

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

HITACHI MAXELL, LTD.,

Plaintiff,

v.

TOP VICTORY ELECTRONICS
(TAIWAN) CO. LTD., TPV INT'L (USA),
INC., ENVISION PERIPHERALS, INC.,
TOP VICTORY ELECTRONICS (FUJIAN)
CO. LTD., TPV ELECTRONICS (FUJIAN)
CO. LTD., TPV TECHNOLOGY LTD.,
AND TPV DISPLAY TECHNOLOGY
(XIAMEN) CO., LTD.

Defendants.

Case No. 2:14-cv-01121-JRG-RSP

MEMORANDUM OPINION AND ORDER

Before the Court is the opening claim construction brief of Hitachi Maxell, Ltd. (“Plaintiff”) (Dkt. No. 53, filed on August 26, 2015),¹ the response of Top Victory Electronics (Taiwan) Co. Ltd., TPV International (USA), Inc., Envision Peripherals, Inc., Top Victory Electronics (Fujian) Co. Ltd., TPV Electronics (Fujian) Co. Ltd., TPV Technology Ltd., and TPV Display Technology (Xiamen) Co., Ltd. (collectively, “Defendants”) (Dkt. No. 58, filed under seal on September 9, 2015), and the reply of Plaintiff (Dkt. No. 60, filed on September 16, 2015). The Court held a hearing on the issues of claim construction and claim definiteness on October 7, 2015. Having considered the arguments and evidence presented by the parties at the hearing and in their briefing, the Court issues this Order.

¹ In this order, citations to the parties’ filings in this case are to the filing’s number in the docket (Dkt. No.) and pin cites are to the page numbers assigned through ECF.

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I. BACKGROUND

Plaintiff alleges infringement of U.S. Patents No. 6,037,995 (the “’995 Patent”), No. 6,144,412 (the “’412 Patent”), No. 6,388,713 (the “’713 Patent”), No. 7,924,366 (the “’366 Patent”), No. 8,009,375 (the “’375 Patent”), and No. 8,913,197 (the “’197 Patent”) (collectively, the “Asserted Patents”).

In general, the Asserted Patents are directed to systems and methods for displaying or processing picture signals. The ’995 Patent is entitled “BROADCASTING AND COMMUNICATION RECEIVER APPARATUS.” It issued on March 14, 2000 and claims priority to a Japanese patent application filed on April 19, 1996. The ’412 Patent is entitled “METHOD AND CIRCUIT FOR SIGNAL PROCESSING OF FORMAT CONVERSION OF PICTURE SIGNAL.” It issued on November 7, 2000 and claims priority to a Japanese patent application filed October 15, 1996. The ’713 Patent is entitled “IMAGE DISPLAY APPARATUS, AND METHOD TO PREVENT OR LIMIT USER ADJUSTMENT OF DISPLAYED IMAGE QUALITY.” It issued on May 14, 2002 and claims priority to a Japanese patent application filed on July 14, 1997. The ’366 Patent is entitled “IMAGE DISPLAYING APPARATUS.” It issued on April 12, 2011 and claims priority to Japanese patent applications filed on September 28, 2007. The ’375 Patent is entitled “APPARATUS AND METHOD FOR RECEIVING AND RECORDING DIGITAL INFORMATION.” It issued on August 30, 2011 and claims priority to Japanese patent applications filed as early as July 6, 1990. The ’197 Patent is entitled “DIGITAL BROADCAST RECEIVER UNIT.” It issued on December 16, 2014 and claims priority to a Japanese application filed on August 21, 1997.

The Court has previously considered the ’995 Patent, the ’412 Patent, the ’713 Patent, and the ’375 Patent, and construed claims from those patents. *Hitachi Consumer Elecs. Co. v.*

Top Victory Elecs. (Taiwan) Co., et al., No. 2:10-cv-260-JRG, 2012 U.S. Dist. LEXIS 162106 (E.D. Tex. Nov. 13, 2012). In that same proceeding, the Court considered two patents related to the '197 Patent, namely, U.S. Patent No. 6,549,243 (the "'243 Patent") and U.S. Patent No. 7,889,281 (the "'281 Patent"). The '197 Patent is related to the '243 Patent and to the '281 Patent through a series of continuation applications, and therefore shares a substantially identical specification, apart from the claims.

II. LEGAL PRINCIPLES

A. Claim Construction

"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 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 factfinding must be reviewed for clear error on appeal.

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

B. Departing from the Ordinary Meaning of a Claim Term

There are “only two exceptions to [the] general rule”² 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.” *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.

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*

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*, 288 F.3d at 1367.

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 Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

C. Functional Claiming and 35 U.S.C. § 112, ¶ 6 (pre-AIA) / § 112(f) (AIA)³

A patent claim may be expressed using functional language. *See* 35 U.S.C. § 112, ¶ 6; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 & n.3 (Fed. Cir. 2015) (en banc in relevant portion). Section 112, Paragraph 6, provides that a structure may be claimed as a “means . . . for performing a specified function” and that an act may be claimed as a “step for performing a specified function.” *Masco Corp. v. United States*, 303 F.3d 1316, 1326 (Fed. Cir. 2002).

But § 112, ¶ 6 does not apply to all functional claim language. There is a rebuttable presumption that § 112, ¶ 6 applies when the claim language includes “means” or “step for” terms, and that it does not apply in the absence of those terms. *Masco Corp.*, 303 F.3d at 1326; *Williamson*, 792 F.3d at 1348. The presumption stands or falls according to whether one of ordinary skill in the art would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function. *See Media Rights Techs., Inc. v. Capital One Fin. Corp.*, No. 2014-1218, 2015 U.S. App. LEXIS 15767, at *10 (Fed. Cir. Sept. 4, 2015) (§ 112, ¶ 6 does not apply when “the claim language, read in light of the specification, recites sufficiently definite structure” (quotation marks omitted) (citing *Williamson*, 792 F.3d at 1349; *Robert Bosch, LLC v. Snap-On Inc.*, 769

³ Because the applications resulting in the asserted patents were filed before September 16, 2012, the effective date of the America Invents Act (“AIA”), the Court refers to the pre-AIA version of § 112.

F.3d 1094, 1099 (Fed. Cir. 2014)); *Williamson*, 792 F.3d at 1349 (§ 112, ¶ 6 does not apply when “the words of the claim are understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure”); *Masco Corp.*, 303 F.3d at 1326 (§ 112, ¶ 6 does not apply when the claim includes an “act” corresponding to “how the function is performed”); *Personalized Media Communications, L.L.C. v. International Trade Commission*, 161 F.3d 696, 704 (Fed. Cir. 1998) (§ 112, ¶ 6 does not apply when the claim includes “sufficient structure, material, or acts within the claim itself to perform entirely the recited function . . . even if the claim uses the term ‘means.’” (quotation marks and citation omitted)).

When it applies, § 112, ¶ 6 limits the scope of the functional term “to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof.” *Williamson*, 792 F.3d at 1347. Construing a means-plus-function limitation involves multiple steps. “The first step . . . is a determination of the function of the means-plus-function limitation.” *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). “[T]he next step is to determine the corresponding structure disclosed in the specification and equivalents thereof.” *Id.* A “structure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *Id.* The focus of the “corresponding structure” inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is “clearly linked or associated with the [recited] function.” *Id.* The corresponding structure “must include all structure that actually performs the recited function.” *Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005). However, § 112 does not permit “incorporation of structure from the

written description beyond that necessary to perform the claimed function.” *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999).

For mean-plus-function limitations implemented by a programmed general purpose computer or microprocessor, the corresponding structure described in the patent specification must include an algorithm for performing the function. *WMS Gaming Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). The corresponding structure is not a general purpose computer but rather the special purpose computer programmed to perform the disclosed algorithm. *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

D. Definiteness Under 35 U.S.C. § 112, ¶ 2 (pre-AIA) / § 112(b) (AIA) ⁴

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.*,

⁴ Because the applications resulting in the asserted patents were filed before September 16, 2012, the effective date of the America Invents Act (“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).

In the context of a claim governed by 35 U.S.C. § 112, ¶ 6, the claim is invalid as indefinite if the claim fails to disclose adequate corresponding structure to perform the claimed functions. *Williamson*, 792 F.3d at 1351–52. The disclosure is inadequate when one of ordinary skill in the art “would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim.” *Id.* at 1352.

III. CONSTRUCTION OF AGREED TERMS

The parties have agreed to the following constructions set forth in their Joint Claim Construction Chart (Dkt. No. 62), as modified at the October 7, 2015 hearing:

Term ⁵	Agreed Construction
“to thereof” • ’412 Patent Claim 1	“to the signal selected by the first selector”
“motion coefficient of picture” • ’412 Patent Claim 3	“one or more coefficients of motion of the picture to be displayed”
“processing” • ’197 Patent Claims 25, 27, 29, 31, 33, 35	plain and ordinary meaning
“video signal formats” • ’197 Patent Claims 25, 27, 29, 31, 33, 35	“number of scan lines and whether the lines are progressive or interlaced”

⁵ For all term charts in this order, the claims in which the term is found are listed with the term but: (1) only the highest level claim in each dependency chain is listed, and (2) only claims identified in the parties’ Joint Claim Construction Chart (Dkt. No. 62) are listed.

