

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NIKON CORPORATION,
Petitioner,

v.

ASML NETHERLANDS B.V. and CARL ZEISS AG
Patent Owner.

Case IPR2018-00220
Patent 6,972,792 B2

Before BRIAN J. McNAMARA, DAVID C. McKONE,
and MONICA S. ULLAGADDI, *Administrative Patent Judges*.

McKONE, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background

Nikon Corp. (“Petitioner”) filed a Petition (Paper 6, “Pet.”) to institute an *inter partes* review of claims 1–6, 8–17, 23–26, and 28 of U.S. Patent No. 6,972,792 B2 (Ex. 1001, “the ’792 patent”). Petitioner indicates that Sendai Nikon Corp., Nikon Inc., and Nikon Americas Inc. are real parties in interest. Pet. 1. Carl Zeiss AG and ASML Netherlands B.V. (collectively, “Patent Owner”) filed a Preliminary Response (Paper 7, “Prelim. Resp.”). Upon consideration of the Petition and Preliminary Response, we conclude, under 35 U.S.C. § 314(a), that Petitioner has not established a reasonable likelihood that it would prevail with respect to claims 1–6, 8–13, 23–26, and 28. We exercise our discretion to deny institution as to claims 14–17. Accordingly, we decline to institute an *inter partes* review of claims 1–6, 8–17, 23–26, and 28 of the ’792 patent.

B. Related Matters

The parties indicate that *Carl Zeiss AG v. Nikon Corp.*, Case No. 2:17-cv-03221-RGK (C.D. Cal.), may affect or be affected by this proceeding. Pet. 1; Paper 4, 2.

C. Evidence Relied Upon

Petitioner relies on the following prior art:

Ex. 1008 (“Suzuki”)	US 6,111,605	Aug. 29, 2000
Ex. 1009 (“Toyofuku”)	US 7,042,504 B1	May 9, 2006
Ex. 1010 (“Aramaki”)	EP 0 734 155 A1	Sept. 25, 1996
Ex. 1011 (“Anderson”)	US 6,118,480	Sept. 12, 2000

Ex. 1012 (“EP993”) EP 0 978 993 A2 Feb. 9, 2000

Ex. 1013 (“EP995”) EP 0 978 995 A2 Feb. 9, 2000

Petitioner also relies on the Declaration of Irfan Essa, Ph.D.
(Ex. 1015, “Essa Decl.”).

D. The Asserted Grounds

Petitioner asserts the following grounds of unpatentability (Pet. 33):

References	Basis	Claims Challenged
Suzuki	§ 103(a)	1–3, 5, 6, 8, 9, 14, 23, 26, and 28
Suzuki and Aramaki	§ 103(a)	4, 10, and 11
Suzuki, Aramaki, and Anderson	§ 103(a)	12, 13, 15–17, 24, and 25
Toyofuku	§ 103(a)	1–3, 5, 6, 8, 9, 14–17, 23–26, and 28
Toyofuku and Aramaki	§ 103(a)	4 and 10–13
EP993 and EP995	§ 103(a)	1–6, 8–13, 23–26, and 28

E. The ’792 Patent

The ’792 patent is directed to a device for capturing images and communicating those images to other devices. Ex. 1001, Abstract.

Figure 1A is reproduced below:

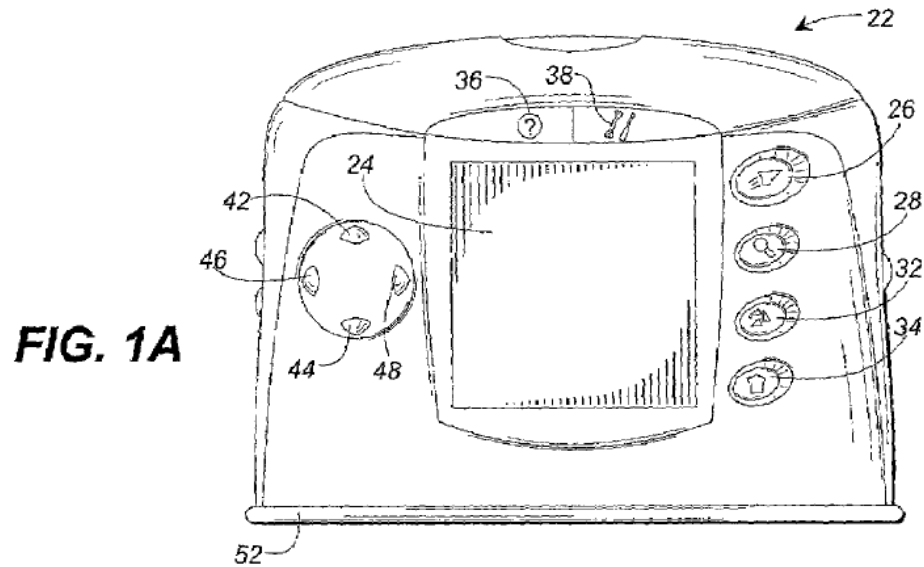


Figure 1A is an elevation view of and illustrates pertinent aspects of image capture and communication appliance 22. *Id.* at 3:59–63, 5:7–10.

Appliance 22 includes a display 24, user operation buttons 26, 28, 32, 34, 36, and 38, and user navigation buttons 42, 44, 46, 48. Figure 1B is reproduced below:

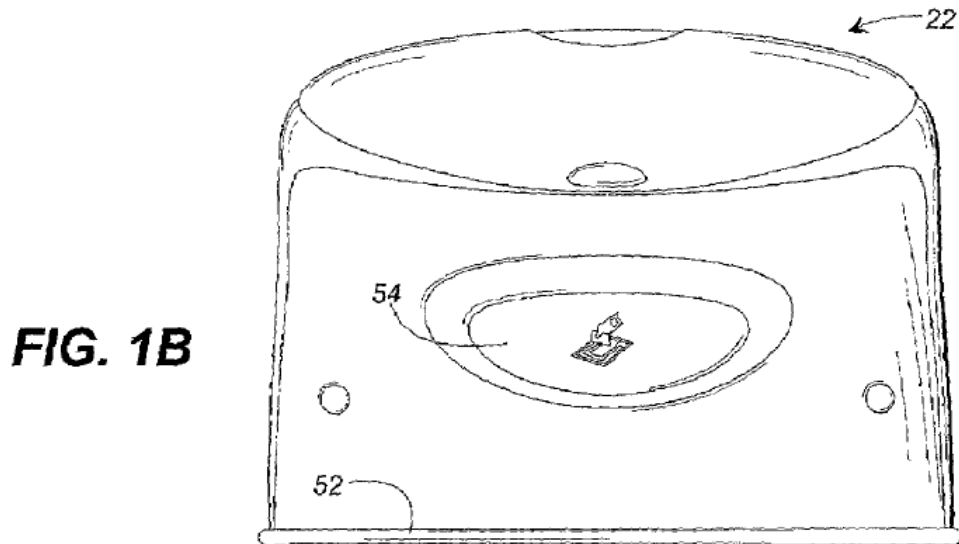


Figure 1B is an elevation view that illustrates the side of image capture and communication appliance 22 opposite from that depicted in Figure 1A.

Id. at 4:64–67, 5:46–48. Figure 1B depicts photoelement array 52, which is used to scan an image, and image capture button 54, which is depressed by a user to perform an image scan. *Id.* at 5:47–50.

The '792 patent describes the operation of the image capture and communication appliance 22 in terms of application software 70 that can be broken into several modules corresponding to various features. *Id.* at 6:37–46. In pertinent part, application software 70 includes error utility module 98, which informs a user that an error has occurred, and help utility module 102, which provides instructions after the error on how to operate the device correctly. *Id.*

Figure 8 is reproduced below:

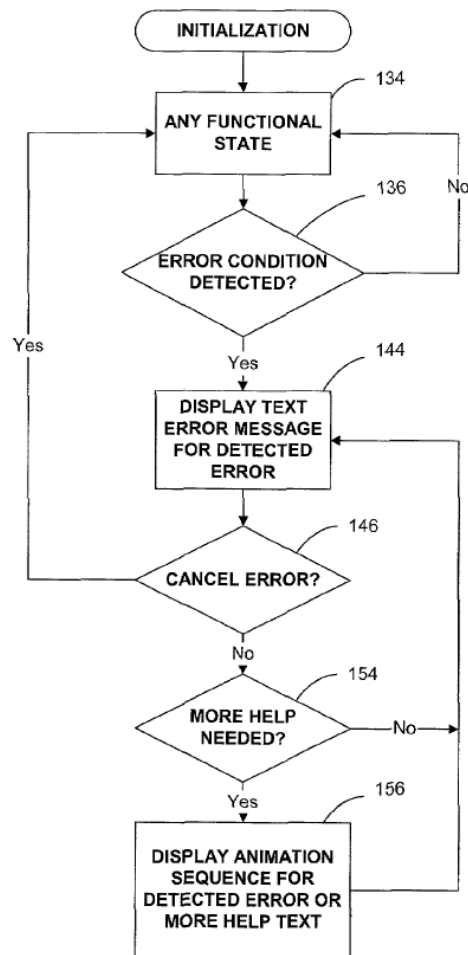


FIG. 8

Figure 8 is a functional flowchart that illustrates pertinent steps of the operation of error utility module 98 and help utility module 102. *Id.* at 4:57–59, 8:53–55. At step 136, error utility software module 98 determines whether an error occurs. *Id.* at 8:57–58. Once an error is detected in step 136, logic determines what error has occurred and displays an appropriate text error message in step 144. *Id.* at 8:58–61, Figs. 4A, 4B (example “Speed Error” messages). If the user requires assistance in correcting the error, step 156 displays an animation sequence (shown in Figures 5A through 5D) to further instruct the user. *Id.* at 9:1–7.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A digital camera, comprising:
 - a photoelement array for acquiring image data;
 - a memory for saving said image data;
 - a processor in communication with said memory;
 - a display in communication with said processor for exhibiting said image data; andprogram code stored in said memory and executed by said processor for manipulating said image data, said program code comprising an error utility software module for providing a user with information on incorrectly operating said digital camera.

II. ANALYSIS

A. Level of Skill in the Art

Petitioner contends that a skilled artisan “would have had a Bachelor’s degree in electrical engineering or a related field and at least three years of work experience.” Pet. 8 (citing Ex. 1015 ¶¶ 6–8). Patent Owner does not contest Petitioner’s statement of the level of skill. We apply Petitioner’s proposed level of skill for purposes of this Decision.

B. Means-Plus-Function Claims

Independent claims 1, 6, 23, and 28 are apparatus claims. Petitioner contends that each of these claims includes a means-plus-function limitation

under 35 U.S.C. § 112 ¶ 6.¹ Petitioner further contends that the specification of the '792 patent fails to describe sufficient structure corresponding to these means-plus-function claim limitations. Pet. 12–21. In the alternative, Petitioner proposes corresponding structure and contends that, if we find that structure sufficient, the prior art teaches that structure. Pet. 33–78. Petitioner's expert, however, testifies that Petitioner's alternative identifications of structure are insufficient. Ex. 1015 ¶¶ 32.

We interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016). Nevertheless, Petitioner represents that the '792 patent will expire on August 7, 2018. Pet. 8–9. “[T]he Board’s review of the claims of an expired patent is similar to that of a district court’s review.” *In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012) (internal citations omitted). District courts construe claims in accordance with their ordinary and customary meanings, as would be understood by a person of ordinary skill in the art, in the context of the Specification. *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). Although neither party has requested a district court-type claim construction approach (*see* 37 C.F.R. § 42.100(b)), we exercise our discretion to apply such an approach given that the '792 patent will expire shortly after the date of this decision.

¹ Section 4(c) of the Leahy–Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011) (“AIA”), re-designated 35 U.S.C. § 112 ¶ 6 as 35 U.S.C. § 112(f). Because the '792 patent has an effective filing date before September 16, 2012 (effective date of AIA), we cite § 112 ¶ 6.

Petitioner argues that several terms of the challenged claims should be construed as means-plus-function terms under 35 U.S.C. § 112 ¶ 6. Pet. 12–28. We focus on three such terms here, namely: “error utility software module” (claims 1, 6); “logic configured to recognize erroneous operation” (claim 23); and “processing means for processing a user execution of an erroneous operation” (claim 28).

The Federal Circuit has “stated that the use of the word ‘means’ in a claim element creates a rebuttable presumption that § 112, para. 6 applies” and that “the failure to use the word ‘means’ also creates a rebuttable presumption—this time that § 112, para. 6 does not apply.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc) (internal citations omitted). Because it recites “means,” the term “processing means” presumptively is in means-plus-function format. The terms “error utility software module” and “logic configured to recognize erroneous operation” presumptively are not. This presumption, however, is not “strong” and should not have the practical effect of “placing a thumb on what should otherwise be a balanced analytical scale.” *Id.* at 1349. “When a claim term lacks the word ‘means,’ the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Id.*

Petitioner argues that “error utility software module” is in means-plus-function format. Pet. 12–13.² As Petitioner observes (*id.*), “[m]odule’ is a well-known nonce word that can operate as a substitute for ‘means’ in the context of § 112, para. 6” because it “is simply a generic description for software or hardware that performs a specified function.” *Williamson*, 792 F.3d at 1350. Petitioner argues that “this term’s limitations are all simply functions the module is supposed to perform and do not specify any structure for performing the recited functions.” Pet. 13. Petitioner’s expert testifies that “[t]hese recited limitations are purely functional and provide no structure for performing them” and that “[t]he term ‘software module’ does not convey to one of ordinary skill a definite structural meaning for performing the recited function.” Ex. 1015 ¶ 26. Similarly, Petitioner argues that “logic configured to recognize erroneous operation” is purely functional and does not specify structure for performing the recited function. Pet. 17. Dr. Essa’s testimony supports this argument. Ex. 1015 ¶ 36.

Patent Owner expressly takes no position on whether these terms are in means-plus-function format and cites to no evidence contradicting Dr. Essa’s testimony. Prelim. Resp. 5 (“At this time in this proceeding, Patent Owners take no position on whether the non-‘means’ terms identified below should be construed as MPF terms, nor whether the identified structures are correct.”).

² Claim 1 recites “program code comprising an error utility software module” and claim 6 recites “program means comprising an error utility software module.” Thus, claim 6 presumptively recites a means-plus-function limitation while claim 1 does not. Petitioner argues these two claim terms together.

For purposes of this Decision, we determine that “error utility software module” and “logic configured to recognize erroneous operation” are in means-plus-function format. Petitioner advances evidence, in the form of expert testimony, that both terms simply recite functions without reciting sufficient structure for performing those functions. As it takes no position, Patent Owner does not argue or introduce evidence that these terms recite sufficient structure. We credit Dr. Essa’s uncontested testimony that these terms provide no structure for performing their recited functions. See *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015) (“In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the ‘evidentiary underpinnings’ of claim construction that we discussed in *Markman*. . . .”).

“Section 112, ¶ 6 recites a mandatory procedure for interpreting the meaning of a means- or step-plus-function claim element. These claim limitations ‘shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.’” *Al-Site Corp. v. VSI Int’l, Inc.*, 174 F.3d 1308, 1320 (Fed. Cir. 1999) (quoting 35 U.S.C. § 112 ¶ 6); see also *In re Donaldson Co.*, 16 F.3d 1189, 1193–94 (Fed. Cir. 1994) (en banc) (“[P]aragraph six applies regardless of the context in which the interpretation of means-plus-function language arises, i.e., whether as part of a patentability determination in the PTO or as part of a validity or infringement determination in a court.”). We construe such a limitation by determining what the claimed function is and identifying the structure or materials disclosed in the specification that correspond to the

means for performing that function. *See Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1360 (Fed. Cir. 2000).

For computer-implemented inventions, this corresponding structure must be more than a general purpose computer or microprocessor. *See Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). Rather, “[w]hen dealing with a ‘special purpose computer-implemented means-plus-function limitation,’ [the Federal Circuit] require[s] the specification to disclose the algorithm for performing the function.” *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013); *accord Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1384 (Fed. Cir. 2009) (“[W]hen a computer is referenced as support for a function in a means-plus-function claim, there must be some explanation of how the computer performs the claimed function.”). “[I]n the absence of structure disclosed in the specification to perform those functions, the claim limitation would lack specificity, rendering the claim as a whole invalid for indefiniteness under 35 U.S.C. § 112 ¶ 2.” *Aristocrat Techs.*, 521 F.3d at 1331.

For each of “error utility software module,” “logic configured to recognize erroneous operation,” and “processing means for processing a user execution of an erroneous operation,” Petitioner argues that the specification describes a software module executing on a general purpose computer but does not disclose an algorithm sufficiently. Pet. 13–14, 16–17, 19.

Claims 1 and 6 differ in their recitations of the function of the error utility software module. Claim 1 recites an error utility software module “for providing a user with information on incorrectly operating said digital camera” while claim 6 recites an error utility software module “for providing

a user with information on incorrectly and correctly operating said digital camera.” For the “error utility software module” of claim 1, Petitioner argues that “[t]he only possible structure in the specification for performing this function is the ‘error utility software module 98’ in Figure 8 (8:33–58; FIG. 8), part of the application software 70 executed by processor 62. (5:59–63, 6:38–45.)” Pet. 13. Dr. Essa testifies that detecting an error condition is a complex function that cannot be performed by a general purpose computer without special programming. Ex. 1015 ¶ 29. Petitioner argues that no algorithm is described in the specification for performing the recited function and that, although the specification mentions “logic” to determine what error occurred, no such logic is described. Pet. 15. Petitioner argues that “the recited function of the module is explicitly directed to incorrectly operating *a digital camera*. Detecting speed error in a scanner is not a function of a digital camera. And there is no other disclosure of any algorithm, logic, or anything else relating to detecting erroneous operation of *a digital camera*.” *Id.* According to Petitioner, “[a] cursory review of the specification proves there is insufficient disclosure of an algorithm.” *Id.* at 16. Petitioner supports these contentions with the testimony of Dr. Essa. Ex. 1015 ¶¶ 30–32.

As to the error utility software module of claim 6, Petitioner argues similarly that “[t]he operations are indicated at boxes 136, 144, and 156 and FIGS. 4 and 5 as discussed above, but again there is no disclosure related to a digital camera. There is no corresponding structure for the reasons set forth above.” Pet. 17.

In the alternative, Petitioner identifies and invites us to consider corresponding structure, but only to the extent we reject Petitioner’s primary

argument that the means-plus-function terms cannot be construed:

“Alternatively, if the Board determines that sufficient structure is disclosed, the corresponding structure is boxes 136 and 144 of the flowchart of Figure 8, describing that an error condition is detected and providing a display as disclosed in FIG. 4.” *Id.* at 16. *See also id.* at 17 (arguing for claim 6, “[i]f the Board disagrees, the corresponding structure is boxes 136, 144, and 156 of FIG. 8, which operate to display information on incorrect and correct operation as shown in FIGS. 4 and 5”).

Petitioner makes similar arguments and introduces similar expert testimony for “logic configured to recognize erroneous operation.” Pet. 17 (“The only possible structure in the specification for performing this function is step 136 of the ‘error utility software module 98,’ which ‘determines whether an error condition occurs’ (8:57–58; FIG. 8).”), 18 (“As discussed above, Petitioner maintains that there is insufficient disclosure of an algorithm. If the Board disagrees, the only possible algorithm in the specification for this purpose is step 136 of the flowchart in Figure 8, reproduced below.”); Ex. 1015 ¶¶ 36–37.

Likewise, Petitioner advances similar arguments and evidence for “processing means for processing a user execution of an erroneous operation.” Pet. 19 (“The only possible structure in the specification for performing this function is the ‘error utility software module 98’ in Figure 8 (8:33–58).”), 20 (“[N]o algorithm is described for detecting an error. Moreover, the recited function of the processing means is explicitly directed to incorrect operation of *a digital camera*. Detecting a speed error in a scanner is not a function of a digital camera. And there is no other disclosure of any algorithm, logic, or anything else relating to detecting

erroneous operation of *a digital camera*. Accordingly, there is no corresponding structure disclosed.”), 21 (“Alternatively, if the Board determines that sufficient structure is disclosed, the corresponding structure is boxes 144 and 156 of the flowchart of Figure 8, describing providing a display of error information and method of correct operation as disclosed in FIG. 4.”); Ex. 1015 ¶¶ 39–40).

For its part, Patent Owner contends, without further explanation, that Petitioner’s alternative identifications of corresponding structure are sufficient. Prelim. Resp. 6–7. For each of these three terms, Patent Owner also cites generally to column 8, line 40, through column 9, line 45, and figures 2, 3, and 8 of the ’792 patent, arguing that “[o]ther corresponding structure disclosed in the specification may include processor 62 configured to operate error utility software 98 to run the software described in the flowchart in Fig. 8.” *Id.* Nevertheless, Patent Owner does not identify any additional corresponding structure with specificity. Nor does Patent Owner offer evidence to rebut Dr. Essa’s testimony.

Our rules require Petitioner to set forth in the Petition “[h]ow the challenged claim is to be construed” and specifically state that “[w]here the claim to be construed contains a means-plus-function or step-plus-function limitation as permitted under 35 U.S.C. 112(f), the construction of the claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function.” 37 C.F.R. § 42.104(3). It is against this backdrop that we determine whether Petitioner shows a reasonable likelihood that it would prevail with respect to at least one challenged claim.

In this case, Petitioner unambiguously takes the position that the terms “error utility software module,” “logic configured to recognize erroneous operation,” and “processing means for processing a user execution of an erroneous operation” are not amenable to construction because the specification of the ’792 patent does not describe sufficient structure corresponding to these terms. Pet. 12–21. Petitioner advances unequivocal, and uncontroverted, expert testimony supporting this position. Ex. 1015 ¶¶ 26–40. Because Petitioner’s arguments and evidence are directed to the contrary position, Petitioner does not establish that these three terms are capable of being construed. If Petitioner cannot show that these claim terms are amenable to construction, Petitioner cannot apply the features of the prior art to those terms, nor expect us to do so. *Cf. In re Steele*, 305 F.2d 859, 862–62 (CCPA 1962) (“As we have previously indicated, our analysis of the claims leaves us in a quandary as to what in fact is covered by them. We think the examiner and the board were wrong in relying on what at best are speculative assumptions as to the meaning of the claims and basing a rejection under 35 U.S.C. § 103 thereon.”). Therefore, Petitioner does not establish that it is reasonably likely to prevail in showing that claims 1, 6, 23, and 28 would have been obvious.

We recognize that Petitioner has offered identifications of corresponding structure should we determine that the claims are amenable to construction. Petitioner’s own expert, however, unequivocally testifies that Petitioner’s alternative identifications of structure are not sufficient. Ex. 1015 ¶¶ 32 (“The only possible disclosure in the specification for performing the recited function is boxes 136 and 144 of the flowchart in Figure 8, describing that an error condition is detected and providing a

display as disclosed in FIG. 4, but that disclosure falls far short of being an ‘algorithm.’”), 35 (“The only possible structure is boxes 136, 144, and 156 of FIG. 8, which operate to display information on incorrect and correct operation, as shown in Figs. 4 and 5. Those boxes do not disclose an algorithm.”), 37 (“The only possible algorithm for performing the recited function is step 136 of the flowchart in Figure 8, which is reproduced below—though that single box falls short of what a skilled artisan would understand to constitute an ‘algorithm’ because it provides no specifics of *how* an error is detected.”) (underlining added, italics Petitioner’s).

Patent Owner’s conclusory accedence to Petitioner’s alternative identification of corresponding structure is not sufficient to persuade us that Petitioner’s primary position is incorrect. To be clear, Patent Owner is not required to file a Preliminary Response (37 C.F.R. § 42.107(a)) and, thus, was not obligated at this stage of the proceeding to take a position on the correctness of Petitioner’s identification of corresponding structure. Nevertheless, Patent Owner’s argument does not provide a convincing basis to reject Petitioner’s primary argument that claims 1, 6, 23, and 28 cannot be construed. In other words, Patent Owner does not persuade us to reject Petitioner’s primary argument and proceed to apply the prior art under Petitioner’s alternative theories on the means-plus-function limitations.

Implicit in Petitioner’s position is a request that we rule on the definiteness of claims 1, 6, 23, and 28. *See Aristocrat Techs.*, 521 F.3d at 1331. However, “[a] petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent *only on a ground that could be raised under section 102 or 103* and only on the basis of prior art consisting of patents or printed publications.” 35 U.S.C. § 311(b) (emphasis

added). We do not determine whether claims 1, 6, 23, and 28 are indefinite. Rather, we determine, based on the current record, that Petitioner does not show that claims 1, 6, 23, and 28 are amenable to construction and, accordingly, has not shown a reasonable likelihood that prior art can be applied to those claims to support a conclusion of obviousness.

Claims 2–5 depend from claim 1; claims 8–13 depend from claim 6; and claims 24–26 depend from claim 23. Petitioner does not present argument or evidence for the dependent claims that remedy the deficiencies noted above for independent claims 1, 6, and 23. Accordingly, Petitioner has not established a reasonable likelihood that it would prevail with respect to claims 1–6, 8–13, 23–26, and 28.

C. Claims 14–17

Independent claim 14 is a method claim, and is not subject to Petitioner’s means-plus-function arguments, detailed above. Nevertheless, if we were to institute a trial on claim 14 and its dependents, we also would have to institute on the challenged means-plus-function claims. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1369–60 (2018) (The Supreme Court held that a decision to institute under 35 U.S.C. § 314 may not institute on less than all claims challenged in the petition.); *see also Guidance on the Impact of SAS on AIA Trial Proceedings* (April 26, 2018), available at <https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial>. The result of institution would be a trial in which Petitioner contends that the majority of the challenged claims are not amenable to construction. Although Petitioner is not permitted to pursue a ground of indefiniteness in an *inter partes* review (*see* 35 U.S.C.

§ 311(b)), indefiniteness likely would be a significant issue for those claims going forward given Petitioner's current posture and presentation of evidence.

Institution of an *inter partes* review is discretionary. See *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (explaining that under 35 U.S.C. § 314(a), "the PTO is permitted, but never compelled, to institute an IPR proceeding"). Because a trial on the challenged claims, including claims 14–17, likely would be dominated by issues of alleged indefiniteness of claims 1–6, 8–13, 23–26, and 28, we exercise our discretion to deny institution on all challenged claims and grounds.

III. CONCLUSION

Petitioner has not established a reasonable likelihood that it would prevail with respect to claims 1–6, 8–13, 23–26, and 28. Additionally, we exercise our discretion and deny the Petition as to claims 14–17.

IV. ORDER

For the reasons given, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is not instituted for claims 1–6, 8–17, 23–26, and 28 of U.S. Patent No. 6,972,792 B2.

IPR2018-00220
Patent 6,972,792 B2

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