

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMMSCOPE TECHNOLOGIES LLC,
Petitioner,

v.

BELDEN CANADA ULC,
Patent Owner.

IPR2024-01227
Patent 11,435,542 B2

Before JOSIAH C. COCKS, CHRISTOPHER M. KAISER, and
KIMBERLY MCGRAW, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314, 37 C.F.R. § 42.4

I. INTRODUCTION

A. *Background and Summary*

CommScope Technologies LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–5 and 8–13 (“the challenged claims”) of U.S. Patent No. 11,435,542 B2 (Ex. 1001, “the ’542 patent”). Belden Canada ULC (“Patent Owner”) filed a Preliminary Response (Paper 7, “Prelim. Resp.”).

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). *Inter partes* review may not be instituted unless “the information presented in the petition filed under [35 U.S.C.] section 311 and any response filed under [35 U.S.C.] section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). “When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.” 37 C.F.R. § 42.108(a) (2023). In other words, a decision to institute under § 314 may not institute on fewer than all claims challenged in the petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018). In addition, if the Board institutes trial, it will “institute . . . on all grounds in the petition.” PTAB Consolidated Trial Practice Guide, 5–6 (Nov. 2019)¹ (“CTPG”); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

¹ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

For the reasons set forth below, upon considering the briefing and the evidence of record, we determine that the information presented in the Petition establishes a reasonable likelihood that Petitioner will prevail with respect to any of the challenged claims. Accordingly, we institute *inter partes* review of all challenged claims on all grounds asserted in the Petition.

B. Real Parties-in-Interest

Petitioner identifies CommScope Technologies LLC; CommScope, Inc. of North Carolina; and CommScope, Inc. as real parties-in-interest. Pet. iv. Patent Owner identifies Belden Canada ULC and Belden Inc. as real parties-in-interest. Paper 3, 1.

C. Related Matters

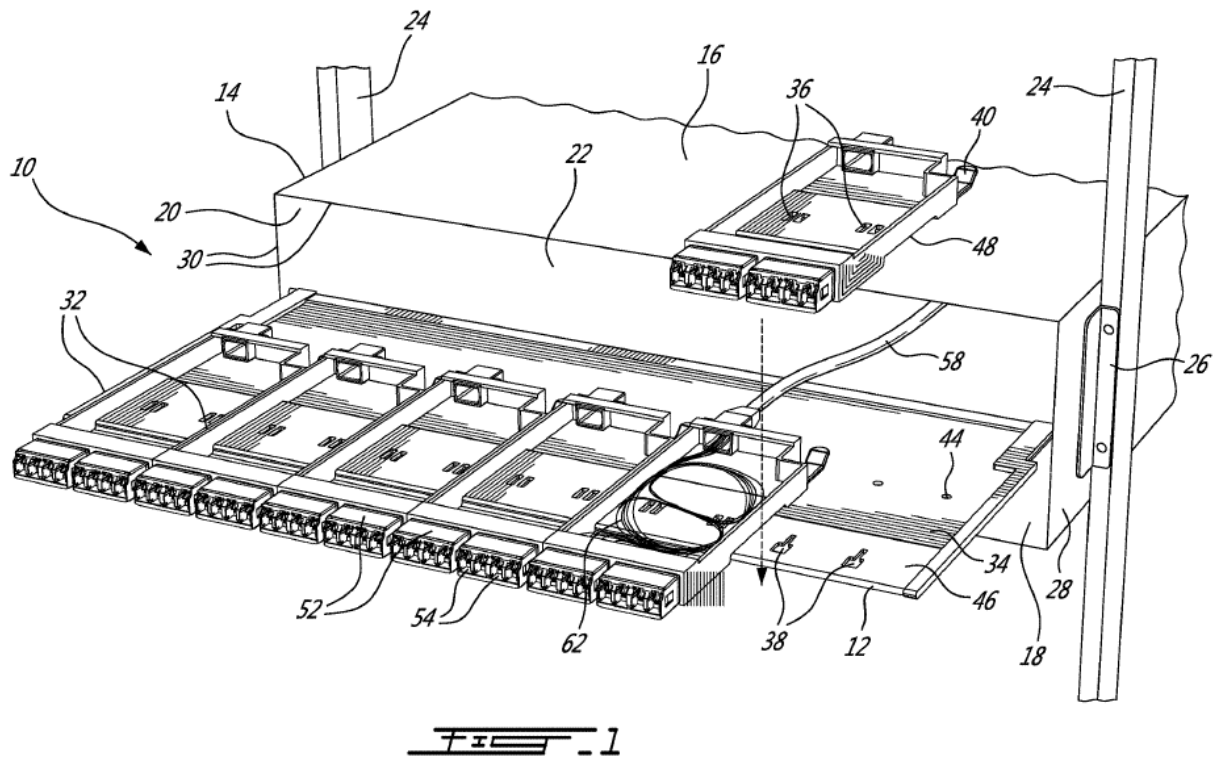
The parties identify the following related court proceeding: *Belden Canada ULC v. CommScope, Inc. et al.*, Case No. 1:23-cv-00810-RGA (D. Del.). Pet. iv; Paper 3, 1. In addition, Patent Owner notes that related patents are being challenged in IPR2024-01218 and IPR2024-01228, as well as that U.S. patent application numbers 18/328,431 and 18/232,729 “may affect, or may be affected by, a decision in this *Inter Partes* Review.” Paper 3, 1.

D. The '542 Patent

The '542 patent, titled “Modular Fiber Optic Cassette, System and Method,” is directed to “a fiber optic cassette comprising a width of one or more standard width units and such that fiber optic cassettes of different widths can be arranged on the same tray while optimizing the use of tray space.” Ex. 1001, code (54), 1:17–20. The application giving rise to the '542 patent was filed on September 2, 2020, and has an earliest priority

claim to U.S. Provisional Application No. 62/567,339, filed on October 3, 2017. *Id.* at codes (21), (22), (60).

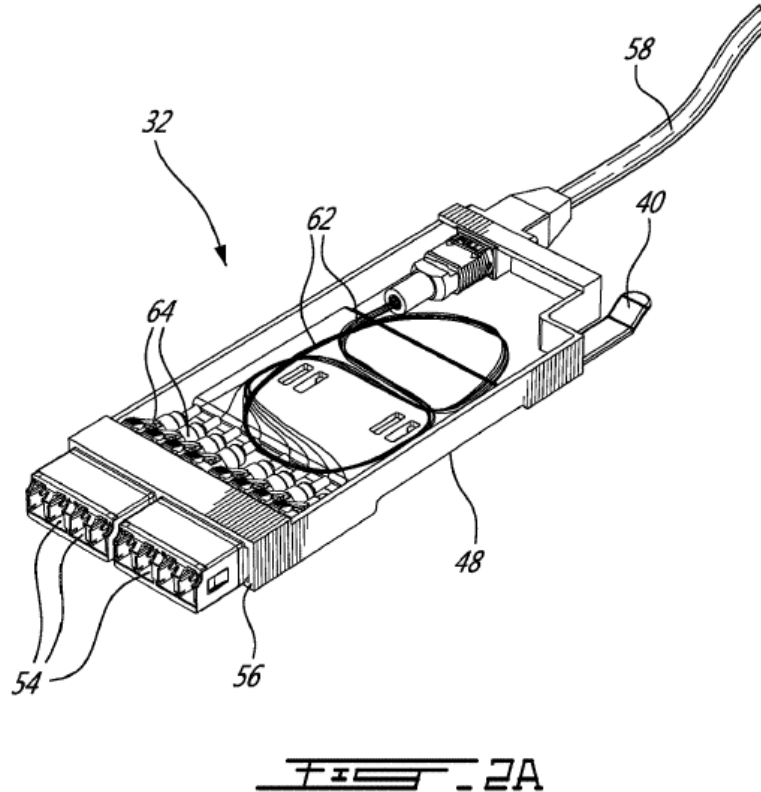
Figure 1, reproduced below, illustrates “a modular fiber optic cassette and system mounted in a rack.” Ex. 1001, 2:12–13.



As shown in Figure 1, modular cassette system 10 includes slidable tray 12 mounted in case 14, which in turn is mounted to rails 24 of a rack. *Id.* at 2:47–52. Case 14 includes tray receiving space 22, where “front edges 30 of the walls 16, 18, 20 [of case 14] define an opening via which the tray receiving space 22 can be accessed.” *Id.* at 2:54–56. Tray 12 may receive removable fiber optic cassettes 32, which are arranged side by side on upper surface 34 of tray 12. *Id.* at 2:61–64. Each cassette may be “secured to the tray 12 using a fastener comprising tabs 36 of inverted ‘T’ cross section

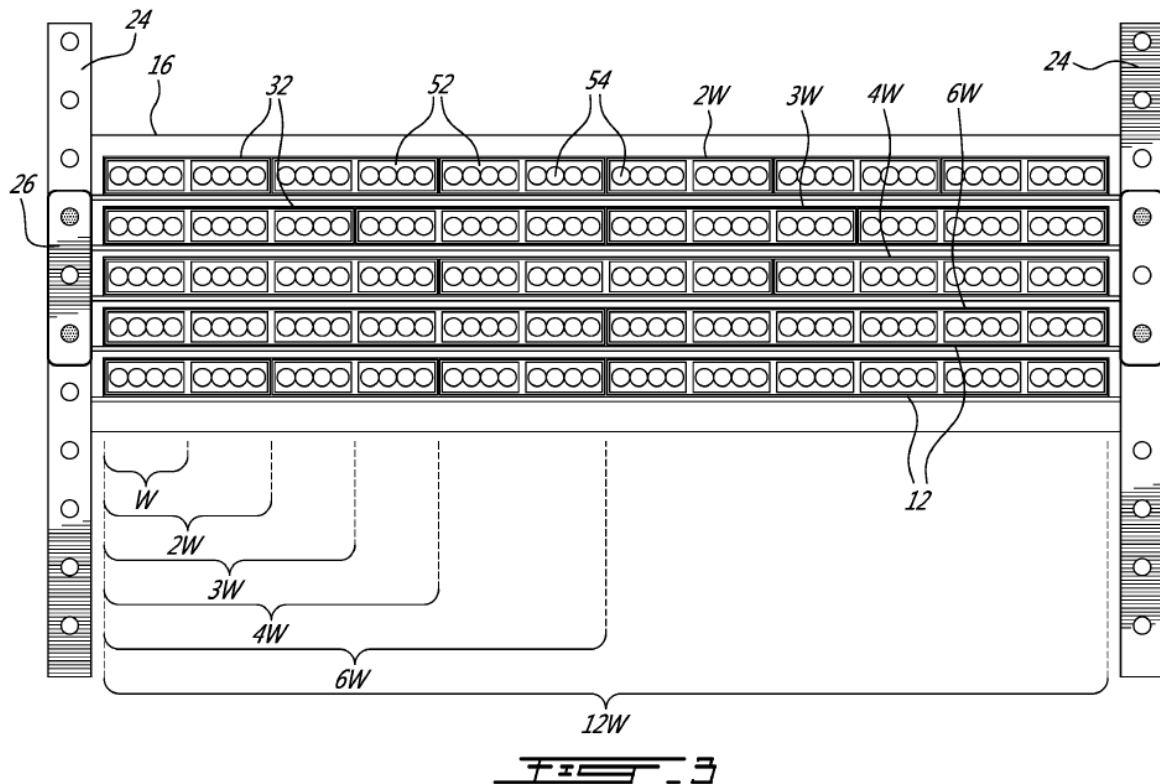
which engage with respective slots 38 machined or otherwise formed in the tray 12.” *Id.* at 2:64–67.

Figure 2A, reproduced below, illustrates a modular fiber optic cassette.



As shown in Figure 2A, each cassette 32 includes receptacle modules 52 (not labeled in Figure 2A) comprising receptacles 54 exposed on forward edge 56 of cassette 32. Ex. 1001, 3:10–14. Fiber optic cable 58 terminates at cassette 32, where each fiber “is interconnected with a respective one of the receptacles 54 using an optic fiber segment 62 comprising a receptacle end which is terminated by a plug 64.” *Id.* at 3:14–3:22.

Figure 3, reproduced below, illustrates “a front plan view of a modular fiber optic cassette system mounted in a rack.” Ex. 1001, 2:20–21.



As shown in Figure 3, each cassette 32 includes multiple receptacle modules 52, each comprising four receptacles 54, with “four (4) different cassette sizes to accommodate terminating fiber optic cables comprising different number[s] of optic fibers.” *Id.* at 3:31–37. Specifically, the different cassette sizes are based on integer multiples of a standard width unit “W,” which in this embodiment comprises a single receptacle module 52 with four receptacles 54. *Id.* at 3:38–41. Figure 3 depicts cassette sizes of 2W, 3W, 4W, and 6W fitting “snuggly side by side,” with only cassettes of like sizes being accommodated within each tray of width 12W, although the ’542 patent discloses that “in a particular embodiment cassettes 32 of different widths could be used together.” *Id.* at 3:50–55.

E. Illustrative Claim

Petitioner challenges claims 1–5 and 8–13 of the '542 patent.

Claims 1 and 8 are independent. Claim 1 is illustrative; it is reproduced below.

1. A modular fiber optic cassette system, the system comprising:
 - a case comprising a top and a bottom wall and two opposed side walls, each of said sidewalls attached between respective side edges of said top and bottom wall, said walls together defining a tray receiving space there between and a forward edge of each said wall together defining an opening to said tray receiving space;
 - at least one tray slideably received within said tray receiving space for movement between a stored position wherein said tray is completely inside said tray receiving space and an accessible position wherein a front end of said tray is in front of said opening and outside of said tray receiving space;
 - a set of fiber optic cassettes, a selected plurality of the cassettes arrangeable side by side along said tray front end wherein each of said cassettes comprises a plurality of optic plug receiving receptacles arranged side by side in a row along a front thereof, a first of said set of cassettes comprising a first cassette width as measured between outer side edges thereof of one of one, two, three, four and six standard width units and a second of said cassettes comprising a second cassette width as measured between outer side edges thereof different from said first cassette width and one of one, two, three, four and six standard width units; and
 - a fastener for removeably securing each of said cassettes to said tray;
- wherein when arranged on the tray an outer side edge of each of said selected cassettes is directly adjacent an outer side edge of at least one other selected cassette.

Ex. 1001, 5:22–53.

F. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability (Pet. 1, 27–141):

Claim(s) Challenged	35 U.S.C. §²	Reference(s)/Basis
1–5, 8–13	103	Fukui, ³ Sedor ⁴
8–13	102	Fukui
1–5, 8, 10–13	103	Sauter ⁵
1–5, 8, 10–13	103	Sauter, Fukui
1–5, 8, 10–13	103	Sauter, Fukui, Sedor

In support of its unpatentability arguments, Petitioner relies on the declaration of Dr. Stephen Ralph (Ex. 1003).

II. ANALYSIS

A. Legal Standards

A claim may be unpatentable as anticipated if “each and every limitation is found either expressly or inherently in a single prior art reference.” *Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1375 (Fed. Cir. 2006). Anticipation under § 102 may be established by showing, as a matter of fact, that all elements arranged as specified in a claim are disclosed within the four corners of a reference, either expressly or inherently, in a

² Amendments to 35 U.S.C. §§ 102 and 103 enacted by the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), took effect in March 2013. The ’542 patent issued from an application claiming priority to an application filed in September 2018, and it claims priority to a provisional application filed in October 2017. *See* Ex. 1001, codes (22), (60), (63). Therefore, we apply the post-AIA versions of §§ 102 and 103. Neither party, however, argues that the outcome of this case would differ based on applying the pre-AIA or post-AIA versions of these laws.

³ US 10,101,551 B2, issued Oct. 16, 2018 (Ex. 1004).

⁴ US 10,215,944 B2, issued Feb. 26, 2019 (Ex. 1005).

⁵ US 9,690,064 B2, issued June 27, 2017 (Ex. 1006).

manner enabling one skilled in the art to practice an embodiment of the claimed invention without undue experimentation. *See ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1344 (Fed. Cir. 2012).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and “the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). “While the sequence of these questions might be reordered in any particular case,” *KSR*, 550 U.S. at 407, the U.S. Court of Appeals for the Federal Circuit has repeatedly emphasized that “it is error to reach a conclusion of obviousness until all those factors are considered,” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1328 (Fed. Cir. 2016). Because Patent Owner does not address objective evidence of non-obviousness, we focus solely on the first three *Graham* factors.

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never

shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

At this preliminary stage, we determine whether the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that at least one of the challenged claims would have been unpatentable over the proposed prior art. We analyze the asserted grounds with the above-noted principles in mind.

B. Discretionary Denial Under 35 U.S.C. § 325(d)

Patent Owner contends that we should deny institution under 35 U.S.C. § 325(d) “because the Petition presents ‘the same or substantially the same prior art or arguments previously . . . presented to the Office.’” Prelim. Resp. 25–31 (alteration in original). Specifically, Patent Owner explains, the Office previously considered Sedor during the ’542 patent’s prosecution, and Sauter was made of record but not considered during prosecution. *Id.* Patent Owner, however, states that it “recognizes that this argument only reaches Sauter-based grounds, not Fukui-based grounds. This argument thus only needs to be addressed after the Board confirms the fundamental deficiencies in Petitioner’s Fukui-based grounds.” *Id.* at 25 n.3. Because, as set forth below, we do not, on the present record, find any “fundamental deficiencies in Petitioner’s Fukui-based grounds” that inhibit institution of trial, we regard Patent Owner’s § 325 request as moot, and we need not consider it further.

C. Level of Ordinary Skill in the Art

The level of ordinary skill in the pertinent art at the time of the invention is a factor in how we construe patent claims. *See Phillips v. AWH*

Corp., 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). It is also one of the factors we consider when determining whether a patent claim is obvious over the prior art. *See Graham*, 383 U.S. at 17–18.

Factors pertinent to a determination of the level of ordinary skill in the art include “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696–697 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). “Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case.” *Id.*

Petitioner contends that one of ordinary skill in the art “would have [had] a B.S. degree or equivalent in mechanical or electrical engineering or similar fields, in addition to a minimum of two years of professional experience with or graduate studies involving design, development, and/or utilization of optical communication systems.” Pet. 26. On the present record, Patent Owner does not dispute this proposed level of skill. Prelim. Resp. 1–31. Neither party explains why the outcome of this case would be affected by the adoption of any of the proffered definitions of a person of ordinary skill in the art.

For purposes of this Decision, we adopt Petitioner’s assessment of the level of ordinary skill in the art, as it appears consistent with the ’542 patent and the asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

D. Claim Construction

We apply the same claim construction standard used in the federal courts—in other words, the claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), which is articulated in *Phillips*. See 37 C.F.R. § 42.100(b). Under the *Phillips* standard, the “words of a claim ‘are generally given their ordinary and customary meaning,’” which “is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1312–13.

1. “Cassette Width as Measured Between Outer Side Edges Thereof of One of One, Two, Three, Four and Six Standard Width Units”

Petitioner states that it “presently believes the plain meaning is enough to resolve . . . the lead Fukui ground” but that “[t]here are two disputes relevant to the alternative Sauter ground.” Pet. 22. With respect to the first of these “disputes,” Petitioner presents two claim constructions for the claim term or phrase “cassette width as measured between outer side edges thereof of one of one, two, three, four and six standard width units.” *Id.* at 23. The constructions are said to be from “the co-pending litigation,” with one characterized as “Patent Owner’s proposed construction”⁶ and the other as “CommScope’s proposed construction.”⁷ Of note is Petitioner’s

⁶ The claim construction attributed to Patent Owner is: “cassette width as measured between the outer side edges thereof that accommodates one of one, two, three, four, or six receptable modules.” Pet. 23.

⁷ Petitioner’s construction is: “The cassette width as measured between the outer side edges thereof equals one, two, three, four, or six times the

contention that “[Patent Owner]’s construction cannot be correct,” and accompanying explanation in that respect. *Id.* at 22–23, 24. Patent Owner acknowledges that there is a dispute between the parties as to the noted claim construction but urges that “[t]he Board, however, need not fully resolve this claim construction dispute,” as, in Patent Owner’s view, the grounds based on Sauter are deficient based on either construction. Prelim. Resp. 21–22.

We are mindful of Petitioner’s view that Patent Owner’s litigation construction is not correct. We also question whether that construction adds clarity in substituting “width that accommodates” for “width of,” and replacing “standard width units” with “receptable modules,” without, on this record, support for such word variations. Nevertheless, our determination whether to institute trial does not require resolution of any claim construction dispute, nor does it necessitate that we adopt any particular construction for the pertinent claim term. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

We invite the parties to develop the record more fully on this claim-construction issue during trial.

standard width unit, without an additional amount. This means the cassette width must be evenly divisible by the standard width unit.” Pet. 23.

2. “*An Outer Side Edge of Each of Said Selected Cassettes is Directly Adjacent an Outer Side Edge of at Least One Other Selected Cassette*”

As noted above, Petitioner states that it “presently believes the plain meaning is enough to resolve . . . the lead Fukui ground” but that “[t]here are two disputes relevant to the alternative Sauter ground.” Pet. 22. With respect to the second of these “disputes,” Petitioner proposes construing the term “an outer side edge of each of said selected cassettes is directly adjacent an outer side edge of at least one other selected cassette.” *Id.* at 25–26. Petitioner’s proposed construction for this term requires that

an outer side edge of each of said selected cassettes is almost touching or touching an outer side edge of at least one other selected cassette. This excludes arrangements with any intervening structure such as a rail between an outer side edge of a cassette and an outer side edge of at least one other selected cassette.

Id. at 26. On the present record, Patent Owner does not propose a construction for this term.⁸ Prelim. Resp. 1–31. As discussed below, we are able to determine whether to institute review without resolving the construction of this claim term. Accordingly, we need not and do not construe this term expressly. *See Realtime Data*, 912 F.3d at 1375 (quoting *Vivid Techs.*, 200 F.3d at 803).

⁸ Petitioner attributes an alternate claim construction to Patent Owner, although Patent Owner does not adopt that construction on the present record. The claim construction Petitioner attributes to Patent Owner is: “an outer side edge of each of said selected cassettes is almost touching or touching, without any intervening structure, an outer side edge of at least one other selected cassette.” Pet. 26.

E. Asserted Anticipation by Fukui

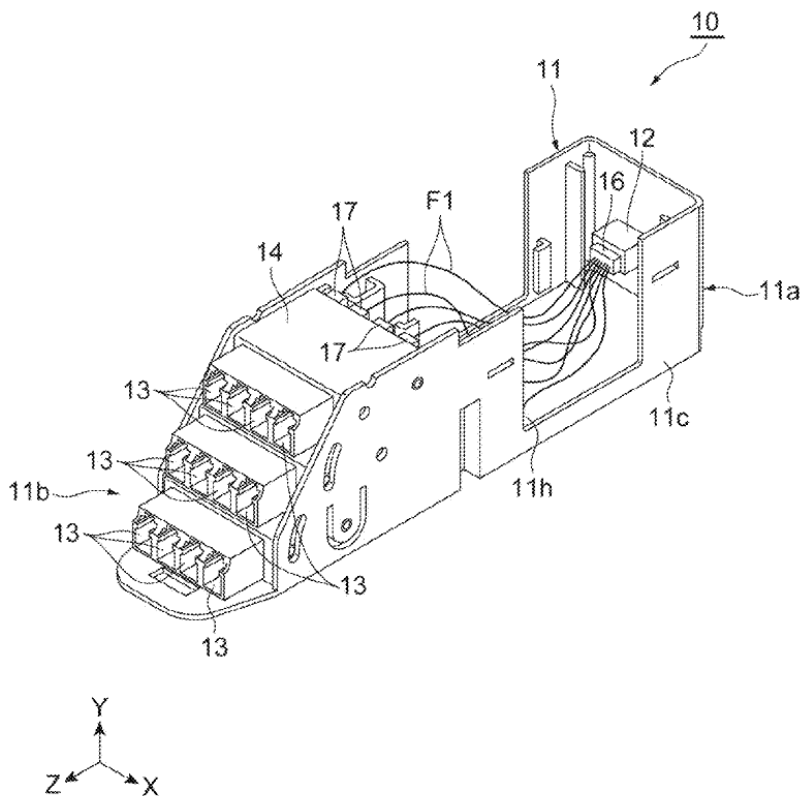
Petitioner argues that claims 8–13 of the '542 patent were anticipated by Fukui.

1. Overview of Fukui

Fukui, titled “Multi-Core/Single-Core Conversion Module and Multi-Core/Single-Core Conversion Apparatus,” relates to a multi-core/single-core conversion module that uses multiple optical fibers to connect a multi-core optical connector to a number of single-core optical connectors in the inner space of a housing. Ex. 1004, codes (54), (57).

Figure 4, reproduced below, illustrates a perspective view of a multi-core/single-core conversion module.

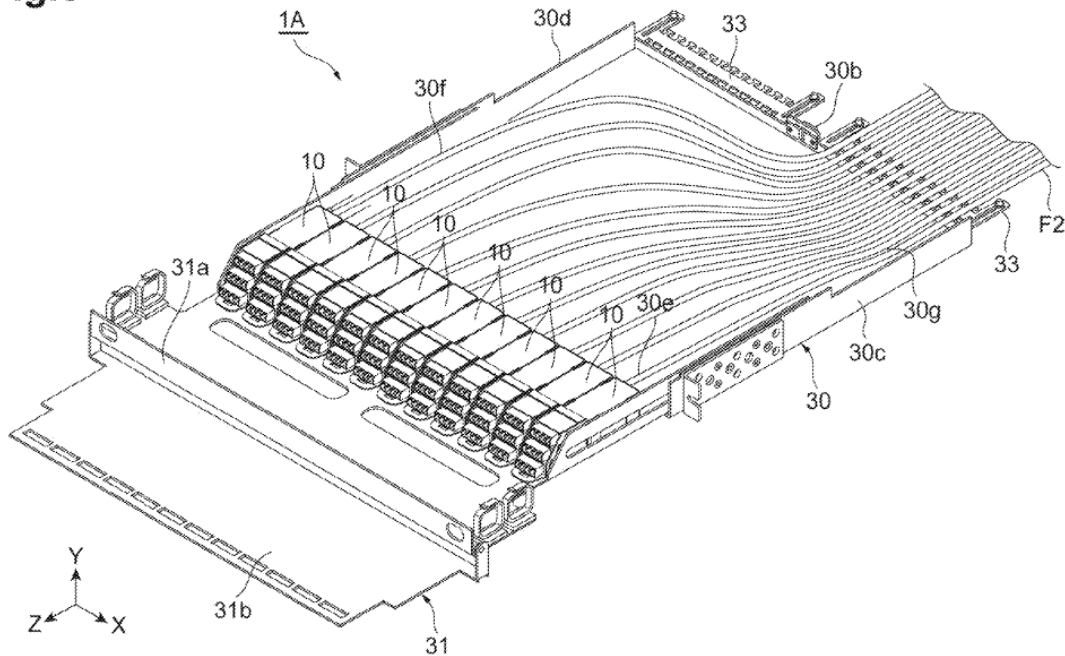
Fig.4



As shown in Figure 4, in conversion module 10 “a multi-core optical connector 16 is inserted into the multi-core optical connector adapter 12 from the inner side of the housing 11, and many optical fibers F1 extend from the multi-core optical connector 16.” Ex. 1004, 6:35–39. Further, for each of a number single-core optical connectors 17, the “single-core optical connector 17 is inserted into the single-core optical connector adapter 13 from the inner side of the housing 11, and one optical fiber F1 extends from the single-core optical connector 17.” *Id.* at 6:39–42. In module 10, “each single-core optical connector adapter 13 is inserted into the corresponding adapter socket 14 and the respective adapter sockets 14 are attached to the housing 11 in order from the lowermost tier.” *Id.* at 7:9–13. Each of three tiers of adapter sockets 14 include four single-core optical connector adapters 13. *See id.* at 5:63–6:3; Fig. 4.

Figure 5, reproduced below, illustrates a perspective view of a conversion modules coupling structure.

Fig.8



As shown in Figure 8, “conversion apparatus 1A includes a plurality of conversion modules 10 and the base member 30.” Ex. 1004, 8:17–19. Base member 30 is made of metal and “is a hollow box-like member in a rectangular parallelepiped shape,” with front face 30a, rear face 30b, lateral faces 30c and 30d, and bottom panel 30e. *Id.* at 8:24–29. Multiple conversion modules 10 are arranged along a single direction on bottom panel 30e. *Id.* at 8:30–32. Accordingly, “it is possible to house the modules to be laterally aligned in a so-called 19-inch rack standardized by the Electronic Industries Alliance (EIA) in 1U size, for example, as well as the single-core optical connector adapters 13 can be arranged in plural tiers.” *Id.* at 9:30–35. “[U]p to 1 tier x 12 rows of the modules 10, that is, 144 single-core optical connector adapters 13 in total are housed in 1U size,” and “up to 1 tier x 6 rows of the modules 20, that is, 144 single-core optical connector adapters 13 in total are housed.” *Id.* at 9:35–41. It is also possible that

“conversion modules 10 and 20 may be present together in combination.”
Id. at 9:42–43.

2. *Analysis of Claim 8*

- a) *Disputed Limitation: “Selecting a Plurality of Cassettes for Installation on the Tray from a Set of Cassettes Having a Plurality of Different Widths as Measured Between Respective Outer Side Edges Thereof, Wherein Each of Said Different Widths is Evenly Divisible by Said Standard Width Unit”*

Claim 8 recites “selecting a plurality of cassettes for installation on the tray from a set of cassettes having a plurality of different widths as measured between respective outer side edges thereof, wherein each of said different widths is evenly divisible by said standard width unit.” Ex. 1001, 6:33–37. According to Petitioner, Fukui discloses both single-width and double-width cassettes, with the double-width cassettes being exactly twice the width of the single-width cassettes. Pet. 85–86 (citing Pet. 74–76). Patent Owner argues that what Petitioner refers to as Fukui’s double-width cassette is in fact not a cassette at all, but rather a pair of single-width cassettes that have been joined together. Prelim. Resp. 13 (citing Prelim. Resp. 8–13).

Fukui discloses what it refers to as “conversion module[s].” Ex. 1004, 6:33–34, 7:23–24, Figs. 4, 5. According to Petitioner, the disclosure of these conversion modules in Fukui is a disclosure of the cassettes of claim 8 of the ’542 patent. Pet. 74–76. Patent Owner agrees that the single-width conversion module of Fukui is a cassette but argues that connecting two of these modules together does not create a double-width cassette within the meaning of claim 8. Prelim. Resp. 11. On the present record, we are persuaded that Fukui sufficiently discloses two different widths of cassettes.

First, Fukui describes both the single-width structure—which both parties agree is a cassette—and the double-width structure as “conversion module[s].” Ex. 1004, 6:33–34, 7:23–24. Second, when two single-width structures are coupled together to make a double-width structure, Fukui refers to the single-width structures as “unit modules,” rather than using the term “conversion module” that both parties agree refers to a cassette. *Id.* at 7:23–29. Third, Fukui discloses that the “plurality of coupled unit modules” that make up its double-width conversion module “can be dealt with as one body.” *Id.* at 7:25–27, 8:2–3. Fourth, the double-width structure of Fukui has only a single “multi-core optical connector 16,” just as the single-width structure of Fukui does. *Id.* at 7:52–53, Fig. 5.

Patent Owner argues that Petitioner’s argument that Fukui’s coupled unit modules make a single double-width cassette is inconsistent with the argument Petitioner makes in IPR2024-01218, a case related to this one, with respect to a similar arrangement in Laarveld, another reference. Prelim. Resp. 11–13 (citing IPR2024-01218, Paper 1, 87–88). On the present record, we are not persuaded that this argument outweighs the evidence of Fukui’s disclosure discussed above. First, although Patent Owner is correct that Petitioner in IPR2024-01218 refers to both Fukui and Laarveld as teaching “coupled cassettes,” Petitioner also refers to Laarveld as “disclos[ing] . . . creat[ing] larger cassettes by coupling cassettes together.” IPR2024-01218, Paper 1, 87–88. Second, although Laarveld describes its coupled cassettes as “two cassettes 1a and 1b,” rather than as a single larger cassette, it also describes “interconnect[ing] patch cassettes” to form “a rigid assembly,” similar to the “one body” language of Fukui. *Compare* Ex. 1004, 8:2–3, *with* Ex. 1026, 3:4–9. Neither Petitioner’s argument in

IPR2024-01218 regarding Laarveld nor the disclosure of Laarveld itself is unambiguous enough to overcome the clearer disclosure of Fukui discussed above.

Thus, based on the present record, Petitioner shows sufficiently that Fukui discloses the disputed limitation of claim 8.

b) Undisputed Limitations

Claim 8 also recites

8. A method for organising a tray comprising a front edge in a fiber optic interconnect system, the method comprising:

defining a standard width unit wherein a width of the front edge is substantially evenly divisible by said standard width unit;

. . . and

releasably securing said selected cassettes along the front edge of the tray;

wherein when arranged on the tray an outer side edge of each of said selected cassettes is directly adjacent an outer side edge of at least one other selected cassette.

Ex. 1001, 6:28–42. Petitioner argues that Fukui anticipated these limitations. *See* Pet. 85–86 (citing Pet. 66–78).

After reviewing Petitioner’s arguments and information regarding the limitations identified immediately above, including the Ralph Declaration, which are not addressed by Patent Owner at this stage (*see* Prelim. Resp. 1–31), we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that Fukui anticipated these limitations.

c) Conclusion Regarding Claim 8

Based on the current record, we determine that there is a reasonable likelihood that Petitioner will prevail in demonstrating that claim 8 is

unpatentable as anticipated by Fukui. Accordingly, we institute *inter partes* review with respect to all claims and all grounds asserted in the Petition.

3. *Claims 9–13*

Because Petitioner demonstrates a reasonable likelihood of success in proving that at least one claim of the '542 patent is unpatentable, we institute on all grounds and all claims raised in the Petition. *See* 37 C.F.R.

§ 42.108(a). Therefore, at this stage of the proceeding, it is not necessary for us to provide an assessment of every challenge raised by Petitioner, especially, as in this case, when Patent Owner does not separately argue those claims. *See* Prelim. Resp. 8–13. Those challenges, in our view, are best left for trial after full development of the record.

F. Asserted Obviousness Based on Fukui or the Combination of Fukui and Sedor

Petitioner argues that claims 1–5 and 8–13 would have been obvious over Fukui alone or over the combination of Fukui and Sedor.

1. *Overview of Sedor*

Sedor, titled “Modular Fiber Optic Tray,” relates to “a tray to support fiber optic equipment.” Ex. 1005, code (54), 1:36–37. In particular, Sedor describes modular trays with cutout features for engaging with mounting features of removable rails. *Id.* at code (57). Removable rails may be secured in different positions for supporting different-sized fiber optic modules, such that, for example, “a tray may support a twenty-four optical fiber module, two twelve optical fiber modules, or three eight optical fiber modules.” *Id.*; *see also id.* at 4:16–35. Figure 7 of Sedor is reproduced below:

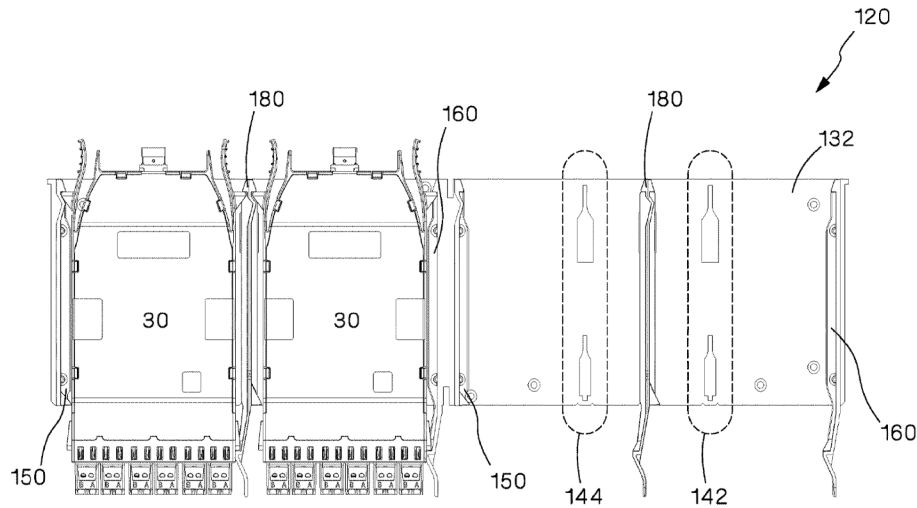


FIG. 7

Id. at Fig. 7. Figure 7 of Sedor “is a top view of the modular tray with two modules installed in the tray.” *Id.* at 2:20–21. “[M]odules 30” in Figure 7 are designed to handle twelve optical fibers each. *Id.* at 5:39–41.

“[R]emoveable rail 180” is installed between modules 30. *Id.* at 5:35–41.

When the removeable rail is moved to a different location on the tray or is removed altogether, Sedor teaches that “three 8-optical fiber modules 40” or “one 24-optical fiber module” may be installed in place of the “two 12-optical fiber modules 30” of Figure 7. *Id.* at 5:35–51, Figs. 7, 9, 11.

2. Analysis of Claim 1

- a) *Disputed Limitation: “A First of Said Set of Cassettes Comprising a First Cassette Width as Measured Between Outer Side Edges Thereof of One of One, Two, Three, Four and Six Standard Width Units and a Second of Said Set of Cassettes Comprising a Second Cassette Width as Measured Between Outer Side Edges Thereof Different from*

Said First Cassette Width and One of One, Two, Three, Four and Six Standard Width Units”

Claim 1 recites

a first of said set of cassettes comprising a first cassette width as measured between outer side edges thereof of one of one, two, three, four and six standard width units and a second of said cassettes comprising a second cassette width as measured between outer side edges thereof different from said first cassette width and one of one, two, three, four and six standard width units.

Ex. 1001, 5:41–48. Petitioner contends that Fukui teaches or suggests this limitation because it discloses both single-width and double-width cassettes, with the double-width cassettes being exactly twice the width of the single-width cassettes. Pet. 52–58. Patent Owner disagrees, arguing that what Petitioner refers to as Fukui’s double-width cassette is in fact not a cassette at all, but rather a pair of single-width cassettes that have been joined together. Prelim. Resp. 8–13.

For the reasons discussed above with respect to the asserted anticipation of claim 8 by Fukui, we are persuaded that Fukui sufficiently teaches two different widths of cassettes that satisfy the width limitation of claim 1.

b) Undisputed Limitations

Claim 1 also recites

1. A modular fiber optic cassette system, the system comprising:

a case comprising a top and a bottom wall and two opposed side walls, each of said sidewalls attached between respective side edges of said top and bottom wall, said walls together defining a tray receiving space there between and a forward edge of each said wall together defining an opening to said tray receiving space;

- at least one tray slideably received within said tray receiving space for movement between a stored position wherein said tray is completely inside said tray receiving space and an accessible position wherein a front end of said tray is in front of said opening and outside of said tray receiving space;
 - a set of fiber optic cassettes, a selected plurality of the cassettes arrangeable side by side along said tray front end wherein each of said cassettes comprises a plurality of optic plug receiving receptacles arranged side by side in a row along a front thereof, a first of said set of cassettes comprising a first cassette width as measured between outer side edges thereof of one of one, two, three, four and six standard width units and a second of said cassettes comprising a second cassette width as measured between outer side edges thereof different from said first cassette width and one of one, two, three, four and six standard width units; and
 - a fastener for removeably securing each of said cassettes to said tray;
- wherein when arranged on the tray an outer side edge of each of said selected cassettes is directly adjacent an outer side edge of at least one other selected cassette.

Ex. 1001, 5:22–53. Petitioner argues that the preamble of claim 1 and these limitations would have been obvious over Fukui or over the combination of Fukui and Sedor. *See* Pet. 27–62.

After reviewing Petitioner’s arguments and information regarding the limitations identified immediately above, including the Ralph Declaration, which are not addressed by Patent Owner at this stage (*see* Prelim. Resp. 1–31), we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that the preamble of claim 1 and the undisputed limitations would have been obvious to a person having ordinary skill in the art in light of Fukui or the combination of Fukui and Sedor.

c) Conclusion Regarding Claim 1

Based on the current record, we determine that Petitioner has shown that there is a reasonable likelihood that Petitioner will prevail in demonstrating that claim 1 is unpatentable as having been obvious in view of Fukui or the combination of Fukui and Sedor.

3. Claim 8

a) Disputed Limitation: “Selecting a Plurality of Cassettes for Installation on the Tray from a Set of Cassettes Having a Plurality of Different Widths as Measured Between Respective Outer Side Edges Thereof, Wherein Each of Said Different Widths is Evenly Divisible by Said Standard Width Unit”

Claim 8 recites “selecting a plurality of cassettes for installation on the tray from a set of cassettes having a plurality of different widths as measured between respective outer side edges thereof, wherein each of said different widths is evenly divisible by said standard width unit.” Ex. 1001, 6:33–37. According to Petitioner, Fukui teaches both single-width and double-width cassettes, with the double-width cassettes being exactly twice the width of the single-width cassettes. Pet. 74–76. Patent Owner argues that what Petitioner refers to as Fukui’s double-width cassette is in fact not a cassette at all, but rather a pair of single-width cassettes that have been joined together. Prelim. Resp. 13 (citing Prelim. Resp. 8–13). Both parties rely on the same arguments discussed above with respect to the asserted anticipation of claim 8 by Fukui. For the same reasons discussed above, Petitioner shows sufficiently that Fukui teaches the disputed limitation of claim 8.

b) Undisputed Limitations

Claim 8 also recites

8. A method for organising a tray comprising a front edge in a fiber optic interconnect system, the method comprising:
- defining a standard width unit wherein a width of the front edge is substantially evenly divisible by said standard width unit;
- ... and
- releasably securing said selected cassettes along the front edge of the tray;
- wherein when arranged on the tray an outer side edge of each of said selected cassettes is directly adjacent an outer side edge of at least one other selected cassette.

Ex. 1001, 6:28–42. Petitioner argues that the preamble of claim 8 and these limitations would have been obvious over Fukui or over the combination of Fukui and Sedor. *See* Pet. 66–74, 76–78.

After reviewing Petitioner’s arguments and information regarding the limitations identified immediately above, including the Ralph Declaration, which are not addressed by Patent Owner at this stage (*see* Prelim. Resp. 1–31), we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that the preamble of claim 8 and the undisputed limitations would have been obvious to a person having ordinary skill in the art in light of Fukui or the combination of Fukui and Sedor.

c) Conclusion Regarding Claim 8

Based on the current record, we determine that there is a reasonable likelihood that Petitioner will prevail in demonstrating that claim 8 is unpatentable as having been obvious in view of Fukui or the combination of Fukui and Sedor.

4. Claims 2–5 and 9–13

Petitioner argues that claims 2–5 and 9–13 would have been obvious over Fukui or the combination of Fukui and Sedor. Because Petitioner

demonstrates a reasonable likelihood of success in proving that at least one claim of the '542 patent is unpatentable, we institute on all grounds and all claims raised in the Petition. *See* 37 C.F.R. § 42.108(a). Therefore, at this stage of the proceeding, it is not necessary for us to provide an assessment of every challenge raised by Petitioner, especially, as in this case, when Patent Owner does not separately argue those claims. *See* Prelim. Resp. 8–13. Those challenges, in our view, are best left for trial after full development of the record.

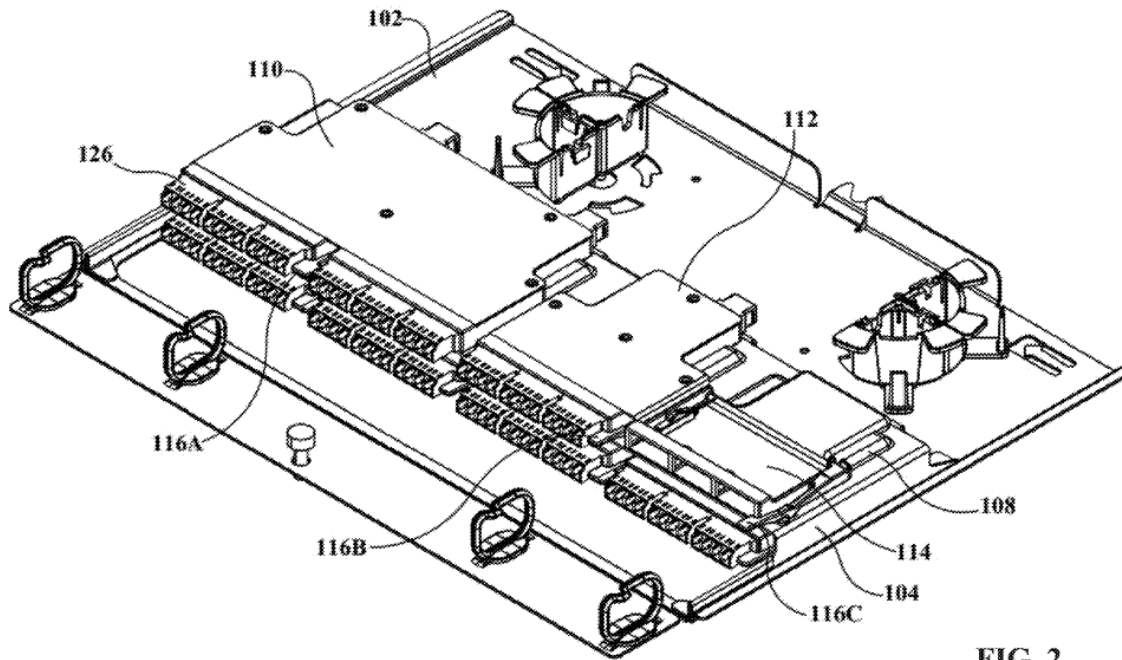
G. Asserted Obviousness Based on Sauter Alone or on Combinations Including Sauter

Petitioner argues that claims 1–5, 8, and 10–13 would have been obvious over Sauter alone, over the combination of Sauter and Fukui, or over the combination of Sauter, Fukui, and Sedor.

1. Overview of Sauter

Sauter, titled “Multi-Gang Cassette System,” relates to “[a] cassette mounting system [that] allows fiber optic cassettes of different sizes to be mounted on the same fiber optic tray or other mounting surface.” Ex. 1006, codes (54), (57).

Figure 2, reproduced below, illustrates a three-dimensional view of an example fiber optic cassette tray with a number of cassettes.



As shown in Figure 2, fiber optic cassette tray 102 provides for the mounting of “cassettes of different sizes (e.g., both single-gang and multi-gang cassettes) on the same cassette tray 102 simultaneously at any position on the mounting interfaces.” Ex. 1006, 5:4–8. Specifically, Figure 2 shows “a single-gang cassette 112, a dual-gang cassette 110, and a single-gang adapter plate 114 are mounted on the upper mounting interface 104 of tray 102.” *Id.* at 5:9–11. Rail guides 108 hold cassettes and adapter plates in place and ensure proper orientation when cassettes and adapter plates are installed from the front of tray 102. *Id.* at 5:16–23. More specifically, “a single-gang cassette 112 or adapter plate 114 will interface with two adjacent rail guides 108 when installed,” whereas “a double-gang cassette will interface with three rail guides 108.” *Id.* at 7:3–8. Although Figure 2 demonstrates a two-layered configuration, Sauter also discloses single-layer cassette trays or trays that stack more than two layers. *Id.* at 6:30–42.

Figure 7 of Sauter is reproduced below:

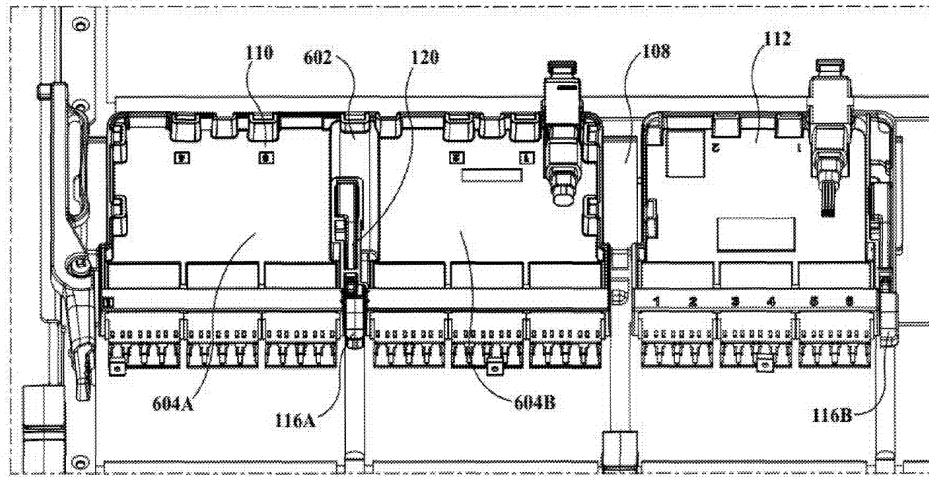


FIG. 7

Ex. 1006, Fig. 7. Figure 7 of Sauter “is a top view depicting dual-gang cassette 110 and single-gang cassette 112 mounted on the same cassette tray.” *Id.* at 6:59–61. Rails on each side of each cassette “are configured to interface with rail guides 108 on the cassette tray to facilitate guiding and holding the cassette 110 into place on the tray.” *Id.* at 6:64–7:2. “Whereas a single-gang cassette 112 . . . will interface with two adjacent rail guides 108 when installed on the mounting interface of the tray . . . , a double-gang cassette will interface with three rail guides 108.” *Id.* at 7:3–8. Sauter’s cassettes “include integrated latching mechanisms 120.” *Id.* at 5:60–61. In Figure 7, “latching mechanism 120 . . . is disposed in a middle section of the cassette between the two gangs 604A and 604B, with release latch 116A protruding from the front of the cassette 110.” *Id.* at 7:50–53. The latching mechanism may also “located on the left or right side of the cassette, similar to single-gang cassettes.” *Id.* at 7:53–56.

2. *Notes Regarding the Sauter-Based Grounds*

As we noted above, if the Board institutes trial, it will “institute . . . on all grounds in the petition.” CTPG, 5–6; 37 C.F.R. § 42.108(a); *see also PGS Geophysical AS* at 1360 (interpreting the statute to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”). Accordingly, because we determine that Petitioner has shown a reasonable likelihood of success based on the grounds principally involving Fukui so as to warrant institution of trial, we also institute on the grounds involving Sauter. Although we need not further address those Sauter based grounds, we do make the following observations.

Claim 1 recites

a first of said set of cassettes comprising a first cassette width as measured between outer side edges thereof of one of one, two, three, four and six standard width units and a second of said cassettes comprising a second cassette width as measured between outer side edges thereof different from said first cassette width and one of one, two, three, four and six standard width units.

Ex. 1001, 5:41–48. Petitioner contends that Sauter teaches or suggests this limitation because its “sets of single-gang, double (or dual)-gang, three-gang, and multi-gang cassettes” have widths that are multiples of a standard width unit. Pet. 103–107. Patent Owner disagrees, arguing that Petitioner’s arguments are unsupported by the record. Prelim. Resp. 14–22.

Petitioner presents two different arguments with respect to this limitation, with each of the arguments relying on a different claim construction. Pet. 103–107. The first argument relies on what Petitioner characterizes as “Patent Owner’s interpretation,” which Petitioner argues

“cannot be correct.” *Id.* at 24, 103–104. The second argument applies Petitioner’s proposed construction. *Id.* at 104–107.

With respect to its first argument, Petitioner appears to premise its assessment of this limitation on adoption of Patent Owner’s litigation claim construction pertaining to the cassette widths. *See* Pet. 103 (“At least under Patent Owner’s interpretation, Sauter’s sets of single-gang, double (or dual)-gang, three-gang, and multi-gang cassettes satisfy these limitations.”). As we note above, however, (*see supra* § III.D.1), it is dubious on this record that the construction provides meaningful clarity or is supported adequately.

Furthermore, it is clear from the Petition that Petitioner’s second argument with respect to the Sauter-based grounds requires that the width of a cassette must also include a separate fastener attached to the side of the cassette as a part of the determination of the cassette’s width. *See, e.g.,* Pet. 104–107. Patent Owner challenges the propriety of that premise. *See* Prelim. Resp. 14–21. For instance, Patent Owner contends that Petitioner’s position is “incorrect because it requires integrating a structural feature onto the outside of a cassette’s housing to achieve the claimed cassette width.” *Id.* at 17. Patent Owner’s arguments in that respect may potentially have merit and may be further assessed during trial.

III. CONCLUSION

For the reasons set forth above, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to any challenged claim of the ’542 patent. Accordingly, we institute *inter partes* review of all challenged claims on all grounds asserted in the Petition.

Our factual findings, conclusions of law, and determinations at this stage of the proceeding are preliminary, and based on the evidentiary record

developed thus far. This is not a final decision as to the patentability of claims for which *inter partes* review is instituted. Our final decision will be based on the record as fully developed during trial.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted for claims 1–5 and 8–13 of the '542 patent on the grounds asserted in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which shall commence on the entry date of this decision.

IPR2024-01227
Patent 11,435,542 B2

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