Term ⁵	Agreed Construction
“video processing sub software programs” <ul style="list-style-type: none"> • ’197 Patent Claims 31, 33, 35 	plain and ordinary meaning
“plurality of video processing sub software programs” <ul style="list-style-type: none"> • ’197 Patent Claims 31, 33, 35 	plain and ordinary meaning
“when a rear surface of said projection portion is pushed” <ul style="list-style-type: none"> • ’366 Patent Claim 3 	plain and ordinary meaning
“when a rear side of said display apparatus is pushed” <ul style="list-style-type: none"> • ’366 Patent Claim 7 	plain and ordinary meaning
“not being connected” <ul style="list-style-type: none"> • ’366 Patent Claim 1 	plain and ordinary meaning
“not to be connected” <ul style="list-style-type: none"> • ’366 Patent Claim 5 	plain and ordinary meaning
“a magnitude of the first display zone” <ul style="list-style-type: none"> • ’995 Patent Claim 1 	“a size of the first display zone”
“receiver means for receiving program-associated information including a title, a start time, and an end time of a broadcast program together with a video signal and an audio signal” <ul style="list-style-type: none"> • ’995 Patent Claim 1 	This term is governed by 35 U.S.C. § 112, ¶ 6. ⁶ <p>Claimed Function</p> <ul style="list-style-type: none"> • “receiving program-associated information including at title, a start time, and an end time of a broadcast program together with a video signal and an audio signal” <p>Disclosed Structure</p> <ul style="list-style-type: none"> • a receiver (118), and equivalents thereof

⁶ For patent applications filed earlier than Sept. 16, 2012, the pre-AIA version of 35 U.S.C. § 112 is applicable and the means-plus-function provision is § 112, ¶ 6. For patent applications filed on or after Sept. 16, 2012, the AIA version of 35 U.S.C. § 112 is applicable and the means-plus-function provision is § 112(f). The provisions are substantially identical.

Term ⁵	Agreed Construction
<p>“decoder means for decoding the program-associated information from the received signal”</p> <ul style="list-style-type: none"> • '995 Patent Claim 1 	<p>This term is governed by 35 U.S.C. § 112, ¶ 6.</p> <p>Claimed Function</p> <ul style="list-style-type: none"> • “decoding the program-associated information from the received signal” <p>Disclosed Structure</p> <ul style="list-style-type: none"> • an information decoder (107), and equivalents thereof
<p>“display controller means for controlling the display screen based on the input signal”</p> <ul style="list-style-type: none"> • '995 Patent Claim 1 	<p>This term is governed by 35 U.S.C. § 112, ¶ 6.</p> <p>Claimed Function</p> <ul style="list-style-type: none"> • “controlling the display screen based on the input signal” <p>Disclosed Structure</p> <ul style="list-style-type: none"> • a display controller (109), and equivalents thereof
<p>“command receiver means for receiving an input signal from a remote controller or from a key or keys provided to a main body of the receiver apparatus”</p> <ul style="list-style-type: none"> • '995 Patent Claim 1 	<p>This term is governed by 35 U.S.C. § 112, ¶ 6.</p> <p>Claimed Function</p> <ul style="list-style-type: none"> • “receiving an input signal from a remote controller or from a key or keys provided to a main body of the receiver apparatus” <p>Disclosed Structure</p> <ul style="list-style-type: none"> • a command receiver (106), and equivalents thereof
<p>“data quantity comparator means for comparing a magnitude of the first display zone with a quantity of display data ...”</p> <ul style="list-style-type: none"> • '995 Patent Claim 1 	<p>This term is governed by 35 U.S.C. § 112, ¶ 6.</p> <p>Claimed Function</p> <ul style="list-style-type: none"> • “comparing a magnitude of the first display zone with a quantity of display data” <p>Disclosed Structure</p> <ul style="list-style-type: none"> • a comparator (112), and equivalents thereof

Term ⁵	Agreed Construction
<p>“display means for displaying the decoded program-associated information on a display screen”</p> <ul style="list-style-type: none"> • ’995 Patent Claim 1 	<p>This term is governed by 35 U.S.C. § 112, ¶ 6.</p> <p>Claimed Function</p> <ul style="list-style-type: none"> • “displaying the decoded program-associated information on a display screen” <p>Disclosed Structure</p> <ul style="list-style-type: none"> • a television screen (105), and equivalents thereof”
<p>“a plurality of character strings”</p> <ul style="list-style-type: none"> • ’995 Patent Claim 1 	<p>“two or more sets of letters, numbers, spaces, and/or punctuation marks”</p>
<p>“the character string”</p> <ul style="list-style-type: none"> • ’995 Patent Claim 1 	<p>“one or more of the plurality of character strings”</p>
<p>“enabler/disabler”</p> <ul style="list-style-type: none"> • ’713 Patent Claim 1 	<p>“a circuit that enables and disables an operation”</p>
<p>“enabler/disabler means for selectively preventing said user adjustment control means from adjusting at least said portions of said displayed image containing said information image based on said control signal”</p> <ul style="list-style-type: none"> • ’713 Patent Claim 8 	<p>This term is governed by 35 U.S.C. § 112, ¶ 6.</p> <p>Claimed Function</p> <ul style="list-style-type: none"> • “selectively preventing said user adjustment control means from adjusting at least said portions of said displayed image containing said information image based on said control signal” <p>Disclosed Structure</p> <ul style="list-style-type: none"> • (1) changeover switch 13, changeover switch 13b, short-circuiting switch 13c, or changeover switch 13d, and equivalents thereof; or (2) bypass circuit 15 together with changeover switch 13a, and equivalents thereof
<p>“said portions” in the phrase “adjusting at least said portions of said displayed image containing said information image based on said control signal”</p> <ul style="list-style-type: none"> • ’713 Patent Claims 1, 8, 15 	<p>“each portion”</p>

Term ⁵	Agreed Construction
<p>“detection means for detecting a portion of said displayed image containing said information image and outputting a control signal according to said detected portion”</p> <ul style="list-style-type: none"> ’713 Patent Claim 8 	<p>This term is governed by 35 U.S.C. § 112, ¶ 6.</p> <p>Claimed Function</p> <ul style="list-style-type: none"> “detecting a portion of said displayed image containing said information image and outputting a control signal according to said detected portion” <p>Disclosed Structure</p> <ul style="list-style-type: none"> a decoder (4 or 1206), an EPG processor (1204), a CPU (1220), or a separator (7c), and equivalents thereof
<p>“said displayed image”</p> <ul style="list-style-type: none"> ’713 Patent Claims 1, 8 	<p>“the image to be displayed”</p>
<p>“said selection menu”</p> <ul style="list-style-type: none"> ’713 Patent Claims 6, 13, 20 	<p>“said EPG or PPV selection menu”</p>
<p>“display means for selectably displaying at least two of: a picture image without an information image; said information image without said picture image; and said picture image simultaneously with said information image”</p> <ul style="list-style-type: none"> ’713 Patent Claim 8 	<p>This term is governed by 35 U.S.C. § 112, ¶ 6.</p> <p>Claimed Function</p> <ul style="list-style-type: none"> “selectably displaying at least two of: a picture image without an information image; said information image without said picture image; and said picture image simultaneously with said information image” <p>Disclosed Structure</p> <ul style="list-style-type: none"> a cathode ray tube (or CRT), a display, or a screen, and equivalents thereof
<p>“user adjustment control means for allowing user adjustment of an image quality of a displayed image”</p> <ul style="list-style-type: none"> ’713 Patent Claim 8 	<p>This term is governed by 35 U.S.C. § 112, ¶ 6.</p> <p>Claimed Function</p> <ul style="list-style-type: none"> “allowing user adjustment of an image quality of a displayed image” <p>Disclosed Structure</p> <ul style="list-style-type: none"> an adjusting section circuit (Ra) and an image quality adjusting circuit (7a), and equivalents thereof

Term⁵	Agreed Construction
“error-detection information” <ul style="list-style-type: none"> • ’375 Patent Claim 1 	plain and ordinary meaning
“control signal information” <ul style="list-style-type: none"> • ’375 Patent Claim 31 	“data used to control a recording or playback process”

Having reviewed the intrinsic and extrinsic evidence of record, the Court hereby adopts the parties’ agreed constructions.

IV. CONSTRUCTION OF DISPUTED TERMS

The parties’ positions and the Court’s analysis as to the disputed terms are presented below.

A. The ’412 Patent – “input picture signal”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“input picture signal” <ul style="list-style-type: none"> • ’412 Patent Claims 1, 15, 17, 19 	“picture signal before format conversion”	“video signal received from an input source”

The Parties’ Positions

Plaintiff submits that the input picture signal is the signal that is inputted to the format-conversion circuit or process. Dkt. No. 53 at 14. Plaintiff argues that Defendants’ proposed construction improperly focuses on the display apparatus as a whole, as opposed to the format-conversion circuit that is the subject invention of the ’412 Patent. *Id.* at 14–15. According to Plaintiff, the patent consistently uses “input picture signal” to refer to the picture signal before it is processed by the format-conversion circuit, and does not use to the term to refer to the source signal. *Id.* at 15–17. Plaintiff argues that Defendants’ proposed construction improperly threatens to exclude a preferred embodiment, in which the source signal undergoes pre-

processing before being input into the format-conversion circuit. *Id.* at 17–19 (citing ’412 Patent Figure 8 and accompanying description).

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: ’412 Patent col.2 ll.9–37, col.6 ll.26–44, col.6 ll.53–64, col.7 ll.2–16, col.15 l.40 – col.16 l.15, col.16 ll.35–39, col.16 l.57, col.19 ll.51–54, col.23 ll.11–15, fig.1, fig.8, fig.9, fig.13, fig.17.

Defendants respond that the invention, and claims, of the ’412 Patent are directed to receiving video signals from a variety of sources and processing the signal “so that it can be properly displayed on the picture output device.” Dkt. No. 58 at 9–10. Defendants argue that Plaintiff’s proposed construction is based on an improper restriction of the “format conversion” of the patent to conversion of the scanning method (e.g., interlaced scanning to progressive scanning). *Id.* at 12. According to Defendants, the “format conversion” of the patent includes “color space conversion” and “inverse gamma conversion.” *Id.* And Defendants argue that Plaintiff’s proposed construction would improperly exclude the “input signals” from the various sources depicted in Figure 8. *Id.* at 11–12.

