

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

BISCOTTI INC.,

v.

MICROSOFT CORP.

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Case No. 2:13-cv-01015-JRG-RSP

**CLAIM CONSTRUCTION
MEMORANDUM AND ORDER**

On October 11, 2016, the Court held an oral hearing to determine the proper construction of the disputed claim terms in U.S. Patent No. 8,144,182 (the “’182 Patent”). The Court has considered the parties’ claim construction briefing (Dkt. Nos. 103, 107 and 108) and arguments. Based on the intrinsic and extrinsic evidence, the Court construes the disputed terms in this Memorandum Opinion and Order. *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831 (2015).

BACKGROUND

Plaintiff Biscotti Inc. (“Biscotti”) asserts more than 20 claims from the ’182 Patent against Defendant Microsoft Corp. (“Microsoft”), including independent claims 1 and 69 (and claims that depend from independent claim 6). The ’182 Patent relates to a video conferencing system. The Abstract of the ’182 Patent recites:

Novel tools and techniques for providing video calling solutions. In some such solutions, a video calling device resides functionally inline between a set-top box and a television set. Such solutions can provide, in some cases, high performance

video calling, high video quality, simplified installation, configuration and/or use, and/or the ability to enjoy video calling in an inclusive, comfortable environment, such as a family room, den, or media room.

'182 Patent Abstract. The '182 Patent describes the use of a system of two video communication devices to allow a first user to conduct a video call with a remote second user through a network connection such as the Internet. *Id.* at Figure 1A, 5:39-60.¹ Figure 1A illustrates an embodiment of the system.

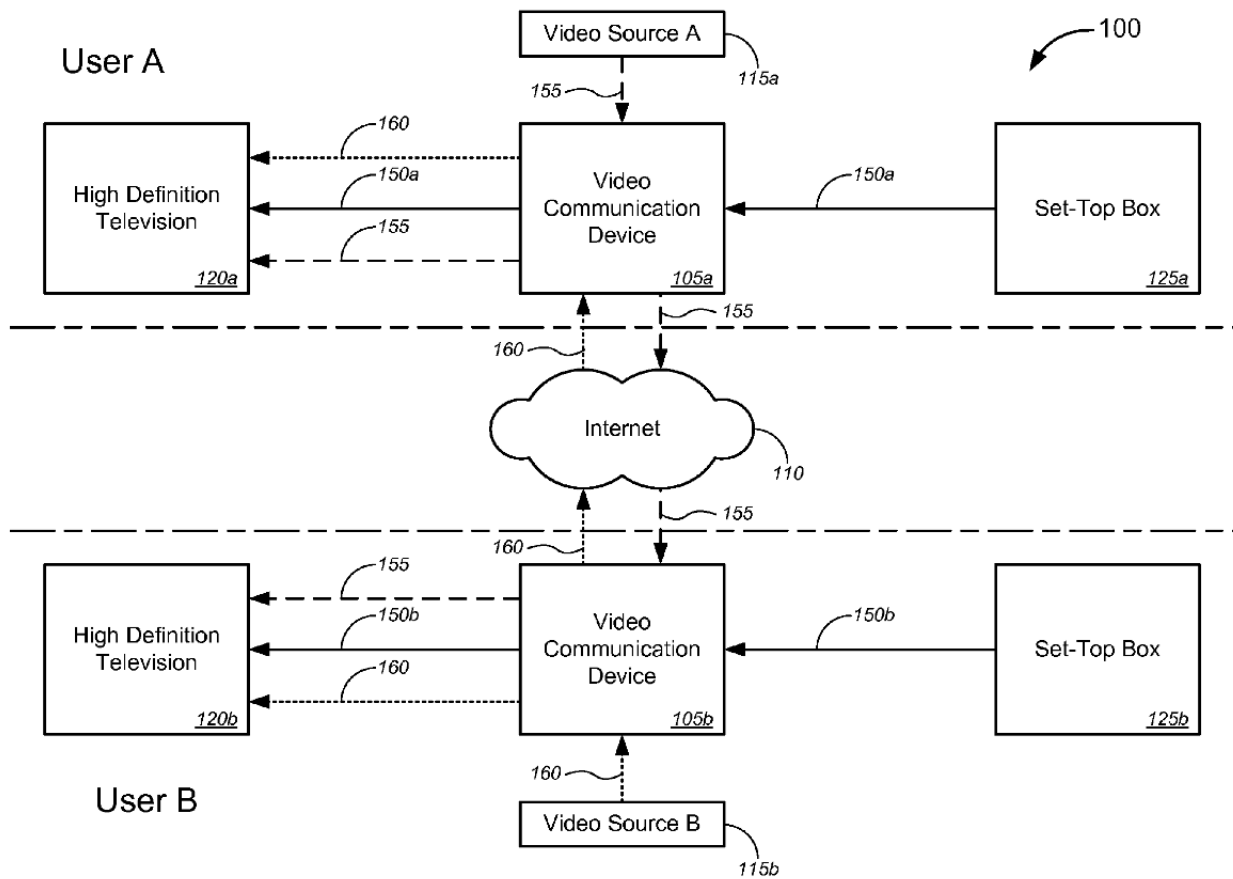


FIG. 1A

Id. at Figure 1A. A video communication device at the location of each user may include an audio capture device and a video capture device. *Id.* at Figure 4, 11:3-12. Each video communication device may be coupled to a display device such as a television. *Id.* at Figure 1A, 5:56-60. The video communication devices may be placed functionally inline between a set-top

¹ As used herein references to the '182 Patent will be in the Col:Line format of XX:YY.

box and a television set. *Id.* at Abstract, 4:64-66. In this manner, the system may be used in environments such as a family room, den or media room. *Id.* at Abstract, 2:14:19. The video communication devices may have HDMI input and output interfaces. The HDMI input interface may receive an output from the set-top box. *Id.* at 2:38-51. The output of the first video communication device may be a consolidated audiovisual output stream comprised of the video calling audiovisual stream from the remote second communication device and other audiovisual data, such as the television signal from the set-top box. *Id.* at 3:33-47, 5:10-25.

LEGAL PRINCIPLES

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) (“There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.”) (vacated on other grounds).

“The claim construction inquiry. . . begins and ends in all cases with the actual words of the claim.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). “[I]n all aspects of claim construction, ‘the name of the game is the claim.’” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)). First, a term’s context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim’s meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); see also *Phillips*, 415 F.3d at 1323. “[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the

intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office (“PTO”) and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, “because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Id.* at 1318; *see also Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be “unhelpful as an interpretive resource”).

Although extrinsic evidence can also be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.* The Supreme Court recently explained the role of extrinsic evidence in claim construction:

In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be “so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning”). 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*, and this subsidiary fact finding must be reviewed for clear error on appeal.

Teva Pharm. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 841 (2015).

A. Departing from the Ordinary Meaning of a Claim Term

There are “only two exceptions to [the] general rule” that claim terms are construed according to their plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the specification or during prosecution.”² *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.”). The standards for finding lexicography or disavowal are “exacting.” *GE Lighting Solutions*, 750 F.3d at 1309.

To act as his own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term,” and “clearly express an intent to define the term.” *Id.* (quoting *Thorner*, 669 F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee’s lexicography must appear “with reasonable clarity, deliberateness, and precision.” *Renishaw*, 158 F.3d at 1249.

² Some cases have characterized other principles of claim construction as “exceptions” to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).

To disavow or disclaim the full scope of a claim term, the patentee’s statements in the specification or prosecution history must amount to a “clear and unmistakable” surrender. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at 1366 (“The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”). “Where an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M Innovative Proprs. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

B. Definiteness Under 35 U.S.C. § 112, ¶ 2 (pre-AIA) / § 112(b) (AIA)³

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 2124. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application for the patent was filed. *Id.* at 2130. As it is a challenge to the validity of a patent, the failure of any claim in suit to comply with § 112 must be shown by clear and convincing evidence. *Id.* at 2130 n.10. “[I]ndefiniteness is a question of law and in effect part of claim construction.” *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012).

When a term of degree is used in a claim, “the court must determine whether the patent provides some standard for measuring that degree.” *Biosig Instruments, Inc. v. Nautilus, Inc.*,

³ Because the application resulting in the patent was filed before September 16, 2012, the effective date of the AIA, the Court refers to the pre-AIA version of § 112.

783 F.3d 1374, 1378 (Fed. Cir. 2015) (quotation marks omitted). Likewise, when a subjective term is used in a claim, “the court must determine whether the patent’s specification supplies some standard for measuring the scope of the [term].” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005); *accord Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (citing *Datamize*, 417 F.3d at 1351).

AGREED TERMS

In the briefing, the parties agreed to the following terms:

Term	Agreed Construction
“a first processor to process the captured video stream and a second processor to process a remote video stream received from the second video communication device”	plain and ordinary meaning
“transmitting the series of data packets over a private content delivery network”	plain and ordinary meaning

(Dkt. No. 107 at 1.)

DISPUTED TERMS

1. In Communication Terms

“a second video communication device in communication with the first video communication device over the Internet” [Claim 1]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed Alternatively: “a second video communication device to communicate with the first video communication device over the Internet”	This limitation requires that the two video communication devices be in communication with each other, rather than merely have the capability to communicate.

“a wireless network interface in communication with a wireless local area network” [Claim 1]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed Alternatively: “a wireless network interface to communicate with a wireless local area network”	This limitation requires that the wireless network interface be in communication with a wireless local area network, rather than merely have the capability to communicate with a wireless local area network.

The parties dispute whether “in communication” references a structural limitation describing the system’s interconnection of elements or merely references a functional limitation that only requires the capability to communicate.

Positions of the Parties

Microsoft contends that “in communication with” is a structural limitation that requires the claimed devices to be connected to each other. Microsoft asserts that Biscotti proposes only requiring the capability to communicate. (Dkt. No. 107 at 3-4.) Microsoft asserts that the claim language does not recite a capability but rather that two claim elements are connected components, i.e., “in communication with” each other. Microsoft asserts that the claim could have been drafted otherwise, but was not. Microsoft asserts that it is not seeking the addition of a functional limitation but rather asserts that the claim language provides a structural requirement. Microsoft asserts that the recited connection is a structural part of the claimed system, not a function performed by the system. (Dkt. No. 107 at 4.) Microsoft asserts that these elements should be construed to have a structural element where the two recited elements are “in communication.”

Biscotti contends that the words “in communication with” refer to the capability of the video communication devices to communicate with one another, and do not suggest they must actually engage in active communication. (Dkt. No. 108 at 4.) Biscotti contends that Microsoft’s

argument that “a connection” is required is divorced from Microsoft’s construction, as “connection” is not referred to in Microsoft’s construction. (Dkt. No. 108 at 3.) Biscotti contends that Microsoft’s assertion that “in communication” requires a connection lacks support. Biscotti contends that nothing in the specification requires a structural connection between the video communication devices (VCDs). (*Id.* at 4.) Biscotti contends that the specification merely describes a VCD that receives a connection request from one of many possible second VCDs and initiates an Internet connection only after accepting the request. Biscotti contends that the specification also describes a generic wireless network interface 455 that can connect to any wireless local area network (LAN). (*Id.*)

Analysis

At the hearing, the Court provided a preliminary construction for the parties to consider:

Plain and ordinary meaning. Note: This limitation requires that the two video devices⁴ be in communication with each other, rather than merely have the capability to communicate.

Biscotti agreed to this construction with the understanding that the construction does not contemplate including a method step. (Dkt. No. 118 at 75.) Microsoft also agreed to the preliminary construction. (*Id.* at 78.)

The Court adopts the preliminary construction. The issue presented to the Court is relevant to claim 1, and the claim language itself in that claim can guide the Court’s construction of claim terms. *Phillips*, 415 F.3d at 1314 (“the context in which a term is used in the asserted claim can be highly instructive”). Here, the claim is drafted as a system claim having two elements: a first video communication device and a second video communication device. Further, the claim describes the structural relationship of the two claimed elements: the second

⁴ The devices being the (i) “second video communication device” and the “first video communication device” or (ii) the “wireless network interface” and the “wireless local area network.”

video communication device being “in communication with the first video communication device over the Internet.” The claim then proceeds through a wherein clause to provide additional detail as to what comprises the first video communication device. In the context of the claim, the disputed term “in communication” provides the structural relationship of the two video communication devices that comprise the system. The “in communication” term does not merely provide a capability description of the one structure in the claim but rather describes the nature of the system itself: that the two video devices are in communication over the Internet. The “in communication” language is not a method step, rather, the language describes a structural relationship. This conforms to the plain language of the claim. It is noted that the context and organization of claim 1 is different from claim 6, which is drafted as a system claim directed only to one side of the communication system (the claim 6 system comprising the first video communication device). The differences between these two claims provide further support regarding the structural nature of the claim elements of claim 1. *Id.* (noting that differences among claims can provide guidance to a claim’s meaning).

In context, the relevant portion of claim 1 is not merely describing the capability of the second video communication device but rather describing the claimed relationship of the two video communication devices that comprise the system. Further, the wireless network elements describe how the communication is provided.

The Court finds that “a second video communication device in communication with the first video communication device over the Internet” has its plain and ordinary meaning. This limitation requires that the first and second video communication devices be in communication with each other, rather than merely have the capability to communicate.

The Court finds that “a wireless network interface in communication with a wireless local area network” has its plain and ordinary meaning. This limitation requires that the wireless network interface and the wireless local area network be in communication with each other, rather than merely have the capability to communicate.

2. “an audio watermark signal” [Claim 1] / “an audio watermark” [Claims 44 and 45]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
an identifiable signal in an audio stream	an inaudible (or at least unobtrusive) and identifiable signal in an audio stream

The parties dispute whether or not the term is limited to the embodiment within the specification that describes the audio watermark as “inaudible (or at least unobtrusive).”

Positions of the Parties

Biscotti contends that the specification describes inserting an audio watermark into an audio stream and that the audio watermark is identifiable. Specifically, Biscotti contends that an audio watermark is inserted into an audio stream output by the first video communication device and transmitted to an external audio receiver (such as the TV). If the TV is on and enabled to play audio, the audio watermark will be played through the TV’s speakers. (Dkt. No. 103 at 7 (citing ’182 Patent at 20:20-31).) Biscotti states that the first video communication device samples this audio and analyzes the sampled signal to identify the audio watermark; if it is able to identify the watermark, it knows that the TV is on and able to alert the user of the incoming call. (*Id.* (citing ’182 Patent at 20:31-45).) Biscotti points to the specification as stating, “determining whether the watermark can be identified in the captured audio stream.” ’182 Patent 20:40-41.

Biscotti objects to the addition of “inaudible (or at least unobtrusive).” Biscotti contends that Microsoft is importing an embodiment from the specification: “[i]n certain embodiments this waveform may be selected to be easily recognizable to the video communication device but inaudible (or at least unobtrusive) to the human ear.” ’182 Patent 20:17-20. Biscotti highlights that this passage states “in certain embodiments” and “may.” (Dkt. No. 103 at 8.) Biscotti also contends that Microsoft’s construction conflicts with the description of other watermark embodiments such as visible watermarks which are described as either visible or invisible/inconspicuous: “[i]n some cases this watermark may be present in the STB video stream, either as a visible image, such as a network logo in the picture or as an invisible and/or inconspicuous artifact.” ’182 Patent 25:20-23.

Biscotti also contends that Microsoft’s construction is inconsistent with Microsoft’s IPR positions. Biscotti contends that in the IPRs, Microsoft adopted Biscotti’s construction and argued that a mere “noise burst” met this limitation. (Dkt. No. 103 at 8-9.)

Microsoft asserts that the specification states that the audio watermark “may be inserted periodically on an appropriate interval and/or may be a continuous waveform inserted into the output audio stream.” ’182 Patent 20:24-27. Microsoft also cites the passage: “[i]n certain embodiments this waveform may be selected to be easily recognizable to the video communication device but inaudible (or at least unobtrusive) to the human ear.” *Id.* at 20:17-20. Microsoft asserts that in both periodic and continuous insertion, the watermark would interfere with regular audio output unless it was “inaudible (or at least unobtrusive).” Microsoft asserts that if its construction was not adopted, the claim limitation would be inoperable.

Microsoft asserts that the “certain embodiments” in question were just the embodiments that use an audio watermark (as opposed to the embodiments in which no audio watermark was

used) because the audio watermark is only useful for embodiments using external speakers. (Dkt. No. 107 at 17 (citing '182 Patent 9:57-10:16).) Microsoft asserts that Biscotti's reference to other watermarks is not relevant as the specification makes clear that the other watermarks are different. '182 Patent 25:15-20.

As to the IPRs, Microsoft contends that the standard for claim construction in an IPR is different from that applied in court. Microsoft contends that it adopted Biscotti's construction for the purposes of the "broadest reasonable interpretations standard." (Dkt. No. 107 at 17.) Further, Microsoft notes that in the IPR, Microsoft also provided invalidity positions directed toward the narrower construction Microsoft proposes here. (*Id.* at 18.)

As to Microsoft's argument that no other embodiments are shown, Biscotti contends that the language "[i]n certain embodiments this waveform may..." expressly contemplates other embodiments. '182 Patent 20:17-20. As to Microsoft's argument that the watermark must be inaudible or unobtrusive "to function properly," Biscotti contends that Microsoft cites no intrinsic or extrinsic evidence for such a statement. (Dkt. No. 108 at 5.)

Analysis

Microsoft merely points to a preferred embodiment as rationale to incorporate a limitation from the specification. However, even if only a single embodiment exists, the preferred embodiment is not inherently required to be read into the claims. *See Arlington Industries, Inc. v. Bridgeport Fittings, Inc.*, 632 F.3d 1246, 1254 (Fed. Cir. 2011) ("Even where a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.") (internal citations omitted). Microsoft has not pointed to words or expressions of manifest exclusion or restriction. Moreover, even the language cited by

Microsoft is surrounded by permissive language: “may” and “in certain embodiments.” 20:17-20. Further, though not directed to “audio” watermarks, the passage at 25:20-23 indicates that “watermarks,” in general, need not be unnoticeable to the human senses, further counseling against Microsoft’s construction.⁵

The Court construes “an audio watermark signal” / “audio watermark” to mean “an identifiable signal in an audio stream.”

3. “instructions for inserting an audio watermark in the audio output” [Claim 44]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed	instructions for superimposing “an audio watermark” over the existing audio output

The parties dispute whether the term is limited to “superimposing” over the existing audio output.

Positions of the Parties

Biscotti contends that the claim language is easily understood and also well within a lay person’s understanding. Biscotti notes that the specification uses nearly identical language to the claims: “[t]he method 800 further comprises inserting this audio watermark into an output audio stream.” ’182 Patent 20:20-22. Biscotti contends that “superimposing” does not appear anywhere in the claims or specification and that Microsoft has not cited intrinsic or extrinsic evidence justifying the inclusion of “superimposing.” (Dkt. No. 103 at 9.) Biscotti contends that the only passage Microsoft relies on uses “insert.” (*Id.* (citing ’182 Patent 20:21-31).)

⁵ Biscotti, for this term and others, in essence also argues that Microsoft should be barred from asserting a construction narrower than what Microsoft asserted in the IPRs. However, the law is clear that the IPR standard (broadest reasonable interpretation) is different from that to be applied by this Court. *Cuozzo Speed Technologies, LLC v. Lee*, 136 S. Ct 2131, 2142 (2016). Moreover, the record is clear that Microsoft was not contending that its IPR constructions were the proper construction under the *Phillips* standard applied by this Court.

Microsoft contends that Biscotti seeks to tell the jury that any sound output by the device has been “inserted.” (Dkt. No. 107 at 18.) Microsoft contends that simply outputting and playing the audio watermark is not “inserting”, as such outputting and playing is “replacing the audio output.” (*Id.*) Microsoft asserts that “inserting” requires adding or superimposing the watermark on the existing audio output. (*Id.*) Microsoft contends that claim 44 depends from claims 41 and 6 and that those claims recite providing an “audio output to an audio receiver” (claim 6) and “a speaker to play the audio output” (claim 41). Microsoft contends that in claim 44, it is in this “audio output” (the existing output) that the audio watermark is inserted. Microsoft asserts that the specification describes this as:

...inserting this audio watermark into an output audio stream and transmitting the output audio stream on one or more of the output audio interfaces for reception by an external audio receiver (block 810). The watermark may be inserted periodically on an appropriate interval and/or may be a continuous waveform inserted into the output audio stream.

’182 Patent 20:21-27. Microsoft asserts that for continuous or periodic insertion, the watermark must be superimposed on the audio from the video conferencing device or the set-top box. Microsoft asserts that not superimposing the audio would interrupt the regular audio, which would be unacceptable in any usable system. (Dkt. No. 107 at 19.)

In reply, Biscotti contends that Microsoft merely relies on attorney argument to state that to be “inserted,” a watermark must be “superimposed” and that not “superimposing” would be “unacceptable.” (Dkt. No. 108 at 6.)

Analysis

The specification refers to “inserting.” ’182 Patent 20:20-22, 20:24-25 and 20:28-31. Microsoft has not cited to any portion of the specification mandating that “inserting” should be limited to “superimpose.” Microsoft has not even pointed to any description within the

specification referencing “superimposing” the audio watermark. Though Microsoft asserts that only superimposing would provide a usable system, Microsoft has not presented any evidence of such. Microsoft also has not pointed to any evidence indicating that the plain and ordinary meaning of the term should not control or that a person skilled in the art would need additional guidance for construction of the term. The Court rejects Microsoft’s contention that “inserting” is limited to “superimposing.”

The Court finds that the term “instructions for inserting an audio watermark in the audio output” has its plain and ordinary meaning.

4. “set-top box video stream” [Claims 1, 24, 28, 29, 31, 33, 37, 69, 70]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed Alternatively: “a video stream from a set-top box”	the video stream received by the “first video communication device” from the set-top box

The parties’ dispute primarily focuses on whether the term’s construction should include a reference as to what receives the stream.

Positions of the Parties

Biscotti contends that the term refers to a video stream from a set-top box, and needs no further construction. Biscotti asserts that although claim 1 includes “instructions for receiving a high definition set-top box audiovisual stream” by the first communication device, claim 1 does not explicitly require that the “video stream” be “received by” the first communication device. (Dkt. No. 103 at 20.) Biscotti contends that the remaining claims, claims 24, 69 and their dependents, independently include the language that the first communication device “receives a

set-top box video stream.” (*Id.*)⁶ Biscotti asserts that claim 1 only requires that the instructions should be present. Biscotti further asserts that just because the dependent claims include the “receives” language, such language should not be rewritten into claim 1. (*Id.*)

Microsoft contends that claim 1 recites a “set of instructions executable by the at least one processor” and “instructions for receiving a high definition set-top box audiovisual stream from the set-top box video stream.” Microsoft contends claim 1 includes a processor within the first video communication device that performs “instructions for receiving.” Microsoft contends that the video stream must be received, because claim 1 recites that the processor in the “first video communication device” performs the “instructions for receiving.” (Dkt. No. 107 at 9-10.)

Microsoft asserts that Biscotti’s admission that claims 24 and 69 receive the video stream indicates that the receiving should be part of the definition. Microsoft contends that *O2 Micro* mandates a construction because Biscotti simultaneously admits that some claims require Microsoft’s limitations while others do not. (*Id.* at 10.)

Analysis

The term “set-top box video stream” in itself does not mandate Microsoft’s proposed additional limitations. The parties do not appear to dispute that one skilled in the art would not need construction of the term itself as both parties merely repeat the language of the term in their constructions. Microsoft asserts that the surrounding claim language mandates its construction. However, the surrounding claim language itself controls the meaning of such surrounding claim language. In claim 1, the surrounding language is “instructions for receiving a high definition set-top box audiovisual stream from the set-top box video stream.” Such

⁶ At the hearing, Biscotti stated that the language of claim 24 only required a capability to receive. (Dkt. No. 118 at 9-11.)

language merely requires the inclusion of instructions that may carry out the claimed receiving. In contrast, independent claim 69 recites the method step of “receiving, on the audiovisual input interface, a set-top box audiovisual from a set-top box.” In that claim, the surrounding “receiving” step limitations are explicitly required. Thus, it is the surrounding language of each claim that sets whether the limitations sought by Microsoft are present or not, not the term “set-top box video stream” itself. The Court’s construction adopts the plain meaning of the term.

The Court construes “set-top box video stream” to mean “video stream from a set-top box.”

5. Resolution Terms

“display resolution of [[the] set-top box video stream][the remote video stream]” [Claim 1, 29, 33]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed Alternatively: “the amount of detail of [the set-top box video stream] [the remote video stream]”	the number of pixels in the horizontal and vertical directions of the video in [[the] set-top box video stream][the remote video stream]

“a resolution of the consolidated output video stream” [Claims 34, 35, 36]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed Alternatively: “the amount of detail of the consolidated output video stream”	the number of pixels in the horizontal and vertical directions of the video in “the consolidated output video stream”

The parties dispute whether or not “resolution” is limited to “the number of pixels in the horizontal and vertical directions.”

Positions of the Parties

Biscotti cites to dictionary definitions to assert that it is well known that “resolution” refers to the amount of detail in a video. (Dkt. No. 103 at 13.) Biscotti contends that this is consistent with the claims which reference “detecting” and “setting” the resolution. Biscotti contends that the process of detecting and setting the resolution is one of the keys to transitioning from a television program to a video call, enabling users to watch television while simultaneously conducting a video call. (*Id.* (citing 21:10-24:4).)

Biscotti objects that Microsoft limits “resolution” to a particular aspect of the amount of detail in a video: “[i]n an aspect, the STB stream has a display area comprising a plurality of pixels. This plurality of pixels defines the display resolution of the STB video signal (e.g. 1920 horizontal pixels x 1080 pixels for a 1080p signal).” ’182 Patent 21:33-35. Biscotti asserts that “resolution” does not have to be exclusively defined by a plurality of pixels. Biscotti contends that the specification refers to resolutions of “480p,” “720p,” “1080i” and “1080p.” Biscotti asserts that while the number (480, etc.) refers to the number of vertical pixels, the “i” and “p” have nothing to do with the number of pixels but instead refers to whether the resolution is “interlaced” or “progressive.” (Dkt. No. 103 at 14.) For example, Biscotti contends that the resolutions of “1080i,” and “1080p” are not distinguished by pixels (as both have the same number of vertical and horizontal pixels) but rather distinguished based on interlaced or progressive. (*Id.*) Biscotti contends that Microsoft’s construction excludes consideration of these other well-known aspects of resolution.

Microsoft contends that claims 1 and 29 themselves state that “a display area comprising a plurality of pixels, the plurality of pixels defining a display resolution.” Microsoft notes that claims 33 and 34 depend from these claims. Microsoft asserts that the plurality of pixels for a

display is given by the number of pixels in the horizontal and vertical directions. (Dkt. No. 107 at 5.) Microsoft contends that the specification similarly states that the “plurality of pixels defines the display resolution of the STB video signal (e.g. 1920 horizontal pixels x 1080 pixels for a 1080p signal).” ’182 Patent 21:33-35. Microsoft further contends that the specification gives examples of resolutions as 480p, 720p, 1080i, 1080p, etc., examples which relate to the number of pixels. Microsoft contends that the specification also states that the consolidated output video stream method “comprises allocating at least a portion of the plurality of pixels in the STB video stream for displaying at least a portion of the remote video stream...” ’182 Patent 22:21-25. Microsoft notes that in one example, “the pixels for each region therefore are allocated to the respective stream.” *Id.* at 23:2-2.

Microsoft contends that Biscotti’s dictionary citations support Microsoft’s construction with one stating “resolution of a screen is given as the total number of pixels in each direction” and another stating “in video images, resolution is determined by the number and areal density of the pixels.” (Dkt. No. 107 at 6 (quoting Dictionary of Computer and Internet Terms and Webster’s Telecom Dictionary, respectively).) Microsoft contends that Biscotti cites no intrinsic evidence and that the portions of the dictionaries relied on by Biscotti relate to non-video technology: printers and facsimile. Microsoft contends that the patents relate to video images, and “resolution” must be construed in this context. (*Id.*) Microsoft contends that the “i” and “p” argument raised by Biscotti is a red herring as “interlace” and “progressive” are not aspects of the video resolution. Rather, Microsoft asserts that these letters just reference the order in which lines of the image are drawn on the screen (interlace scanning refreshing odd lines in one scan and even lines in another while progressive scanning refreshes all horizontal scan lines sequentially). (*Id.* at 6, n. 6.)

Biscotti contends that the intrinsic evidence does not require resolution to be exclusively defined by the number of vertical and horizontal pixels. Further, Biscotti contends that the patent explicitly states that “a resolution of 480p, 720p, 1080i and 1080p” are examples of different video resolutions. ’182 Patent 2:56-60. Biscotti contends that Microsoft arbitrarily concludes that scanning types “are not aspects of resolution” even though the ’182 Patent identifies them as such. (Dkt. No. 108 at 6-7.)

Biscotti contends that Microsoft’s reference to the Webster’s Telecom Dictionary supports Biscotti’s position, as the Webster’s definition refers to “areal density.” Biscotti contends that a certain number of pixels displayed on a cell phone will have a noticeably different amount of detail than the same image displayed on a Jumbotron. Biscotti contends that “density” is thus a metric for defining resolution. (Dkt. No. 108 at 7.)

At the hearing, Biscotti also noted that some claim limitations have pixels defining the resolution (such as the portion of claim 1 which states “the plurality of pixels defining a display resolution”) and other claims do not. At the hearing, Biscotti further contended that the interlaced or progressive scanning impacts the level of detail on the screen. (Dkt. No. 118 at 25-26.) Biscotti further contended that resolution can mean much more than just the number of pixels, including bit depth, binary black and white, levels of gray, colors, and resolution of movement. (*Id.* at 28, 36.)

Analysis

The Court finds that Biscotti’s arguments are more persuasive, with reference to both the intrinsic and extrinsic evidence. The specification does state that the “plurality of pixels defines the display resolution of the STB video signal (e.g. 1920 horizontal pixels x 1080 pixels for a 1080p signal).” ’182 Patent 21:33-35. This language is similar to that contained in some of the

claim elements such as the usage in claim 1 of: “the plurality of pixels defining a display resolution.” Importantly, though, elsewhere the claims do not have such a requirement. *See Phillips*, 415 F.3d at 1314 (differences among the claim terms can also assist in understanding a term’s meaning). Further, Microsoft would limit the defining characteristics of resolution to the number of pixels in both the horizontal and vertical directions. However, Microsoft has not pointed to intrinsic evidence of disavowal limiting “resolution” in the manner of Microsoft’s construction. *See Arlington Industries, Inc. v. Bridgeport Fittings, Inc.*, 632 F.3d at 1254. Even the passage cited by Microsoft does not reference the “number” of pixels but merely states that the “pixels” define the resolution. Further, the specification elsewhere mentions the type of pixel scanning (interlacing or progressive scanning): “[i]n some cases, these interfaces might be configured to provide a high-definition audiovisual stream (e.g., comprising a video stream with a resolution of 480p, 720p, 1080i, 1080p, etc.) for display on a high-definition television.” ’123 Patent 2:58-60. This language does not explicitly state that the resolution of 1080i and 1080p are different, however the passage does imply such a meaning and at a minimum creates sufficient evidence to counter Microsoft’s contention that there is a clear disavowal limiting the meaning of “resolution” to the number of pixels. Further, even the extrinsic dictionary evidence cited to by Microsoft makes clear that in the context of video, other factors, such as pixel density, also may be relevant to resolution. (Dkt. No. 103-5 at 415 (reciting “the number and density” and “the number and areal density”).) Microsoft’s construction fails to recognize that other factors may impact resolution.

The Court finds that the term “resolution” has its plain and ordinary meaning.

6. “instructions for setting a display resolution of the remote video stream” [Claim 1]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed Alternatively: “instructions for setting the amount of detail of the remote video stream”	instructions for instructing the second video communications device to change the “display resolution of the remote video stream” to a specified resolution Alternatively: instructions for instructing the second video communications device to set the “display resolution of the remote video stream” to a specified resolution

The primary disputes are whether the instructions have to be for instructing the “second video communication device” and whether the instructions have to set the resolution to a “specified resolution.”

Positions of the Parties

Biscotti contends that after construing “display resolution,” the remainder of the term is well within the understanding of a lay person. Biscotti asserts that Microsoft generally repeats the claim terms in its construction. (Dkt. No. 103 at 14.)

Biscotti objects to Microsoft’s addition of “second video communication device,” “change” and “to a specified resolution.” As to the “second video communication device,” Biscotti contends that the claimed instructions are part of the first video communication device and nowhere does the claim require the first device to instruct the second device to do anything. Biscotti contends that the claim also does not require a “change” to the resolution but rather just “setting” the resolution. Biscotti similarly asserts there is no claim language requiring a change “to a specified stream.” (Dkt. No. 103 at 15.) Biscotti contends the lack of these requirements in claim 1 can be contrasted with claim 2, which includes a requirement that one of the devices (the second video communication device) instructs another device (the first video

communication device) to take a particular action (modify the field of view of its camera). '182 Patent 32:45-47 (“instructions for modifying a field of view of the camera, based on commands received from the second video communication device”).

Biscotti contends that nowhere in the specification does the first video device (the recipient of the remote video stream) instruct the second video device (the transmitter of the remote video stream) to set the resolution of the remote video stream. Biscotti contends that the single passage cited by Microsoft ('182 Patent 12:32-49) merely states that the first video device can provide network statistics to the second video device and the second video device may use those statistics and other information to adjust various aspects of the video quality (bit rate, frame rate and/or video resolution). Biscotti contends that nowhere does the specification provide any indication that the first device can instruct the second device to set the resolution, let alone change it to a specified resolution. (Dkt. No. 103 at 16.) Biscotti contends that the specification, in contrast, teaches that the devices set their own resolution: “the process of generating a consolidated output video stream involves setting a resolution of that output signal” (21:24-26) and the “device might resample...to a resolution that is compatible with the output resolution” (22:9-12). Biscotti asserts that even if the specification did include an example of one device instructing the other device, that would still not be enough to limit the claims.

Biscotti contends that in the IPRs, Microsoft never argued that one skilled in the art would require the three limitations Microsoft seeks. Biscotti contends that instead, Microsoft argued that “setting the resolution based on the bandwidth between the remote and local video conference devices” would satisfy this term. (Dkt. No. 103 at 16-17 (citing IPR2014-01459).)

Microsoft contends that the context of claim 1 requires construction of the term. Microsoft asserts that claim 1 recites that the first video device executes “instructions for receiving a remote audiovisual stream from the second video communication device.” Microsoft contends that this limitation shows that the second video device creates and transmits the video stream, thereby setting the video stream’s resolution. Microsoft asserts that, thus, the first video communication device cannot directly set the resolution of the remote video stream. (Dkt. No. 107 at 7-8.) Microsoft contends that the examples of a device setting its own resolution cited by Biscotti (the output signal at ’182 Patent 21:24-26) are inapposite because that example involves a different video stream. (*Id.* at 8, n. 9.)

Microsoft asserts that because the claim term requires instructions “executing on the first video communication device” to set “a display resolution of the remote video stream,” the first video communication device must tell the second device to change that resolution. (*Id.* at 8.) Microsoft contends that the contextual usage in the claim requires such a construction because the jury will not likely “appreciate” this. Microsoft asserts that its construction is consistent with the specification which explains that statistics gathered by the first video device “can then be fed back to the [second] transmitting video communication device, allowing [the second device] to adjust its encoding and/or transmission settings.” ’182 Patent 12:41-44.

As to the IPR, Microsoft contends that it merely adopted Biscotti’s construction for the purposes of the IPR and the broadest reasonable interpretation, noting that broader interpretations are permitted in IPRs. (*Id.* at 8-9.)

In reply, Biscotti contends that the claim language merely requires instructions for setting the remote video stream’s “display resolution.” Biscotti asserts that Microsoft conflates the resolution of the video stream itself with the display resolution of the video stream set by

the first video communication device. (Dkt. No. 108 at 7-8.) Biscotti contends that according to the specification, this display resolution is set by the first video communication device, for example by resampling the remote video stream to a resolution that is compatible with the selected output resolution, or optionally so it may be consolidated with the set-top box video stream for display to user. (*Id.* at 8 (citing '182 Patent 19:10-17, 21:22-22:37, 32:1-8).) Biscotti also asserts that the claim element in question does not mention the second communication video device, even though the second video communication device is mentioned with respect to other elements of claim 1. (*Id.* at 8, n.4.) Biscotti reasserts that the passage cited by Microsoft (12:32-49) does not indicate that the first video device “instructs” the second video device to set its resolution to a specified resolution as required by Microsoft’s construction. (*Id.* at 8.)

At the hearing, when asked for citation in the specification for instructions being sent from the first device, Microsoft acknowledged that the specification only taught information being sent from the first device (such as statistics) and that the specification did not reference “instructions.” (Dkt. No. 118 at 39-40.) At the hearing, Biscotti also emphasized passages in the specification that indicated that the first video communication device may locally set the resolution of various video streams. (*Id.* at (citing '182 Patent 21:22-26, 22:9-12, 23:2-5).)

Analysis

The claim language itself does not require the instructions to instruct the second video communications device to act. Rather, the claim language merely states that the storage medium of the first communications device has instructions for setting the display resolution of the remote video stream. Microsoft has not pointed to any language of manifest exclusion or restriction within the specification that would further narrow the meaning of the claim

language. *See Arlington Industries, Inc. v. Bridgeport Fittings, Inc.*, 632 F.3d at 1254. Further, the passage cited by Microsoft describes the second communication device setting its own encoding and transmission settings. Though such setting is described as being based on statistics that the first video communication device may provide, the first video communication device is not described as instructing the second video communication device to change the settings. '182 Patent 12:32-44. The specification, in fact, tends to imply that the devices may set their own resolutions with regard to the output video streams. *Id.* at 12:41-44, 21:22-26, 22:9-12, 23:2-5. The specification does not provide a teaching of Microsoft's construction, let alone a context that would mandate Microsoft's construction. Finally, it is noted that the claim recites setting the "display" resolution. As noted by Biscotti, Microsoft focuses on the resolution as transmitted by the second video communication device. But as claimed, the resolution set is the "display resolution." Microsoft contends that the setting of display resolutions is in regard to only the consolidated output video stream. However, the specification describes that the remote video stream may be output as a portion of the consolidated output stream. '182 Patent 19:10-17. Further, the consolidated output video stream may have a display resolution set by the first video communication device. *Id.* at 21:22-22:37. These passages further counsel against Microsoft's interpretation.

The Court construes "instructions for setting a display resolution of the remote video stream" to mean "instructions for setting a resolution for display of the remote video stream."

7. Based On / Based At Least In Part On Terms

“instructions for transmitting the consolidated audio output stream on the HDMI output interface, based on a determination that the speaker of the high-definition television is powered on and enabled to play audio output from the first video communication device”
[Claim 1]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed	instructions for transmitting the consolidated audio output stream on the HDMI output interface only if the “instructions for determining whether a speaker of the high-definition television is powered on and enabled to play audio output from the first video communication device, based on reception of the audio watermark signal through at least one of the one or more microphones” determines that the high-definition television is “powered on and enabled to play audio output”

“instructions for transmitting the output video over the output video interface based on a determination that the video display device is configured to display the output video stream” [Claim 46]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed	instructions for transmitting the output video over the output video interface only if the video display device is determined to be configured to display the output video stream

“instructions for configuring the video display device to display the video output, based at least in part on detecting that the video display device is not configured to display the video output” [Claim 83]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed	instructions for configuring the video display device to display the video output only if it is detected that the video display device is not configured to display the video output

Two primary issues are presented: (1) does the determination “based on” / “based at least in part on” some criteria mean that the actions occur “only if” the criteria are found (Microsoft) or does “based on” a certain criteria mean the criteria is merely used as an input to the decision (Biscotti) and (2) do the determination criteria for claim 1 include “based on reception of the audio watermark signal through at least one or more microphones” as recited earlier in the claim.

Positions of the Parties

Biscotti contends that the claim terms are understood to require instructions for transmitting or configuring video or audio based on various criteria (example criteria in claim 1 being “a determination that the speaker of the high-definition television is powered on and enabled to play audio output from the first video communication device”). Biscotti objects that Microsoft’s construction (1) changes instructions being “based on” or “based at least in part on” various criteria to instructions that apply “only if” the criteria are present; and (2) the “instructions for transmitting” element of claim 1 includes additional criteria not present in the claim – transmitting “based on reception of the audio watermark through at least one of the one or more microphones.” (Dkt. No. 103 at 17.)

As to the first issue, Biscotti contends that the language is understandable and the specification uses similar language “based (at least in part) on whether the audio receiver is configured...” (’182 Patent 20:45-52) and “based on the detected configuration of the display device” (’182 Patent 20:66-21:1). Biscotti asserts that the specification only includes one instance of “only if” and the relevant sentence begins with “[m]erely by way of example.” 21:1-5.

Biscotti contends that “based on” a certain criteria means the criteria is used as an input to the decision. (Dkt. No. 103 at 18 (citing various dictionary definitions).) Biscotti asserts that a decision that occurs “only if” certain criteria are met is a different requirement. Biscotti contends that as an example, “instructions for transmitting the output video...based on a determination that the video display device is configured to display the output video stream” includes circumstances where the transmission is altered based on, or affected by, the display device’s configuration; i.e., if the video display is configured in one way the data is transmitted in one way, and if configured in another way, transmitted in another way. (*Id.*) Biscotti asserts that this functionality is entirely different and excluded by replacing “based on” with “only if.” Biscotti contends that in one of the IPRs, Microsoft relied on such an example by arguing that claim 83 was met by sending video in one of the formats the video display device was already configured to display. (*Id.* (citing IPR2014-01457).)

As to the second issue raised with regard to claim 1, Biscotti asserts that the “instructions for determining” language is independently presented elsewhere in claim 1 and not tied in the claim in any way to the “instructions for transmitting” term at issue. (Dkt. No. 103 at 19.) Biscotti contends that Microsoft’s linkage of these two elements adds an all new requirement to the claims. Biscotti also asserts that requiring the “instructions for transmitting” to be based on “reception of the audio watermark through at least one of the one or more microphones” is an additional new requirement added to the claim. Biscotti contends that only the “instructions for determining” must be based on reception of the watermark. (Dkt. No. 103 at 19.) Finally, Biscotti asserts that Microsoft’s construction overloads a simple phrase to the point where the construction is difficult to follow.

Microsoft contends that the “based on” language means that the stated action is performed only if the condition has been met. For claim 1, Microsoft asserts that instructions transmit only if the speaker is powered on and enabled and do not transmit if the speaker is not powered on and enabled. (Dkt. No. 107 at 11-12.) Microsoft contends that the specification describes enabling the video device’s speaker “if” an external audio receiver is not enabled and disabling the device’s speaker “if” the audio receiver is configured to play audio. ’182 Patent 20:40-52. As to the claim 46 and 83 terms, Microsoft asserts that the specification discusses the video communication device transmitting the output video over the output video interface “only if it determines that the display device is properly configured to display the stream.” ’182 Patent 20:53-21:9

Microsoft contends that the claims do not recite an action “based on” something (as Biscotti asserts) but rather performing an action “based on a determination that” a condition has been met. Microsoft asserts that these concepts are different, rendering Biscotti’s dictionaries irrelevant. (Dkt. No. 107 at 12.) Microsoft contends that Biscotti reads “based on” to cover performing the identified act so long as there is some difference in how the act is sometimes performed. Microsoft asserts that the claims do not include circumstances where the transmission is altered based on or affected by the display device’s configuration. Microsoft emphasizes that the claims recite “based on a determination that” a condition has been met. (*Id.* at 13).

As to the criteria issue of claim 1, Microsoft contends that it has construed the claim as required by antecedent basis and the entire context of claim 1. Microsoft asserts that one skilled in the art would recognize that “a determination that the speaker of the high-definition television is powered on and enabled to play audio output from the first communication video

communication device” refers back to the same language in an earlier portion of the claim: “instructions for determining whether a speaker of the high-definition television is powered on and enabled to play audio output ...based on reception of the audio watermark signal through at least one of the one or more microphones.” Microsoft contends that the earlier “determining” instructions do not control any action and that the term at issue is the term that uses the result of the “determining” instructions as a condition. (Dkt 107 at 13.) Microsoft asserts that its construction refers back to the earlier referenced claim language. Microsoft contends that the specification is consistent by discussing “determining” whether an external speaker is powered on and enabled by using the audio watermark (’182 Patent 19:57-20:39) and then choosing to use the speaker based on the result (’182 Patent 20:40-53).

As to the IPRs, Microsoft again states that it merely adopted Biscotti’s construction under the broadest reasonable interpretations standard and pointed to the same technology that Biscotti identified in infringement contentions. (Dkt. No. 107 at 14.)

In reply, Biscotti contends that the specification indicates that “based on” is broader than “only if” although the specification’s use of “based (at least in part) on whether....” ’182 Patent 20:45-52. Biscotti contends that the specification, at times, uses “based on” and at other times provides “by way of example” and “only if.” ’182 Patent 21:1-5, 20:45-52. Biscotti contends that Microsoft’s construction would exclude the specification’s uses of “based on” and limit the term to an “only if” embodiment.

As to the “instructions for determining,” Biscotti contends that there is no evidence in the claims that the two limitations in question are linked and no evidence that one claim term provides antecedent basis for the other. Biscotti notes that the language in the claim term at issue is “based on a determination” not “the” determination. (Dkt. No. 108 at 9.) Biscotti also

contends that Microsoft's proposal conflicts with the specification which discloses multiple ways for determining whether the speaker is powered on and enabled - including by receiving configuration information over the video output interface. '182 Patent 20:56-62.

Analysis

At the hearing, the Court proposed preliminary constructions that conform to what the Court adopts herein. Biscotti agreed to the preliminary construction with the caveat that the use of "only if" in the construction for claims 1 and 46 did not exclude other instructions that are also used for transmitting the output stream. In particular, Biscotti stated that it believed Microsoft might intend for "only if" to mean that is the only time audio may be transmitted to the television. (Dkt. No. 118 at 55-59.) Biscotti stated that to satisfy the claim, there must be instructions that meet the "based on" limitation but the claim does not preclude other additional instructions (i.e., there could be two different instructions). (*Id.* at 60-61). Biscotti contends that this is consistent with the specification which described the speaker use when the external audio receiver is not enabled with permissive words such as "in some embodiments," "which can be used...especially in the case..." and "in some cases." '182 Patent 11:13-24. Similarly, Biscotti contends that the video transmission (claims 46 and 83) is not limited to determining the device configuration because permissive words such as "may," "merely by way of example," "alternatively and/or additionally," and "might" are used in the specification with regard to this feature. '182 Patent 20:66-21:9.

At the hearing, Microsoft acknowledged that as the claim was a "comprising" claim, there could be other instructions that call for the transmitting. Microsoft acknowledged that as long as the claimed instructions for transmitting are met, the claim does not exclude additional instructions for transmitting. (Dkt. No. 118 at 71-73.)

The parties are thus in agreement as to the inclusion of “only if” within the construction for claims 1 and 46. This conforms to the claim language itself that states “based on a determination that....” On its face, such language is directed toward the results of the determination being determinative. As agreed to by the parties, this does not exclude other instructions that cause the transmitting under other circumstances. This conforms to the specification passages cited by Biscotti which provide the permissive language in describing the operations.

Claim 83 as drafted uses different language. Claims 1 and 46 recite: “based on a determination that...” while claim 83 states “based at least in part on detecting...” *See Phillips*, 415 F.3d at 1314 (differences among the claim terms can also assist in understanding a term’s meaning). As to claim 83, the claim language itself provides a clear rebuttal to Microsoft’s construction, as Microsoft attempts to read out of the claim the “at least in part of” language. The claim language itself is clear and does not require the “only if” language proposed by Microsoft. Rather, the configuring to display the video output is “based at least in part on detecting....” The claim language needs no further construction.

As to the second issue which relates to the criteria utilized in claim 1, Biscotti’s construction is more faithful to the actual claim language. Microsoft seeks to require the two recited “determinations” to be the same determination. However, the claims are not drafted in that manner. The “instructions for determining” require the audio watermark determination. However, the “determination” in the “instructions for transmitting” is not required in the claim to be the same determination recited earlier. Rather, the claim merely calls out “a determination that the speaker...” as opposed to referencing “the” prior determination. Microsoft has not pointed to requirements in the intrinsic record that all speaker determinations

must be based on reception of the audio watermark, and the claim itself is drafted to have a meaning indicative that the determination need not be the same.

The Court construes “instructions for transmitting the consolidated audio output stream on the HDMI output interface, based on a determination that the speaker of the high-definition television is powered on and enabled to play audio output from the first video communication device” [Claim 1] to mean “instructions for transmitting the consolidated audio output stream on the HDMI output interface only if the speaker of the high-definition television is determined to be powered on and enabled to play audio output.”

The Court construes “instructions for transmitting the output video over the output video interface based on a determination that the video display device is configured to display the output video stream” [Claim 46] to mean “instructions for transmitting the output video over the output video interface only if the video display device is determined to be configured to display the output video stream.”

The Court finds that the term “instructions for configuring the video display device to display the video output, based at least in part on detecting that the video display device is not configured to display the video output” [Claim 83] has its plain and ordinary meaning.

8. “consolidated output video stream” [Claims 25-29, 34-36, 69, and 71]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
plain meaning / no construction needed. Alternatively: “a consolidation of multiple video sources into a single video stream”	a consolidation of multiple video sources into a single video stream output from the “video communication device” [NOTE: Microsoft is agreeable to amend

	its construction to specify the “first video communication device.” (Dkt. No. 107 at 16, n. 13).]
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The parties dispute whether or not the claimed stream has to be output from the “video communication device.”

Positions of the Parties

Biscotti objects to Microsoft’s inclusion of “output from the ‘video communication device.’” Biscotti contends that claim 25 requires “instructions for creating a consolidated output video stream” but does not require actual transmission of the stream. Biscotti notes that in contrast, method claim 69 specifically requires “transmitting, on the audiovisual output interface, a consolidated output video stream.” Biscotti contends that though the video device may be capable of outputting the stream, there is nothing in claim 25 or its dependent claims that requires it to be. (Dkt. No. 103 at 12.) As to claim 69, Biscotti contends that the output requirement is already in the claim and that Microsoft’s construction would thus be redundant and confusing. Biscotti further contends that the specification makes clear that the consolidated output video stream may or may not be output:

The method 900, then, may further comprise creating a consolidated output video stream from one or more of the video streams, and/or transmitting the consolidated output video stream on the output video interface.

’182 Patent 23:14-17. Biscotti contends that this excerpt shows that the video stream is created separately from its transmission and indeed transmission may not occur at all.

Microsoft contends the claim language requires the “consolidated output video stream” to be created by the “first video communication device” and includes video from multiple sources. (Dkt. No. 107 at 14.) Specifically, Microsoft asserts that the term uses “output” thereby the stream must be output. Microsoft contends that parent claim 6 includes the processor in the

“first video communication device” and that claim 25 requires “instructions” “for creating a consolidated output video stream.” Microsoft asserts that if not output, then the video is not a “consolidated output video stream.” (*Id.* at 14-15.) Microsoft contends that the specification provides a definition: “[a]s used herein, a consolidated output stream means an output stream that includes at least a portion of the corresponding remote stream.” ’182 Patent 21:15-17. Microsoft also cites to the interface as being: “to transmit an output video stream (which may be a consolidated video output stream as described later)....” ’182 Patent 10:59-61. Microsoft asserts that Biscotti removes the “output” characteristic of the term.

Microsoft contends that Biscotti argues that “transmitting” the output stream is optional, because the specification refers to “creating a consolidated output video stream...and/or transmitting the consolidated output video stream.” Microsoft asserts that Biscotti’s interpretation of “and/or” makes no sense, because the disclosed system could transmit the output stream without ever creating it. Microsoft contends that this clause can only be interpreted to mean “and.” (Dkt. No. 107 at 15.)

Analysis

At the hearing, Biscotti and Microsoft both accepted the Court’s construction provided herein. (Dkt. No. 118 at 14.) Claim 25 merely states that the instructions further comprise “instructions for creating a consolidated output video stream.” The claim does not require outputting or transmitting the video stream, rather merely instructions for creating the stream. The creation of the output video stream is described in the specification as a step that may occur independently of actual outputting or transmitting in accordance with at least one embodiment. 23:14-17, Figure 9 step 955. In contrast, method claim 69 recites “transmitting ... a consolidated output video stream.” Thus, the claim language of each claim itself provides the necessary

guidance as to when further action on the consolidated output video stream is required. *Phillips*, 415 F.3d at 1314 (“[T]he context in which a term is used in the asserted claim can be highly instructive.”). The Court notes that its construction includes “output video stream.” As originally proposed by Biscotti the stream would not have to be meant for or have the capability of being output.

The Court construes “consolidated output video stream” to mean “a consolidation of multiple video sources into a single output video stream.”

9. “the input video stream” [Claim 34]

Biscotti’s Proposed Construction	Microsoft’s Proposed Construction
This term is not indefinite under 35 U.S.C. § 112(2)	This term is indefinite under 35 U.S.C. § 112(2)

Microsoft contends that it is not reasonably certain as to what is the antecedent basis for “the input video stream”: the “set-top box video stream” or the “remote video stream.”

Positions of the Parties

Biscotti contends that one skilled in the art would recognize that the antecedent basis for “the input video stream” refers to the set-top box video stream that can be received on the “video input interface” of claims 6 and 24. (Dkt. No. 103 at 26.) Biscotti notes the claim 34 language is “instructions for setting a resolution of the consolidated output video stream as a function of the input video stream.” Biscotti further notes that claim 34 depends through claim 24 which recites “wherein the video input interface receives a set-top box video stream.” Biscotti contends, in this context, one skilled in the art would recognize that the “input video stream” in claim 34 refers to the video stream that the “video input interface” in claims 6 and 24 can receive. (*Id.* (citing Wicker expert declaration).)

Biscotti contends that this is consistent with the specification which uses the terms “input video interface” and “video input interface” interchangeably to describe the interface on which the set-top box video stream (or video input from a set-top box) is received:

In one embodiment, the video communication device comprises a video input interface to receive video input from a set-top box....

'182 Patent 2:40-42.

[T]he input video interface 420 is configured to receive a video stream (referred to herein as a ‘STB video stream’) from a STB...

'182 Patent 10:50-52.

Typically, the STB stream will be provided by a STB, and /or received on an input audiovisual interface (and/or separate input audio interface and input video interface).

'182 Patent 17:38-41. Biscotti contends that in light of the claims and specification, one skilled in the art would recognize the “input video stream” to be the set-top box video stream that can be received on the video input interface.

Biscotti contends that Microsoft is incorrect in asserting that the “input video stream” could refer to the remote video stream to be received on the network interface. Biscotti contends that the '182 Patent never refers to the remote video stream as an “input” or to the interface that receives the remote video stream as an “input interface.” Biscotti asserts that the term is therefore not indefinite in light of the specification. Biscotti also cites to *Yodlee, Inc. v. Plaid Techs., Inc.*, 2016 WL 204372, at *12 (D. Del. Jan. 15, 2016) and *Sipco, LLC v. Amazon.com, Inc.*, No. 2:08-CV-359-JRG, 2012 WL 5195942 at *53 (E.D. Tex. Oct. 19, 2012) as finding a claim term had antecedent basis despite using an indefinite article. (Dkt. No. 103 at 28.) Biscotti further contends that antecedent basis can be established by implication. (Dkt. No. 108 at 10 (citing *Haliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008)).)

Biscotti additionally notes that in the IPR, Microsoft's expert understood the term sufficiently to map the prior art to the claim. (*Id.* at 2.)

Microsoft contends that it is not clear which previously recited stream is being referred to as "the input video stream." Microsoft quotes *Nautilus*: "[i]t cannot be sufficient that a court can ascribe some meaning to a patent's claims." *Nautilus*, 134 S. Ct. at 2130. Microsoft contends that the "input video stream" could refer to two equally plausible "input streams." Microsoft notes that claim 24 (from which claim 34 depends) includes two input video streams: (1) "the video input interface receives a set-top box video stream" and (2) "the network interface receives a remote audiovisual stream from the second video communication device." Microsoft cites to its expert declaration to assert that one skilled in the art cannot determine which stream is being referred to. (Dkt. No. 107 at 21.)

Microsoft characterizes Biscotti's argument that the stream related to the "video input interface" must be the relevant stream as merely guessing. Microsoft contends that merely guessing does not satisfy the reasonable certainty standard.

Microsoft challenges Biscotti's argument that the similarity of the terms "video input interface" and "input video stream" renders the term definite. Microsoft contends that a "video input interface" is not a "stream." Microsoft further asserts that Biscotti's argument merely relies on both terms using the word "input." Microsoft contends that both the remote video stream and the set-top box stream are input into the video communication device and neither is identified as an "input stream." Microsoft asserts that either stream could be the input stream in question. Microsoft further asserts that though the stream input to the network interface is never described in the specification as an "input" stream, the '182 Patent never refers to the stream input to the "video input interface" as an "input" stream either. (Dkt. No. 107 at 22-23.)

Microsoft contends that Biscotti merely relies on Biscotti's expert's opinion that "input video stream" equals "video input interface," but Microsoft's expert's opinion is the opposite. (*Id.* at 22.)

As to the IPRs, Microsoft asserts that it merely mapped the prior art to the patent claims in the same manner as Biscotti's infringement contentions. Microsoft further notes that it could not challenge the faulty antecedent basis issue, since indefiniteness challenges are not allowed in IPR proceedings. (*Id.*)

Analysis

Claim 34 recites "wherein the set of instructions further comprises: instructions for setting a resolution of the consolidated output video stream as a function of the input video stream." Claim 34 depends from independent claim 6 through various dependent claims, including claims 25 and 28. Claim 25 states that the consolidated output video stream comprises "at least a portion of the remote video stream," and claim 28 states that the consolidated output video stream further comprises "at least a portion of the set-top box video stream." Claim 34 then recites that the resolution of the consolidated output video stream is "a function of the input video stream." As claimed, the consolidated output video stream is a consolidation of two video sources, the set-top box video stream and the remote video stream. The specification does not refer to either of these streams as the "input video stream." As described within the specification, both of these video streams are input to the first communication device. '182 Patent Figure 1A, Figure 4, 3:33-46, 10:48-11:37.

Biscotti contends that because the "input video interface" is coupled to the set-top box, the "input video stream" of claim 34 must be the set-top box video stream. However, such a conclusion is mere speculation because both the video streams in question are provided as an

input to the video communication device. Moreover, the specification explicitly refers to the sources of the video streams that are provided to the video device for creating the consolidated output video stream as both being “input sources.” Specifically, the specification states:

One benefit provided by certain embodiments over conventional video calling solutions is the ability for a user to participate in a video call and watch television simultaneously. In an aspect, certain embodiments accomplish this feature by creating consolidated output audio and video streams. As used herein, a consolidated output stream means an output stream that includes at least a portion of the corresponding remote stream. In many (but not all) cases, the consolidated output stream will also include at least a portion of the corresponding STB stream and/or (especially in the case of video) at least a portion of the corresponding captured stream.

To that end, FIG. 9 is a process flow diagram illustrating a method 900 of creating consolidated audio and video output streams, in accordance with various embodiments. In an aspect, the process of generating a consolidated output video stream involves setting a resolution of that output signal. Various factors can be considered when setting the output resolution, including without limitation the resolution of each of the input sources, user preferences, and the like.

’182 Patent 21:10-29 (emphasis added). Thus, the specification describes both the set-top box (which provides set-top box stream) and the second video communication device (which provides the remote stream) as “input sources.” Moreover, a factor that can be considered for the output resolution may include the “resolution of each of the input sources.” *Id.* Thus, as disclosed, either the remote stream or the set-top box stream may be provided from an “input source” and the resolution of either source may be used in setting the resolution of the consolidated output video stream. In this context, Biscotti’s assertion that “input video stream” must come from the “video input interface” fails. In light of the specification, the “input video stream” could just as properly be considered to be the video stream from one of the “input sources.”

As noted in *Nautilus*:

The definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable. The standard we adopt accords with opinions of this Court stating that “the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.”

Nautilus, Inc., 134 S. Ct. at 2129-30 (internal citations omitted). The context of the specification and claims do not provide reasonable certainty as to whether the input video stream in question is the remote video stream or the set-top box video screen. Both video streams are provided as inputs to the device in question and described as coming from “input sources.” Further, the claims could be read to include yet another possibility, that the “input video stream” is either input stream, in which case the claim should have read “an input video stream,” instead of “the input video stream.” Though Biscotti is correct that the input video stream could be the set-top box stream, the standard under *Nautilus* is not merely “sufficient that a court can ascribe some meaning to a patent's claims” but rather requires a level of reasonable certainty. *Id.* Here, reasonable certainty is not provided as to what the “input video stream” references. The parties further provide conflicting extrinsic evidence in the form of conflicting expert declarations. The Court finds that Biscotti’s Wicker declaration is more conclusory and that Microsoft’s Orchard declaration is more in line with the specification. As such, the Court finds that the extrinsic evidence further supports Microsoft. *See Teva Pharm. USA*, 135 S. Ct. at 838 (noting that underlying factual disputes regarding extrinsic evidence may have to be resolved in claim construction).

The Court finds that “the input video stream” in Claim 34 is indefinite under 35 U.S.C. § 112 ¶2.

10. “wherein the instructions for encoding the captured video stream comprise instructions for processing the captured video stream prior to encoding the captured video stream” [Claim 50]

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The parties dispute whether the “instructions for encoding” may include instructions for performing other activities prior to the encoding.

Positions of the Parties

Biscotti contends that, according to Microsoft, the claim recites an impossible step that requires processing both before and as part of the “encoding step.” Biscotti asserts that Microsoft mischaracterizes the claim and that the instructions recited in claim 50 are for processing the captured video stream prior to encoding that video stream.

Biscotti notes that the claim reads: “The video communication system of claim 6, wherein the instructions for encoding the captured video stream comprise instructions for processing the captured video stream prior to encoding the captured video stream.” Biscotti contends that the claim language requires instructions for first (1) processing a captured video stream (for example to correct white balance of the stream) and then (2) encoding the video stream. Biscotti asserts that the specification describes that the stream may be processed prior to encoding. ’182 Patent 19:26-36. Biscotti also contends that this is clearly depicted in Figure 7. Biscotti cites to its expert declaration to contend that one skilled in the art would easily understand the recited instructions in claim 50. (Dkt. No. 103 at 28-29.) Biscotti further asserts this is the manner that Microsoft’s expert construed the claim in the IPR. (*Id.* at 29.)

Microsoft contends that the claim language requires the “processing” to be part of “encoding” but also requires the “processing” to occur “prior to encoding.” Microsoft asserts that processing cannot occur “prior” to the encoding and still be “part of” the encoding. (Dkt. No. 107 at 22.) Microsoft contends that Biscotti ignores the language that “processing” is part of

“encoding.” Microsoft points to its expert declaration as showing that one skilled in the art would not understand which processing and encoding operations the claim covers. (*Id.* at 22-23 (citing Orchard declaration).) Microsoft asserts that Figure 7 does not support Biscotti, because that figure does not show processing is part of encoding as claimed. Microsoft contends that Biscotti is asking the Court to remove the claim language requiring that the processing to be part of the encoding. (*Id.* at 23.) Microsoft asserts that the Court should not rewrite the claim and that the claim fails to inform with reasonable certainty the scope of the invention. As to the IPR, Microsoft contends that it merely mapped the prior art on the claim in the same way that Biscotti interpreted the claim in Biscotti’s infringement contentions. Microsoft again asserts that indefiniteness challenges are not allowed in IPR proceedings. (*Id.*)

Analysis

Microsoft’s arguments are based upon a mischaracterization of the clear claim language. The claim language does not require “processing” to be part of “encoding.” Rather, the claim states that “instructions for encoding” comprise “instructions for processing ... prior to encoding the captured video stream.” It is the first recited instructions that include instructions for processing. Thus, the encoding instructions are instructions that perform not just “encoding” but also include “instructions” for other processing “prior to encoding.” This conforms to the clear examples in the specification in which the captured streams may be “processed as needed (e.g., to correct white balance of the video stream, to cancel echo in the audio stream, etc.) (block 765) and encoded and/or packetized to produce a series of data packets” (block 770). ’182 Patent 19:26-31, Figure 7. Further, the parties provide conflicting extrinsic evidence in the form of conflicting expert declarations. The Court finds that Biscotti’s Wicker declaration is more credible in light of the teaching within the specification. As such, the Court finds that the

extrinsic evidence further supports Biscotti. *See Teva Pharm. USA*, 135 S. Ct. at 838 (noting that underlying factual disputes regarding extrinsic evidence may have to be resolved in claim construction). The claim term in question provides the reasonable certainty required in *Nautilus*. *See Nautilus*, 134 S. Ct. at 2129-30.

The Court finds that “wherein the instructions for encoding the captured video stream comprise instructions for processing the captured video stream prior to encoding the captured video stream” is definite under 35 U.S.C. § 112 ¶2.

CONCLUSION

The Court adopts the above constructions. The parties are ordered that they may not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 9th day of November, 2016.


ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE