sufficiently high and total cost (as explained above) was sufficiently low (tradeoffs I have made many times), one of ordinary skill would know that it would make commercial sense” to develop a custom integrated circuit. Ex. 1035 ¶ 56. Petitioner argues that this design choice would have been obvious to a person of ordinary skill in the art because it would offer significant cost savings over using discrete components. Reply 10 (citing Ex. 1006 ¶¶ 61–62; Ex. 1035 ¶¶ 56–58, 64). Thus, contrary to Patent Owner’s assertions, it may have cost less to implement an ASIC rather than the separate components of the K-restoring circuit 110 and the automatic decryption means 38. *See id.* Additionally, Patent Owner’s argument that nothing in the prior art suggests how a single decryptor would be capable of performing two different forms of alleged decryption in parallel is not

commensurate in scope with claim 1, because claim 1 recites a “decryptor,” not a single-stage decryptor and, as Mr. Wechselberger testifies, the inputs to, outputs from, and processing in the decryptor ASIC would be the same as that disclosed in Guillou, using the two different algorithms disclosed in Guillou, but integrated onto a single circuit. Ex. 1035 ¶ 54.

An 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.” *KSR*, 550 U.S. at 418; *see In Re Translogic Techs.* 504 F.3d at 1259. “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416. Petitioner sufficiently establishes that the combination of the decryptor logic in Guillou into a single device was a known method that would have yielded the predictable result of similar functionality in a single device. Pet. 24–25 (citing Ex. 1006 ¶¶ 58, 60–62, 67); Pet. Reply 10 (citing Ex. 1035 ¶¶ 54, 56–58).

Accordingly, we determine the record supports these contentions by Petitioner and we adopt them as our own. Furthermore, even if making an ASIC would have been more costly, as compared to a relatively bulky decryptor, a “smaller . . . lighter [or] more durable” ASIC would have presented a universal motivator as a trade-off to cost. *See Dystar*, 464 F.3d at 1368.

Based on the foregoing discussion and the record, including the purported secondary evidence of nonobviousness discussed below,

Petitioner demonstrates by a preponderance of the evidence that claim 1 would have been obvious in view of Guillou.

b. Claim 23

Claim 23 requires “a controller operatively connected to said digital detector or said decryptor for controlling said decryptor,” which Petitioner argues is taught by the disclosure of Guillou’s decoding circuit 145 and K-restoring circuit 110 operatively connected to and controlling the automatic decryption means. Pet. 26 (citing Ex. 1007, 7:48–58, 10:41–50, 19:4–30, 19:65–20:52, Figs. 2, 7, 9, 10). Additionally, claim 23 requires “receiving a plurality of signals including digital programming,” which Petitioner argues is taught by the disclosure of Guillou’s receiver station receiving a plurality of signals, including encrypted digital data and an encrypted digital control signal message M_i . *Id.* at 18, 27 (citing Ex. 1007, 8:55–9:12, 17:19–18:51, 19:42–20:17, 20:40–52, Figs. 7, 9, 10).

Claim 23 further requires “detecting said encrypted digital data in said at least some of said plurality of signals in accordance with a varying pattern of timing or location . . .” Petitioner argues this limitation is taught by the disclosure in Guillou of a new operating key K being generated at random every five minutes and the storage of the messages M_i in spatially different indexed page memory locations. *Id.* at 28–29 (citing Ex. 1007, 8:11–14, 8:39–43, 8:55–9:2, 17:39–43, 18:25–51). Petitioner relies upon Guillou’s teaching that a “new operating key K is generated (and therefore also messages M_i) every five minutes” as teaching the claimed “varying pattern of timing,” recited in claim 23. *See id.* Furthermore, Guillou discloses that the messages M_i are calculated as soon as the new operating key K is

generated. Ex. 1007, 8:44–48. Petitioner further argues that Guillou discloses that the system user is in control of the service life of key K and it would have been obvious to one of ordinary skill in the art to vary the service life of key K and, thereby vary the pattern of timing of the transmission of messages M_i . Pet. 30–31 (citing Ex. 1006 ¶¶ 58, 69–72; Ex. 1007, 18:52–55). Thus, if a new operating key K is generated at varying times, then the message M_i would be calculated at varying times. *See id.*

Patent Owner argues that Guillou fails to teach the “detecting” step because the timing of the computation of a new value for K and message M_i do not affect the detection of messages by the receiver station. PO Resp. 37–38. Specifically, Patent Owner argues that the “varying pattern of timing” recited in claim 23 “requires the decoder to have prior knowledge of the varying pattern of the transmission.” PO Resp. 38.

We are not persuaded by Patent Owner’s argument because it is not commensurate with the scope of claim 23. Claim 23 recites, “a digital detector operatively connected to said receiver for detecting encrypted digital data” and “detecting said encrypted digital data in said at least some of said plurality of signals in accordance with a varying pattern of timing or location.” Claim 23 does not provide a limitation requiring the a decoder to have prior knowledge of a varying pattern of transmission and Patent Owner fails to persuasively cite to any disclosure in the specification or otherwise that would require the importation of that limitation into claim 23. See PO Resp. 38–39.

Patent Owner also argues that the disclosure in Guillou regarding changing the service life of key K is inapplicable to claim 23 because the

decoder 145 in Guillou is not affected by a system operator changing the service life of key K. PO Resp. 39 (citing Ex. 1007, 20:29–52, Ex. 2016 ¶ 22). To the contrary, Mr. Wechselberger testifies that Guillou’s decoder 145 is always on and always decoding; thus when messages M_i are transmitted at varying time intervals, as disclosed in Guillou, the messages M_i must be detected at varying intervals. Ex. 1035 ¶¶ 77, 81. In accordance with Guillou’s teaching that “the user is in control of the service life of the operating key K,” Mr. Wechselberger testifies that the user can vary the pattern of timing of the transmission of messages M_i , thus, detecting by the decoder 145 is altered. *See id.* at ¶ 81. In other words, as Mr. Wechselberger testifies, Guillou’s decoder 145 must detect messages M_i at varying intervals because messages M_i are transmitted at varying intervals. Ex. 1035 ¶ 81. We determine that the record supports Petitioner’s contentions regarding the teachings of Guillou with respect to the “detecting” step in claim 23 and adopt Petitioner’s contentions as our own.

Patent Owner argues changing the service life of operating key K does not vary the rate at which the messages M_i are transmitted from the emitting end. PO Resp. 39 (citing Ex. 2016 ¶ 116). Patent Owner’s argument is contrary to the express disclosure of Guillou, which provides that “[a]s soon as a distribution centre generates a new operating key K, it calculates, for each current subscribers’ key in use C_i for this service, a message M_i by means of an algorithm $M_i = F_{C_i}(K)$ ” and the “circuit 102 delivers as many messages M_i as there are subscribers’ keys C_i , these messages changing with the operating key K.” Ex. 1007, 8:44–47, 15:58–60. Guillou discloses that the messages M_i are “changing with the operating key K,” thus, the

messages M_i vary at least with a change in the service life of key K . *See id.* Accordingly, we are not persuaded by Patent Owner's argument that the service life of operating key K does not vary the rate at which the messages M_i are transmitted.

Petitioner also argues that the claimed "varying pattern of . . . location" is taught by Guillou's disclosure of the receipt and storage of messages into pages within page memory 146 according to different subscriber subscriptions such that the messages are stored spatially in different indexed memory locations. Pet. 29 (citing Ex. 1007, 8:55–9:2, 17:39–43, 18:25–51). Patent Owner argues that detection by Guillou's decoder 145 is not being performed based on a varying pattern of location because the manner in which the messages are stored after detection of the access control page found in memory 145 is irrelevant. PO Resp. 41 (citing Ex. 2016 ¶ 124). Petitioner counters that messages M_i are not in the same location for every access control page; thus, Guillou teaches a mechanism for analyzing the access control page to obtain the proper message M_i from varying locations in the access control page. Reply 13 (citing Ex. 1007, 20:40–49; Ex. 1035 ¶¶ 82–85). Specifically, Guillou discloses that circuit 145 analyzes the access control pages and at the appropriate address in the memory 108, the circuit locates a valid subscription block from which it extracts the subscription index and then searches for the line corresponding to this subscription index for a message. Ex. 1007, 20:40–46. Given that the access control pages vary, we determine that Guillou teaches the claimed detecting in accordance with a varying pattern of location.

Petitioner contends that the claimed decryptor is taught by Guillou's K-restoring circuit 110 and the automatic decryption means 38, which includes discriminator 42 and OR-exclusive-type logic circuit 46 and that the claimed controller is taught in Guillou by the combination of the decoding circuit 145, generator 26', and K-restoring circuit 110. Pet. 26 (citing Ex. 1007, 7:48–58, 10:41–50, 19:4–30, 19:65–20:52, Figs. 2, 7, 9, 10). Patent Owner argues that Guillou fails to teach the claimed “controller operatively connected to said digital detector or said decryptor for controlling said decryptor” and “a decryptor operatively connected to said digital detector.” PO Resp. 44. More particularly, Patent Owner argues that determining the K-restoring circuit 110 satisfies both the “controller” and the “decryptor” contradicts the plain language of claim 23 because the claim recites the elements separately and the decryptor is required to be operatively connected to digital detector or the decryptor. PO Resp. 43.

We are not persuaded that the K-restoring circuit 110 cannot serve as both an element of the controller and the decryptor because the K-restoring circuit 110 serves to two distinct functions: (1) decrypting messages M_i to provide decrypted key K and (2) controlling the decryptor (decryption means 38) to alter its decryption pattern. See Reply 14 (citing Ex. 1035 ¶¶ 66, 68; Ex. 1007, Fig. 10, 20:6–17). Figure 10 of Guillou, reproduced below, illustrates an embodiment of the architecture of the various components of the receiving station 4.

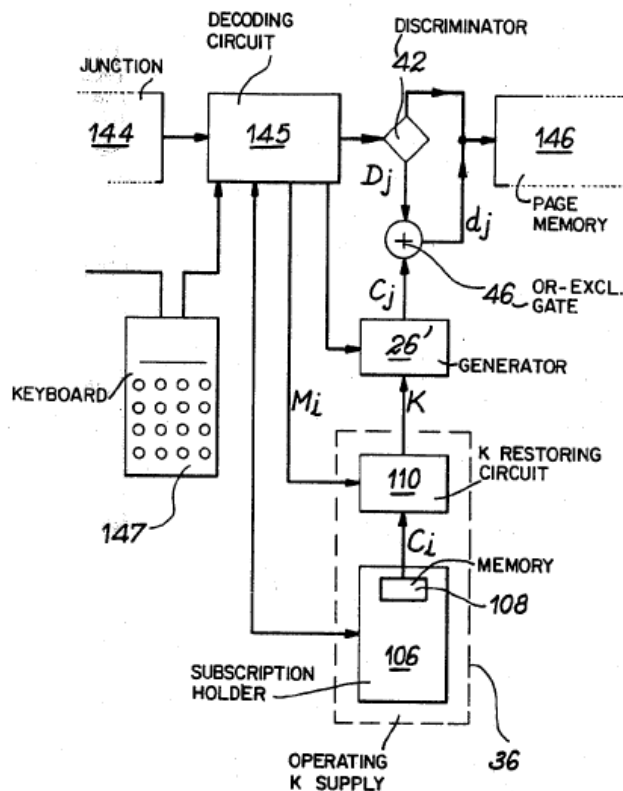


FIG. 10

As illustrated above in Figure 10, Guillou discloses that decoding circuit 145 and K-restoring circuit 110 are in communication with each other, generator 26', and discriminator 42. See Pet. 19–20, 30 (citing Ex. 1007, 8:59–9:12, 16:63–17:15, 20:6–17, 20:40–52, 20:6–21:14, Figs. 7, 9, 10). Accordingly, K-restoring circuit 110 receives input from decoding circuit 145 and also provides the operating key K to generator 26'. See *id.* Thus, we determine the record supports Petitioner's contentions that K-restoring circuit 110 can serve as both a portion of the claimed controller and decryptor.

Patent Owner argues that the Federal Circuit's decision in *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015), finding

error in the Board's construction of the claim term "two other computers," is instructive in the instant matter because the '304 patent specification contemplates that the controller and decryptor are separate and distinct components. PO Resp. 42–44 (citing Ex. 1004, 16:38–45). The cited portion of '304 patent is reproduced below:

Buffer/comparator, 8, transfers signals that do not require decryption directly to processor or controller, 12. Decryptor, 10, is a standard digital information decryptor, well known in the art, that receives signals from buffer/comparator, 8, and under control of said controller, 20, uses conventional decryptor techniques, well known in the art, to decrypt said signals as required.

Ex. 1004, 16:38–45. The language cited above by Patent Owner, however, does not prohibit the colocation of the controller and decryptor, but merely provides that the decryptor 10 receives signals from buffer/comparator 8 and transfers decrypted signals to controller 12. *See* Ex. 1004, 16:38–45. We determine that nothing in claim 23 prohibits one component from performing multiple functions, such as the functions of the controller and the decryptor. Accordingly, we determine the record supports Petitioner's contention that Guillou teaches the claimed controller and decryptor and we adopt this contention as our own.

Similar to the arguments raised for claim 1, Patent Owner argues that Guillou fails to teach the single decryptor limitation recited in claim 23. PO Resp. 45 ("Petitioner[] never identif[ies] a single decryptor that performs each of the claimed operations, and instead rel[ies] on the K-restoring circuit 110 for some steps of claim 23, and the 'XOR 46' for other steps."). With respect to the "decryptor" limitation in claim 23, Petitioner relies upon

its allegations of obviousness of the “decryptor” limitation in claim 1.

Pet. 30. Accordingly, similar to our findings for claim 1, we determine that the claimed “decryptor” would have been obvious to one of ordinary skill in the art in view of the decryptor logic in Guillou.

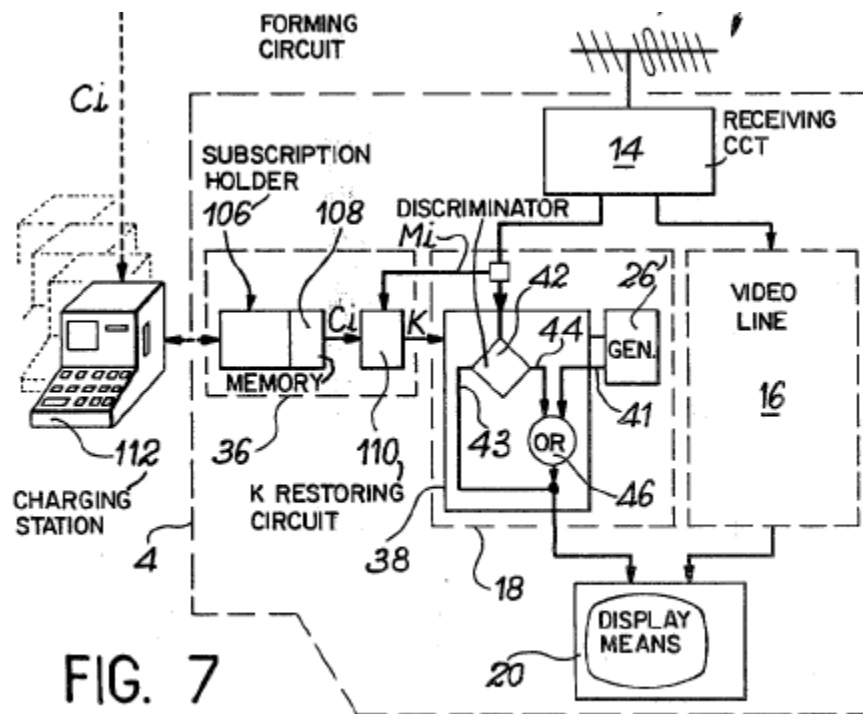
Based on the foregoing discussion and the record, including the purported secondary evidence of nonobviousness discussed below, Petitioner demonstrates by a preponderance of the evidence that claim 23 would have been obvious in view of Guillou.

c. Claim 24

Claim 24 requires “detecting data of said plurality of signal types and transferring said detected data to a processor,” which Petitioner argues is taught by the disclosure in Guillou of message M_i and encrypted digital data octets D_j being detected by video-data-separator 142, selection circuit 143, decoding circuit 145, K-restoring circuit 110, and automatic decryption means 38. Pet. 18, 34 (citing Ex. 1007, 8:55–9:12, 17:19–18:51, 19:42–20:17, 20:40–52, Figs. 7, 9, 10). Furthermore, claim 24 requires “identifying or locating said specific digital instruct-to-decrypt signal by processing said detected data in accordance with said stored information.” Petitioner alleges that this claim limitation is taught by the disclosure in Guillou of data octets D_j that do not include control codes and different octets having a “0” in both columns 0 and 1, which are digital instruct-to-decrypt signals that are identified by the discriminator 42. *Id.* (citing Ex. 1007, 8:55–58, 8:59–9:12, 15:42–16:17, 16:63–17:15, 18:19–59, 20:53–21:14, Figs. 2, 7, 8, 10). Specifically, Petitioner relies upon the following disclosure in Guillou: “automatic decryption means 38 comprising: [a

discriminator 42 with an input receiving the encrypted octets; this discriminator is adapted to distinguish, among these coded octets, those wherein the 7th and 6th binary elements are zero.” Pet. 33 (quoting Ex. 1007, 10:41–50).

Claim 24 also recites a “unit of digital television or computer programming” and Patent Owner argues that Guillou fails to teach or suggest this limitation because Guillou’s teachings regarding decryption of pages of teletext do not teach or suggest the decryption of digital television or computer programs. PO Resp. 47–48. Petitioner counters that Guillou discloses decryption of digital television, which includes broadcast transmissions containing digital signals with analog television signals. Reply 16 (citing Pet. 11–12; Ex. 1038 ¶¶ 35–36; Ex. 1035 ¶ 86). Furthermore, Petitioner argues that Guillou teaches this capability by disclosing that a broadcast television signal can be split into an analog video line 16 and a digital processing line 18. *Id.* (citing Ex. 1035 ¶ 86; Ex. 1007 Fig. 2, 7, 9, 7:1–3; Ex. 2018 at 235:3–20). An excerpt of Figure 7 from Guillou is reproduced below.



As shown above in the excerpt from Figure 7, and described in Guillou, the broadcast television signal can be received by receiving circuit 14 and split into a “line 16 for processing video picture signals” and a “line 18 for processing numerical signals, containing in particular a numerical signal decoder.” Ex. 1007, 6:67–7:3. Accordingly, we determine that Guillou teaches the “unit of digital television or computer programming” recited in claim 24.

Patent Owner argues that Guillou fails to teach the “processor,” recited in claim 24. PO Resp. 48. Patent Owner’s arguments are premised upon Patent Owner’s proposed claim construction for the term “processor” as a “digital electronic device that processes information by operating on data according to instructions.” *Id.* at 49. As discussed above, we do not adopt Patent Owner’s proposed construction of “processor” but construe a

“processor” to mean “a device that operates on data.” Additionally, we determine that Petitioner sufficiently establishes that discriminator 42 distinguishes among coded octets by analyzing the binary elements in those coded octets and routing the data accordingly; thus, discriminator 42 is operating on data. *See* Pet. 33 (citing Ex. 1007, 10:41–50). Accordingly, we determine that the “processor,” recited in claim 24 would have been obvious to one of ordinary skill in the art in view of the cited disclosure in Guillou.

In opposing the challenge to claim 24, Patent Owner also argues that Guillou fails to teach or suggest the following claim recitation: “storing a procedure . . . for locating or identifying a specific digital instruct-to-decrypt signal in a plurality of signal types.” PO Resp. 50–51. Patent Owner argues that Petitioner’s contentions are based on an unsupported reading of claim 24 that focuses on the “locating and identifying” functionality and ignores the step of “storing a procedure.” *Id.* at 51. Patent Owner further argues that the plain and ordinary meaning of “storing a procedure” means, “instructions are stored in memory.” *Id.* (citing Ex. 2016 ¶ 135). Contrary to Patent Owner’s arguments, however, claim 24 does not require storing instructions in “memory” but simply “storing a procedure for locating or identifying a specific digital instruct-to-decrypt signal.” We determine that Guillou teaches “storing a procedure” because the Guillou system has a procedure for locating or identifying a specific digital instruct-to-decrypt signal. Pet. 35–36 (citing Ex. 1006 ¶ 58). Specifically, decoding circuit 145 and automatic decryption means 38, including discriminator 42 and logic circuit 46, work together to identify which data octets D_j need to be decrypted. *Id.* Claim 24’s recitation of “storing a procedure” is taught by

the procedures used by Guillou's automatic decryption means 38 to identify data octets D_j that need to be decrypted. Accordingly, we determine that "storing a procedure" recited in claim 24 would have been obvious to one of ordinary skill in the art in view of the cited disclosure in Guillou.

Based on the foregoing discussion and the record, including the purported secondary evidence of nonobviousness discussed below, Petitioner demonstrates by a preponderance of the evidence that claim 24 would have been obvious in view of Guillou.

d. Claims 11 and 18

Claim 11 requires that the programming and signal necessary for decryption recited in the claim must be received from different sources. For this claim, Petitioner relies upon the disclosure in Guillou that the subscriber's keys C_i are received from subscription-card-charging station 112 and subscription center 100 and the programming is received from a different source, emitting center 2. Pet 25 (citing Ex. 1007, 8:5–38, 15:46–16:38, 16:55–62, 20:40–57, Figs. 7, 10). Patent Owner does not present separate arguments for claim 11. See generally PO Resp.; see 37 C.F.R. § 42.23(a).

Claim 18 requires that the digital programming recited in claim 1 include computer data. For this claim, Petitioner argues that the encrypted digital signals received via digital line 18 could include computer data and, in fact, Guillou discloses that the disclosed broadcasting system could be applied to other systems, such as Ceefax, Oracle, ViewData, or Prestel systems. Pet. 25–26 (citing Ex. 1007, 1:10–20, 21:23–28, Figs. 1, 2, 7).

Patent Owner does not present separate arguments for claim 18. *See* generally PO Resp. 51; *see* 37 C.F.R. § 42.23(a).

Based on the foregoing discussion and the record, including the purported secondary evidence of nonobviousness discussed below, Petitioner demonstrates by a preponderance of the evidence that claims 11 and 18 would have been obvious in view of Guillou.

e. Conclusion

We have reviewed Petitioner's analysis and supporting evidence regarding the proposed ground of obviousness based on Guillou and the knowledge of one of ordinary skill in the art, as explained by Mr. Wechselberger, and Patent Owner's arguments contesting Petitioner's challenges. Given the record before us, we are persuaded that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 11, 18, 23, and 24 would have been obvious in view of Guillou.

E. Asserted Obviousness In View of Guillou, Block, and Guillou '011

Petitioner argues that claim 22 would have been obvious in view of Guillou, Block, and Guillou '011. Pet. 37–49; Reply 18–24. Patent Owner disputes Petitioner's position, arguing that the cited references fail to teach or suggest all the elements required by the challenged claims. PO Resp. 20–35. We have reviewed the Petition, the Patent Owner's Response, and Petitioner's Reply, as well as the relevant evidence discussed in those papers and other record papers. We determine the record supports Petitioner's contentions and adopt Petitioner's contentions discussed below as our own. For reasons that follow, we determine that Petitioner has shown by a

preponderance of the evidence that claim 22 would have been obvious in view of Guillou, Block, and Guillou '011.

1. Overview of Block

Block is titled “Method and System for Subscription Television Billing and Access” and discloses a subscription television system for broadcasting a scrambled television program signal and in which billing information regarding programs actually viewed by a subscriber of the system can be accumulated over non-dedicated telephone lines. Ex. 1008, Abstract. The subscription television system in Block provides central station equipment 10, which supplies program signals in a scrambled form to subscriber station equipment 12 at each of the subscriber stations. *Id.* at 3:29–31.

Figure 1 of Block, illustrating the subscription television system, is reproduced below:

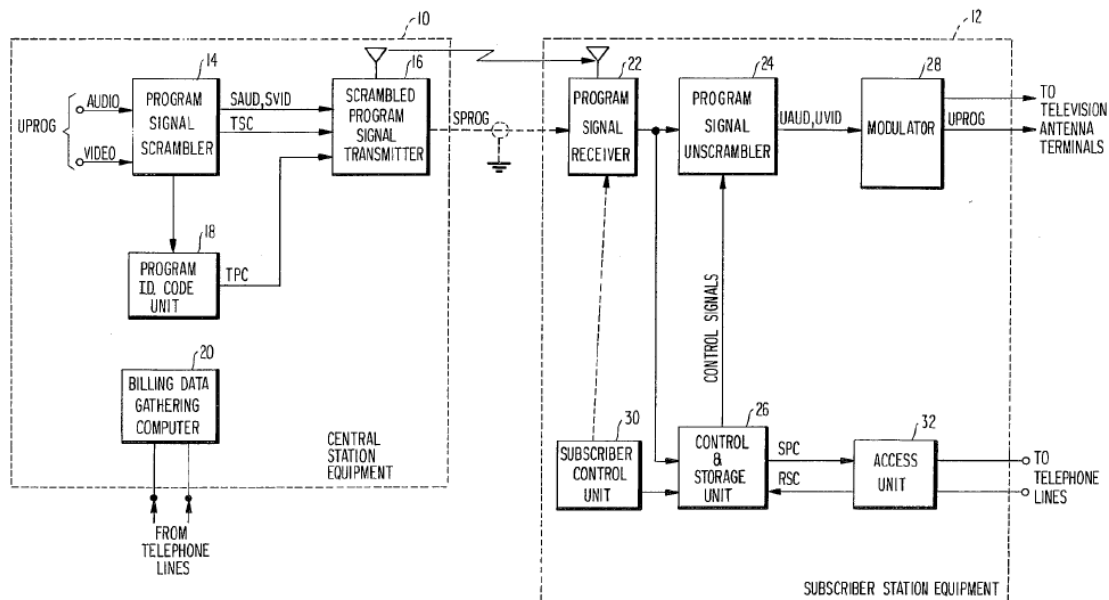


FIG 1

As shown above in Figure 1, Block discloses central station equipment 10, including program scrambler 14, to provide scrambled audio and video signals to subscriber station equipment 12, which includes subscriber control unit 30, program signal receiver 22, program signal unscramble 24, and access unit 32. *Id.* at 3:28–42, 4:10–26. Block discloses that central station equipment 10 includes a billing computer 20 that can control scrambling and unscrambling operations. *Id.* at 5:41–46; 7:55–63. Block discloses that the scrambled and program ID codes can be combined with the transmitted program signal in the vertical retrace interval. *Id.* at 4:67–5:7. Furthermore, control and storage unit 26 in the subscriber station equipment 12 can detect code signals in the incoming program signal for unscrambling and billing purposes, such that the Transmitted Scrambled Code (“TSC”) is detected and compared to the “Received Scramble Code (“RSC”) supplied through access unit 32, which is connected to billing computer 20 via telephone lines. *Id.* at 4:20–36.

2. Overview of Guillou ’011

Guillou ’011 is titled “Subscription Card for a Videotex Receiver” and relates to same system described in Guillou, yet provides disclosure regarding a subscription card and subscription-card-charging station. Ex. 1009, 5:30–38, 6:14–41. Figure 1 of Guillou ’011 is reproduced below.

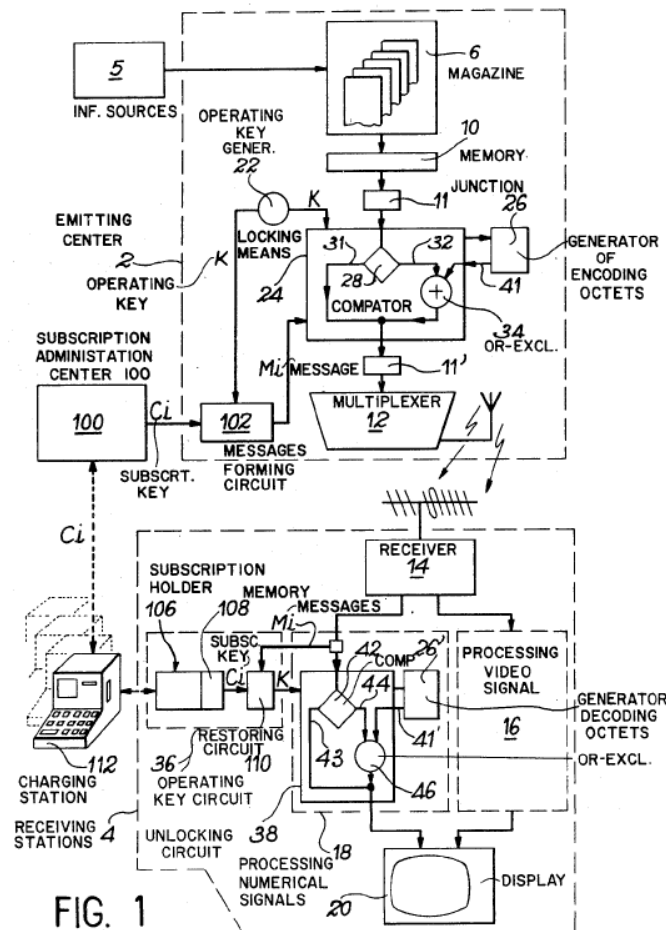


FIG. 1

Figure 1 from Guillou '011 above, which is similar to Figure 7 of Guillou reproduced in an earlier section (see Section II.C.1), illustrates an embodiment of subscription card 36 having subscription memory 108, arithmetical and logical unit 120, and control unit 122. *Id.* at 6:14–27. The subscription card 36 described in Guillou '011 is similar to credit cards used in commerce and banking, but it is enabled to control access to information in Guillou's text video-transmission system. *Id.* at 5:29–36.

*3. Analysis of Asserted Obviousness Ground in View of
Guillou, Block, and Guillou '011*

Claim 22 requires “receiving at said first remote source a query from said receiver station,” “transmitting said digital enabling information which is effective to enable decryption from said first remote source to said receiver station in response to said step of receiving said query,” and transmitting the “encrypted digital mass medium presentation signal” from a second remote source. Petitioner argues that claim 22 would have been obvious over Guillou, Block, and Guillou '011. Pet. 37–49.

With respect to the claimed step of receiving a query from a receiver station, Petitioner argues that Block teaches that a receiver station can initiate a call to billing computer 20, which can then transmit the scramble codes to the receiver station. Pet. 42 (citing Ex. 1008, 2:35–68, 4:20–36, 5:19–46, 6:62–7:68, 8:1–9:54, Abstr., Figs. 1, 4, 5). Specifically, Petitioner relies upon the following disclosure in Block: “[W]hen the signal storage device 68 is full and can store no more program codes, the access unit 32 may place a call to the data gathering computer 20 to transfer billing information thereto.” Ex. 1008, 7:36–39. Furthermore, Petitioner alleges that it would have been obvious to a person of ordinary skill in the art to modify Guillou with teachings to Block to implement a subscription-management system where the receiver station queries and receives the subscriber’s keys via a telephone line from the subscription center 100. Pet. 46 (citing Ex. 1006 ¶¶ 75–78). Mr. Wechselberger states that a person having ordinary skill in the art would have considered the access-control systems in both Guillou and Block and borrowed features that were useful, more efficient, and less costly. Ex. 1006 ¶ 76. Petitioner adds that

Guillou '011 teaches the ability of a subscription-card-charging station 112, into which a subscription card can be inserted, to send billing data upstream to the subscription center 100 and receive the subscriber's keys from the subscription center 100. Pet. 47 (citing Ex. 1009, Abstract, Figs. 2, 4, 6:13–41, 8:58–9:24, 9:13–19). Accordingly, Petitioner argues that it would have been obvious to a person of ordinary skill in the art to modify Guillou with Block to substitute subscription center 100 of Guillou with billing computer 20 of Block and subscription holder 106 and memory 108 of Guillou (i.e., Guillou's subscription charge card) with access unit 32 of Block. *Id.* at 46 (citing Ex. 1006 ¶¶ 75–78). Furthermore, Petitioner alleges, to the extent that Guillou, Block, Guillou '011 are found to lack the query limitation in claim 22, it would have been obvious to a person of ordinary skill in the art to modify this combination by configuring the subscription management system in Block to automate the manual call-in (query) process described in Block's background section. *Id.* at 47–48 (citing Ex. 1008, 1:61–66 (“Another approach to billing on a per program basis requires the subscriber to place a telephone call to some central location and request the receipt of a particular program. The calling subscriber's equipment is then enabled and charges for the program can be recorded and billed to the calling subscriber.”)). Specifically, Petitioner alleges that it would have been obvious to modify the system disclosed in Block to allow the receiver station to initiate a query to the billing computer for a scramble code when one was necessary. *Id.* at 48 (citing Ex. 1006 ¶¶ 75–78).

Patent Owner argues in response that Petitioner's challenge fails because Block does not teach the query recited in claim 22, but merely that

the access unit 32 contacts computer 20 to deliver data but not to request data. PO Resp. 26 (citing Ex. 1008, 7:36–39; Ex. 2016 ¶ 145). Contrary to this argument, Block does not just describe the delivery of data by access unit 32 to the computer 20, but, in fact, discloses the communication of data in both directions. Ex. 1008, 7:44–46 (“After the connection is effected between the computer 20 and the access unit 32 various data may be transmitted over the telephone lines.”). Furthermore, Block discloses the “computer 20 may transmit a code to the access unit 32 commanding it to generate a strobe or write signal STR in order to transmit new scramble codes RSC through the access unit to the signal storage device 68.” Ex. 1008, 7:56–59. Additionally, Block discloses that “the signal storage devi[c]e [68] may be supplied with scramble codes for one month’s programs.” Ex. 1008, 7:60–61.

We agree with Petitioner’s rationale that, in view of the disclosures in Block regarding communication of scramble codes and billing information between the computer 20 and access unit 32, it would have been obvious for a person of ordinary skill in the art to modify Block to allow the access unit 32 to make the request. Upon review, we determine Petitioner has presented sufficiently an “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” and we adopt its contentions as our own. *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)) (internal quotation marks omitted).⁶

⁶ Patent Owner also argues that Guillou ’011 fails to teach the claimed query. PO Resp. 28–29. We are not persuaded by this argument because

Patent Owner argues that Block teaches away from Petitioner's proposed use of a call-in process because Block explicitly states that a query-based system would encounter difficulties in large service areas with a larger number of subscribers. PO Resp. 30–31 (citing Ex. 2016 ¶ 151; Ex. 1008, 1:66–2:2). Dr. Weaver adds that the use of the telephone to query for a subscription key is not scalable, is slow, and is costly. Ex. 2016 ¶ 151. Petitioner counters that Patent Owner's argument is belied by Patent Owner's representations during prosecution that a query and response via telephone would have been compatible with the claimed invention. Reply 20 (citing Ex. 1005, 1074; Ex. 1035 ¶¶ 98–99).

We are not persuaded that Block teaches away from the combination. As stated by the Federal Circuit, “a reference teaches away from a combination when using it in that combination would produce an inoperative result.” *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1382 (Fed. Cir. 2007) (citation omitted). The mere possibility that a person of skill in the art considering Block might contemplate difficulties for the proposed combination in certain circumstances, such as large service areas, does not rise to the level of suggesting the teachings of Block would lead to an inoperative result.

Patent Owner also argues that there is no motivation to combine Guillou, Block, and Guillou '011 because the charging station of Guillou has no capability to transmit to individual receiver stations and no capability to identify subscription holders when transmitting or receiving. PO Resp. 31–

Petitioner does not rely upon Guillou '011 for the claimed query. *See* Pet. 42–43, 46–48.

32. Patent Owner's arguments are misplaced because one cannot establish nonobviousness by attacking references individually where the rejections are based on combinations of references. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Petitioner relies upon the teachings in Block regarding the ability of computer 20 to communicate with a specific access unit 32 to provide specific "new scramble codes RSC" to the access unit 32 and receive billing information from the access unit 32. Pet. 39–40 (citing Ex. 1008, 2:50-57, 5:41–56, 7:55–63, 9:16–36, claims 12, 13). Accordingly, we are not persuaded by Patent Owner's arguments about failures in the teachings of Guillou for features upon which the Petitioner relies upon Block.

Furthermore, Patent Owner argues that incorporating Block's architecture into Guillou would change the principle of operation of the Guillou system because use of the physical subscription card is integral to Guillou's principle of operation. PO Resp. 32–33. Specifically, Patent Owner argues that the subscription card includes a memory and a controller, which provides the receiver station with the correct subscriber's key. PO Resp. 33 (citing Ex. 1007, 20:40–45). We are not persuaded that modifying Guillou's system with Block would change its principle of operation. Mr. Wechselberger testifies that both Guillou and Block are subscription management systems that perform the same functions of managing subscriptions for restricted access television. Ex. 1035 ¶ 102. In Petitioner's proposed combination, the subscription card system would be replaced with the data transmission system in Block, and ultimately the correct subscriber's key would be stored in memory, but simply in a memory

associated with the receiver station rather than a subscription card placed into the receiver station. As Mr. Wechselberger testifies, a person of ordinary skill in the art would have recognized the superiority and convenience of the automated Block system executing subscription management with the use of data transmitted via telephone lines rather than Guillou's system that required customers to travel to a charging station and recharge their subscription card remotely at a physical subscription-card charging station. Ex. 1035 ¶ 102.

Patent Owner also argues that there is no motivation to combine Guillou, Block, and Guillou '011 because a person of ordinary skill in the art would not have modified the encryption/decryption system of Guillou with the scrambling/descrambling system of Block. PO Resp. 33. In an obviousness analysis it is permissible to "take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418. As Petitioner argues, the underlying access-control technology and principles of the subscription management systems in Guillou and Block are the same (Reply 22); thus, we are not persuaded that a person of ordinary skill in the art would not have considered Block when contemplating improvements to Guillou's system. Additionally, Patent Owner argues that the query-less system of Guillou has advantages, such as simple security upgrades and no costly phone connections that would be lost combined with Block. PO Resp. 34. Petitioner counters that any purported inefficiencies associated with telephone data transfer from Block would be significantly more advantageous than having customers going to kiosks to recharge their subscription cards as taught in Guillou. Reply 23 (citing Ex.

1035 ¶ 107). “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” KSR, 550 U.S. at 421. We determine that a person of ordinary skill in the art reviewing Guillou and Block would have understood the tradeoffs in the various subscription management systems and would have designed a system minimizing the most significant inefficiencies. Accordingly, we are not persuaded by Patent Owner’s argument regarding a lack of a motivation to combine.

Based on the foregoing discussion and the record, including the secondary evidence of nonobviousness discussed below, Petitioner demonstrates by a preponderance of the evidence that claim 22 would have been obvious in view of Guillou, Block, and Guillou ’011.

F. Asserted Obviousness In View of Guillou and Block

Petitioner argues that claims 11 and 16 would have been obvious in view of Guillou and Block. Pet. 49–52; Reply 24. Patent Owner disputes Petitioner’s position, arguing that the cited references fail to teach or suggest all the elements required by the challenged claims. PO Resp. 24. We have reviewed the Petition, the Patent Owner’s Response, and Petitioner’s Reply, as well as the relevant evidence discussed in those papers and other record papers. We determine the record supports Petitioner’s contentions and adopt Petitioner’s contentions discussed below as our own. For reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 11 and 16 would have been obvious in view of Guillou and Block.

For claim 11, Petitioner argues that to the extent Guillou is alleged not to teach the limitation “wherein said programming and a signal necessary for decryption are received from difference sources,” it would have been obvious to a person of ordinary skill in the art to modify Guillou with the subscription-management system of Block. Pet. 50 (citing Ex. 1006 ¶¶ 75–79). Specifically, Petitioner argues that subscription-card-charging station 112 of Guillou could be substituted with billing computer 20 of Block and Guillou’s subscription holder 106 and memory 108 could be substituted with access unit 32 of Block, such that programming could be received from emitting center 2 and a “signal necessary for decryption” could be received from billing computer 20. Pet. 50–51 (citing Ex. 1008, 3:56–61; Ex. 1006 ¶¶ 75–79). Patent Owner does not present separate arguments for claim 11 but merely states that claim 11 is patentable over the prior art for the same reasons set forth for claim 1 with respect to the ground of obviousness over Guillou. PO Resp. 55. As discussed above, we are not persuaded by Patent Owner’s arguments set forth for claim 1. We determine the record supports Petitioner’s contentions with respect to claim 11 in view of Guillou and Block and adopt Petitioner’s contentions as our own.

With respect to claim 16, Petitioner argues that to the extent that Guillou is alleged not to teach the limitation “wherein said subscriber station stores information that evidences processing said digital programming,” it would have been obvious to a person of ordinary skill in the art to modify Guillou with the system in Block that stores program codes for billing purposes. Pet. 51 (citing Ex. 1008, 6:66–74; Ex. 1006 ¶¶ 75–79). Patent Owner does not present separate arguments for claim 16 but merely states

that claim 16 is patentable over the prior art for the same reasons set forth for claim 1 with respect to the ground of obviousness over Guillou. PO Resp. 55. As discussed above, we are not persuaded by Patent Owner's arguments set forth for claim 1. We determine the record supports Petitioner's contentions with respect to claim 16 in view of Guillou and Block and adopt Petitioner's contentions as our own.

Based on the foregoing discussion and the record, including the purported secondary evidence of nonobviousness discussed below, Petitioner demonstrates by a preponderance of the evidence that claims 11 and 16 would have been obvious in view of Guillou and Block.

G. Secondary Considerations of Non-Obviousness

Factual inquiries for an obviousness determination include secondary considerations based on objective evidence of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). The totality of the evidence submitted may show that the challenged claims would not have been obvious to one of ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). Secondary considerations may include any of the following: long-felt but unsolved needs, failure of others, unexpected results, commercial success, copying, licensing, and praise. *See Graham*, 383 U.S. at 17; *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

To be relevant, evidence of nonobviousness must be reasonably commensurate in scope with the claimed invention. *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); *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000) (stating the presumption that commercial success is due to the patented invention applies “if the marketed product embodies the claimed features, *and is coextensive with them*”) (emphasis added); *Therasense, Inc. V. Becton, Dickinson & Co.*, 593 F.3d 1325, 1336 (Fed. Cir. 2010) (finding no long-felt need because the claims were broad enough to cover devices that did not solve the problem). In *MeadWestVaco Corp. v. Rexam Beauty and Closures, Inc.*, 731 F.3d 1258 (Fed. Cir. 2013), the court held that a district court erred by considering “secondary considerations of non-obvious [that] involved only fragrance-specific uses, but *the claims now at issue are not fragrance-specific.*” *Id.* at 1264 (emphasis added); *see also In re Law*, 303 F.2d 951, 954 (CCPA 1961) (“Thus, assuming the affidavits are a proper showing of commercial success, they do not show commercial success of dockboards covered by the appealed claims which are not limited to the bead of claim 13.”).

In a related requirement, 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 nonobviousness. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). The burden of showing a nexus lies with the patent owner. *Id.* Showing nexus requires showing that any alleged success is not due to prior art or unclaimed features. *Asyst Techs.*,

Inc. v. Emtrak, Inc., 544 F.3d 1310, 1316 (Fed. Cir. 2008) (“[E]ven though commercial embodiments . . . have enjoyed commercial success, Asyst’s failure to link that commercial success to the features of its invention that were not disclosed in Hesser undermines the probative force of the evidence pertaining to the success of Asyst’s and Jenoptik’s products.”); *Ormco, Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006) (“[I]f the commercial success is due to an unclaimed feature of the device, the commercial success is irrelevant. So too if the feature that creates the commercial success was known in the prior art, the success is not pertinent.”); *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1369 (Fed. Cir. 2011) (“If commercial success is due to an element in the prior art, no nexus exists.”); *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) (“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*”) (emphasis added). Here, Patent Owner argues that commercial success (licensing), long-felt but unresolved need, and industry praise indicate that the claims of ’304 patent at issue in this proceeding would not have been obvious to a person of ordinary skill in the art. PO Resp. 55–60.

1. Commercial Success: Licensing

Citing testimony by its declarant, Mr. Holtzman, Patent Owner argues that its licensing program demonstrates commercial success and establishes that the challenged claims of the ’304 patent would not have been obvious. PO Resp. 56 (citing Ex. 2020). Patent Owner asserts that “[t]he ’304 Patent along with other patents issued to the inventors, have had tremendous

licensing success.” *Id.* at 56 (citing Ex. 2020 ¶¶ 4–27). Patent Owner further asserts that these patents “have been licensed in agreements providing payments exceeding \$350M and involving more than a dozen licensees.” *Id.* Patent Owner states that “[Patent Owner] has licensed the ’304 Patent to numerous industry leaders, including Cisco, Sony, DirectTV, Motorola, Scientific-Atlanta LLC, Pegasus, DISH Network Corporation, and The Weather Channel.” *Id.* at 56.

Petitioner replies that Patent Owner has not submitted the licenses, Mr. Holtzman would not discuss the specific terms of the licenses, Mr. Holtzman acknowledges that the licenses are portfolio licenses involving and not limited to the ’304 patent, and Mr. Holtzman acknowledges that the licenses resulted from settlements of litigation not involving the ’304 patent. Reply 24–25 (citing Ex. 1037, 25:6–26:4; Ex. 2020 ¶¶ 12, 16–18, 22). Based on these factors and others, Petitioner contends that the evidence lacks a nexus. *See id.*

The record supports Petitioner. In cases in which the proffered evidence of commercial success constitutes licenses, rather than sales of products embodying the invention, the licenses may have been taken only because they were less expensive than defending an infringement suit or for other business reasons. *See EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 908–09 (Fed. Cir. 1985) (“[I]t is not unusual to see astute businessmen capitalize on [a licensing program for an otherwise invalid patent] by erecting a temporarily successful licensing program thereon. . . . They sometimes succeed because they are mutually beneficial to the licensed group or because of business judgments that it is cheaper to take licenses

than to defend infringement suits, or for other reasons unrelated to the unobviousness of the licensed subject matter.”).

Mr. Holtzman notes that some of the licenses to the “’304 Patent family,” or “the ’304 Patent, among other patents,” included a “substantial payment” in “settlement of litigation” or with knowledge of pending *inter partes* reviews. See Ex. 2020 ¶¶ 16–24. Mr. Holtzman also contends that some companies made equity investments in addition to licenses, and also “many of the license amounts are orders of magnitude above the cost of defense in an infringement action.” *Id.* ¶¶ 25–26.

Similar to the license scenario characterized in *EWP Corp.*, this testimony about “substantial payments” relative to “cost of defense,” and equity investments, lacks requisite factual support and fails to delineate anything specific to the ’304 patent family or the ’304 patent, let alone a sublicense for challenged claims of the ’304 patent. It is entitled to little weight. Even affording it some weight, the testimony does not address whether or not any settlement or license has anything to do with the particular merits of challenged claims. The testimony, at face value, at most shows that a license to the whole ’304 patent family may cost substantially more than defending any litigation with respect to one of the patents in the ’304 patent family, but it does not even mention specific litigation for the ’304 patent or relative cost for a license thereto. Also, litigation typically advances with certain risk, whereas a license provides at least a temporary certain outcome, thereby producing a business incentive for a license. See *EWP Corp.*, 755 F.2d at 908–09.

The tenuous testimony fails to show “affirmative evidence of nexus.” *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1324 (Fed. Cir. 2004). Patent Owner must demonstrate “a nexus between the *merits of the invention* and the licenses of record,” otherwise the evidence of licenses garners little weight. *In re GPAC*, 57 F.3d at 1580 (emphasis added) (citation omitted). “[W]ithout a showing of [a] nexus, ‘the mere existence of . . . licenses is insufficient to overcome the conclusion of obviousness.’” *In re Antor Media Corp.*, 689 F.3d 1282, 1293 (Fed. Cir. 2012) (quoting *Iron Grip Barbell*, 392 F.3d at 1324).

In *In re GPAC Inc.*, 57 F.3d at 1580, the court found that “in affidavits reciting the license history of the ’111 patent, GPAC did not establish which claims(s) of the patent the licensing program incorporates, GPAC has not shown that licensing of [applicant’s] invention arose out of recognition and acceptance of the subject matter claimed.” Like the applicants with licenses in *EWP Corp*, *GPAC*, and *Antor Media*, Patent Owner has not shown a nexus to the challenged “subject matter claimed”: Mr. Holtzman’s testimony generally lists patent family licenses, revenue, and settlements, but does not discuss the merits of challenged claims of the ’304 patent or relate that to any particular license for the ’304 patent in the portfolio of licenses. See PO Resp. 56 (citing Ex. 2020). Moreover, only some claims in the ’304 patent have been challenged whereas the licensing program goes to the whole ’304 patent family.

The cited testimony of Mr. Holtzman does not establish whether a specific license (or sub-license) for the challenged claims of the ’304 patent occurred because of the merits of the challenged claims, the merits of

unchallenged claims, for other patented inventions in the family or patent, or for other economic reasons related to the whole '304 patent family. The evidence at best implies that some settlements included licenses for the '304 patent family perhaps to avoid some litigation for a patent or patents in the family, or that equity investments may have occurred based on the company itself, PMC. See Ex. 2020 ¶¶ 8–27. Mr. Holtzman's summary supports our conclusion: "This success is attributable not to any particular feature itself, but rather to the combination of features of PMC's inventions." *Id.* ¶ 27.

Accordingly, Patent Owner's licensing program evidence is afforded little weight in showing that any one of the challenged claims in the '304 patent would not have been obvious.

2. Industry Praise

Patent Owner argues that the '304 patent has generated industry praise, because a third party (Ocean Tomo, LLC) conducted a study and evaluated the "value" of certain patents. PO Resp. 56–57. According to Patent Owner:

the firm assessed the value of each patent using a number of different value factors to determine a PatentRatings IPQ score that objectively rated each patent. Approximately 220,000 issued patents were analyzed to determine a PatentRatings IPQ score, with the median of the scores being 100. According to the study, the top rated inventor with 16 patents in the wireless field was John Harvey, inventor of the '304 Patent. [The firm found that the patents, all] members of the '304 Patent family[,] had an average PatentRating IPQ score of 235.7, placing them in the top 0.1% of the approximate 220,000 active U.S. utility patents granted in 2010.

Id. at 57 (citing Ex. 2030; Ex. 2020 ¶¶ 29–31).

Patent Owner further argues that citation of a patent by other patent holders in their patent filings (i.e., “forward citations”) is a measure of recognition and value. *Id.* at 58 (citing Ex. 2031; Ex. 2032, 31 n.13; Ex. 2033). According to Patent Owner, “[m]embers of the ’304 Patent family have been cited by several hundred U.S. and foreign patents. This recognition by others is strong objective indicia of the significance of the patent that weighs against obviousness.” *Id.*

Petitioner persuasively points out that Ocean Tomo, a financial institution, does not constitute a relevant industry for praise of the invention, and its website states that the document “should not be relied upon to prove or establish the existence or probability of [validity]” Reply 25 (quoting Ex. 1034, 3). The website also states that the IPQ scores should not be used to establish patentability or validity. *See* Ex. 1034, 3. Petitioner also contends that the number of forward citations relates to the “nearly 300-column disclosure” of the ’304 patent rather than unobviousness of any claim.” Reply 25.

Industry praise for an invention may provide evidence of nonobviousness where the industry praise is linked to the claimed invention. *See Geo. M. Martin Co. v. Alliance Mach. Sys. Intern. LLC*, 618 F.3d 1294, 1305 (Fed. Cir. 2010); *Asyst Techs.*, 544 F.3d at 1316. Similar to its commercial success evidence, Patent Owner does not provide an analysis explaining how the cited studies by a financial institution or “forward citations” constitute industry praise for any technical unknown feature of the challenged claims, or show how it would have been unobvious. The ’304 patent includes 32 claims and 290 columns of information, and

includes much background information. *See* Ex. 1004. Patent Owner's argument fails to show how its evidence of "value" or citations distinguishes over general citations to, and great reviews of, a popular text-book or journal article. Patent Owner has not established a sufficient nexus between the merits of the challenged claims and the alleged industry praise.

3. *Long-Felt but Unsolved Need*

Patent Owner argues that "the inventors of the '304 Patent recognized that there was a long-felt need to provide a communications system with expanded capabilities, while overcoming inherent limitations of existing teletext systems and related systems." PO Resp. 59. Patent Owner also describes alleged differences between the prior systems and the "Harvey inventions." *Id.* at 59. Similar to its licensing and other evidence, Patent Owner cites almost the identical evidence in other related cases, without addressing a specific claim feature of a challenged claim. *See, e.g.*, IPR2014-01533, Paper 27, 55–56.

Patent Owner must show that any evidence of long-felt need "demonstrates both that a demand existed for the patented invention, and that others tried but failed to satisfy that demand." *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1082 (Fed. Cir. 2012). Patent Owner offers little or no persuasive evidence that others tried and failed to provide a system that satisfies a demand met by something one of the challenged claims addresses.

Patent Owner also asserts that the "Harvey inventions" provide "for distributed processing between transmitting stations and receiver devices that made personalization practical," and provide for retrieving viewer usage

data that “could be used to bill viewers or advertisers for the consumption of enriched content.” PO Resp. 59–60. The challenged claims do not require billing viewers or advertisers, and fail to quantify any degree of personalization, rendering evidence of long-felt need not reasonably commensurate in scope with the challenged claims of ’304 patent. *See Therasense, Inc.*, 593 F.3d at 1336 (finding no solution to a long-felt need because the claims were broad enough to cover devices that did not solve the alleged problem); *MeadWestVaco Corp.*, 731 F.3d at 1258 (error to consider “secondary considerations of non-obvious [that] involved only fragrance-specific uses, but *the claims now at issue are not fragrance-specific*”) (emphasis added).

Accordingly, Patent Owner’s evidence of a long-felt but unmet need is entitled to little weight.

4. *Summary of Analysis of Secondary Considerations of Non-Obviousness*

Patent Owner failed to demonstrate a sufficient nexus between the claimed invention and any commercial success or industry praise. Patent Owner also failed to demonstrate a long-felt but unmet need for the claimed invention. After considering all the cited evidence and arguments presented, the purported evidence of objective indicia of nonobviousness does not outweigh Petitioner’s showing of obviousness.

III. MOTION TO AMEND

In an *inter partes* review, amended claims are not added to a patent as of right, but rather must be proposed as a part of a Motion to Amend.

35 U.S.C. § 316(d). As the moving party, Patent Owner bears the burden of

proof in establishing that it is entitled to add proposed substitute claims 33–39. 37 C.F.R. § 42.20(c); *see also Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1306–08 (Fed. Cir. 2015) (patentee bears the burden of showing that its proposed substitute claims are patentable over the prior art of record); *Prolitec, Inc. v. ScentAir Techs., Inc.*, 807 F.3d 1353, 1363–64 (Fed. Cir. 2015) (same); *Idle Free Systems, Inc. v. Bergstrom, Inc.*, Case IPR2012-00027 (PTAB June 11, 2013) (Paper 26) (informative) (“For a patent owner’s motion to amend, 37 C.F.R. § 42.20(c) places the burden on the patent owner to show a patentable distinction of each proposed substitute claim over the prior art.”); *MasterImage 3D, Inc. v. RealD, Inc.*, Case IPR2015-00040 (PTAB July 15, 2015), Paper 42 (same).

Patent Owner filed a contingent Motion to Amend in order to replace the claims 1, 11, 16, 18, 22, 23, and 24 with proposed substitute claims 33–39 should challenged claims 1, 11, 16, 18, 22, 23, and 24 be determined to be unpatentable. Paper 25 (“Mot.”). Petitioner opposes Patent Owner’s Motion. Paper 36 (“Opp.”). Because we find the challenged claims unpatentable, we address Patent Owner’s Motion to Amend. As discussed below, we determine that Patent Owner has not carried its burden of demonstrating the patentability of the proposed claim.

A. Proposed Substitute Claims: Analysis of the 37 C.F.R. § 42.121 Requirements

Patent Owner must demonstrate (1) the amendment responds to a ground of unpatentability involved in the trial; (2) the amendment does not seek to enlarge the scope of the claims of the patent or introduce new subject matter; (3) the amendment proposes a reasonable number of substitute

claims; and (4) the proposed claims are supported in the original disclosure.
37 C.F.R. § 42.121.

Proposed substitute independent claim 33 is reproduced below, with underlined text indicating material inserted relative to claim 1:

33. (Substitute for claim 1, if found unpatentable) A method for controlling the decryption of programming at a subscriber station, said method comprising the steps of:

- receiving first programming on a first communication channel from a first remote site, said first programming having a first encrypted digital control signal portion and said first programming enabling receipt of an encrypted digital information portion;
- detecting said first encrypted digital control signal portion of said first programming;
- passing said first encrypted digital control signal portion of said first programming to a decryptor at said subscriber station;
- decrypting said first encrypted digital control signal portion of said first programming using said decryptor at said subscriber station to produce a first decrypted digital control signal portion;
- processing at least a portion of said first programming to cause said subscriber station to connect to a second communication channel, different from said first communication channel, for receiving second programming transmitted from a second remote site, said second programming including said encrypted digital information portion;
- receiving said second programming;
- passing said encrypted digital information portion of said second programming to said decryptor;
- decrypting said encrypted digital information portion of said second programming using said decryptor at said subscriber station based on the decrypted digital control signal portion; and

presenting said programming.

Ex. 2025, 1–2.

As to the requirement for support in the original disclosure, Patent Owner argues that claim 33 is supported under 35 U.S.C. § 112 by the earliest filed disclosure at issue, Ser. No. 06/317,510 (Ex. 2023, “’510 application,” filed Nov. 3, 1981), as well as parent application Ser. No. 07/096,096 (Ex. 2024, “’096 application,” filed Sep. 11, 1987). Mot. 2. Additionally, Patent Owner argues that claim 33 finds written description support in the specification of patent application Ser. No. 08/449,263, now the ’304 patent, at the same citations as those set forth for the ’096 application. *Id.*

Patent Owner argues that both the ’510 application and the ’096 application support the following new limitation in claim 33 reciting:

“processing at least a portion of said first programming to cause said subscriber station to connect to a second communication channel, different from said first communication channel, for receiving second programming transmitted from a second remote site, said second programming including said encrypted digital information portion,” (referred to herein as the “second communication channel from a second remote site” limitation)

Mot. 4 (citing Ex. 2023 at 9:10–23, 18:14–26, 38:17–19, 40:12–25; Ex. 2024 at 295:6–8, 469:35–472:17, 476:34–477:23). First, we must understand what is required by second communication channel from a second remote site limitation in claim 33. The plain language of proposed substitute claim 33 requires, at least, (1) processing a first programming to cause a subscriber station to connect to a second communication channel, (2) the second communication channel must be different from a first

communication channel, and (3) connecting to the second communication channel enables receiving second programming, and (4) the second programming must be transmitted from a second remote site, differentiated from the first programming, which is received from a first remote site. *See* Ex. 2025, 1–2. In attempting to overcome Petitioner’s obviousness challenge to claim 33, Patent Owner argues that Hartung,⁷ the reference relied upon by Petitioner as teaching the second communication channel from a second remote site limitation of claim 33, is deficient because “[t]here are no two remote sources of transmissions as the claims require.” Paper 43, PO Reply 11. More particularly, Patent Owner argues that Hartung discloses “the delivery of both TV programming and scrambling control signal from the same cable headend (i.e., a single remote site).” *Id.* at 10. Therefore, according to Patent Owner, claim 33 requires the second programming to be transmitted from a “second remote site” that is a completely separate transmission source, such as a separate cable headend. *See id.* (arguing that “Petitioner’s expert admitted that both transmissions in Hartung come from the same remote site, the cable head end of Figure 1.”) (citing Ex. 2069, 129:10–14).

As alleged support in the original disclosure, Patent Owner points to the disclosure in the ’510 application’s specification that during the Julia Childs’ “The French Chef” programming, a programming signal is received at the receiver station and if a “567” reply has been received from the signal generator, 225, then signal processor 200 instructs tuner, 223, to tune cable

⁷ U.S. Patent No. 3,919,462, issued Nov. 11, 1975 (Ex. 1024) (“Hartung”).

converter box, 22, to the appropriate channel to receive yet another programming signal that includes a digital transmission of the encrypted recipe. Mot. 5 (citing Ex. 2023, 40:26-32; Ex. 2024, 477:7-13). The cited portion of the '510 application states that

if 567 has been received from signal generator, 225, signal processor, 200, should, in a predetermined fashion, instruct tuner, 223, to *tune cable converter box, 222, to the appropriate channel to receive the recipe* in encoded digital form and instruct control means, 226.

Ex. 2023, 40:26–32 (emphasis added). The disclosure in the '510 application above fails to identify the claimed “processing at least a portion of said first programming to cause said subscriber station to connect to a second communication channel, different from said first communication channel, for receiving second programming transmitted from a second remote site,” but merely states that the tuner should tune to a different channel. See PO Reply 2. Under the written description requirement of 35 U.S.C. § 112, first paragraph, “the applicant must . . . convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention.” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991) (emphasis omitted). An instruction to tune to “the appropriate channel” does not convey with reasonable clarity the second communication channel from a second remote site limitation, but, in fact, implies that the information will be received from the *same site*, merely on a different channel. See Ex. 2023, 40:26–32. Similar to the deficiencies Patent Owner identified in Hartung, the '510 application does not disclose second communication channel from a second remote site limitation as required by claim 33.

In addition to citing to the '510 application for support, Patent Owner provides the following quote from the '096 application as support:

executing said check-for-entered-information-and-process instructions of said first SPAM message causes controller, 20, of signal processor, 200, of each one of said stations to cause the tuner, 223, of the a selected converter box, 222, *to tune said box, 222, to receive said second transmission.*

Ex. 2024, 477:8–13 (emphasis added). As with the cited disclosure from the '510 application, this disclosure from the '096 application fails to identify a “second remote site,” but merely states that the tuner should tune to a different channel. *See id.* Additionally, the specification of '096 application states, in the preceding sentence to the one above, that it is describing an alternate method in which the pirating of the recipe for the “Exotic Meals of India” is avoided by embedding the “message in a particular *second transmission that is different* from the transmission of said ‘Exotic Meals of India’ programming.” Ex. 2024, 477:1–3. Significantly, the '096 application discloses a *second transmission* but not a *second remote site*. *See id.* Patent Owner fails to point to any disclosure in the '096 application that the “Exotic Meals of India” programming is received from a first remote source and the recipe and other associated information is received from a second remote source.

Patent Owner’s other citations to the '510 application and '096 application similarly fail to disclose the second communication channel from a second remote site limitation required by claim 33. *See* PO Resp. 5–9 (citing Ex. 2023, 38:17–19 (“microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X”: disclosure identifies changing channels but not the second communication channel from a second remote site

limitation required by claim 33), 40:12–31 (same Julia Child’s “French Chef” embodiment discussed above), 6:20–26 (“[o]ne method provides a technique whereby a broadcast or cablecast transmission facility can duplicate the operation of a television studio automatically through the use of instruction and information signals embedded in programing either supplied from a remote source or sources”: disclosure is directed to automatically duplicating the operation of a television studio and fails to convey with reasonable clarity the second communication channel from a second remote site limitation required by claim 33), 44:8:22 (“signal processor, 200, permits and facilitates such presentations in accordance with the intentions of the suppliers of the programing at remote sites”: disclosure regarding the intentions of suppliers at remote sites does not convey with reasonable clarity the second communication channel from a second remote site limitation required by claim 33); Ex. 2024, 36:31–37:3 (“said buffer . . . includes capacity for receiving, organizing, and storing simultaneous input from multiple sources while inputting information”: disclosure regarding a buffer’s capacity fails to convey with reasonable clarity the second communication channel from a second remote site limitation required by claim 33), 295:6–8 (“controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13”: once again merely disclosing tuning to a different channel), 469:35–472:17 (describing the transmission of the “Exotic Meals of India” programming and associated information but failing to disclose the second communication channel from a second remote site limitation required by claim 33), 476:34–477:23 (disclosure addressed above), 521:8–21 (“remote system master control station may . . . cause[]

apparatus at each receiver station . . . to tune to and commence processing SPAM information”: describing tuning to *different frequencies* but failing to convey with reasonable clarity the second communication channel from a second remote site limitation required by claim 33). Based on the foregoing, we are not persuaded that Patent Owner has met its burden to establish support in the original disclosure of the patent for Patent Owner’s proposed substitute claim 33. *See* 37 C.F.R. § 42.121. Proposed substitute claims 34–36 all depend from proposed substitute claim 33; therefore, we determine that Patent Owner is equally unable to meet its burden to establish support in the original disclosure of the patent for these claims in view of their dependency on proposed substitute claim 33.

The remaining proposed substitute claims, claims 37, 38 and 39, all provide similar recitations to the second communication channel from a second remote site limitation recited in proposed substitute claim 33. *See* Ex. 2025, claim 37 (“transmitting information which is effective to cause said receiver station to connect to a second communication channel, different from said first communication channel, for receiving information transmitted from a second remote source”), claim 38 (“processing said message to cause said receiver station to connect to a second communication channel, different from said first communication channel, for receiving said second transmission transmitted from a second remote site”), claim 39 (“processing at least some of said first information transmission to cause said receiver station to connect to a second communication channel, different from said first communication channel, for receiving a second information transmission transmitted from a second remote site”). With

respect to proposed substitute claims 38 and 39, Patent Owner argues these claims “have substantial overlap with that of claim 33 and therefore find support in at least the same portions of the specifications cited above for claim 33.” Mot. 6. Likewise, with respect to proposed substitute claim 37, Patent Owner states that the ’510 application and ’096 application specifications describe “receiving information transmitted from a second remote source, as described above with respect to claim 33.” Mot. 8 (citing Ex. 2023, 40:22–32 (addressed above); Ex. 2024, 46:29–35 (“execute preprogrammed instructions that cause URS cable converter boxes, 222, to switch to cable channel Z”: disclosure identifies changing channels but not the second communication channel from a second remote site limitation required by claim 37), 294:30–295:24 (“Automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13”: disclosure identifies changing channels but not the second communication channel from a second remote site limitation required by claim 37), 471:26–477:23 (discussed above)). Given Patent Owner’s reliance upon the same or similar disclosures from the ’510 application and ’096 application specifications for proposed substitute claims 37, 38, and 39 as for claim 33, we are not persuaded that Patent Owner has met its burden to establish support in the original disclosure of the patent for each of Patent Owner’s proposed substitute claims 37, 38, and 39. *See* 37 C.F.R. § 42.121.

Therefore, we find that Patent Owner has not demonstrated the patentability of proposed substitute claims 33–39. Accordingly, Patent Owner’s Motion to Amend is *denied*.

B. Analysis of the Patent-Eligibility or Patentable Distinction of the Proposed Substitute Claims Over the Prior Art

We have determined that Patent Owner has not met its burden under 37 C.F.R. § 42.121. Accordingly, we need not reach a decision regarding whether the proposed substitute claims are patent-eligible under 35 U.S.C. § 101 or patentable in view of the prior art.

IV. CONCLUSION

For the foregoing reasons, we conclude Petitioner has shown by a preponderance of the evidence that (1) claims 1, 11, 18, 23, and 24 are unpatentable under 35 U.S.C. § 103 in view of Guillou, (2) claim 22 is unpatentable under 35 U.S.C. § 103 in view of Guillou, Block, and Guillou '011, and (3) claims 11 and 16 are unpatentable under 35 U.S.C. § 103 in view of Guillou and Block.

In addition, we conclude Patent Owner has not met its burden to show proposed substitute claims 33–39 are patentable.

V. ORDER

For the reasons given, it is

ORDERED that, based on Petitioner's showing by a preponderance of the evidence, claims 1, 11, 16, 18, 22, 23, and 24 of the '304 patent are unpatentable;

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

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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