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: ’412 Patent col.1 ll.21–25, col.1 ll.45–47, col.16 ll.35–39, col.13 ll.24–61, col.16 ll.12–21, fig.8, fig.21.

Plaintiff replies that the ’412 Patent is directed specifically at converting the format of video signals, not simply processing signals from a variety of sources. Dkt. No. 60 at 6. Plaintiff further replies that contrary to Defendants’ contention, Plaintiff’s proposed construction does not exclude the source signals of Figure 18. *Id.* at 6–7. Rather, Plaintiff argues, those source signals are “picture signal[s] before format conversion.” *Id.* at 7. And although the source signals

undergo some pre-processing before being input into the format-conversion circuit, they do not undergo any format conversion until being processed by the format-conversion circuit. *Id.* Plaintiff also replies that the format conversion contemplated by the '412 Patent is scan conversion and scaling, and that the gamma and color conversion are part of the picture quality improvement that happens after the format of the input signal is converted. *Id.* Finally, Plaintiff argues that if Defendants' proposed construction requires raw source signal input into the format-conversion circuit, it will improperly exclude the embodiment of Figure 8, which describes processing of source signals before they are input into the format-conversion circuit labeled 49-1. *Id.* at 8.

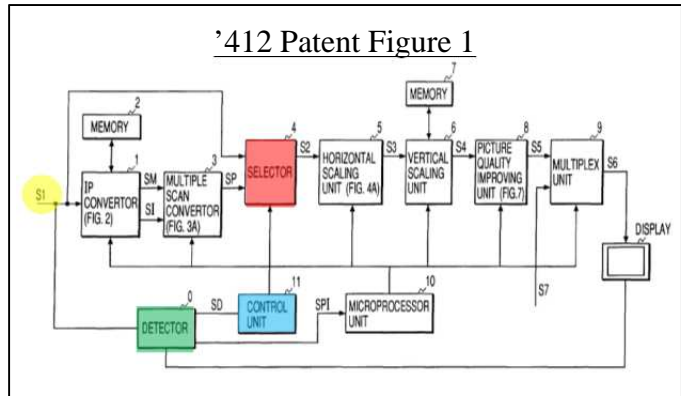
Plaintiff cites further **intrinsic evidence** to support its position: '412 Patent col.3 ll.27–31, col.4 ll.8–13, col.4 ll.33–34, col.4 ll.66–67, col.6 ll.20–26, 46, 48, & 49, col.7 ll.29, 33, & 51, col.8 ll.18 & 31, col.15 ll.11–27, col.16 ll.57, 61, & 65, col.17 l.28, col.20 ll.51, 54, & 62, col.23 ll.12 & 15, fig.7.

Analysis

The parties' dispute distills to whether “input picture signal” should be defined by the signal's source or its destination. The term is properly defined by its destination—the claimed format-conversion circuit or process to which the picture signal is an input.

The '412 Patent is directed to methods and circuits for taking a picture signal that is inputted into the method or circuit, and converting the format of the signal into a format compatible with a display device. '412 Patent col.1 ll.6–13. The patent describes several format-conversion signal-processing circuits, and their methods of operation. *See, e.g., id.* at col.6 l.19 – col.7 l.45 (describing Figure 1), col.16 l.46 – col.17 l.23 (describing Figure 9), col.20 ll.39–64 (describing Figure 13), col.22 l.63 – col.23 l.25 (describing Figure 17). Figure 1 is reproduced

here and annotated by the Court. Each embodiment is designated as “a format conversion signal processing circuit” or “a format conversion circuit.” *Id.* at col.6 ll.20–21, col.16 ll.47–48, col.20 ll.40–41, col.22 ll.64–65. In each of these embodiments an “input picture signal S1 (comprising component luminance and color difference signals . . .) is inputted to [an element of the circuit].” *Id.* at col.6 ll.26–29 (in yellow in the annotated Figure 1), col.16 ll.57–60, col.20 ll.51–54, col.23 ll.12–15.



The '412 Patent consistently describes a signal entering a circuit, circuit element, or process as an “input” or “inputted” signal, independent of the ultimate source of such signal. *See, e.g., id.* at col.1 ll.39–44 (“format conversion is performed by signal processing and pictures are displayed by converting inputted signals of pictures into signals of display formats of picture output devices”), col.7 ll.4–16 (describing a circuit element as having an “input side” and a circuit element that “inputs” a signal that is outputted from another element), col.9 ll.21–27 (“an input signal to the delay unit”), col.10 ll.25–31 (“an input signal to the memory unit”), col.15 ll.11–22 (describing a “signal . . . inputted to a luminance processing unit” and a “signal . . . inputted to a picture element interpolation unit”). That is, a signal is an input signal because it is inputted into a circuit, element, or process.

The claim language itself indicates that the “input picture signal” is the signal inputted to

'412 Patent

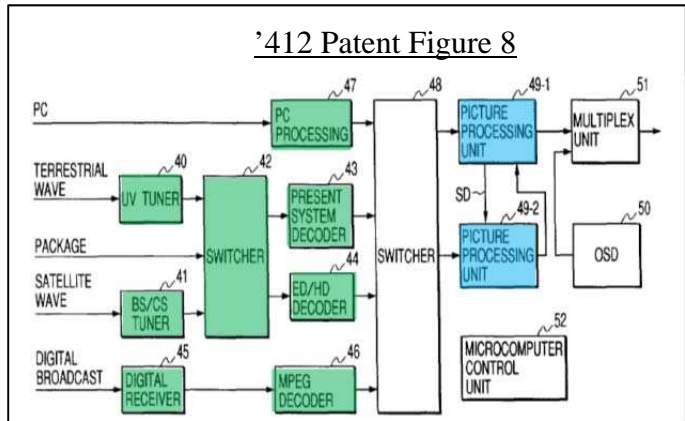
1. A circuit for signal processing of format conversion of picture signal which performs signal processing of converting a format of an input picture signal into a predetermined display format of a picture output device, said circuit comprising:

- a scanning convertor for performing first local signal processing of converting the input picture signal into a picture signal of progressive scanning when the input picture signal is of interlace scanning;
- a first selector for selecting either one of the input picture signal and the picture signal of progressive scanning outputted from the scanning convertor;
- a scaling unit comprising a horizontal scaling unit for performing second local signal processing of compression and expansion in a horizontal direction to a signal selected by the first selector and a vertical scaling unit performing third local signal processing of compression and expansion in a vertical direction to thereof; and
- a control unit for selecting parameters of the signal processing in accordance with the format of the input picture signal and the display format of the picture output device and controlling at least the scanning convertor, the first selector and the scaling unit in accordance with the parameters of the signal processing.

the format-conversion circuit or method. For instance the circuit of Claim 1, reproduced here and annotated by the Court, is for “converting a format of an input picture signal.” The input picture signal is used or manipulated by various circuit components: the scanning convertor, the first selector, and the control unit. The circuit components convert the format of the input picture signal by converting the signal’s scanning method from interlace scanning to progressive scanning and by compressing or expanding the picture in the horizontal and vertical directions. This “input picture signal” is the picture signal that is inputted to, and converted by, the Claim 1 circuit.

The format-conversion circuits of the ’412 Patent are described with respect to the format of the “input picture signal,” not with respect to the source of the “input picture signal.” For example, the description of the first embodiment (Figure 1) includes a description of various formats of picture signal, namely interface scanning signals (TV) and progressive scanning signals (EDTV, PC, HDTV). *Id.* at col.6 ll.45–52. This discussion does not define the “input picture signal” by its source. Rather, it explains that the format-conversion signal processing is configured according to the input signal’s format by using a format detector (0, in green in annotated Figure 1), a control unit (11, in cyan in annotated Figure 1), and a selector (4, in red in annotated Figure 1). *Id.* at col.6 ll.45–52, col.7 ll.27–43. Configuring the format-conversion processing according to the format of the input signal is further described with reference to Figures 21, 22, and 23. *Id.* at col.13 l.24 – col.15 l.10. In these figures, the “input signal” is identified according to its format, e.g., 525/60/2:1 (an “NTSC” signal), not according to its source. *Id.* The “input picture signal” is a picture signal that is inputted to the format-conversion circuit or process, regardless of the signal’s source.

Defendants’ argument that the embodiment of Figure 8 of the ’412 Patent mandates that “input picture signal” refers to the signal received from a source is unpersuasive. Figure 8, reproduced here and annotated by the Court, depicts an example of a television receiver that has a format-conversion circuit. *Id.* at col.15 l.40 –



col.16 l.45. The various sources of the signals received by the receiver are shown as: (1) a PC, (2) a terrestrial broadcast wave, (3) a package system (e.g., CD-ROM, video tape), (4) a satellite broadcast wave, and (5) a digital broadcast wave. *Id.* at col.15 l.47 – col.16 l.10. These sources are denoted using words distinct from the format-denoting words found elsewhere in the patent, such as in Figures 21, 22, and 23 and the accompanying description. Thus, while each source signal will necessarily be of some format, the signal’s “source” and “format” should not be conflated as Defendants argue.

The source signals of Figure 8 are processed by various circuits (40–47, in green) before being output from the switcher (48) to the format-conversion circuits (49-1 and 49-2, in cyan). *Id.* at col.15 l.47 – col.16 l.21. This processing includes receiving the source signal and converting the signal to luminance and color signals through YC (luminance and color) separation, demodulation, or color space conversion. *Id.* The picture processing units (49-1 and 49-2, in cyan) each are the “format conversion signal processing circuit” of Figure 1 or, alternately, of Figure 9, 13, or 17. *See id.* at col.16 ll.12–21, col.16 ll.35–49, col.20 ll.39–41, col.22 ll.63–66. As set forth above, the input to the Figure 1 format-conversion circuit is the “input picture signal.” Thus, the output of the switcher (48) in Figure 8 is the “input picture

signal,” irrespective of whether the source signals were received and processed before reaching the switcher. The Court agrees with Plaintiff that Defendants’ construction, to the extent it is meant to define the “input picture signal” as the raw source signal, would exclude the Figure 8 embodiment. And a “construction that excludes a preferred embodiment is rarely, if ever, correct.” *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 865 (Fed. Cir. 2004).

Claim 14, reproduced here and annotated by the Court, further supports that the input picture signal is the picture signal inputted to the claimed format-conversion circuit or method.

The claimed television receiver includes *the* circuit of Claim 1. And as discussed above, the

<u>'412 Patent</u>
14. A television receiver comprising: the circuit for signal processing of <u>format conversion of picture signal according to claim 1</u> ; and a picture output device for displaying picture of a <u>signal outputted from the circuit</u> for signal processing of format conversion.

circuit of Claim 1 converts the format of the “input picture signal.” Claim 14 further includes a “picture output device” that displays the signal “outputted from” the format-conversion circuit of Claim 1. Thus, the format-conversion circuit has both an input and an output: the signal inputted to the circuit has its format converted according to the circuit of Claim 1 and the format-converted signal output from the circuit of Claim 1 is displayed on the output device. But there is nothing in Claim 14 that supports Defendants’ position that the “input picture signal” must be that signal received from the picture source. In fact, such a construction would improperly read in limitations from the Figure 8 embodiment, namely the processing elements 40–47 by which the source signal is processed for input to the format-conversion circuit. The “input picture signal” is not defined by an input source, as Defendants’ contend, it is defined by its destination, i.e., the claimed format-conversion circuit or method.

While the Court rejects Defendants’ proposed construction, it also rejects Plaintiff’s proposed construction. There is insufficient basis to conclude that “format conversion” or

“converting the format” are restricted to scanning and scaling conversion, as Plaintiff argues. A patent’s “specification and prosecution history only compel departure from the plain meaning [of a claim term] in two instances: lexicography and disavowal. . . . [and] the standards for finding lexicography and disavowal are exacting.” See *GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1308–09 (Fed. Cir. 2014) (citing *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)). “To act as its own lexicographer, a 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). “Similarly, disavowal requires that ‘the specification or prosecution history make clear that the invention does not include a particular feature.’” (quotation modification marks omitted) (quoting *SciMed Life Sys. Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed. Cir. 2001)). There is no lexicography or disavowal that supports Plaintiff’s argued special definition of “format conversion” as scanning or scaling conversion.

Because there is nothing in the intrinsic evidence of record here that supports limiting the ’412 Patent’s format conversion to scanning or scaling conversion, Plaintiff’s proposed construction limiting the “input picture signal” to “picture signals before format conversion” is improper. The preferred exemplary “input picture signal” is a “component signal[] . . . comprising luminance signals and two color difference signals.” ’412 Patent col.3 ll.45–54, col.6 ll.26–29, col.16 ll.57–60, col.20 ll.51–54, col.23 ll.12–15. As described above, the exemplary television receiver of Figure 8 converts a received source signal to a luminance/color-difference component signal by, for example, a color space conversion. *Id.* at col.15 l.47 – col.16 l.21. While this is not a scanning or scaling format conversion (Plaintiff’s argued understanding of “format conversion”), it is still a conversion of the format of the signal. So the patent describes

an instance in which a signal undergoes some format conversion before entering the claimed format-conversion circuit or process—something that would fall outside the scope of the claims under Plaintiff’s proposed construction. And a “construction that excludes a preferred embodiment is rarely, if ever, correct.” *C.R. Bard*, 388 F.3d at 865.

Ultimately, neither party’s proposed construction comports with the intrinsic evidence. The intrinsic evidence indicates that the “input picture signal” is the picture signal that enters the format-conversion circuit or process, regardless of the source of the signal or any processing, format conversion or otherwise, that the signal undergoes before entering the claimed format-conversion circuit or process. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”) (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998))).

Accordingly, the Court construes “input picture signal” as follows:

- “input picture signal” means “picture signal inputted to the circuit or method for signal processing of format conversion.”

B. The '197 Patent – The “video processor sections” Terms

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“video processor sections” <ul style="list-style-type: none"> • '197 Patent Claims 25, 27, 29 	Plain meaning, no construction necessary.	“segregated processor sections that can process a video signal”
“plurality of video processor sections” <ul style="list-style-type: none"> • '197 Patent Claims 25, 27, 29 	two or more video processor sections	“two or more segregated processor sections that can process a video signal”

Because the parties' arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties' Positions

Plaintiff submits that "video processor sections" should be given its plain and ordinary meaning, as Defendants agreed in *Hitachi Consumer Elecs. Co. v. Top Victory Elecs. (Taiwan) Co., et al.*, No. 2:10-cv-260-JRG (E.D. Tex.) (the "260 Action")—and as the Court there construed the term—with respect to patents related to the '197 Patent. Dkt. No. 53 at 19–20. Plaintiff further submits that the "plurality of" language does not affect or alter the Court's previous construction of "video processor sections." *Id.* at 19. Plaintiff argues that Defendants should be judicially estopped from arguing a position different than that which Defendants agreed to in the 260 Action, in which the Court construed "video processor sections" in U.S. Patents No. 6,549,243 and No. 7,889,281, both of which "share the same specification in all relevant respects" with the '197 Patent. *Id.* at 19–20. Plaintiff further argues that there is nothing in the intrinsic record of the '197 Patent that justifies straying from the Court's previous construction of "video processor sections." *Id.* at 20. Moreover, Plaintiff submits Defendants' proposed construction would improperly limit the claims to a single exemplary embodiment and ignore an exemplary embodiment in which the video processor sections are "separate" but are not necessarily "segregated." *Id.* at 21–22 (citing the separate encoders 141, 142, 143 of Figure 1 as the video processor sections).

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: '197 Patent col.4 l.65 – col.5 l.18, fig.1, fig.3, fig.5, fig.6; U.S. Patent No. 6,549,243 (Plaintiff's Ex. 16, Dkt. No. 53-17); U.S. Patent No. 7,889,281 (Plaintiff's Ex. 17, Dkt. No. 53-18).

Defendants respond that every exemplary embodiment described in the '197 Patent includes segregated video processor sections. Dkt. No. 58 at 14. Defendants argue that the exemplary embodiments each include: (1) separate video encoders (141, 142, and 143), which are necessarily segregated video processor sections, or (2) a single video encoder (14), which is expressly described as having segregated sub-programs or processing areas that are segregated video processing sections. *Id.* Defendants further argue that the claim language itself indicates that the video processor sections are segregated, in that the claims recite a “plurality of video processor sections, with *respective video processor sections providing different video processing.*” *Id.* at 15 (emphasis in original). Defendants contend that, therefore, each video processing section provides “different and distinct video signal processing” and “would require its own dedicated components to process each of these unique video signals.” *Id.* Defendants argue that they should not be judicially estopped from seeking construction of “video processor sections.” *Id.* at 13. Although they agreed in the 260 Action that “video processor sections” had its “plain and ordinary meaning,” Defendants contend that after the Court so construed the claims a dispute arose regarding the plain and ordinary meaning. *Id.* at 16–18 (citing expert reports regarding infringement submitted in the 260 Action). Thus, Defendants argue, the Court should construe the term to resolve the dispute. *Id.*

In addition to the claims themselves, Defendants cite the following intrinsic and extrinsic evidence to support their position. **Intrinsic evidence:** '197 Patent col.2 ll.35–53, col.3 ll.20–30, col.4 l.65 – col.5 l.8, fig.1, fig.3, fig.4, fig.5, fig.7, fig.8. **Extrinsic evidence:** *Encarta World Dictionary* (1999) (“section”) (Defendants’ Ex. A, Dkt. No. 58-2 at 6); Expert Report of Harley R. Myler, Ph.D., P.E., *Hitachi Consumer Elecs. Co. v. Top Victory Elecs. (Taiwan) Co., et al.*, No. 2:10-cv-260-JRG (Defendants’ Ex. B, Dkt. No. 58-3); Rebuttal Expert Report of Dr. Cliff

Reader, *Hitachi Consumer Elecs. Co. v. Top Victory Elecs. (Taiwan) Co., et al.*, No. 2:10-cv-260-JRG (Defendants' Ex. C, Dkt. No. 58-4).

Plaintiff replies that Defendants' proposed construction is improper not only because it attempts to limit the claims to an exemplary embodiment, but also because it attempts to read in a segregated hardware requirement. Plaintiff argues the "segregated" embodiment describes segregation of hardware or software components. Dkt. No. 60 at 8–9. Plaintiff contends that "not a single embodiment is limited to a single chip having dedicated and segregated hardware components." *Id.* at 9. Plaintiff further replies that there was not a dispute over the plain and ordinary meaning in the 260 Action because Defendants characterized the dispute as one of infringement, not of claim scope. *Id.* at 10 (citing Defendants' Response to Plaintiff's Motion for Judgment as a Matter of Law, *Hitachi Consumer Elecs. Co. v. Top Victory Elecs. (Taiwan) Co., et al.*, No. 2:10-cv-260-JRG, Dkt. No. 366 (E.D. Tex. May 31, 2013)).

Plaintiff's Reply cites further **intrinsic evidence** to support its position: '197 Patent fig.7, fig.8.

Analysis

The main dispute over these terms centers on the meaning of "section." The Court is not persuaded that the dispute over the meaning of "video processor sections" is resolved by simply stating that the term has its "plain and ordinary meaning." But the Court rejects Defendants' proposed construction because importing a "segregated" limitation is not justified. The parties agreed to the Court's construction at the October 7, 2015 hearing.

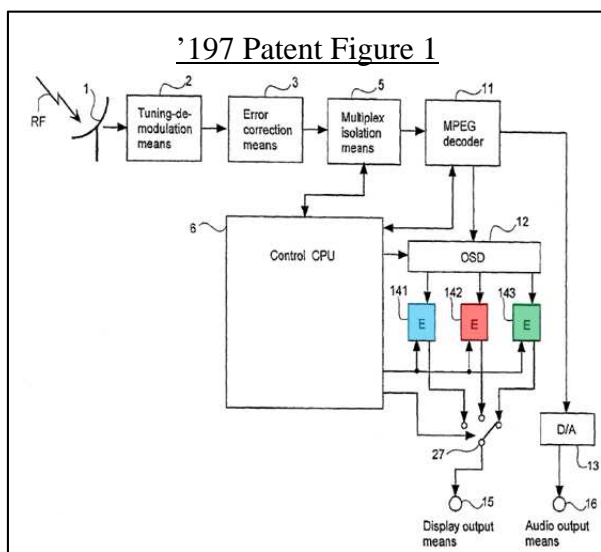
Judicial Estoppel. Since the parties agreed to the Court's construction, the Court need not now determine whether to invoke judicial estoppel to bind Defendants to a construction of

“plain and ordinary meaning” based on Defendants’ claim-construction position regarding the related ’243 and ’281 Patents that the parties previously litigated in the 260 Action.

The Meaning of “Video Processor Sections.” The parties agree that the exemplary video processors described in the ’197 Patent are, or include, the various video encoders labeled 141, 142, 143 in Figures 1, 7, 8, 9, and 10 and labeled 14 in Figures 3, 5, and 6. Figures 1 and 3 are reproduced here and annotated by the Court. Thus, there are two main exemplary video processors described in the ’197 Patent.

In the first exemplary video processor, the encoders labeled 141, 142, and 143 (colored in

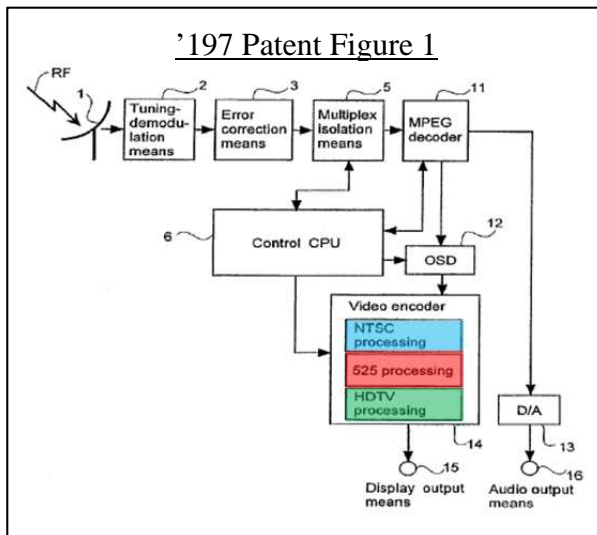
the annotated figure as cyan, red, and green respectively) are each configured to process a digital video signal of a specific type, to convert the digital video signal to an analog video signal for display. ’197 Patent col.3 ll.20–30, col.3 ll.47–63. For example, encoder 141 (blue) converts an NTSC signal having 525 interlaced scanning lines, encoder 142 (red) converts a



progressive signal having 525 sequential scanning lines (“525P” signal), and encoder 143 (green) converts an HDTV signal having 1080 interlaced scanning lines. *Id.* The particular encoder that processes the digital video signal is a function of the signal’s scanning method. *Id.* at col.2 ll.17–20, col.4 ll.21–42. The other encoders may be selectively enabled or disabled to reduce power consumption and heat generation from unnecessary operation of an encoder. *Id.* Therefore, the Court understands that the encoders 141, 142, and 143 are dedicated circuits each distinguishable from the others based on the video processing function it performs. *See id.* at col.4 l.67 – col.5 l.2

(“The embodiment of FIG. 3 differs from the embodiment of FIG.1 in that the configuration of the video encoder 14 is a singular circuit . . .”). These distinct encoder circuits are each “video processor sections.” *See, e.g.*, col.11 ll.24–26, col.11 ll.36–40.

In the second exemplary video processor, the encoder 14 is a single circuit “which versatily permits processing of any of the NTSC signals, 525[P] signals or HDTV signals.” *Id.* at col.4 l.67 – col.5 l.4. This single-circuit encoder may be a sub-processor or an application specific-integrated circuit (ASIC). *Id.* at col.5 ll.4–9. The encoder may have



“segregated processing sub-programs or processing areas which can be selectively enabled/disabled to permit processing according to an appropriate scanning method.” Thus, the contemplated video processor may comprise, for example, a sub-processor with distinct sub-programs or an ASIC with distinct processing areas. *Id.* And each sub-program or processing area is distinguishable from the other based on the video processing function it performs. The distinct sub-programs and the distinct processing areas are video processor sections.

The common trait to the embodiments of the “video processor sections” is not that they are necessarily hardware or that they are “segregated,” but rather that they are distinguishable from other portions of the video processor by, for example, the processing function they perform. This comports with the ordinary meaning of “section.” *See, e.g., Encarta World English Dictionary* 1620 (1999) (defining “section” as “a distinct part that can be separated or considered separately from the whole of something”). And it also comports with the claim language, “a

plurality of video processor sections, *with respective video processor sections providing different video processing.*” See, e.g., ’197 Patent col.11 ll.24–27 (Claim 25) (emphasis added).

Defendants have not established that “video processor sections” includes a “segregated” limitation. “The patentee is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope.” *Thorner*, 669 F.3d at 1367; see also *GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1308–09 (Fed. Cir. 2014) (“the specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal” (citing *Thorner*, 669 F.3d at 1365)). And “the standards for finding lexicography and disavowal are exacting.” *GE Lighting*, 750 F.3d at 1309. Defendants have not established either lexicography or disavowal by arguing that all the exemplary embodiments have “segregated” processor sections. See *Phillips*, 415 F.3d at 1323 (“we have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment”); see also, *Thorner*, 669 F.3d at 1366 (“It is likewise not enough that the only embodiments, or all of the embodiments, contain a particular limitation. We do not read limitations from the specification into claims; we do not redefine words. Only the patentee can do that.”). Indeed, the word “segregated” is not used to describe all the embodiments in the ’197 Patent, it used solely with respect to the single-circuit encoder (14 in Figure 3).

Accordingly, the Court construes the “video processor sections” terms as follows:

- “video processor sections” means “distinct hardware or software portions of a video processor”; and
- “plurality of video processor sections” means “two or more distinct hardware or software portions of a video processor.”

C. The '366 Patent

1. The “mounting side” Terms

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>“a projection portion, being disposed higher above a surface of said power source board than a circuit element of said power source board and not being connected with a member opposing to a mounting side of said circuit element, is provided on the surface of said power source board where said circuit element is mounted”</p> <ul style="list-style-type: none"> • '366 Patent Claim 1 	<p>“a projection portion, being disposed higher above a surface of said power source board than a circuit element of said power source board and not being connected with a member opposing to the side of said power source board on which said circuit element is mounted, is provided on the surface of said power source board where said circuit element is mounted”</p>	<p>Indefinite</p>
<p>“when a rear surface of said projection portion is pushed, the circuit element of said power source board is prevented from contacting the member positioned opposing to the mounting side of said circuit element by said projection portion”</p> <ul style="list-style-type: none"> • '366 Patent Claim 3 	<p>“when a rear surface of said projection portion is pushed, the circuit element of said power source board is prevented from contacting the member positioned opposing to the side of said power source board on which said circuit element is mounted, by said projection portion”</p>	<p>Indefinite</p>

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“wherein the member opposing to the mounting side of said circuit element is a rear chassis of said display panel” <ul style="list-style-type: none"> • ’366 Patent Claim 4 	“wherein the member opposing to the side of said power source board on which said circuit element is mounted is a rear chassis of said display panel”	Indefinite
“wherein the member facing to the mounting side of said circuit element is a rear chassis of said display panel” <ul style="list-style-type: none"> • ’366 Patent Claims 8, 10 	“wherein the member facing to the side of said power source board on which said circuit element is mounted is a rear chassis of said display panel”	Indefinite

Because the parties’ arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties’ Positions

Plaintiff submits that given the context of the claim language and the entire specification of the ’366 Patent, “mounting side” in the claims refers to the side of the circuit board on which the circuit elements are mounted. Dkt. No. 53 at 27, 30, 32. Plaintiff further submits that the patent examiner understood “mounting side” this way. *Id.* at 28–29. And Plaintiff argues that interpreting the “mounting side” as a side of a circuit element would be inconsistent with the specification and with the ordinary meaning of “mounting.” *Id.* at 29. Plaintiff argues that the member opposing the side of the circuit element that is connected to the board is the board, so interpreting “mounting side” as the side of the circuit element would result in the claim nonsensically requiring the claims’ “projection portion” be both connected and not connected with the board. *Id.*

In addition to the claims themselves, Plaintiff cites the following intrinsic and extrinsic evidence to support its position. **Intrinsic evidence:** ’366 Patent col.1 l.10 – col.3 l.13, col.4

ll.22–32, col.5 ll.43–65, col.6 l.56 – col.7 l.33, col.7 l.66 – col.8 l.30, fig.5(b), fig.5(c), fig.7; ’366 Patent File Wrapper August 6, 2010 Notice of Allowability (Plaintiff’s Ex. 19, Dkt. No. 53-20). **Extrinsic evidence:** *American Heritage College Dictionary* (4th ed. 2007) (“mounting” and “mount”) (Plaintiff’s Ex. 20, Dkt. No. 53-21 at 13).

Defendants respond that the “mounting side” language renders the claims unworkable, and therefore indefinite. Dkt. No. 58 at 22, 25–27. According to Defendants, the claim language “mounting side of said circuit element” clearly refers to the side of the circuit element that is mounted to another component. *Id.* at 24. Defendants argue that the “member opposing to a mounting side of said circuit element” is the power supply board. *Id.* at 22–23. Thus, Defendants argue, the claim language unambiguously and nonsensically requires that the claims’ “projection portion” is both “provided on the surface of the power supply board” and not “connected with” the power supply board. *Id.* at 23–25. Defendants further argue that construing “mounting side” as a surface of a board would eviscerate the distinction between Claim 1 and Claim 5, in violation of the doctrine of claim differentiation. *Id.* at 23–24. And Defendants argue that the Court should not adopt Plaintiff’s construction as doing so would violate the proscription against courts redrafting claims. *Id.* at 24–25.

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: ’366 Patent col.6 l.56 – col.7 l.43, fig.5(c).

Plaintiff replies that it would be improper to construe “mounting side” as a side of a circuit element as Defendants advocate because doing so would exclude a preferred embodiment. Dkt. No. 60 at 13. Plaintiff further replies that that the doctrine of claim differentiation does not require Claim 5 and Claim 1 to have a different scope, especially when application of the doctrine would render a claim indefinite. *Id.* at 14–15. According to Plaintiff, in the course of

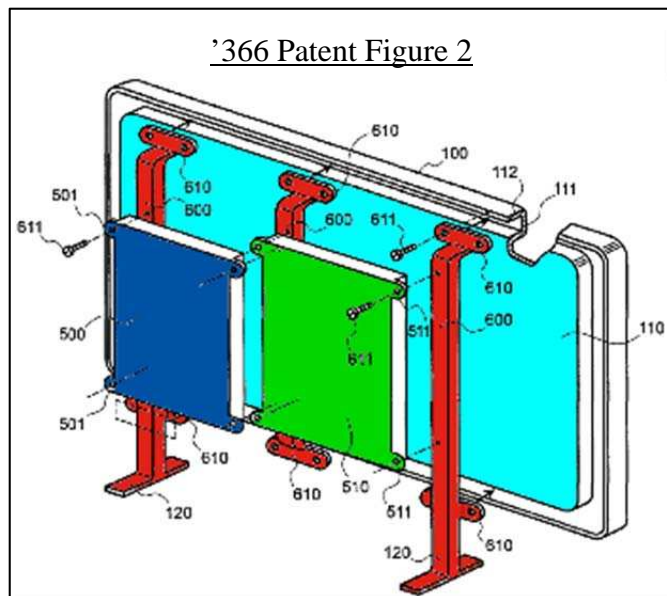
prosecuting the application that issued as the '366 Patent, the patentee clarified that Claim 5 was added to “define the invention from a different perspective” and the patentee did not intend Claim 1 and Claim 5 to have the difference in scope that Defendants advocate. *Id.* And, Plaintiff argues, Claim 4’s recitation of “wherein the member opposing to the mounting side of said circuit element is a rear chassis of said display panel” establishes that the “mounting side” is a surface of the power supply board. *Id.* at 14.

Plaintiff cites further **intrinsic evidence** to support its position: '366 Patent File Wrapper November 8, 2010 Amendment (Plaintiff’s Ex. 25, Dkt. No. 60-2).

Analysis

The parties’ dispute expressly centers on the meaning of “mounting side of said circuit element” but resolution of the dispute hinges on the meanings of the terms “facing to” and “opposing to.” The Court is not persuaded that the clear claim language “mounting side of said circuit element” should be rewritten as “mounting side of said power supply board” as Plaintiff argues. But neither is the Court persuaded by the parties’ understanding of “opposing to” the mounting side, which understanding would render the claim self-contradictory, and indefinite.

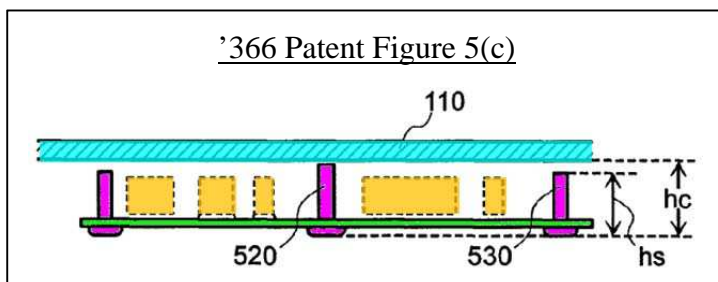
The '366 Patent is directed to “thin” display apparatuses, such as liquid crystal displays and plasma displays. '366 Patent col.1 ll.12–16, col.2 ll.22–32. An exemplary embodiment of a display apparatus is shown in Figure 2, reproduced here and annotated by the Court. The apparatus is described as having a liquid



crystal display (100) mounted to a frame (110, in cyan) that is in turn mounted to support members (600, in red). *Id.* at col.4 ll.22–28, col.4 ll.51–54, col.5 l.56 – col.6 l.12. The support members are described as attached to reinforcement portions (112) of the frame and “directing into the vertical direction (i.e., crossing a pair of reinforcement portions opposing to each other, which are formed on the outer periphery of the flange portion).” *Id.* at col.5 l.56 – col.6 l.12.

The patent further describes two circuit boards, namely, a signal board (500, in blue) and a power source board (510, in green). *Id.* at col.6 ll.37–47. These circuit boards are attached to the support members “within a narrow space . . . on the rear surface side of [the] panel module.” *Id.* An exemplary power source board, assembled as part of the display apparatus, is shown in Figure 5(c), reproduced here and annotated by the Court. *Id.* at col.7 ll.13–21. The power source board includes an insulated substrate (in green) and circuit elements (dashed-line boxes, in amber). *Id.* The circuit elements are described as “mounted” on the substrate (also referred to as the “board”). *See, e.g., id.* at Abstract, col.3 ll.30–31, col.7 ll.13–17. The power source board further includes pins (520 and 530, in magenta) that extend further from the surface of the insulated substrate than do the circuit elements. *Id.* at col.7 ll.21–43. The pins prevent the circuit elements from contacting the rear surface of the frame (110, in cyan), even if the substrate flexes toward the frame. *Id.*

The Court rejects Plaintiff’s position that “mounting side of said circuit element” means “the side of said power source board on which said circuit element is mounted.” The claim clearly states that the “mounting side” is “of said circuit element”—it does not state that it is the mounting side “of the board.” Effectively, Plaintiff urges



the Court to construe “circuit element” as “power source board” and “opposing to” as “facing to.” The Court declines to do so.

The Court presumes that “mounting side of said circuit element” and “mounting side of said power source board” have different meaning. Courts “presume that the use of . . . different terms in the claims connotes different meanings.” *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000). And given that Claim 5 uses the phrase “mounting surface of said power source board” to claim the mounting side of the board, the Court presumes that “mounting side of said circuit element” has a different meaning than “mounting surface of said power source board.”

Further, the Court will not depart from the plain meaning of “mounting side of said circuit element” because there is no clear lexicography or disavowal that justifies interpreting “circuit element” as “power source board.” *GE Lighting Solutions*, 750 F.3d at 1308–09; *see also Thorner*, 669 F.3d 1365–66 (requiring that the patentee “clearly express an intent to redefine the term” or to “deviate from the ordinary and accustomed meaning of a claim term”). Plaintiff has failed to present evidence sufficient to change “circuit element” in the phrase at issue to “power source board,” or, more specifically, to rewrite “mounting side of said circuit element” to “mounting side of said power source board.” Indeed, the patent distinguishes between “circuit element” and “power source board” in that the circuit element is mounted on the board. *See, e.g.*, ’366 Patent Abstract (“a projection portion . . . is provided on the surface of the power source board where the circuit element is mounted”).

Even if it were necessary to interpret “mounting side of said circuit element” as “mounting side of said power source board” to preserve the validity of the claims, the Court would decline to do so. As the Federal Circuit has explained:

[C]ourts may not redraft claims, whether to make them operable or to sustain their validity. Even a nonsensical result does not require the court to redraft the claims of [a] patent. Rather, where . . . claims are susceptible to only one reasonable interpretation and that interpretation results in a nonsensical construction of the claim as a whole, the claim must be invalidated.

Chef America, Inc. v. Lamb-Weston, Inc., 358 F.3d 1371, 1374 (Fed. Cir. 2004) (quotation marks and citations omitted). The only reasonable interpretation of “mounting side of said circuit element” is that it refers to a side of the circuit element mounted on the power source board, not to a side of the of the power source board. And it refers to the side of the mounted circuit element that is nearest to the board.

But the Court does not understand the “mounting side of said circuit element” language to invalidate Claim 1 or any of its dependent claims, as Defendants contend. Specifically, the Court rejects the parties’ position that Claim 1’s “member opposing to a mounting side of said circuit element” is the power source board if the “mounting side of said circuit element” is the side of the mounted circuit element nearest to the board. Here, the parties effectively equate “opposing to” and “facing to.” The Court does not agree that these terms mean the same thing.

The “opposing to” language of Claim 1 is best understood in contrast to the “facing to” language of Claim 5.⁷ As set forth above, the Court presumes that different claim language carries different meaning; therefore, the Court presumes that “opposing to” and “facing to” mean different things. Indeed, even absent any canon of claim construction, the Court understands these terms to mean different things. Claim 5 recites “a member facing to said mounting surface of said power source board.” Claim 1 recites “a member opposing to a mounting side of said circuit element.” Both these phrases define “a member” in part by its position relative to some

⁷ The Court rejects Defendants’ argument that “mounting side of said circuit element” must be construed to render a difference between the scope of Claim 1 and the scope of Claim 5. **First**, different claims may have the same scope. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380–81 (Fed. Cir. 2006) (“two claims with different terminology can define the exact same subject matter”). And **second**, Defendants urge a construction that they admit leads to a nonsensical result.

other claimed component. But the phrases differ with respect to the position and to the other claimed component.

The member of Claim 5 is defined as “*facing to*” the “*mounting surface of said power source board.*” The Court understands this to mean the member is facing the side of the power source board where the circuit element is mounted. That is, the circuit element is between the power source board and the member. This comports with the language of Claim 7, which recites

<u>'366 Patent</u>	
<p>1. A display apparatus, comprising: a display panel; a signal board configured for processing an image signal used in an image display; and a power source board configured for supplying power from a power source to said signal board and said display panel, wherein: said signal board and said power source board are disposed in a horizontal direction relative to said display panel, and a projection portion, being disposed higher above a surface of said power source board than a circuit element of said power source board and not being connected with a <u>member opposing to a mounting side of said circuit element</u>, is provided on the surface of said power source board where said circuit element is mounted.</p> <p>2. The display apparatus according to claim 1, wherein said signal board and said power source board are arranged to be cooled, respectively, by air flowing from a lower side of said display apparatus.</p> <p>3. The display apparatus according to claim 1, wherein, when a rear surface of said projection portion is pushed, the <u>circuit element of said power source board is prevented from contacting the member positioned opposing to the mounting side of said circuit element by said projection portion.</u></p> <p>4. The display apparatus according to claim 1, wherein the <u>member opposing to the mounting side of said circuit element is a rear chassis of said display panel.</u></p>	<p>5. A display apparatus, comprising: a display panel; a signal board configured to process an image signal used in an image display; a power source board configured to supply power to said signal board and said display panel; and a projection portion configured to be provided on a mounting surface of said power source board where a circuit element of said power source board is mounted; wherein said signal board and said power source board are disposed in a horizontal direction of said display panel, and said projection portion is configured to be higher above said mounting surface of said power source board than said circuit element of said power source board and not to be connected with a <u>member facing to said mounting surface of said power source board.</u></p> <p>6. The display apparatus according to claim 5, wherein said signal board and said power source board are arranged to be cooled, respectively, by air flowing from a lower side of said display apparatus.</p> <p>7. The display apparatus according to claim 5, wherein, when a rear side of said display apparatus is pushed, said <u>projection portion prevents said circuit element of said power source board from contacting with the member positioned facing to said mounting surface.</u></p> <p>8. The display apparatus according to claim 5, wherein the <u>member facing to the mounting side of said circuit element is a rear chassis of said display panel.</u></p>

that Claim 5’s projection portion prevents the circuit element from contacting the member. This also comports with the description of the exemplary embodiment, in which “the flat head pins 520 and 530 [(exemplary projection portions)] . . . maintain the predetermined distance necessary, between the elements building up those power source circuits and the frame 110, with

certainty (i.e., preventing the elements from contacting on the frame).” ’366 Patent col.7 ll.34–39, fig.5(c).

In contrast to the language of Claim 5, the member of Claim 1 is defined as “*opposing to*” the “*mounting side of said circuit element.*” The “opposing to” language is used in the patent to refer to positions on the opposite sides of an object. For instance, in describing the display panel (in the frame 110, cyan in annotated Figure 2 above) as mounted to the support members (600, red in annotated Figure 2 above), the patent explains:

Thus, as is apparent from FIG. 2 mentioned above, on the rear surface side of the panel module 100 mentioned above, surrounding the central portion thereof are attached plural numbers (in this example, three (3) pieces in total) of supporting members 600, 600 . . . on the outer periphery of the frame 110, directing into the vertical direction (i.e., *crossing a pair of reinforcement portions opposing to each other*, which are formed on the outer periphery of the flange portion).

’366 Patent col.5 l.56 – col.6 l.1 (emphasis added). With reference to Figure 2, it is apparent that the reinforcement portions (112) crossed by the support members are on opposite sides of the frame (110, cyan in annotated Figure 2 above). That is, the reinforcement portions are *opposing to* each other because they are on opposite sides of the frame. Likewise, the “member” of Claim 1 is “*opposing to*” the “mounting side of said circuit element” in that it is on the side of the circuit element that is the side opposite the “mounting side of the circuit element.”

The Court’s understanding of “opposing to” and “facing to” comports with other claim language and the description of the exemplary embodiments. For example, this allows the projection portion to be attached to the power source board and simultaneously not connected to the member. The board is distinct from the member—the mounting side of the circuit element faces the board, while the member is on the side of the circuit element that is opposite the mounting side of the circuit element. Similarly, the projection portion prevents the circuit element from contacting the member, as recited in Claim 3. And the member may be the rear

chassis of the display panel, as recited in Claim 4 and as shown in the exemplary embodiment of Figure 2. Ultimately, the Court’s interpretation of “opposing to” as the antonym of “facing to” is better than the parties’ proposal that these terms be treated as synonyms, because this interpretation better aligns with the claim language and the description of the invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”) (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

That said, Claims 8 and 10 are problematic—and ultimately indefinite. Claim 8, which depends from Claim 5, recites: “The display apparatus according to claim 5, wherein ***the member facing to the mounting side of said circuit element*** is a rear chassis of said display panel.” ’366 Patent col.10 ll.1–3 (emphasis added). But, as explained above, Claim 5 defines the position of the member relative to the surface of the power source board, not with respect to the mounting side of the circuit element: “a member facing to said mounting surface of said power source board.” *Id.* at col.9 ll.16–17. Here, given the plain meaning of the “facing to” and “opposing to” claim language, the antecedent basis—and therefore the meaning—of “the member facing to the mounting side of said circuit element” is not reasonably certain. The claim is indefinite. *See Halliburton Energy Servs. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) (“a claim could be indefinite if a term does not have proper antecedent basis where such basis is not otherwise present by implication or the meaning is not reasonably ascertainable”); *Nautilus Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014) (“a patent’s claims, viewed in light of the specification and prosecution history, [are required to] inform those skilled in the art about the scope of the invention with reasonable certainty”). The only component in Claim 5 that is

“facing to” the mounting side of a circuit element mounted on the power source board is the power source board itself. But one of skill in the art would not understand “the member” of Claim 8 to be the power source board because Claim 8 recites that “the member” is the “rear chassis of said display panel” and the invention is described as separating the power source board’s circuit elements from the display panel’s frame rather than using the power source board as the frame. *See* ’366 Patent col.5 l.56 – col.7 l.55. And Claim 8’s “the member facing to the mounting side of said circuit element” cannot be Claim 1’s “a member facing to said mounting surface of said power source board” because that would require that the member simultaneously face both the mounting surface of the power source board and the mounting side of the circuit element. Ultimately, what Claim 8’s “the member” refers to is not sufficiently certain.

Claim 10, which depends from Claim 9, suffers from the same defect as Claim 8. Claim 10 recites “*the member facing to the mounting side of said circuit element.*” ’366 Patent col.10 ll.21–22 (emphasis added). But, like Claim 5, Claim 9 defines the position of the member relative to the surface of the power source board, not with respect to the mounting side of the circuit element: “a member positioned facing to

<p><u>’366 Patent</u></p> <p>9. A display apparatus, comprising: a display panel; a signal board configured to process an image signal used in an image display; a power source board configured to supply power to said signal board and said display panel; a projection portion which is provided on a mounting surface of said power source board where a circuit element of said power source board is mounted; and a rear cover configured to cover a rear side of said display apparatus, wherein: said signal board and said power source board are disposed in a horizontal direction of said display panel, and said projection portion is configured to prevent contacting of said circuit element of said power source board with a member positioned facing to said mounting surface of said power source board, when said rear cover is pushed.</p> <p>10. The display apparatus according to claim 9, wherein the member facing to the mounting side of said circuit element is a rear chassis of said display panel.</p>
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said mounting surface of said power source board.” *Id.* at col.19–20. For the same reasons provided for Claim 8 above, the Court determines that Claim 10 is indefinite.

Accordingly, the Court holds that Claims 8 and 10 are indefinite because the meaning of the language “the member facing to the mounting side of said circuit element is a rear chassis of

said display panel” is not reasonably certain. The Court construes the remaining “mounting side” terms as follows:

- “a projection portion, being disposed higher above a surface of said power source board than a circuit element of said power source board and not being connected with a member opposing to a mounting side of said circuit element, is provided on the surface of said power source board where said circuit element is mounted” means “a projection portion, being disposed higher above a surface of said power source board than a circuit element of said power source board and not being connected with a member opposite the side of the circuit element mounted on the power source board that is the side nearest to the power source board, is provided on the surface of said power source board where said circuit element is mounted”;
- “when a rear surface of said projection portion is pushed, the circuit element of said power source board is prevented from contacting the member positioned opposing to the mounting side of said circuit element by said projection portion” means “when a rear surface of said projection portion is pushed, the circuit element of said power source board is prevented from contacting the member positioned opposite the side of the circuit element mounted on the power source board that is the side nearest to the power source board by said projection portion”; and
- “wherein the member opposing to the mounting side of said circuit element is a rear chassis of said display panel” means “wherein the member opposite the side of the circuit element mounted on the power source board that is the side nearest to the power source board is a rear chassis of said display panel.”

