

**UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

SHURE, INC.,)	
)	
Plaintiff / Counter-Defendant,)	No. 17 C 3078
)	
v.)	
)	Judge Edmond E. Chang
CLEARONE, INC.,)	
)	
Defendant / Counter-Plaintiff.)	
)	

MEMORANDUM OPINION AND ORDER

This litigation concerns two patents on audio conferencing technology. Shure, Inc. sued its competitor ClearOne (the owner of the patents), seeking a declaration of invalidity and non-infringement at first on U.S. Patent No. 9,635,186.¹ R. 1, Compl. ¶ 1.² In response, ClearOne filed a counterclaim for infringement against Shure.³ R. 28, Counterclaim. After expedited discovery, ClearOne moved for a preliminary injunction to halt Shure’s alleged infringement of the ’186 Patent. R. 81, Mot. Prelim. Inj. ’186 Patent. The Court denied ClearOne’s motion. R. 278, ’186 Patent Prelim. Inj.

¹The initial complaint also included claims about U.S. Patent No. 9,264,553, but the inter partes review (IPR) on that patent prompted a dismissal of those claims, R. 280. After the IPR finished, ClearOne filed a new case on it, R. 541. The Court has subject matter jurisdiction over this case under 28 U.S.C. § 1338(a).

²Citations to the docket are indicated by “R.” followed by the docket number and, when necessary, a page or paragraph number. Citations to the parties’ appendices (R. 508-1, Exh. A; R. 508-11, Exh. B; R. 524-1, Exh. C) will be labeled using both the title of the individual document and the page number of the relevant pages taken from the bottom right hand corner of each file (in each case, the page number begins with a letter prefix corresponding to the appendix it is in).

³ClearOne’s counterclaim also named Biamp Systems Corporation and QSC Audio Products, LLC, as counter-defendants. R. 28, Counterclaim. Biamp and QSC were later dismissed from the case. R. 141.

Op. During the pendency of the first preliminary-injunction motion, ClearOne was granted another audio conferencing patent, U.S. Patent No. 9,813,806, and asserted infringement on that patent, too. R. 260, Second Am. Compl. ClearOne later moved for a preliminary injunction to halt Shure's alleged infringement of the '806 Patent, also based on Shure's MXA910. R. 369, Mot. Prelim. Inj. '806 Patent. The Court eventually granted that preliminary injunction motion. R. 551, '806 Patent Prelim. Inj. Order.

Meanwhile, the parties finished fact discovery and briefed their claim construction arguments on both the '186 and '806 Patents. *See* R. 508, Shure Br.; R. 520, ClearOne Resp.; R. 535, Shure Reply. The Court heard oral argument on claim construction on July 12, 2019. *See* R. 540, Minute Entry. The Court made final claim construction decisions on some terms from the '806 Patent in its preliminary injunction order, including “beamforming microphone array”; “said beamforming microphone array integrated into said ceiling tile as a single unit”; “the drop space of the drop ceiling”; and “wherein said outer surface is coplanar with said ceiling tile.” '806 Patent Prelim. Inj. Order. This order decides the parties' remaining claim construction disputes on the '806 Patent, as well as on the '186 Patent.

I. Background

A. The '186 Patent

The core contribution of the U.S. Patent No. 9,635,186 (the '186 Patent) is a method of efficiently combining beamforming (a technology that combines signals from multiple microphones to generate a combined audio signal that picks up sounds

from a particular location) with acoustic echo cancellation (known in the industry as AEC), a technology that removes far-end echo from an audio-conferencing system. '186 Patent Prelim. Inj. Op. at 3. Figuring out how to combine beamforming and acoustic echo cancellation in a cost-efficient way—while still preserving audio quality—has been a longstanding challenge in the audio industry. *See, e.g.*, R. 158, Kellerman Decl. Exh. 2 at 281 (“[S]traightforward combinations of the two techniques either multiply the considerable computational cost of AEC by the number of array microphones or sacrifice algorithmic performance if the beamforming is time-varying.”); R. 83, 8/6/17 Schonfeld Decl. ¶ 23.

The illustrative claim of the '186 patent (Claim 7) discloses an efficient method of combining a beamforming microphone with AEC. R. 57-1, '186 Patent Col. 19:48-20:8. The claimed method reduces AEC processing costs by providing a beamformer capable of picking up a number of audio signals, which are then combined into a smaller number of “fixed” beams. *Id.* Col. 2:3-16. AEC is then performed on only the smaller number of fixed beams. *Id.* Col. 19:65-67. Performing AEC on fixed (as opposed to adjustable) beams reduces the amount of work for the acoustic echo cancellers, which would otherwise need to constantly adjust to track the changing beams. *Id.* Col. 2:3-16. After AEC is performed, a “signal selection module” selects one or more of the echo-cancelled signals to transmit to the far end. *Id.* Col. 20:1-3 (Limitation 5). The signal selection module also uses the far-end signal as information to inhibit the change of the near-end signal selection while only the far-end signal is “active.” *Id.* Col. 20:3-8 (Limitation 6).

B. The '806 Patent

The '806 Patent builds on the '186 Patent and claims an invention that combines a beamforming microphone array (BFMA) with a ceiling tile so that the BFMA can pick up sound throughout a conference room while remaining somewhat hidden from view. The benefit of integrating a beamforming microphone array with a ceiling tile is that it allows the technology to be out-of-sight. In the context of audio conferencing, the typical conference set-up involves multiple speakers in one room, all communicating with speakers in another location. R. 372, 9/24/18 Schonfeld Decl. ¶ 26. The “conventional wisdom” was that microphones should be as close to the attendees as possible. *Id.*; R. 360, Graham Decl. ¶ 8. The development of beamforming microphones did not immediately disrupt that view, but in the course of product development, ClearOne engineers realized that mounting their BFMA on the ceiling—that is, increasing the distance between the BFMA and the speakers in the room—reduced the quality of the sound it produced *less* than the engineers thought it would. Graham Decl. ¶ 9. Their beamforming technology made the audio quality better than the quality that a *non*-beaming microphone would achieve when mounted on the ceiling. R. 477, Prelim. Inj. Hrg. Tr. at 76:1-9.

ClearOne has identified four representative claims of the '806 Patent: Claim 1 is the independent claim, and Claims 4, 5, and 6 depend on it. R. 326-1, ClearOne Am. Alleged Infring. Content. at 1. The preamble to Claim 1 disclosed a BFMA integrated with a ceiling tile as a “single unit where the ceiling tile is used in a drop ceiling mounting configuration.” R. 412-1, '806 Patent Col. 13:12-15. Limitation 1 of

Claim 1 requires “a beamforming microphone array that includes a plurality of microphones that picks up audio input signals.” *Id.* Col. 13:16-17. Limitations 2 and 3 disclose an acoustically transparent outer surface to the tile through which the BFMA picks up audio input signals. *Id.* Col. 13:18-24. Limitation 4 states that the integrated tile-BFMA is “used in a drop ceiling mounting configuration.” *Id.* Col. 13:25-26. And finally, Limitation 5 discloses that the BFMA is “coupled to the back side of said ceiling tile and all or part of said beamforming microphone array is in the drop space of the drop ceiling.” *Id.* Col. 13:27-30. Dependent Claims 4, 5, and 6 disclose, respectively, that the ceiling tile “comprises acoustic or vibration damping material” (Claim 4); that the “outer surface [of it] comprises a grille” (Claim 5); and that “said outer surface is coplanar with said ceiling tile” (Claim 6). *Id.* Col. 13:38-43.

II. Claim Construction

Claim construction requires that the Court determine how a person of ordinary skill in the art would understand the claim terms. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). The claim’s own language is the starting point, but “[c]laims must be read in view of the specification, of which they are a part.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc). Prosecution history is also “of primary significance” in determining how a claim should be understood. *Id.* at 980. Lastly, extrinsic evidence—that is, expert testimony or any other evidence outside of the patent and prosecution history—can also be considered, but carries less weight than intrinsic evidence. *Id.* at 980-982. Extrinsic

evidence is mostly useful for helping the Court to understand the relevant art and to explain how the invention works. *Phillips*, 415 F.3d at 1318-19.

III. Analysis

A. The '186 Patent

The Court previously interpreted several terms in the context of ClearOne's motion for a preliminary injunction on the '186 Patent. *See* '186 Patent Prelim. Inj. Op. at 7-16. This Opinion assumes familiarity with that preliminary injunction decision, R. 278.

1. “each of the plurality of combined signals corresponding to a different fixed beam”

The parties disagree on the meaning of the term “fixed beam.” ClearOne proposes that it is a “beam defined by parameters determined before a conference,” R. 536-1, Claim Const. Chart at 1. Shure proposes, “a directional audio pickup pattern having azimuth angle and beam width parameters that cannot be changed during a conference.” *Id.* There are two fundamental differences between the two proposals.

The first is whether the parameters of the beam can or should be changeable during a conference. Essentially, what does it mean for a beam to be “fixed”? The '186 Patent describes a fixed beam as “a beam that is defined with pre-computed parameters rather than being adaptively steered to look in different direction in real time.” '186 Patent Col. 8:50-54. In keeping with that definition, the Court's preliminary-injunction decision adopted ClearOne's construction of the term, reasoning in part that the specification itself simply required parameters that were set in place before a conference as opposed to adjusting continuously during it. '186

Patent Prelim. Inj. Op. at 7-9. Shure argues, however, that ClearOne’s construction is too broad and would also allow for beams to be adjusted *during* a conference, which Shure says results in an adjustable beam rather than a fixed one. So Shure instead advocates for an interpretation that requires a fixed beam to be *incapable* of adjustments during a conference. *See* Shure Br. at 10 (“[T]he term ‘fixed beam’ must not be defined by whether it *does* change during a conference, but whether it *can* change during a conference.”).

Shure has argued that its construction will make it easier for the factfinder to determine if a beam is fixed or not. Shure Br. at 7-8 (“Even were it possible for a jury to consider whether or not beam parameters were adjusted during millions of conference use cases, the data simply is not available.”). Shure contends that “[t]he factfinder isn’t going to have information to determine what happens in every conference.” R. 548, Claim Const. Hrg. Tr. at 27:8-15. But that is *not* really a claim construction argument. As the Court explained during the claim construction hearing, Shure’s argument on that point simply anticipates the argument that Shure will make when arguing lack of *infringement* to the jury. *See id.* at 27:16-28:3. Yes, ClearOne ultimately will bear the burden of proving that the MXA910 infringes under the correct definition of “fixed beam” (and, for damages and permanent-injunction purposes, how often it infringes). But the quantum of proof on infringement has no bearing on how to interpret the claims in the first place.

Shure also has argued that defining a fixed beam by what happens before a conference is problematic because all beams—even beams that both parties would

consider to be adaptive—are fixed *before* a conference, that is, before anyone in the room begins speaking. Shure Br. at 7 (“There will always be some baseline look direction and beam width at startup of the beamformer, and whatever those baseline parameters are, they will have been determined before a conference.”); *see also* Claim Const. Hrg. Tr. at 25:23-26:2. To address that concern, as explained at the claim construction hearing, the interpretation can be readily modified to say that a beam is fixed if its parameters remain fixed *during* a conference, rather than defining the beam by whether its parameters are set *before* a conference. Claim Const. Hrg. Tr. at 29:11-18.

Finally, Shure repeats its argument on Kajala’s beamformer. Shure argues that the proper construction of “fixed beam” must exclude Kajala, because ClearOne distinguished it from ClearOne’s claimed invention by stating that Kajala’s beams were “not fixed but adjustable” during prosecution of the patent. Shure Br. at 8 (citing R. 508-11, Exh. B, Excerpt of ’553 Patent File History at B-36 (ClearOne distinguishing Kajala because it “appears to teach away from the use of fixed beams”) (emphasis omitted)). Shure argues that Kajala’s beams are “adjustable,” not “adjusted,” and that under ClearOne’s construction of “fixed beam,” a beam *could* be both fixed *and* adjustable (though not adjusted—at least not during a conference). Shure Br. at 8-10. That is, Kajala could fall under the current definition of fixed beam. *Id.* But that is simply not the case. Even Shure acknowledges that “Kajala’s system ... would [adjust the parameters of a particular beam] ... in response to some significant environmental condition in the room, *i.e.*, people moving while talking.”

Id. at 9. That type of functionality is simply not covered by ClearOne’s construction of fixed beam—a system that adjusts a beam in response to speakers’ movements during a conference is *not* a system that maintains beams fixed during a conference. The fact that users could choose to turn off Kajala’s adjustability function does not change the fact that the beams described by Kajala are actually adjustable. *See also* ’186 Patent Prelim. Inj. Op. at 9-10. Overall, on the first dispute over defining the word “fixed,” ClearOne has the better argument.

The second issue is whether “beam” should be further defined. Shure proposes additional details about angle and beam width parameters that ClearOne would just as soon leave out. Claim Const. Chart at 1. At the hearing, however, Shure agreed that there is no dispute between the parties’ experts as to what a “beam” is when it comes to those types of parameters. Claim Const. Hrg. Tr. at 24:22-25:14, and there seems to be no dispute on validity or infringement issue that hinges on adding anything to the definition of beam. Ultimately, Shure’s jargon-heavy proposal on this point is more likely to confuse the jury than help it. The proposal is rejected.

2. “select with a signal selection module one or more of the combined echo cancelled signals for transmission to the far end”

The dispute between the parties on this term (which is Limitation 5 of each asserted claim) comes down to whether it is expressed as a means-plus-function limitation, 35 U.S.C. § 112(f), and if so, whether the claim is indefinite. Shure believes the term falls under § 112(f); ClearOne thinks not. Claim Const. Chart at 1. Specifically, Shure targets the term “signal selection module.” Shure Br. at 11. The Court considered this issue at the preliminary-injunction stage and determined that

the term “signal selection module” was “clear enough in context to avoid” construction under § 112(f). ’186 Patent Prelim. Inj. Op. at 10-13.

Section 112(f) applies when a claim limitation identifies both the means and the function of a limitation without identifying “structure, material, or acts in support thereof.” 35 U.S.C. § 112 (f).⁴ The Federal Circuit has explained that a limitation has sufficient structure when “the words of the claim are understood by persons of ordinary skill in the in the art to have a sufficiently definite meaning as the name for structure.” *Williamson v. Citrix Online, LLC*, 792 F. 3d 1339, 1349 (Fed. Cir. 2015) (*en banc*). As the Court discussed in the preliminary-injunction decision, there is a weak presumption that a limitation bereft of the word “means” does not trigger 35 U.S.C. § 112(f). ’186 Patent Prelim. Inj. Op. at 10. The Federal Court clarified in *Williamson* that the presumption *can* and will be overcome “if the challenger demonstrates that the claim fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function.” *Williamson*, 792 F.3d at 1349 (cleaned up).⁵ In deciding whether a given term has sufficient structure to escape construction under § 112(f), the Court considers it within the context of the rest of the specification. *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1007 (Fed. Cir. 2018) (explaining that the initial determination of whether

⁴If § 112(f) applies, then the next steps are, first, identifying the claimed function and then, determining “what structure, if any, disclosed in the specification corresponds to the claimed function.” *Williamson*, 792 F.3d at 1351. The Court need not reach those steps here.

⁵This opinion uses (cleaned up) to indicate that internal quotation marks, alterations, and citations have been omitted from quotations. See Jack Metzler, *Cleaning Up Quotations*, 18 Journal of Appellate Practice and Process 143 (2017).

§ 112(f) applies “must be made under the traditional claim construction principles ... and in light of evidence intrinsic and extrinsic to the asserted patents.”).

The phrase “signal selection module,” of course, does not include the word “means.” But the term *does* rely on the word “module,” which arguably “can operate as a substitute for ‘means.’” *Williamson*, 792 F.3d at 1350 (“Generic terms such as ‘mechanism,’ ‘element,’ ‘device,’ and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word ‘means’ because they typically do not connote sufficiently definite structure.”) (cleaned up). Shure argues that “module” here is a nonce word simply substituting for “means,” and that “signal selection” is too vague to provide sufficient structure for it. Shure Br. at 12. Shure also responds to the prior opinion’s reasoning that other parts of the specification provide enough context to give the term structure, *see* ’186 Patent Prelim. Inj. Op. at 12, by arguing that although the specification makes clear that the module selects signals for transmission, it does not show *how* the module does so, *see* Shure Br. at 12 (citing *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1375 (Fed. Cir. 2003)).

But the term and specification need not supply *every* detail about how a structure works to pass muster under § 112(f). *See, e.g., Zeroclick*, 891 F.3d at 1008 (finding that “program” and “user interface code” were *not* means-plus-function limitations because in the context of the patent they were “specific references to conventional graphical interface programs or code, existing in prior art at the time of the inventions”). Instead, the term need only educate a skilled artisan on the type of

structure being described. *See also Apple, Inc. v. Motorola*, 757 F.3d 1286, 1300 (Fed. Cir. 2014) (“The limitation need not connote a single, specific structure; rather it may describe a class of structures.”), *overruled on other grounds, Williamson*, 792 F.3d at 1349. For example, “[s]tructure may [] be provided by describing the claim limitation’s operation, such as its input, output, or connections.” *Id.* at 1299. The bottom line is that a structure may be described at *some* level of generality.

Here, a skilled artisan would recognize the “signal selection module” as structure—especially considered in the context of the ’186 Patent as a whole. The specification makes clear what the module does, including the inputs it uses and the outputs it yields: it “select[s] ... one or more of the combined echo cancelled signals for transmission to the far end” and “uses the far-end signal as information to inhibit ... changing the selection of the combined echo cancelled signals while only the far end is active.” ’186 Patent Col. 20:1-7. And it even provides an example of a signal selection module, citing types of devices well known in the art: a “signal selection module (selector) 901, such as a multiplexer ... selects one or more of the M combined echo cancelled signals.” *Id.* Col. 12:43-50; *see* R. 521, 6/4/19 Schonfeld Decl. ¶ 42 (“A POSITA would ... understand the signal selection module to be a type of selector, such as a multiplexer, which is another well-known structure in the field of audio signal processing.”); R. 523-1, Exh. C, 5/29/19 LeBlanc Dep. Tr. at C-20:10-C-21:20 (testifying that a skilled artisan would probably know that a signal selection module selects signals); *id.* at C-25:7-C-27:9 (discussing selectors and multiplexers used in

the art). Interpreting the “signal selection module” as structure is thus consistent with Federal Circuit precedent.

3. “said signal selection module uses the far end signal as information to inhibit said signal selection module from changing the selection of the combined echo cancelled signals while only the far end signal is active” (inhibit clause)

Shure raises the same § 112(f) argument as to Limitation 6, again targeting the term “signal selection module.” Claim Const. Chart at 2; Shure Br. at 11-17. The analysis above applies to the term in Limitation 6, too, so the Court need not repeat it.

But Shure makes an additional argument on Limitation 6: that if § 112(f) does not apply, the term should be construed to say that “a signal selection module (such as a multiplexor) *receives the far end signal* for use as information to inhibit changing selection of the combined echo cancelled signals.” Claim Const. Chart at 2. Essentially, Shure believes that practicing Limitation 6 requires the module to actually receive the far end signal—not just use information from it. Shure Reply at 6-7 (“[T]he signal selection module cannot ‘use the far end signal as information’ if it does not receive the far end signal content.”) (emphasis omitted); *see also* Shure Br. at 14-15. ClearOne, on the other hand, argues that “[d]elivering the far end signal to the signal selection module is not an express requirement of the claims.” ClearOne Resp. at 18-19.

ClearOne is correct that there is no express requirement in the specification to back up Shure’s proposed addition to the term, as well as that the addition would de-emphasize the fact that the term and specification seem to focus more on the use of

“information.” *See* ClearOne Resp. at 18-19. Indeed, the patent elsewhere references “far end signal information,” illustrating that what the module actually uses (and thus needs to receive) is the *information*—not the signal itself. *See* ’186 Patent Col. 14:1-10 (“One embodiment ... provides that the [module] use the far end signal 964 as information to inhibit the Signal Selection Module 901 from changing the selection of the combined echo cancelled signals while only the far end signal is active. The DOA Module receives the far end signal information by way of the Detectors Module.”). In that context, a skilled artisan would understand the plain and ordinary meaning of this term to focus on the information provided by the far end signal. As a result, it is not necessary to explicitly require that the signal selection module actually receive the far end *signal* itself.⁶

B. The ’806 Patent

There are two terms from the ’806 Patent that were not defined in the preliminary-injunction decision. *See* ’806 Patent Prelim. Inj. Order at 2 n.4 The Court will resolve both disputes here.

1. “is acoustically transparent”

First, ClearOne wishes to define the term “acoustically transparent” as “provides no or minimal resistance to sound,” while Shure proposes that the factfinder just use its plain and ordinary meaning. Claim Const. Chart at 3. The Court agrees with ClearOne that “acoustically transparent” has no plain and

⁶Shure proposes an additional construction to be used if the Court applies § 112(f) but finds that corresponding structure is disclosed in the specification. *See* Shure Br. at 19-20. But the Court has instead found that § 112(f) does not apply, so it does not consider that argument.

ordinary meaning. *See* ClearOne Resp. at 31; *but see* Shure Br. at 32-33; Shure Reply at 13. It is counterintuitive to think that any substance could be *completely* transparent to sound—and it might be confusing for the jury to have to figure out whether that is actually what the claim requires. Instead, it makes sense to head off any confusion by making clear up front exactly how the term should be understood.

The next question, then, is whether ClearOne’s proposed construction—“provides no or minimal resistance to sound”—is the right one. Shure has not argued that ClearOne’s construction is incorrect. *See* Shure Br. at 32-33; Shure Reply at 13. At the hearing, Shure did object to the fact that ClearOne drew its definition from an embodiment in the ’806 Patent depicting a wall-mounted BFMA instead of a ceiling-mounted one, arguing that it would be inappropriate to adopt a definition from one part of the patent into another. Claim Const. Hrg. Tr. at 78:7-17 (“Perhaps that’s the same, perhaps it’s not.”); *see* ’806 Patent Col. 10:47-56 (“In one embodiment, the outer surface 284 may be an acoustically transparent wall covering which can be made of a variety of materials known in the art, related art, or developed later that are configured to provide no or minimal resistance to sound.”). But there is no reason to think that the inventors of the patent had different definitions of the term in mind as they described different embodiments. Presumably, the inventors maintained one consistent understanding of “acoustically transparent,” as they used the phrase in similar ways repeatedly throughout the patent. *See* ’806 Patent Col. 2:3-5, 15-16; *id.* Col. 8:47-53; *id.* Col. 13:18-24.

ClearOne’s definition makes sense. As explained above, the idea that a material covering could provide absolutely zero resistance to sound is unlikely. Shure’s expert, Dr. LeBlanc, explained that in his May 2019 deposition. 5/29/19 LeBlanc Dep. Tr. 5/29/19 at C-37:12-C-39:1 (“Acoustically transparent means if I put this fabric over the loudspeaker ... it doesn’t make any difference, and it protects it from dust and everything else. ... *[T]echnically can you do some measurements that show that the acoustically transparent material has an effect [on sound], that’s kind of the same thing, but not identical. ... If you go up to a high enough frequency, it’s not acoustically transparent. That’s immaterial because humans can’t hear at that frequency anyways.*”) (emphasis added). What matters instead in the context of the patent is that there is not so much interference from the material that it changes the sound quality of the system. ClearOne’s definition captures that point.

2. “used in a drop ceiling mounting configuration”

The parties’ final disagreement is about whether to interpret the term “used in a drop ceiling mounting configuration.” ClearOne wishes to interpret it as “*configured* for use in a drop ceiling mounting configuration,” while Shure advocates using the plain and ordinary meaning. Claim Const. Chart at 3. Shure’s arguments on this term preview an indefiniteness challenge under 35 U.S.C. § 112(b): that Claim 1 and Claim 15 improperly conflate subject matter. *See* Shure Br. at 33-34.

The Federal Circuit has explained “that a single claim covering both an apparatus and a method of use of that apparatus is indefinite.” *MasterMine Software, Inc. v. Microsoft Corp.*, 874 F.3d 1307, 1313 (Fed. Cir. 2017) (citing *IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2005)). The concern underlying

the doctrine is that “claiming both an apparatus and method of using the apparatus within a single claim can make it unclear whether infringement occurs when one creates an infringing system, or whether infringement occurs when the user actually uses the system in an infringing manner.” *MasterMine*, 874 F.3d at 1313 (cleaned up). The key question in evaluating whether a term is indefinite under § 112(b) is whether it “apprise[s] a person of ordinary skill in the art of its scope.” *H-W Tech., L.C. v. Overstock.com, Inc.*, 758 F.3d 1329, 1335-36 (Fed. Cir. 2014) (cleaned up). Shure argues that this term improperly claims mixed subject matter because “the claim language ... make[s] unclear how sale of an apparatus, or the activity of manufacturing a product, may be infringing activity when the installation of the product (i.e., the mounting configuration used) is selected by a user of the product.” Shure Br. at 34.

As ClearOne points out, however, the Federal Circuit has carefully cabined the mixed-subject-matter doctrine under § 112(b). *See* ClearOne Resp. at 33-34. Functional language, like the language “used in” here, does not automatically make a claim indefinite, particularly when it is used to denote the *capability* of an invention. *MasterMine*, 874 F.3d at 1313 (citing *Microprocessor Enhancement Corp. v. Tex. Instruments Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008) (“[A]pparatus claims are not necessarily indefinite for using functional language.”)).⁷ ClearOne points to

⁷One axis along which the Federal Circuit has distinguished innocuous functional language used to denote capability from problematic functional language claiming a method of use is whether the term “claim[s] activities performed by the user.” *MasterMine*, 874 F.3d at 1316; *see also* Shure Reply at 14. It is true that the method of installation of this invention could be chosen by the user. For example, users decide how to install the MXA910. *See* ’806 Patent Prelim. Injun. Order at 61-63 for a discussion of the MXA910’s mounting options and

the prosecution of the '806 Patent to note that the phrase “is used in a drop ceiling mounting configuration” was added to distinguish the patent from Chhetri. ClearOne Resp. at 33-34; *see also* R. 508-8, Exh. A, '806 File Wrapper History at A-1060-A-61 (“In contrast to the claimed invention, Chhetri has a standard microphone that sticks into the ceiling.”). According to ClearOne, that addition demonstrates that the language was intended to show what the invention *can do* in comparison to Chhetri—not necessarily what it *must* do, or *always* does. ClearOne Resp. at 33-34.

In the face of that indefiniteness challenge, which the Court need not decide at this stage of the case, ClearOne offers an interpretation that would skirt the issue, making clear that the claimed invention is not *required* to be used in a drop ceiling mounting configuration in order to be covered by Claims 1 and 15. Under ClearOne’s construction, as long as a product is configured to be used in a drop ceiling, it is infringing—whether or not it is actually used that way.

ClearOne’s construction fits with the structure of the claims in the '806 Patent. The term is found in both Claim 1 and Claim 15. ClearOne has argued, and Shure has not rebutted, that Claim 1 is an apparatus claim and Claim 15 is a method of manufacturing claim. ClearOne Resp. at 32-33; Shure Br. at 27 (acknowledging that Claim 15 is a “method-of-manufacture” claim, but never arguing that Claim 1 should

the fact that Shure does not have complete knowledge of how its users choose to mount it. On the other hand, installation of the MXA910 in this case may be distinguishable from the user activities in the cases discussed in *MasterMine*, in that it is not part of the day-to-day use of the apparatus. Instead, it is a choice that the customer makes one time—not an action that the user regularly takes to operate the invention. *See id.* at 1316 (discussing *IPXL*, 420 F.3d at 1384 (“the user uses the input means”); *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1318 (Fed. Cir. 2011) (“said individual callers digitally enter data”)).

be understood that way); '806 Patent Col. 14:22-42 (Claim 15 claiming “[a] method of manufacturing a ceiling tile beamforming microphone array that integrates a ceiling tile with a beamforming microphone array into a single unit ...”). Claim 8 is quite clearly the method of use claim, at least according to its preamble. '806 Patent Col. 13:46-14:8 (claiming “[a] method of using a ceiling tile beamforming microphone array that integrates a ceiling tile with a beamforming microphone array into a single unit where the ceiling tile is used in a drop ceiling mounting configuration ...”). That means that reading Claim 1 or Claim 15 to impose a limitation on how the invention is *used* would essentially make Claim 8 redundant. *See* ClearOne Resp. at 32-33.

ClearOne’s proposed construction is helpful and appropriate. A skilled artisan reading Claims 1 and 15 would not understand them to require certain day-to-day choices by the users of the invention, but instead simply that the invention is configured for use in a drop-ceiling mount.

IV. Conclusion

For the reasons explained above, “fixed beam” is interpreted as a “beam defined by parameters that remain fixed during a conference.” Limitations 5 and 6 of Claim 7 of the '186 Patent do not trigger 35 U.S.C. § 112(f) and are to be interpreted according to their plain and ordinary meaning. “Acoustically transparent” is defined as, “provides no or minimal resistance to sound.” And finally, “used in a drop ceiling mounting configuration” is interpreted as “configured for use in a drop ceiling mounting configuration.”

ENTERED:

s/Edmond E. Chang
Honorable Edmond E. Chang
United States District Judge

DATE: August 25, 2019