

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BUTTERFLY NETWORK, INC.,
PETITIONER,

V.

FUJIFILM SONOSITE, INC.,
PATENT OWNER.

IPR2022-01577
Patent 6,901,157 B2

Before WILLIAM V. SAINDON, BARBARA A. BENOIT, and
FRANCES L. IPPOLITO, *Administrative Patent Judges*.

SAINDON, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background and Summary

Butterfly Network, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–4 and 6–10 (“the challenged claims”) of U.S. Patent 6,901,157 B2 (Ex. 1001, “the ’157 patent”). FUJIFILM Sonosite, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 7, “Prelim. Resp.”)

We have authority to determine whether to institute an *inter partes* review under 35 U.S.C. § 314(b) and 37 C.F.R. § 42.4(a) (2020). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons provided below, we determine Petitioner has satisfied the threshold requirement set forth in 35 U.S.C. § 314(a). Because Petitioner has demonstrated a reasonable likelihood that at least one claim of the ’157 patent is unpatentable, we institute an *inter partes* review of all challenged claims based on all grounds raised in the Petition. 37 C.F.R. § 42.08(a).

Our findings of fact, conclusions of law, and reasoning discussed below are based on the evidentiary record developed thus far, and made for the sole purpose of determining whether the Petition meets the threshold for initiating review. This decision to institute trial is not a final decision as to the patentability of any challenged claim or the construction of any claim limitation. Any final decision will be based on the full record developed during trial.

B. Real Parties in Interest

Petitioner asserts that Butterfly Network, Inc. and BFLY Operations, Inc. are real parties in interest. Paper 6, 1 (Petitioner's Updated Mandatory Notices). Patent Owner asserts that it is its sole real party in interest. Paper 3, 2 (Patent Owner's Mandatory Notices).

C. Related Matters

Patent Owner states that it has asserted the '157 patent against Petitioner in the Federal District Court of Delaware in *FUJIFILM Sonosite, Inc. v. Butterfly Network, Inc.*, 1:22-cv-00309-JPM. Paper 3, 2; *accord* Pet. 2.

D. Prior Art and Asserted Grounds

Petitioner's grounds rely on the following prior art references:

Name	Reference	Exhibit(s)
Short	US Pat. 5,161,535, iss. Nov. 10, 1992	1006
Kinicki	US Pat. 5,315,999, iss. May 31, 1994	1005
Jackson	US Pat. 5,997,478, iss. Dec. 7, 1999	1004
Clark	US Pat. 6,174,285 B1, iss. Jan. 16, 2001	1007
HDI 3000 Manual	HDI 3000 Ultrasound System: Getting Started (ATL Ultrasound, 1998)	1003

Petitioner asserts that claims 1–4 and 6–10 would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)/Basis
1–4, 6–10	102	HDI 3000 Manual
1–4, 6–10	103	HDI 3000 Manual, Jackson

¹ The '157 patent was filed on January 4, 2002. Ex. 1001, code (22). We apply the versions of 35 U.S.C. §§ 102 and 103 that were in force before they were amended by the Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011).

Claim(s) Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1–3, 6–9	102	Kinicki
1–3, 6–9	103	Kinicki, Short
4, 10	103	Kinicki, Clark
4, 10	103	Kinicki, Short, Clark

E. Overview of the '157 Patent

The '157 patent states that ultrasound image quality depends on a number of different conditions and settings such as frequency, bandwidth, power, etc. Ex. 1001, 1:14–20. Different settings are more appropriate for different body parts. *Id.* at 1:22–23. The '157 patents states that the problem is that each of the various parameters must be manually entered and adjusted each time, which is laborious. *Id.* at 1:24–33. The '157 patent states that prior art systems seek to overcome this problem by storing preset parameters based on the body part to be inspected. *Id.* at 1:46–58. The '157 patent, in turn, discloses that it operates by providing the user with an opportunity to recall preset parameters based on the body part to be inspected. *Id.* at 2:49–59.

F. Challenged Claims

Claim 1 is reproduced below.

1. An ultrasonic diagnostic apparatus comprising:

an ultrasonic transmitting and receiving unit for transmitting ultrasonic waves to an object to be inspected and receiving echo waves reflected from the object;

an image processing unit for executing image processing of image data, which is obtained on the basis of the echo waves received by said ultrasonic transmitting and receiving unit, by using image processing condition parameters,

an information input unit to be employed for inputting information of object concerned with the object to be inspected;

a parameter memory unit for storing the image processing condition parameters to be used in the image processing unit, in correspondence with the information of object;

a control unit for reading out the image processing condition parameters, which correspond to the information of object input by employing the information input unit, from said parameter memory unit so as to supply the read-out parameters to the image processing unit; and

a display unit for displaying an image on the basis of the image data subjected to the image processing in the image processing unit.

II. ANALYSIS

A. Legal Standards Used in the Merits Analysis

“In an IPR, 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”)); *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).

To establish anticipation, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001).

A claim is unpatentable under 35 U.S.C. § 103 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 . . . 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) when in evidence, objective evidence of nonobviousness, i.e., secondary considerations. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art:

would have a degree in electrical engineering, biomedical engineering, or a related discipline, along with relevant experience (at least 2–3 years for a Ph.D., 3–5 years for a Master’s, and 5+ years for a Bachelor’s) researching or developing ultrasound systems or other medical imaging devices. EX1008, ¶¶21–26. The POSA would have general knowledge of ultrasound systems and related technologies as of January 15, 2001. *Id.*

Pet. 7–8.

Patent Owner applies Petitioner’s definition for purposes of its Preliminary Response. Prelim. Resp. 5.

We adopt the parties’ accepted definition for purposes of this Decision.

C. Claim Construction

Petitioner does not offer any claim constructions at this time. Pet. 8. Patent Owner asserts that “information of object,” recited in independent claims 1 and 6, should be construed as “information that represents one body part to be scanned, such as a particular organ.” Prelim. Resp. 6–8. Patent

Owner asserts that its construction is “consistent with the specification.” *Id.* at 6.

We apply the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), following the standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b). Under *Phillips*, claim terms are afforded “their ordinary and customary meaning.” *Phillips*, 415 F.3d at 1312. “[T]he ordinary and customary meaning of a claim term 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.” *Id.* at 1313. “[T]he specification is always highly relevant to the claim construction analysis [I]t is the single best guide to the meaning of a disputed term.” *Id.* at 1315 (internal quotation omitted). “[T]he specification aids in ascertaining the scope and meaning of the claims inasmuch as the words of the claims must be based on the description.” *Id.* (internal quotation omitted). But one must not take this too far. Our reviewing court “has repeatedly ‘cautioned against limiting the claimed invention to preferred embodiments or specific examples in the specification.’” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346–47 (Fed. Cir. 2015) (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1328 (Fed. Cir. 2002)). Significantly, “it is the claims, not the written description, which define the scope of the patent right.” *Id.* at 1346 (alterations and emphasis removed) (quoting *Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1347 (Fed. Cir. 1998)).

In this case, Patent Owner’s assertion that its proposed construction is “consistent with the specification” fails to articulate or apply the proper standard. For example, any interpretation whose scope is equal to or

narrower than a proper construction would logically be *consistent with* that proper construction. Thus, Patent Owner could only establish that its proposed interpretation is equal to or narrower in scope than the proper interpretation. Comparing the claims to prior art using a claim construction potentially narrower than what is claimed would not be a fruitful exercise because the claim could read on the prior art but not on the unduly narrow interpretation. *Cf. Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001) (holding that a broad claim is anticipated by any narrow disclosure falling within the broad claim).

Patent Owner's assertion that its proposed construction is consistent with examples in the specification is also not persuasive, and no more persuasive than its prior implication that its proposed construction is not inconsistent with the specification. *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 843–44 (Fed. Cir. 2010) (“[A] claim is not limited to the embodiments described in the specification unless the patentee has demonstrated a clear intention to limit the claim's scope with words or expressions of manifest exclusion or restriction.” (internal quotation omitted)). Similar to the situation in *i4i*, Patent Owner here has failed to explain how the claim is clearly limited to the examples in the specification.

Instead, we construe “information of object” to be an identification of the object to be studied in the ultrasound examination, based on its plain language in the context of the claimed ultrasound device. We are not apprised of any language, on this record, in the '157 patent or prosecution history that otherwise constrains what types of “object” would be inspected by the claimed device. For example, there is no indication that the machine is less capable than other ultrasound machines in a way that limits its use to

examinations of certain things in a body such as a liver or a heart, but not simpler things in a body such as blood vessels or more complex things such as a fetus. Accordingly, we see no reason to constrain “object” to something other than those things in a body that a person of ordinary skill in the art would investigate during an ultrasound examination.

It does not appear necessary at this time to specifically construe any other claim terms. *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)).

D. Asserted Anticipation in View of the HDI 3000 Manual

Petitioner asserts that claims 1–4 and 6–10 are anticipated by the HDI 3000 Manual (or, “Manual”). Pet. 16–47. We focus our analysis on claim 1, which requires an ultrasound machine that inputs “information of object” to be inspected by the machine to look up parameters in a memory storage corresponding to the chosen object.

Petitioner explains that the HDI 3000 Manual discloses an ultrasound system that utilized a variety of parameters (e.g., gain, focus, output) to create a digital image. *Id.* at 12. According to Petitioner, the Manual describes several tissue specific presents to optimize those parameters to reduce the need for user control adjustments. *Id.*

Turning to the claim language, Petitioner asserts that the “information of object” is shown in the HDI 3000 Manual where the machine asks for the user to input the clinical option or specific tissue being investigated, listing options for investigations of various body parts: renal, aorta, thyroid,

testicle, and breast. *Id.* at 20–22 (citing, e.g., Ex. 1003, Fig. 2–7, 195). Patent Owner challenges this assertion by arguing that “these are categories based on the FDA Guidelines that listed these categories as other than cardiac or peripheral vascular.” Prelim. Resp. 26. This argument is unavailing in view of the disclosure of a list of parts of the body to be selected when using the machine. Patent Owner also argues that Petitioner’s position here is “inconsistent and attempts to use the same feature of the HDI 3000 for multiple, distinct claim elements,” but we fail to see on this record the deficiency in Petitioner’s position. *Id.* at 25; *see id.* at 24–27. More specifically, for example, we do not see inconsistency in Petitioner mapping the HDI 3000 Manual’s tissue-specific presets to elements recited in independent claim 1 and independent claim 6.

Petitioner next asserts that the HDI 3000 Manual discloses a memory storage to provide image processing parameters to be used by the imaging device. Pet. 22–25; *see also id.* at 25–27 (similar). In particular, Petitioner notes the HDI 3000 Manual provides “tissue specific presets . . . set up . . . for specific tissue imaging and . . . intended to reduce the need for control adjustments.” *Id.* at 22 (quoting Ex. 1003, 33); *see also* Ex. 1003, 27, 195 (“Setups are system parameters.”). Patent Owner argues that the HDI 3000 Manual does not disclose what parameters are included in the presets. Prelim. Resp. 28–32. But the HDI 3000 Manual explicitly says “parameters.” *See, e.g.,* Ex. 1003, 27. We see no basis on this record to require more; the ’157 patent provides generic example parameters of “A, B and C” or possibly “X, Y and Z.” Ex. 1001, 7:41–46.

Reviewing the Petition, Preliminary Response, and the evidence cited therein, we determine that Petitioner has sufficiently shown how the HDI 3000 Manual shows each limitation of claim 1.

Patent Owner also argues that the HDI 3000 Manual is not prior art, Prelim. Resp. 15–24, but Petitioner’s showing is sufficient for purposes of institution under our precedent, for the reasons that follow. In *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 13 (PTAB Dec. 20, 2019) (precedential), the Board determined that, at the institution determination stage, a petitioner must establish a reasonable likelihood that a reference is a printed publication. A document is a printed publication if, for example, it “has been disseminated.” *SRI Int’l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008). Petitioner offers two declarants testifying to personal knowledge of the HDI 3000 Manual’s actual dissemination prior to the relevant date. Pet. 11–12; Ex. 1010 (declaration of Dr. Flemming Forsberg, user of the HDI 3000 system); Ex. 1011 (declaration of David Rust, an engineer who worked on the HDI 3000 system and was involved in preparation and dissemination of documentation).

We have reviewed Patent Owner’s arguments but do not find them persuasive at this stage of the proceeding on the present standard of review. Patent Owner’s contention that Petitioner did not provide enough detail in its Petition (Prelim. Resp. 16–17) falls flat because the cited evidence is so short and clearly on point that there is little further explanation that would provide additional value. Patent Owner’s arguments that the Manual was not publicly accessible appear to hinge on a statement in the Manual that the customer “shall keep confidential all proprietary information” provided to

the customer and that “[a]ll rights [are] reserved,” as noted beneath the copyright information. *Id.* at 18 (quoting Ex. 1003, 6, 153, 577). Patent Owner fails to explain how this prevents public disclosure of the *document*. The language cited does not require the document to be kept confidential. Patent Owner lastly argues that provision of the Manual does not explain “how a member of the public interested in the subject and of ordinary skill . . . could have located and obtained a copy of the HDI 3000 manual.” *Id.* at 19. But this reads too narrowly the standard of “printed publication,” which *can* be satisfied by search accessibility, but the standard is not so limited. *SRI*, 511 F.3d at 1194. Here, Petitioner has offered evidence of actual dissemination, and Patent Owner offers no credible arguments against that. On this record, we determine that Petitioner has established a reasonable likelihood that the HDI 3000 Manual is a printed publication.

Reviewing the Petition, Preliminary Response, and the evidence cited therein, we determine that Petitioner has established a reasonable likelihood that claim 1 is anticipated by the HDI 3000 Manual. We determine that Petitioner has met the standard to institute *inter partes* review. Notwithstanding, we provide additional comments as to some of the remaining challenges.

E. Asserted Obviousness in View of the HDI 3000 Manual and Jackson

In this alternative ground, Petitioner asserts that claims 1–4 and 6–10 would have been obvious in view of the HDI 3000 Manual and Jackson. Pet. 47–52. Petitioner offers Jackson to provide further details as to storing specific parameters. *See id.* For example, Jackson describes an improvement to prior art systems that simply “use pre-stored parameter-setting packages based on an intended clinical application.” Ex. 1004, 1:39–

44. Jackson notes that some parameters cannot be specifically stored easily because parameters like “gain” vary throughout an ultrasound procedure, or the imaging environment may be different. *Id.* at 1:44–49, 4:64–66.

Jackson purports to solve this problem using a method to reduce variability in the parameters. *Id.* at 2:10–25.

Petitioner points out that Jackson stores many different parameters, and asserts that a person of ordinary skill in the art would have had a reason to incorporate Jackson’s parameter storage as part of the HDI 3000 Manual’s presets, and identifies several specific parameters to store. Pet. 49–52.

Petitioner asserts that parameters, such as postprocessing parameters, “were well known to be useful in achieving an optimal level of detail.” *Id.* at 51.

Patent Owner argues that Jackson does not identify “information of object,” Prelim. Resp. 32, but we determined above that the Manual already disclosed this limitation.

F. Asserted Anticipation by Kinicki

In this ground, Petitioner asserts that claims 1–3 and 6–10 are anticipated by Kinicki. Pet. 53–70. Kinicki recognizes that “[d]ifferent organs and regions of the human body may require very different imaging parameters due to the different depths, sizes and tissue types of the structures being imaged.” Ex. 1005, 1:28–31. Kinicki notes that this problem is, in general, solved by “providing predetermined operating modes,” but seeks to improve on this by including more parameters. *Id.* at 1:51–53, 3:25–41.

Petitioner specifically identifies how Kinicki allows selection of body parts such as “cardiac, vascular and obstetric exam types.” Pet. 57 (citing Ex. 1005, 5:38–41).

Patent Owner argues that “Kinicki clearly does not disclose ‘inputting information that represents one body part to be scanned,’” Prelim. Resp. 34 (emphasis omitted), but we fail to see how, e.g., “cardiac” would not represent a body part (i.e., the heart). In any event, Patent Owner’s argument is premised on a claim construction that appears unduly narrow and unsupported by the ’157 patent on this record (as we discussed in the claim construction section above).

G. Asserted Obviousness Over Kinicki and Short or Clark

In these grounds, Petitioner asserts that claims 1–3 and 6–9 would have been obvious in view of Kinicki and Short (Pet. 71–82), and that claims 4 and 10 would have been obvious in view of Kinicki and Clark (*id.* at 82–88) or in view of Kinicki, Short, and Clark (*id.*). Petitioner asserts that Short (whose disclosure Petitioner asserts is related, and similar, to Kinicki) provides additional details on storing and using image processing condition parameters as part of a preset. *Id.* at 71–82. Petitioner asserts that Clark teaches the limitations requiring the ultrasound machine to be three-dimensional. *Id.* at 82–88. Patent Owner does not separately argue Short or Clark at this time. Prelim. Resp. 35.

III. CONCLUSION

As explained above, we find that Petitioner has established a reasonable likelihood of success in showing that claim 1 is unpatentable over the HDI 3000 Manual. We institute an *inter partes* review of all challenged claims on all asserted grounds. 37 C.F.R. § 42.108(a); *see SAS Inst. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that an *inter partes* review of claims 1–4 and 6–10 of the '157 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '157 patent is hereby instituted commencing on the entry date of this Decision, and 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.

IPR2022-01577
Patent 6,901,157 B2

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