2. The “horizontal direction” Terms

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“disposed in a horizontal direction relative to said display panel” <ul style="list-style-type: none"> • ’366 Patent Claim 1 	“located along the display panel in the horizontal direction”	Indefinite
“disposed in a horizontal direction of said display panel” <ul style="list-style-type: none"> • ’366 Patent Claim 5, 9 	“located along the display panel in the horizontal direction”	Indefinite

Because the parties’ arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties’ Positions

Plaintiff submits that in the context of the claims, these terms indicate that the “horizontal” direction is in relation to the display panel. Dkt. No. 53 at 34. And that this “horizontal” direction is perpendicular to the vertical direction defined by the flow of cooling air described in the patent. *Id.* at 34–35.

In addition to the claims themselves, Plaintiff cites the following intrinsic and extrinsic evidence to support its position. **Intrinsic evidence:** ’366 Patent col.5 ll.27–30, col.5 l.56 – col.6 l.12, col.6 ll.37–47, col.7 l.66 – col.8 l.38, fig.1, fig.2, fig.7; ’366 Patent File Wrapper August 6, 2010 Notice of Allowability (Plaintiff’s Ex. 19, Dkt. No. 53-20), December 8, 2010 Notice of Allowability (Plaintiff’s Ex. 23, Dkt. No. 53-24). **Extrinsic evidence:** *American Heritage College Dictionary* (4th ed. 2007) (“horizontal”) (Plaintiff’s Ex. 20, Dkt. No. 53-21 at 12).

Defendants respond that the meaning of “horizontal,” as it is used in the patent to denote the disposition of the power source and signal boards relative to the display panel, is indefinite because the patent provides no guidance as to whether the boards “must be placed side by side,

situated within a common plane, arranged parallel to the display panel, or otherwise aligned.” Dkt. No. 58 at 18–19. Defendants further respond that because display panels may be rotated “to virtually any angle for display” there is no way to determine what is “horizontal” with respect to the display, and the claims are indefinite. *Id.* at 19–20. And Defendants argue that Plaintiff’s proposed construction does nothing to clarify claim scope and should therefore be rejected. *Id.* at 21.

Plaintiff replies that, as set forth in its opening brief, the ’366 Patent provides ample guidance as to the meaning of “horizontal” as a direction relative to the display panel. Dkt. No. 60 at 10. Plaintiff argues that Defendants ignore this guidance. *Id.* Plaintiff further responds that the ’366 Patent states the patent’s invention is applicable to televisions and that televisions have well-accepted orientation, with the long direction of the display oriented parallel to the floor—i.e., horizontally. *Id.* at 10–11. And Plaintiff argues that “horizontal” is also understood with respect to the patent’s use of “vertical” to describe the direction that cooling air flows—it rises. *Id.* at 11. Finally, Plaintiff notes that the patent does not mention rotatable display, and that Defendants’ hypothetical rotatable display falls within the scope of the claims because “it is capable of being operated in a least one infringing configuration.” *Id.* at 11–12.

Plaintiff cites further **intrinsic evidence** to support its position: ’366 Patent col.1 ll.17–20.

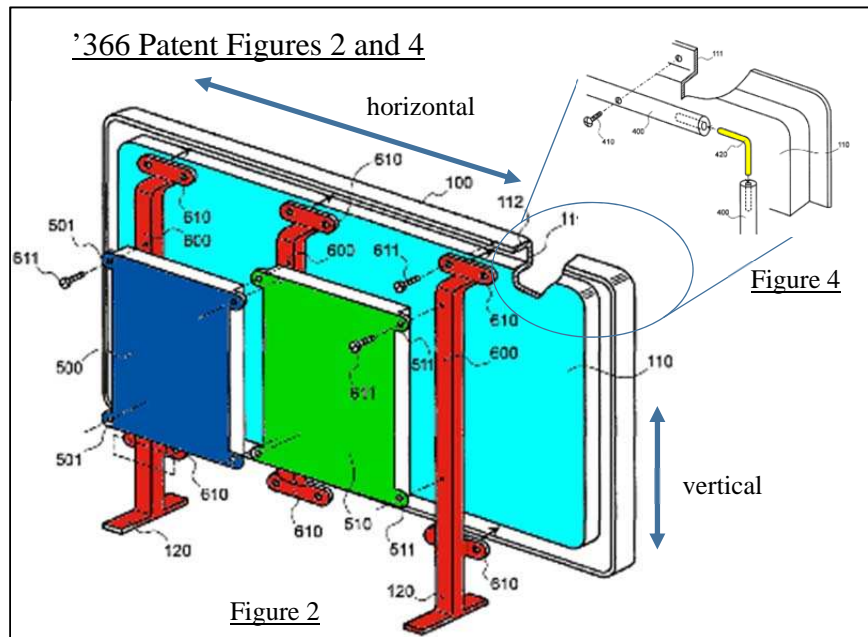
Analysis

The dispute over the “horizontal” terms is whether one of ordinary skill in the art would understand—with reasonable certainty—whether something is disposed horizontally relative to the display panel. Defendants have not established by clear and convincing evidence that the

“horizontal” terms render any claim invalid as indefinite. But the Court is not persuaded that Plaintiff’s proposed construction clarifies the meaning of these terms.

The ’366 Patent uses “horizontal” and “vertical” according to their ordinary meanings.⁸ For example, the patent refers to the “outer peripheral sizes” of the frame of the display apparatus as “the vertical and the horizontal sizes.” ’366 Patent col.5 ll.17–35. And, with reference to Figure 4 (reproduced here and annotated by the Court), the patent describes pipes (400) extending in these vertical and horizontal dimensions as connected by an “L”-like component (420, in yellow). *See id.* & fig.4. The support members (600, in red in annotated

Figure 2) are “directing into the vertical direction (i.e., crossing a pair of reinforcement portions [(112)] opposing to each other, which are formed on the outer periphery of the flange portion.)” *Id.* at col.5 l.56 – col.6 l.1. And the



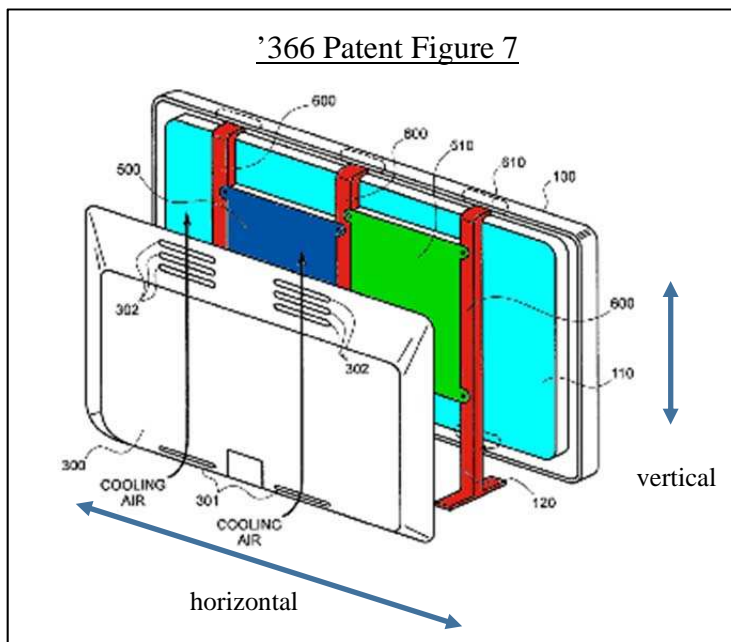
display apparatus is

described as having a “stand” (120) at the lower end of the outer support members or affixed to the reinforcement portion (112) at the “lower side” of the panel module (100). *Id.* at col.6 ll.13–36. Thus, the “vertical” direction is “up and down” and the “horizontal” direction is “side to

⁸ The Court understands—and the extrinsic evidence establishes—that “horizontal” is perpendicular to “vertical.” *American Heritage College Dictionary* 668 (4th ed. 2007) (defining “horizontal” as “At right angles to a vertical line.”) (Plaintiff’s Ex. 20, Dkt. No. 53-21 at 12).

side,” just as “vertical” and “horizontal” are commonly used.

With reference to Figure 7 (reproduced below and annotated by the Court), the patent further provides that the signal board (500, in blue) and the power source board (510, in green) are cooled by air that: (1) enters lower openings (301) in the display apparatus’s rear cover (300), (2) flows “upwards” by the boards’ circuit elements in the gap between the boards and the back surface of the frame (110, in cyan), and (3) exits upper openings (302) in



the in the rear cover. *See id.* at col.7 ll.13–43, col.7 l.66 – col.8 l.17. That is, the cooling air flows upward, “in the vertical direction.” *Id.* at col.8 ll.5–30. Again, this indicates that “vertical” has its common meaning (i.e., the up-down direction). And by implication, this indicates that “horizontal” has its common meaning (i.e., the side-to-side direction).

Thus, the claimed display apparatus has a “horizontal” dimension and a “vertical” dimension, as “horizontal” and “vertical” are commonly understood. And the signal board and power source board are “disposed in a horizontal direction relative to said display panel” or “disposed in a horizontal direction of said display panel” when they are located at different positions along the horizontal dimension of the display apparatus.

Accordingly, the Court determines that the “horizontal direction” terms do not render any claim of the '366 Patent indefinite and construes the “horizontal direction” terms as follows:

- “disposed in a horizontal direction relative to said display panel” means “located at different positions along the horizontal dimension of the display apparatus”;
and
- “disposed in a horizontal direction of said display panel” means “located at different positions along the horizontal dimension of the display apparatus.”

V. CONCLUSION

The Court holds that Claims 8 and 10 of the '366 Patent are invalid as indefinite and adopts the above constructions set forth in this opinion for the agreed and disputed terms of the Asserted Patents. 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 10th day of November, 2015.



ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE