

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

MONDIS TECHNOLOGY, LTD.	§	
	§	
vs.	§	CASE NO. 2:07-CV-565-TJW-CE
	§	(Consolidated for Claim
HON HAI PRECISION INDUSTRY CO.	§	Construction Hearing)
LTDS., a/k/a FOXCONN, et al.	§	

MONDIS TECHNOLOGY, LTD.	§	
	§	
vs.	§	CASE NO. 2:08-CV-478-TJW-CE
	§	(Consolidated for Claim
TOP VICTORY ELECTRONICS	§	Construction Hearing)
(TAIWAN) CO., LTD., et al.	§	

MEMORANDUM OPINION AND ORDER

I. INTRODUCTION

Plaintiff Mondis Technology Ltd. (“Mondis” or “Plaintiff”) filed suit against defendants Chimei-Innolux Corp. and Innolux Corporation (collectively “Innolux”); Hon Hai Precision Industry Co. Ltd. (“Hon Hai”); and Top Victory Electronics (Taiwan) Co., Ltd., TPV International (USA), Inc., TPV Electronics (Fujian) Co., Ltd., Top Victory Electronics (Fujian) Co., Ltd., and Envision Peripherals, Inc. (collectively, “TPV”) (Innolux, Hon Hai, and TPV collectively, “Defendants”). Plaintiff alleged infringement of ten United States patents, which claim priority to two patent applications filed in 1993 and 1994, respectively. Four of the asserted patents (“the ‘812 Patent family”) claim priority to and share a common specification with an application filed in the United States on February 2, 1993: U.S. Patent Nos. 6,057,812; 6,304,236; 6,639,588; and 6,686,895. Six of the asserted patents (“the ‘090 Patent family”) claim priority to and share a common specification with an application filed in the United States

on February 3, 1994: U.S. Patent Nos. 6,247,090; 6,513,088; 6,549,970; 7,089,342; 7,475,180; and 7,475,181. For convenience, all specification citations herein are to the '090 and '812 patents unless otherwise noted. This Order outlines the Court's claim construction for the disputed terms in the '812 Patent family and the '090 Patent family.

II. BACKGROUND OF THE TECHNOLOGY

A. The '812 Patent Family

The '812 Patent family describes a display unit that is capable of receiving a control signal from an attached computer to adjust the displayed image (e.g., position, brightness). '812 Patent at 1:10-16; 3:11-18. The "primary object" is to allow a user to adjust the display picture using an input unit, such as a computer keyboard, without reaching for "adjustment switches" on the display unit itself. *Id.* at 2:18-24. The '812 Patent teaches that display control instructions can be communicated from a computer to a display unit in several ways and using several different types of interface circuits. *Id.* at 8:33-47; 4:57-62; 9:19-35. In each embodiment, however, when the display unit receives the control signal, pertinent control data is read out from a memory and used by a microprocessor to adjust the displayed picture. *Id.* at 7:49-60.

The display unit is further capable of sending a reception confirmation signal back to the computer to acknowledge receipt of the control signal. *Id.* at 9:43-50. Hence, the communications between the display and the computer are bi-directional with control signals flowing in one direction and reception confirmation signals flowing in the opposite direction. *Id.* at 9:45-46; 9:50-53.

Claim 1 of the '812 Patent is reproduced below:

1. A computing system comprising:

a computer which outputs (i) image data including a video signal portion and a synchronization signal portion, (ii) a first control signal that carries displayed image size and position, (iii) a second control signal which is generated by a program that is previously programmed for operating a computer body, and which receives a feedback signal;

a display unit for receiving the image data and the first and second control signals from the computer and for outputting a reception confirmation as the feedback signal which indicates confirmation of receiving the first or second control signal for communication to the computer, the display unit including:

a video circuit for receiving the video [sic] signal portion included in the image data;

a driving circuit for receiving the synchronization signal portion included in the image data;

a display device controlled by signals from the video and driving circuits to generate the displayed image;

a memory which stores control data concerning display control, the memory receiving the second control signal and reading out [sic] corresponding control data;

a display controller which (i) receives image data and at least the first control signal from the computer, (ii) supplies the video signals to the video circuit and the synchronization signals to the driving circuit, (iii) controls the driving circuit to control at least one of the size and position of the displayed image in accordance with at least one of the first control signal from the computer and the stored control data which is read out from the memory, and (iv) supplies the reception confirmation feedback signal from the display unit to the computer; and

a common bi-directional interface cable for carrying the image data and the first and second control signals from the computer to the display unit and for carrying the reception confirmation signal from the display unit to the computer.

B. The '090 Patent Family

The '090 Patent family describes an information output system where a computer can externally exercise various types of control on the information output device, which is a display

unit in the context of this patent. ‘090 Patent, 2:30-34. One object of the invention is to maintain secrecy of information and for restraining power consumption. *Id.* at 2:35-36. Another object of the invention is to provide an information output system for informing the external computer of the operation status of the display unit. *Id.* at 2:39-40.

Claim 1 of the ‘090 Patent is produced below:

1. A display unit comprising:

means for receiving video signals for video display from a video source;

memory means for storing at least display unit information, wherein said display unit information includes an identification number for uniquely identifying the display unit; and

a communication controller capable of bi-directionally communicating with the video source;

wherein said communication controller communicates the display unit information to the video source and the display unit receives a signal from the video source that is generated based on the display unit information.

III. GENERAL PRINCIPLES GOVERNING CLAIM CONSTRUCTION

“A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention.” *Burke, Inc. v. Bruno Indep. Living Aids, Inc.*, 183 F.3d 1334, 1340 (Fed. Cir. 1999). Claim construction is an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996).

To ascertain the meaning of claims, the court looks to three primary sources: the claims, the specification, and the prosecution history. *Markman*, 52 F.3d at 979. The specification must contain a written description of the invention that enables one of ordinary skill in the art to make

and use the invention. *Id.* A patent's claims must be read in view of the specification, of which they are a part. *Id.* For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. *Id.* "One purpose for examining the specification is to determine if the patentee has limited the scope of the claims." *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000).

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of the patentee's invention. Otherwise, there would be no need for claims. *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). Although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. *Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

This Court's claim construction decision must be informed by the Federal Circuit's decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the court set forth several guideposts that courts should follow when construing claims. In particular, the court reiterated that "the *claims* of a patent define the invention to which the patentee is entitled the right to exclude." 415 F.3d at 1312 (emphasis added) (*quoting Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To that end, the words used in a claim are generally given their ordinary and customary meaning. *Id.* The ordinary and customary meaning of a claim term "is the meaning that the term

would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1313. This principle of patent law flows naturally from the recognition that inventors are usually persons who are skilled in the field of the invention and that patents are addressed to and intended to be read by others skilled in the particular art. *Id.*

The primacy of claim terms notwithstanding, *Phillips* made clear that “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* Although the claims themselves may provide guidance as to the meaning of particular terms, those terms are part of “a fully integrated written instrument.” *Id.* at 1315 (quoting *Markman*, 52 F.3d at 978). Thus, the *Phillips* court emphasized the specification as being the primary basis for construing the claims. *Id.* at 1314-17. As the Supreme Court stated long ago, “in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims.” *Bates v. Coe*, 98 U.S. 31, 38 (1878). In addressing the role of the specification, the *Phillips* court quoted with approval its earlier observations from *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998):

Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. 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.

Phillips, 415 F.3d at 1316. Consequently, *Phillips* emphasized the important role the

specification plays in the claim construction process.

The prosecution history also continues to play an important role in claim interpretation. Like the specification, the prosecution history helps to demonstrate how the inventor and the PTO understood the patent. *Id.* at 1317. Because the file history, however, “represents an ongoing negotiation between the PTO and the applicant,” it may lack the clarity of the specification and thus be less useful in claim construction proceedings. *Id.* Nevertheless, the prosecution history is intrinsic evidence that is relevant to the determination of how the inventor understood the invention and whether the inventor limited the invention during prosecution by narrowing the scope of the claims. *Id.*

Phillips rejected any claim construction approach that sacrificed the intrinsic record in favor of extrinsic evidence, such as dictionary definitions or expert testimony. The *en banc* court condemned the suggestion made by *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002), that a court should discern the ordinary meaning of the claim terms (through dictionaries or otherwise) before resorting to the specification for certain limited purposes. *Phillips*, 415 F.3d at 1319-24. The approach suggested by *Texas Digital*—the assignment of a limited role to the specification—was rejected as inconsistent with decisions holding the specification to be the best guide to the meaning of a disputed term. *Id.* at 1320-21. According to *Phillips*, reliance on dictionary definitions at the expense of the specification had the effect of “focus[ing] the inquiry on the abstract meaning of words rather than on the meaning of claim terms within the context of the patent.” *Id.* at 1321. *Phillips* emphasized that the patent system is based on the proposition that the claims cover only the invented subject matter. *Id.* What is described in the claims flows from the statutory requirement imposed on the patentee to describe

and particularly claim what he or she has invented. *Id.* The definitions found in dictionaries, however, often flow from the editors' objective of assembling all of the possible definitions for a word. *Id.* at 1321-22.

Phillips does not preclude all uses of dictionaries in claim construction proceedings. Instead, the court assigned dictionaries a role subordinate to the intrinsic record. In doing so, the court emphasized that claim construction issues are not resolved by any magic formula. The court did not impose any particular sequence of steps for a court to follow when it considers disputed claim language. *Id.* at 1323-25. Rather, *Phillips* held that a court must attach the appropriate weight to the intrinsic sources offered in support of a proposed claim construction, bearing in mind the general rule that the claims measure the scope of the patent grant.

The '090 Patent Family includes claim limitations that fall within the scope of 35 U.S.C. § 112, ¶ 6. "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure. . . in support thereof, and such claim shall be construed to cover the corresponding structure . . . described in the specification and equivalents thereof." 35 U.S.C. § 112, ¶ 6. The first step in construing a means-plus-function limitation is to identify the recited function. *See Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999). The second step in the analysis is to identify in the specification the structure corresponding to the recited function. *Id.* The "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." *Medical Instrumentation and Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210 (Fed. Cir. 2003) (citing *B. Braun v. Abbott Labs*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)). The patentee must

clearly link or associate structure with the claimed function as part of the quid pro quo for allowing the patentee to express the claim in terms of function pursuant to § 112, ¶ 6. *See id.* at 1211; *see also Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1377 (Fed. Cir. 2001). The “price that must be paid” for use of means-plus-function claim language is the limitation of the claim to the means specified in the written description and equivalents thereof. *See O.I. Corp. v. Tekmar Co.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997). “If the specification does not contain an adequate disclosure of the structure that corresponds to the claimed function, the patentee will have ‘failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112,’ which renders the claim invalid for indefiniteness.” *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1382 (Fed. Cir. 2009) (quoting *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc)). It is important to determine whether one of skill in the art would understand the specification itself to disclose the structure, not simply whether that person would be capable of implementing the structure. *See Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1382 (Fed. Cir. 1999); *Biomedino*, 490 F.3d at 953. Fundamentally, it is improper to look to the knowledge of one skilled in the art separate and apart from the disclosure of the patent. *See Medical Instrumentation*, 344 F.3d at 1211-12. “[A] challenge to a claim containing a means-plus-function limitation as lacking structural support requires a finding, by clear and convincing evidence, that the specification lacks disclosure of structure sufficient to be understood by one skilled in the art as being adequate to perform the recited function.” *Budde*, 250 F.3d at 1376-77.

At issue in this case is whether certain claims of the patents-in-suit are indefinite. A claim is invalid for indefiniteness if it fails to particularly point out and distinctly claim the

subject matter that the applicant regards as the invention. 35 U.S.C. § 112, ¶ 2. To prevail on an indefiniteness argument, the party seeking to invalidate a claim must prove “by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area.” *Halliburton Energy Services, Inc. v. M-I LLC*, 514 F.3d 1244, 1249-50 (Fed. Cir. 2008). The primary purpose of the definiteness requirement is to ensure public notice of the scope of the patentee's legal right to exclude, such that interested members of the public can determine whether or not they infringe. *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005); *Halliburton*, 514 F.3d at 1249; *Honeywell Int'l Inc. v. Int'l Trade Comm'n*, 341 F.3d 1332, 1338 (Fed. Cir. 2003). Courts apply the general principles of claim construction in their efforts to construe allegedly indefinite claim terms. *Datamize*, 417 F.3d at 1348; *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1346 (Fed. Cir. 2007). A claim is indefinite only when a person of ordinary skill in the art is unable to understand the bounds of the claim when read in light of the specification. *Miles Labs., Inc. v. Shandon, Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993); *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1371 (Fed. Cir. 2008). A determination of claim indefiniteness is a conclusion of law. *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1375-76 (Fed. Cir. 2001); *Datamize*, 417 F.3d at 1347.

A claim is indefinite only if the claim is “insolubly ambiguous” or “not amenable to construction.” *Exxon*, 265 F.3d at 1375; *Young*, 492 F.3d at 1346; *Halliburton*, 514 F.3d at 1249; *Honeywell*, 341 F.3d at 1338-39. A court may find a claim indefinite “only if reasonable efforts at claim construction prove futile.” *Datamize*, 417 F.3d at 1347. A claim term is not indefinite solely because the term presents a difficult claim construction issue. *Id.*; *Exxon*, 265

F.3d at 1375; *Honeywell*, 341 F.3d at 1338. “If the meaning of the claim is discernable, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, . . . the claim [is] sufficiently clear to avoid invalidity on indefiniteness grounds.” *Exxon*, 265 F.3d at 1375; *Halliburton*, 514 F.3d at 1249.

IV. AGREED CONSTRUCTIONS

Based upon the joint submission of claim construction charts, the following terms of the patent have been agreed to by the parties, and therefore adopted by the Court:

‘812 Patent Family Claim Term/Phrase	Agreed Construction
“reading our corresponding control data”	“reading out corresponding control data”
“a program that/which is/was previously [programmed] for operating a computer body”	“a program for operating a computer”
“display”	“display”
“and”	“and”
“conformn”	“conform”
“comnputer”	“computer”
“input means”	Governed by 35 U.S.C. § 112(6). Function: inputting instructions Corresponding Structure: a keyboard, mouse, or pen
“an interference circuit”	“an interface circuit”
“a reception confirmation signal which indicates confirmation of receiving” or “a reception confirmation signal which is indicates confirmation of receiving”	“a reception confirmation signal which indicates confirmation of receiving”
The Preamble phrases in ‘236 Patent, claims 1, 2; ‘588 Patent, claim 5; ‘895 Patent, claims 1, 3.	Preambles are limitations. The disputed terms are found elsewhere in this Order.
“which display an image”	“which displays an image”
“a program that is previously programmed in [a] software [used] for operating the external computer[‘s body]” or “[a program in] software for operating said external computer”	“a program for operating an external computer”
‘090 Patent Family Claim Term/Phrase	Agreed Construction
“memory means for storing at least display unit information, wherein said display unit information includes identification number for uniquely identifying the display unit” And various other similar phrases in the ‘088 Patent, claims 1, 14, 18; ‘970 Patent, claims 18, 19.	“a memory”
“includes”	“includes”
“communication controller”	The parties now agree this term needs no construction.

V. TERMS IN DISPUTE IN THE ‘812 PATENT FAMILY

a. “Display Unit” / “Display Apparatus” (‘812 Patent: claims 1, 2, 4, 7, 10, 11)

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
1. A computing system comprising: a computer which outputs (i) image data including a video signal portion and a synchronization signal portion, (ii) a first control signal that carries displayed image size and position, (iii) a second control signal which is generated by a program that is previously programmed for operating a computer body, and which receives a feedback signal; a display unit for receiving the image data and the first and second control signals from the computer and for outputting a reception confirmation as the feedback signal which indicates confirmation of receiving the first or second control signal for communication to the computer, the display unit including:	an apparatus for displaying video signals.	<u>Defendants Innolux and TPV</u>: a CRT display <u>Defendant Hon Hai</u>: a CRT monitor

The claims of the ‘812 Patent family recite a “display unit” or “display apparatus” that comprises various components and communicates with a computer. For example, Claim 10 of the ‘812 Patent recites “a display unit for inputting a video signal and a synchronization signal from a computer, and for displaying an image in accordance with the video signal and synchronization signal on a screen.” ‘812 Patent at 14:3-6. Similarly, Claim 1 of the ‘236 Patent recites “[a] display apparatus which receives a video signal and a synchronization signal from an external computer, and which displays an image in accordance with the video signal and the synchronization signal on a screen.” ‘236 Patent at 11:28-32.

Defendants seek to limit the terms “display unit” and “display apparatus” to a specific display technology, namely cathode-ray tube (“CRT”). Plaintiff, however, contends that the words “display unit” and “display apparatus” convey to one of skill in the art a class of devices that would include, but not be limited to, CRT-type displays. As such, Plaintiff proposes an

ordinary meaning construction of the terms – specifically, “an apparatus for displaying video signals.”

i. The Parties’ Construction Arguments

1. Plaintiff’s Proposed Construction

Plaintiff first argues that the intrinsic and extrinsic evidence demonstrate that, at the time ‘812 Patent was filed, display units were known to encompass many display types – not just CRTs. For example, a prior art reference cited on the face of the ‘812 Patent, Tomiyasu, describes “display unit” as including CRTs, liquid crystal displays, electroluminescent displays, and plasma displays. *See* Tomiyasu at 1:20-23; 4:10-13, attached as Exhibit 13 to Plaintiff’s Opening Claim Construction Brief, Dkt. No. 222; *see also* Kurata at 1:8-12, attached as Exhibit 17 to Plaintiff’s Opening Claim Construction Brief, Dkt. No. 222 (“display apparatus” includes “liquid crystal displays and plasma displays”). In discussing the Tomiyasu reference during the prosecution of the ‘812 Patent, the patentees acknowledged that “display” includes display types other than CRT. *See* ‘812 Prosecution Amendment at MTL153920, attached as Exhibit 14 to Plaintiff’s Opening Claim Construction Brief, Dkt. No. 222 (“a change control circuit 21 changes parameters according to types of displays such as a CRT and a plasma display...”); *see also* ‘812 Family Prosecution Amendment at MTL 154049, attached as Exhibit 15 to Plaintiff’s Opening Claim Construction Brief, Dkt. No. 222 (“[t]he Berry patent discloses a VGA video card for a PC used with a CRT or a flat panel display of a liquid crystal display”).

Furthermore, Plaintiff argues that the extrinsic evidence confirms that, at the time the ‘812 Patent was filed, “display units” were not limited to CRTs. Rather, according to Plaintiff, industry standards at the time recognized that “display unit” was a broad term simply denoting

“[a]n output device that gives a visual representation of data.” IEEE Standard Glossary of Computer Hardware Terminology (1994) at MTL 180706-7, attached as Exhibit 18 to Plaintiff’s Opening Claim Construction Brief, Dkt. No. 222. In summary, Plaintiff contends that these references and comments indicate that the patentees understood “display unit” to encompass all display types, including CRTs.

Second, Plaintiff argues that nothing in the intrinsic or extrinsic record shows a clear intention on the part of the patentees to limit the scope of the claim language to encompass only CRT display units. To the contrary, Plaintiff notes that the plain language of the claims broadly recites “display unit” and “display apparatus” generally, and these terms are not facially limited to a particular display type. Furthermore, the written description, like the claims, consistently refers broadly to a “display unit” and “display apparatus.” *See, e.g.*, ‘812 Patent at 1:10-19 (broadly describing the present invention as “an image display apparatus”). None of the general descriptions of the invention even mentions a CRT display, and nowhere does the specification clearly define or equate “display unit” or “display apparatus” with a CRT display. *See generally* ‘812 Patent at Abstract & Summary Of The Invention; 1:30-31; 1:55-56; 4:42-43; 5:12-13; 4:16-17; 8:57-58. In sum, Plaintiff argues that the Defendants can point to no clear and unmistakable disclaimer of display units other than CRTs. Therefore, Plaintiff urges the Court to adopt its ordinary meaning construction of “display unit” as meaning “an apparatus for displaying video signals.”

2. Defendants’ Proposed Constructions

In response, Defendants first argue that the specification supports construing “display unit” and “display apparatus” as meaning “a CRT display.” Defendants note that in every

embodiment described in the '812 Patent, the "display unit" or "display apparatus" is a CRT display. The '812 Patent contains no description of LCD, plasma, or any type of display other than CRT. Defendants also note that the specification of the '812 Patent family fails to teach how one could implement the invention on a type of display other than a CRT display.

Moreover, Defendants argue that the claims of '812 Patent family and the sole method disclosed for controlling a "display unit" require circuitry that is only included in CRT displays. This method requires a user to enter a control instruction through a keyboard or mouse. '812 Patent at 2:42-46; 5:6-13; 8:40-47. This instruction is transmitted to a display control circuit, which adjusts the display's video circuit and deflection circuit to change the size and position of the image displayed on the screen. *Id.* In this process, the deflection circuit uses synchronization signals to control movement of an electron beam. The video circuit uses RGB video signals to modulate the intensity of the same electron beam, thereby controlling the color and brightness of the light emitted from each pixel. According to Defendants, flat panel displays, such as LCDs and plasmas, lack video and deflection circuitry and therefore do not receive RGB video and synchronization signals.¹ As such, Defendants argue that the invention embodied in the '812 Patent can be implemented only on CRT displays, which require both video circuits and deflection circuits that receive analog RGB video signals and analog synchronization signals, respectively.

Defendants also argue that the patentees disclaimed non-CRT displays during prosecution of the '812 Patent. During prosecution, the inventors distinguished the '812 Patent from prior art described in U.S. Patent No. 5,315,695 ("Saito"). Saito discloses an LCD display that a user can

¹ As will be discussed in more detail below, during oral arguments, Defendants admitted that various LCD models do receive video signals and synchronization signals.

adjust via the keyboard without reaching for any adjustment switches on the display itself. *See* File History, Amendment D and Request for Reconsideration at 9, attached as Exhibit F to Defendants' Responsive Claim Construction Brief, Dkt. No. 230. Defendants contend that the inventors distinguished the claims of the '812 Patent by asserting that Saito "does not teach the detailed circuits in the display unit and the video and sync signals received from the computer." *Id.* at 10. Therefore, Defendants argue that the patentees distinguished Saito on the grounds that the signals transmitted from the Saito computer to the LCD display do not constitute "video and sync signals received from the computer" within the meaning of the '812 Patent. Defendants argue that the patentees took this position because the "RGB" analog video signals and synchronization signals required by the '812 Patent family are used only in CRT displays.

Finally, defendant Hon Hai agrees that the "display unit" and "display apparatus" must be a CRT display, but further argues that these terms require a CRT *computer monitor*. Hon Hai argues that the claim language of the patents in the '812 Patent family support its contention that the invention is limited to a display from a computer monitor. Each of the independent claims of the '812 Patent require that the display unit receive the video signal from a computer. *See* '812 Patent at 11:36-37; 12:11-12, 39-41; 13:15-17; 14:3-4, 33-34. Likewise, the '236 and '588 Patents require that the video signal come from an external computer. *See* '236 Patent at 11:29-30; 12:33-34; '588 Patent at 12:9-11, 20-21. Furthermore, Hon Hai argues that the specification also makes it clear that the invention is limited to computer monitors. The '812 Patent begins with the statement that "[t]he present invention relates to an image display apparatus including an input unit such as a keyboard, *a computer body* and a display unit...." '812 Patent at 1:10-12 (emphasis added). And throughout the specification the "present invention" is defined as an

image display apparatus associated with a “computer body” in “a computer system.” *See, e.g., id.* at 2:19-3:48. Therefore, Hon Hai argues that the claims and the specification make clear that the invention was directed to CRT computer monitors.

ii. Analysis

The Court rejects Defendants’ narrow construction for the following reasons. First, Defendants’ contention that the specification of the ‘812 Patent family supports their narrow construction of “display unit” and “display apparatus” is unpersuasive. The terms “CRT” and “cathode ray tube” appear only six times in the patent. The first two instances are in the Background of the Invention where the inventors discuss prior art. *Id.* at 1:30-31; 1:55-56. In that discussion, CRT is referred to as a “conventional display unit.” *Id.* The next two references describe the “first embodiment” of the preferred embodiments of the invention, while the final two references are made in the context of the “third embodiment.” *Id.* at 4:42-43; 5:12-13; 4:16-17; 8:57-58. None of these references indicate that the invention must be implemented on a CRT display. To the contrary, the general descriptions of the invention refer broadly to “an image display apparatus” and do not even mention CRT. *See, e.g., id.* at 1:10-19; 2:20-40. Furthermore, although it is true that every embodiment disclosed in the specification is implemented on a CRT display, the Federal Circuit has “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.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005); *see also Tyco Healthcare Group v. E-Z EM Inc.*, 2010 WL 715489, *9 (E.D. Tex. Feb. 22, 2010) (J. Ward) (declining to construe “motor” to be limited to “electric motor” even though only electric motors were disclosed in the patent-in-suit). And finally, Defendants reliance on *Alloc v. ITC*,

342 F.3d 1361, 1370 (Fed. Cir. 2003), to argue that the very character of the invention requires the “display unit” to be a CRT display is misplaced. Unlike the patent-in-suit in *Alloc*, the specification of the ‘812 Patent family does not distinguish the prior art on the basis of the type of “display unit” used or hype the benefits of the invention by reference to CRT displays. See ‘812 at 1:65 - 2-16; *contra Alloc*, 342 F.3d at 1369.

Second, the Court rejects Defendants’ contention that “display unit” must be limited to CRTs because limitations recited in certain claims of the ‘812 Patent family apply only to CRTs. Plaintiff argues that the premise that “video signals,” “sync signals” and “driving circuits” are CRT-specific is factually wrong, and, during oral arguments, Defendants admitted that “some” non-CRT displays do receive such signals. Regardless of which party is correct, the claims of the ‘812 Patent family reciting limitations requiring “video signals,” “sync signals” and “driving circuits” will be limited by the explicit inclusion of those limitations in the claim -- not by the Court’s construction of “display unit” and “display apparatus.”

Third, the Court rejects the Defendants’ argument that the patentees disclaimed non-CRT display units during the prosecution of the ‘812 Patent. The Defendants argue that the patentees distinguished the claims of the ‘812 Patent by asserting that Saito “does not teach the detailed circuits in the display unit and the video and sync signals received from the computer.” However, a full reading of the pertinent prosecution history reveals that the patentees actually distinguished Saito on the grounds that it failed to teach a means by which signals could be sent from the display to the computer. See File History, Amendment D and Request for Reconsideration at 9, attached as Exhibit F to Defendants’ Responsive Claim Construction Brief, Dkt. No. 230 (“[t]here is no disclosure of communications to the computer”); see also *id.* at 10

(“Saito...fails to teach or suggest that the display unit and the computer communicate bi-directionally”). The patentees summed their argument up this way: “[b]ecause Saito ... [does] not fairly teach or suggest either the concept of bi-directional communication between a computer and a display unit, it is submitted that all claims distinguish patentably and obviously over the references of record.” Although the Court recognizes that when an applicant distinguishes a reference on multiple grounds, any of those grounds may indicate the proper construction of a claim term, the Court is unconvinced that the patentee in this case had any intention of distinguishing Saito on the grounds of the type of display used. *Contra Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 1477 (Fed. Cir. 1998). As such, Defendants’ argument that the patentees disclaimed non-CRT displays in distinguishing Saito is rejected.

Finally, the Court rejects defendant Hon Hai’s proposed requirement that the display not only be a CRT display, but also a CRT computer monitor display. None of Hon Hai’s cited evidence justifies importing this additional limitation into the claim terms. Although it is evident that the invention has application to computer monitor displays, there is no express disclaimer of other types of displays. And, as discussed above, those claims requiring that the display be limited to computer monitors will be appropriately limited by the other language of the claim – not by the Court’s construction of “display unit” or “display apparatus.”

In conclusion, the Court declines to construe “display unit” and “display apparatus” narrowly, as Defendants suggest. To do so would improperly import limitations from the preferred embodiments. Nothing in the claims or specification support the conclusion that the “display unit” and “display apparatus” claimed in the ‘812 Patent family cannot be a flat screen display, or any other type of display. As such, the Court construes “display unit” and “display

apparatus” in accordance with its ordinary meaning – namely, a “display unit” or “display apparatus” is “an apparatus for displaying video signals.”

b. “A Display Device” / “A Display” (‘812 Patent: claims 1, 4, 7, 10)

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
1. A computing system comprising: a computer which outputs (i) image data including a video signal portion and a synchronization signal portion, (ii) a first control signal that carries displayed image size and position, (iii) a second control signal which is generated by a program that is previously programmed for operating a computer body, and which receives a feedback signal; a display unit for receiving the image data and the first and second control signals from the computer and for outputting a reception confirmation as the feedback signal which indicates confirmation of receiving the first or second control signal for communication to the computer, the display unit including: a video circuit for receiving the vedio signal portion included in the image data; a driving circuit for receiving the synchronization signal portion included in the image data; a display device controlled by signals from the video and driving circuits to generate the displayed image;	the component of the display apparatus that displays video signals.	a cathode ray tube (CRT) for displaying a video signal

i. Analysis

As recited in the claims, “a display” or “display device” is the component of the larger display unit that actually displays the image. Claim 1 of the ‘812 Patent, for example, recites a display unit comprising “a display device controlled by signals from the video and driving circuits to generate the displayed image.” ‘812 Patent at 11:47-48. The Defendants again try to limit the display to a CRT display, making the same arguments and citing the same evidence that they used for the contention that the “display unit” should be limited to CRT displays. As such, the Court rejects Defendants’ proposed construction. Rather, the Court construes “a display” and

“a display device” to mean “the component of the display apparatus that displays video signals” because this construction is consistent with both the claim language and the written description.

c. “Driving Circuit” (‘812 Patent: claims 1, 2, 4, 7, 10)

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
1. A computing system comprising: a display unit for receiving the image data and the first and second control signals from the computer and for outputting a reception confirmation as the feedback signal which indicates confirmation of receiving the first or second control signal for communication to the computer, the display unit including: a video circuit for receiving the vedio [sic] signal portion included in the image data; a driving circuit for receiving the synchronization signal portion included in the image data; a display device controlled by signals from the video and driving circuits to generate the displayed image;	A circuit that uses synchronization signals to control the display device.	a deflection circuit

The claims of the ‘812 Patent recite that the driving circuit “receives a synchronization signal” (or “signal portion”) from a computer, and that the driving circuit, together with the video circuit, produces signals that control the display device. The crux of the dispute is whether “driving circuit” should be limited to a specific structure depicted in the preferred embodiments – i.e., a deflection circuit.

i. The Parties’ Construction Arguments

Plaintiff argues that its construction – “a circuit that uses synchronization signals to control the display device” – is firmly rooted in the claim language and captures the claimed features of the driving circuit – i.e., receiving synchronization signals as inputs, and controlling

the display device. Defendants, on the other hand, argue that “driving circuit” must be equated with “deflection circuit,” which is a specific type of circuit shown in the preferred embodiments.

Defendants argue that the “driving circuit” must be construed as a deflection circuit for several reasons. First, Defendants argue that the language of the claims supports their proposed construction. For example, Claim 1 of the ‘812 Patent recites “a *driving circuit* for receiving the synchronization signal portion included in the image data.” ‘812 Patent at 11:45-46 (emphasis added). In the figures and written description of the ‘812 Patent, the deflection circuit is the component that receives the synchronization signals. *See, e.g.*, ‘812 Patent at Figs. 1; Fig. 7-10; 4:65-5:5. As such, Defendants argue that a person skilled in the art would understand that the deflection circuit uses the synchronization signals to control the horizontal and vertical timing of the electron beam’s travel along its scanning path.

Second, Defendants argue that the written description establishes that the “driving circuit” recited in the claims is a “deflection circuit.” Although the ‘812 Patent specification does not use the term “driving circuit,” the specification refers to “display drive means” in explaining the components of one of the preferred embodiments. The specification states:

Further, numeral 1b denotes a display unit, in which numeral 18 denotes a control signal separation circuit for extracting the control signal from the video signal or the synchronizing signal on which the control signal produced by the control signal addition circuit 16 is superposed, 19 a first display control circuit for producing an adjustment signal for a predetermined circuit on the basis of the control signal extracted by the control signal separation circuit 18, 20 a video circuit, 21 *a deflection circuit constituting display drive means*, and 22 a cathode ray tube for displaying a video signal.

‘812 Patent at 4:42-43 (emphasis added). Defendants contend that this language expressly equates the “display drive means” with a deflection circuit. Furthermore, Defendants argue that,

because the '812 Patent provides no other definition for “driving circuit,” the Court should adopt the one definition the patentees did provide – i.e., the driving circuit is a deflection circuit.

Finally, Defendants argue that prosecution history of the '812 Patent confirms that the patentee's intended the “driving circuit” to be a deflection circuit – not a generic “driving circuit” that could be used in any type of electronic display. Defendants again rely on the argument that the patentee's distinguished Saito on the grounds that it “does not teach the detailed circuits in the display unit and the video and sync signals received from the computer.” See File History, Amendment D and Request for Reconsideration at 10, attached as Exhibit F to Defendants' Responsive Claim Construction Brief, Dkt. No. 230. This argument, however, is erroneous. As discussed above in more detail, the patentees distinguished Saito on the basis that the display did not send signals to the computer. As such, the Court rejects this argument on the same grounds discussed above.

ii. Analysis

Nothing in the intrinsic record suggests that the patentees disclaimed the plain and ordinary meaning of “driving circuit.” First, although the preferred embodiments depict the “driving circuit” as a deflection circuit, nowhere does the specification state that the “driving circuit” must be a deflection circuit. Therefore, the Court rejects Defendants' contention that the claim language and the specification, when read in context, require that the broadly claimed “driving circuit” be narrowly construed to be a deflection circuit. *Phillips*, 415 F.3d at 1323 (rejecting 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.”); *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004) (“[a]bsent a clear disavowal or contrary

definition in the specification or the prosecution history, the patentee is entitled to the full scope of its claim language.”). Second, although the specification teaches that a deflection circuit is a display drive means, it also teaches that a display controller can serve as a display drive means. ‘812 Patent at 8:64-65 (“a display controller for preparing various signals for driving the display unit”). As such, the Court rejects Defendants’ contention that the patent expressly equates the “display drive means” with a deflection circuit.

In conclusion, the Court adopts Plaintiff’s proposed construction because it is consistent with the claim language and captures the claimed features of the driving circuit – i.e., receiving synchronization signals as inputs, and controlling the display device. The Court concludes that “driving circuit” means “a circuit that uses synchronization signals to control the display device.”

d. “Bi-Directional” (‘812 Patent: claims 1, 2, 4, 7, 10, 11, 17)

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
1. A computing system comprising: a computer which outputs (i) image data including a video signal portion and a synchronization signal portion, (ii) a first control signal that carries displayed image size and position, (iii) a second control signal which is generated by a program that is previously programmed for operating a computer body, and which receives a feedback signal; a display unit for receiving the image data and the first and second control signals from the computer and for outputting a reception confirmation as the feedback signal which indicates confirmation of receiving the first or second control signal for communication to the computer, the display unit including: a common bi-directional interface cable for carrying the image data and the first and second control signals from the computer to the display unit and for carrying the reception confirmation signal from the display unit to the computer.	no construction needed – plain and ordinary meaning.	<u>Defendants Innolux and TPV</u>: No construction needed – plain and ordinary meaning. <u>Defendant Hon Hai</u>: providing a communication path in either direction between two or more communication controllers

Three of the parties, including two of the Defendants, agree that “bi-directional” possesses its ordinary meaning and does not require further construction. Defendants Hon Hai, however, proposes a construction of “providing a communication path in either direction between two or more communication controllers.”

i. The Parties’ Construction Arguments

The Plaintiff argues that the specification makes clear that this limitation refers simply the capability of transmitting information in two directions, rather than just one. *See, e.g.*, ‘812 Patent at 8:48-52 (“since the control signal is transmitted and received by means of the general-purpose interface, bidirectional communication between the display unit 1d and the computer body 1c can be made”); 9:45-47 (“since the interfaces between the computer body and the display unit 1f have the capability for bidirectional communication...”).

Defendant Hon Hai argues that its proposed construction of “providing a communication path in either direction between two or more communication controllers” is supported by the understanding of the term “bi-directional” by one with ordinary skill in the art. Hon Hai relies on the IEEE Authoritative Dictionary, which defines “bi-directional” as “providing for information transfer in both directions between master and remote terminals (of a communication channel).” *See* IEEE Authoritative Dictionary at HH041503, attached as Exhibit H to Defendants’ Responsive Claim Construction Brief, Dkt. No. 230. Furthermore, Hon Hai argues that, although the general definition of “bi-directional” refers to communication between “master and remote terminals,” in the context of the ‘812 Patent those terminals must be discrete circuits of the computer and display unit. Hon Hai argues that the terminals must be discrete circuits because the specification discloses two preferred embodiments which depict the interface

circuits separately. See Figure 8 (showing interface circuit 82 and 83); ‘812 Patent at 8:38-43 (indicating that circuits 70 and 71 in Figure 7 have separate interface portions).

In response, Plaintiff argues that Hon Hai’s proposed construction is erroneous for two reasons. First, “providing a communication path in either direction” merely elongates the claim language without clarifying it. And second, as used in the claims and as explained in the specification, the term “bi-directional” merely refers to the capability of the cable interface, and is silent as to other components.

ii. Analysis

Defendant Hon Hai’s proposed construction is rejected. Plaintiff is correct that the term “bi-directional,” as used in the claims and specification of the ‘812 Patent family, merely refers to the capabilities that the cable interface must have – not to the components that must be included in that interface. Finally, Plaintiff is also correct that Hon Hai’s construction, which adds “providing a communication path in either direction,” merely elongates the claim language without clarifying it. As such, the Court rejects Hon Hai’s proposed construction. The Court adopts the Plaintiff, Innolux, and TPV’s proposed construction – namely, that “bi-directional” possess its plain and ordinary meaning and needs no construction.

e. “A display controller which ... separates the first signals, the video signals and the synchronization signals” (‘812 Patent: claim 2)

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
2. A computing system comprising: a user input device into which a user inputs instructions including instructions for adjusting a physical property of a currently displayed image in accordance with user preferences; a computer which generates first signals in accordance with the instructions for adjusting the displayed image and image data including video and synchronization signals and which receives and processes second signals from peripheral devices; a display unit for receiving the image data and first signals from the computer and for generating second signals about the display unit for communication to the computer, the display unit including: a display [sic] controller which (i) receives the image data and first signals from the computer, (ii) separates the first signals, the video signals, and the synchronization signals, (iii) supplies video signals to the video circuit and [sic] the synchronization signals to the driving circuit, (iv) controls the driving circuit in accordance with the first signal to adjust the physical property of the displayed image to conform [sic] to the user preferences, and (v) supplies the second signals about the display unit to the computer;	No construction needed – plain and ordinary meaning.	a circuit that separates the superposed first signals from the video signals or the synchronization signals

Claim 2 of the ‘812 Patent recites “a display controller which ... separates the first signals, the video signals, and the synchronization signals.” ‘812 Patent at 12:22-25. Defendants propose that this term be construed to mean “a circuit that separates the superposed first signals from the video signals or the synchronization signals.” Plaintiff argues that the term is clear on its face and does not require construction. The crux of the parties’ argument is whether the “first signals” must be superposed on one of the other signals.

i. The Parties' Construction Arguments

Plaintiff argues that the plain language of Claim 2 fully recites the functions of the display controller and contains no requirement that the first signals be “superposed.” Thus, plaintiff contends that it is improper to insert such a requirement.

In response, Defendants argue that if “superposed” is not inserted into the construction of this phrase, the word “separates” in the claimed language becomes superfluous. Defendants argue that the use of the verb “separates” in the term “a display controller which ... separates the first signals, the video signals and the synchronization signals” reflects that the first signals (also referred to as “control signals”), the video signals, and the synchronization signals must be combined in a manner that requires subsequent separation. The only method described in the ‘812 Patent for combining control signals with video signals or synchronization signals is to “superpose” the control signal on the video signal or synchronization signal. See ‘812 Patent at 4:56-64 (“[t]he control signal Sc for the display unit 1b is superposed during the vertical retrace period on the video signal R, G or B.”). Defendants argue that if the control signal were not superposed on a video signal or synchronization signal, the required “separat[ing]” would not be necessary. As such, Defendants argue that although Claim 2 does not explicitly require that the “first signals” be superposed, the Court should nonetheless require superimposition because Claim 2 recites a “separating” step.

ii. Analysis

Defendants’ construction is incorrect for several reasons. First, reading superposed into Claim 2 would effectively import the “control signal separation circuit” disclosed in the preferred embodiments into the claims. According to Plaintiff, this structure would be necessary

to separate a superposed first signal from the other signals. See '812 Patent at 4:56-5:5. Therefore, Defendants proposed construction is rejected because it would import an unclaimed structural circuit into the claims.

Second, the Defendants' proposed construction contradicts a disclosed preferred embodiment. The patent explains that image data and first signals can be transmitted together as different portions of an "image information" signal. '812 Patent at 9:19-23. This transmission can be in accordance with any standard interface specification, such as the parallel SCSI standard. *Id.* The display controller then uses the distinct portions of the "image information" to produce *separate* control, synchronization, and video RGB signals. *Id.* at 9:24-35. This preferred embodiment was illustrated during the prosecution of the '812 Patent when the patentees explained that "FIG. 8 of our Invention" shows the RGB video signals, the H/V sync signals, and the communication control signals being sent on *different lines* within a cable, rather than the communication signals being superimposed. See Examiner Interview Summary Record at MTL 0000166, attached as Exhibit 22 to Plaintiff's Opening Claim Construction Brief, Dkt. No. 222 (emphasis added). Defendants do not disagree with the contention that one of ordinary skill in the art would understand that simultaneously transmitting the image data and control signal in the fashion explained in Figure 8 is not the same as, and does not require, "superposing" one signal on another. Defendants merely argue that this embodiment is outside the scope of Claim 2 because it does not require the separation of signals. Therefore, Defendants urge the Court to ignore Figure 8 in construing the phrase at issue. The Court, however, rejects this argument. Although it is a close question, the Federal Circuit has stated that courts should not "normally ... interpret claim terms in a way that excludes disclosed examples in the

specification.” *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1305 (Fed. Cir. 2007). As such, the Court rejects Defendants’ argument that Figure 8 is outside the scope of Claim 2 and is inapplicable to the construction of Claim 2. The “first signals” transmitted in parallel are “separated” within the meaning of the claims when they are diverted from the other signals recited in the claim.

In conclusion, Defendants’ proposed construction for “a display controller which ... separates the first signals, the video signals, and the synchronization signals” requiring that the first signal be “superposed” excludes a disclosed embodiment and seeks to import unclaimed structures into Claim 2 of the ‘812 Patent. As such, the Court rejects Defendants’ proposed construction. Rather, the Court agrees with Plaintiff’s contention that “a display controller which ... separates the first signals, the video signals, and the synchronization signals” does not require construction. Thus, this phrase is given its plain and ordinary meaning.

f. Typographical Corrections in ‘812 Patent Family’s Claim Terms

Plaintiff requests that the Court correct a few typographical errors, and Defendants do not object to the corrections. The Court, therefore, grants Plaintiff’s request because, in view of the claim language and the specification, the errors are obvious typographical errors. *Ultimax Cement Mfg. Corp. v. CTS Cement Mfg. Corp.*, 587 F.3d 1339, 1353 (Fed. Cir. 2009) (“although Courts cannot rewrite claims to correct material errors, ... if the correction is not subject to reasonable debate to one of ordinary skill in the art, namely, through claim language and the specification, and the prosecution history does not suggest a different interpretation, then a Court can correct an obvious typographical error”) (internal citations omitted).

i. “which display an image” (‘236 Patent: claim 2)

This limitation is directly analogous to the limitation in Claim 1 reciting “which displays an image.” This phrase is also grammatically parallel to the preceding phrase in Claim 1: “which receives a video signal and a synchronization signal.” Hence the Court orders that “display” is actually “displays.”

ii. “reading our corresponding control data” (‘812 Patent: claim 1)

The claims and specification repeatedly refer to reading out data. *See, e.g.*, ‘812 patent Claim 4 (“the stored control data is read out by the second control signal”); Claim 7 (“the stored control data is read out by the second communication signal”); Claims 10-11 (“the stored control data is read out by the control signal”); 1:35-39 (“The information...is read out from the memory”). Hence, the Court orders that “our” is actually “out.”

iii. “an interference circuit” (‘812 patent: claim 10)

This limitation is directly analogous to similar limitations in Claims 4, 7, and 11 reciting “an interface circuit which (1) inputs....” The word “interference” is an obvious typographical error since the written description never uses the term “interference.” As such, the Court orders that “interference” is actually “interface.”

iv. “a reception confirmation signal which indicatives confirmation of receiving” (‘812 Patent: claim 10) and “a reception confirmation signal which is indicates confirmation of receiving” (‘812 Patent: claim 11)

These limitations are analogous to similar limitations in Claims 1, 4 and 7, each of which recites a “signal which indicates confirmation of receiving.” Comparison of claim language reveals that the phrasings in Claims 10 and 11 are inadvertent mistakes. As such, the Court orders that: (1) “indicatives” in Claim 10 is actually “indicates;” and (2) the phrase “a reception

confirmation signal which is indicates” in Claim 11 is actually “a reception confirmation signal which indicates.”

VI. TERMS IN DISPUTE IN THE ‘090 PATENT FAMILY

a. “means for receiving video signals”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
1. A display unit comprising: means for receiving video signals for video display from a video source; (‘090 Patent, claim 1; <i>see also</i> ‘088 Patent, claims 1, 14, & 18) The parties agree this is a means-plus function governed by 35 U.S.C. § 112(6). The parties also agree the function is: “receiving video signals for video display from a video source”	<u>Corresponding structure:</u> The corresponding structures include, alternatively: • the input section of video circuit 11; or • the input section of video amplifier 22; or • the video signal I/O terminals; or • the video cable terminations on the display unit and structural equivalents thereof.	<u>Corresponding structure agreed by all Defendants:</u> video circuit 11

The parties have agreed this phrase is a means-plus-function limitation governed by 35 U.S.C. § 112(6). Variations of this means-plus-function are included in claim 1 of the ‘090 Patent and claims 1, 14, and 18 of the ‘088 Patent. The parties have also agreed on the functions of each of the four means-plus-function limitations. For example, the parties agree that in claim 1, the function of “means for receiving video signals for video display from a video source” is “receiving video signals for video display from a video source.” The parties dispute, however, the corresponding structure for each function.

1. The Parties’ Construction Arguments

Plaintiff Mondis points out that the claims should be construed to include all the alternative corresponding structures described for performing the claimed function. *Ishida Co. v.*

Taylor, 221 F.3d 1310, 1316 (Fed. Cir. 2000). Further, only as much structure as necessary to perform the claimed function should be identified. *Wenger Mfg. Inc. v. Coating Mach. Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001). Thus, Plaintiff identifies four alternative structures it believes are clearly linked in the '090 Patent that perform the function of receiving video signals for video display from a video source. First, Plaintiff states that the input section of the video circuit 11 and the input section of the preamplifier sub-circuit are two corresponding structures. These structures are allegedly linked in figures 1 and 4 by the arrow carrying the video signal intersecting with boxes labeled "video circuit 11" and "video preamplifier 22." See '090 Patent, FIGS. 1 & 4. Another corresponding structure the Plaintiff identifies is the video signal I/O terminals of the display devices. These video signal I/O terminals are linked in the specification when the third embodiment, figure 5, is being described. See '090 Patent, 7:15-22. Finally, figure 5 shows three displays receiving video signals from a computer via lines V1, V2, and V3, see '090 Patent, 7:15-18; FIG. 5, and Plaintiff argues one of ordinary skill in the art would understand that these lines plug into cable terminations. Thus, Plaintiff's final corresponding structure is the video cable terminations on the display unit.

Defendants argue the corresponding structure clearly linked is only the video circuit 11. Defendants argue that figure 1 supports this construction when it depicts the video circuit 11 receiving the RGB video signals from the display controller 3. '090 Patent, FIG. 1. The display controller 3, which "generat[es] various signals for video display," embodies the "video source" recited in the '090 and '088 claims. '090 Patent, 4:17-18; FIG. 1. Defendants argue that in all other embodiments disclosed by the '090 Patent the video circuit 11 is performing the same role of receiving the RGB video signals from a video source and transmitting them to the display

device. *See, e.g.*, ‘090 Patent, FIGS. 4, 7, 9-12. In response to Defendants’ arguments, Plaintiff argues that although the video circuit 11 does receive the video signal, only as much structure as necessary to perform the claimed function should be identified. For example, the video preamplifier 22, video blanking circuit 23, and the video output circuit 24 are all shown to be a part of the video circuit 11 in at least one embodiment. *See* ‘090 Patent, FIG. 4. Neither party, however, maintains that these sub-circuits perform the function of receiving the video signal. Thus it is only the “input” of video circuit 11 that performs the function of receiving the video signals.

2. Analysis

The Court primarily agrees with the Plaintiff and adopts a construction close to Plaintiff’s proposal. First, the Court agrees with Plaintiff Mondis that the entire video circuit 11 does not perform the function of receiving video signals for video display from a video source. Only as much structure as necessary to perform the claimed function should be identified. *See Wenger*, 239 F.3d at 1233. Defendants even admit that video preamplifier 22, which is a component of video circuit 11 in one embodiment, does not perform the function of receiving video signals for video display. (*See* Def’s Br., Dkt. No. 230, at 22.) Thus, the entire video circuit 11 cannot be the corresponding structure for this function. Rather, the Court agrees with the Plaintiff that it is the “input” of the video circuit that receives the signal. Figure 1, for example, shows this structure with an arrow connecting the display controller 3 of the computer 1 to the video circuit 11 of the display device 6. ‘090 Patent, FIG. 1. Further, the “input” language is used in the specification. In one embodiment, the specification states “[t]he display controller 37 performs an operation which is the same as that of the display controller shown in FIG 1 and generates a

video signal to be *inputted* to a general display.” ‘090 Patent, 10:20-23 (emphasis added). Contrary to Plaintiff’s proposed construction, however, the specification never clearly links an input “section” of the video circuit 11. Thus, the Court will not include the word “section” in the construction.

The Court disagrees with Plaintiff’s second alternative structure of “the input section of video preamplifier 22.” The video preamplifier 22 is inclusive in the video circuit 11 in one embodiment. See ‘090 Patent, FIG. 4. Thus, it would be redundant to include an additional structure of the input section of the video preamplifier since the specification shows that also being the input section to video circuit 11. *Id.*

The Court agrees with Plaintiff’s third alternative structure of “the video signal I/O terminals.” The specification clearly links this structure when it states:

In the drawing [of FIG. 5], reference numerals 6B, 6C, and 6D indicate display devices having the same structure, V1, V2, and V3 lines for *video signals* and synchronizing signals, C1, C2, and C3 communication lines for, for example, RS-232C, and 1 the aforementioned computer. Each of the display devices 6B, 6C, and 6D has a *plurality of video signal I/O terminals* and communication interface I/O terminals and a registered ID number.

‘090 Patent, 7:15-22 (emphasis added). The portion of the specification corresponding to figure 5 clearly links the structure of the video signal I/O terminals as receiving the video signals that are carried by the lines V1, V2, and V3 (where V1, V2, and V3 carry the video signals for video display from the video source). The Court does not agree, however, with Plaintiff’s final structure of “the video cable terminations on the display unit.” The specification never mentions video cable terminations and thus the specification does not clearly link this as a structure.

Therefore, the Court adopts the following as the alternative structures of the means-plus-function, and variations thereof, which reads “means for receiving video signals”: “the input of video circuit 11” or “the video signal I/O terminals.”

b. “communication control means”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
18. A display unit for displaying an image based upon an image signal inputted from an externally connected computer, comprising: ... a communication control means for sending said identification number stored in said memory means to said computer, wherein said communication control means enables bi-directional communication with said display unit and said computer. (‘970 Patent, claim 18.) The “communication control means” phrase is also found in claim 19 of the ‘970 Patent. The parties agree this is a means-plus-function governed by 35 U.S.C. § 112(6). The parties also agree the function is: “sending said identification number stored in said memory means to said computer [in response to power on of at least one of said display unit and said computer], wherein said communication control means enables bi-directional communication with said display and said computer.”	<u>Corresponding Structure:</u> The corresponding structures include alternatively: • communication controller 8; • or communication controller 25; or • an RS-232C interface; or • an RS-422 interface; or • an RS-423 interface; or • an SCSI interface; or • a GP-IB interface; or • a network interface and structural equivalents thereof.	<u>Corresponding Structure:</u> communication controller 8 or 25

The parties agree that “communication control means” is a means-plus-function term governed by 35 U.S.C. § 112(6). The parties further agree that the function is “sending said identification number stored in said memory means to said computer [in response to power on of at least one of said display unit and said computer], wherein said communication control means enables bi-directional communication with said display and said computer.” Finally, the parties agree that the corresponding structure is at least the communication controller 8 or 25. The only

issue is whether the Court should allow the six additional corresponding structures that Plaintiff proposes: an RS-232C interface; an RS-422 interface; an RS-423 interface; an SCSI interface; a GP-IB interface; or a network interface.

1. The Parties' Construction Arguments

Plaintiff cites the specification where it states “[a]ccording to this embodiment, RS-232C is used as a communication interface. However, a general-purpose interface such as RS-422, RS-423, SCSI or GP-IB, or network interface may be used.” ‘090 Patent, 6:10-13. Further, the specification states that “[t]he interface part of the above display device 6 such as the communication control terminal is mounted on the back or side of the display device” *Id.* at 5:7-10. Thus, Plaintiff argues the additional six structures it proposes are clearly linked in the specification. Defendants respond that the specification differentiates between a “controller” and an “interface.” Although both parties agree that at least the “communication *controller*” is a corresponding structure, Defendants allege that Plaintiff is also trying to include structures that are interfaces and not controllers. According to Defendants, this is not proper because the specification clearly links the “controller” and not the “interface” as performing the function of the “communication control means.”

2. Analysis

The Court agrees with Defendants and includes only the communication controller 8 or 25 as the corresponding structure for the “communication control means.” The specification distinguishes the controller and the interface. For example, the specification of the ‘970 Patent states “the communication controller 5 controls a communication interface such as RS-232C.” ‘970 Patent, 4:40-42. Further, the specification never clearly links the interfaces as structure for

the function of “sending said identification number stored in said memory.” The “RS-232C is used as a communication interface,” that is, it is controlled by the communication controller, and it merely facilitates the communication controller in sending the identification number. *See id.*; ‘090 Patent, 6:10-11. On the other hand, the communications controller is clearly linked to the function of “sending said identification number stored in said memory.” The relevant portion of the specification states:

[A]n ID number sent from the computer 1 is inputted into the microcomputer 7 via the communication controller 8. The microcomputer 7 checks the above ID number with the ID number stored in the memory 9.

‘090 Patent, 6:50-54. The specification also states “[t]he communication controller 25 sends or receives data to or from the computer 1 in the same way as the communication controller 8.” ‘090 Patent, 7:50-52. Thus, the only clearly linked structure for the function of the “communication control means” is the communication controller 8 or 25. Therefore, the Court’s construction includes only communication controller 8 or 25 as the corresponding structures for “communication control means.”

c. “display unit”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
1. A display unit comprising: means for receiving video signals for video display from a video source; memory means for storing at least display unit information, wherein said display unit information includes an identification number for uniquely identifying the display unit; and a communication controller capable of bi-directionally communicating with the video source; wherein said communication controller communicates the display unit information to the video source and the display unit receives a signal from the video source that is generated based on the display unit information. (‘090 Patent, claim 1) The “display unit” term is also found, and construed consistently in: ‘090 Patent, claims 1, 3; ‘088 Patent, claims 1, 5, 9, 10, 14, 18, 22; ‘970 Patent, claims 18, 19, 20, 21, 22, 23, 25, 27; ‘181 Patent, claim 1; ‘180 patent, claims 1, 14, 21, 23, 25, 26; ‘342 Patent, claims 1, 5, 9, 14.	an apparatus for displaying video signals	<u>Defendants Innolux and TPV:</u> a CRT display <u>Defendant Hon Hai:</u> a CRT computer monitor

1. The Parties’ Construction Arguments

This term is very similar to the construction of “display unit” and “display device” in the ‘812 patent. The parties propose the same constructions, and the ‘090 Patent family is similar to the ‘812 Patent family. Rather than repeat all the parties’ arguments here and perform the same analysis, only the new or different arguments raised by the parties are discussed in detail.

As with the proposed construction for the ‘812 Patent, Plaintiff essentially argues that the plain language of the claims recites “display unit,” which is not limited to any particular type of display unit—such as a CRT. In addition, Plaintiff also argues that in the ‘090 Patent intrinsic

evidence, there is no disclaimer of the claim scope of “display unit” to CRT displays. Plaintiff makes the following two new arguments here. First, the specification of the ‘090 Patent actually describes and discloses liquid crystal displays in addition to CRTs. *See* ‘090 Patent, 8:54-58 (“a liquid crystal display panel mounted in the display device 6F”). Second, the prosecution history of the ‘090 Patent family shows that the patentee contemplated using other display units, such as a liquid crystal display. *See, e.g.*, July 20, 1995 Office Action Response, attached as Ex. 27 to Pl.’s Br., Dkt. No. 222, at MTL154886 (“the type of display can be considered . . . a liquid crystal display 34 as illustrated in Figs. 9 and 10, for example.”).

Defendants also make many similar arguments for “display unit.” Defendants again argue that the specification of the ‘090 Patent demonstrates that the claimed invention requires a CRT display. Essentially the only new argument Defendants make for the ‘090 Patent is that the prosecution history of the ‘180 patent (one of the patents in the ‘090 family) disclaimed LCD displays in order to distinguish the Moriconi prior art, which is U.S. Patent No. 5,262,759. Defendants argue there was a disclaimer when the patentee stated to the PTO that “the display module 13 [in the Moriconi prior art] is not a display unit, as claimed, having a video circuit adapted to display an image based on the video signals.” Response on Aug. 12, 2004, attached as Ex. M to Def.’s Br., Dkt. No. 230, at 5.

2. Analysis

The Court construes “display unit,” consistently with the ‘812 Patent family, as “an apparatus for displaying video signals” as Plaintiff proposes. The Court rejects Plaintiff’s argument regarding the specification of the ‘090 Patent describing and disclosing liquid crystal displays in addition to CRTs. Although the specification does disclose liquid crystal displays,

like all other embodiments in the specification, however, figure 9 uses a CRT display 14 for displaying the video content received from the video source. See '090 Patent, FIG. 9 (using CRT display 14 for the video output and also including the LCD 34 display). The LCD display is only mentioned in the specification as a separate display in order to transmit an error code upon the occurrence of an error or faulty part. '090 Patent, 8:63-66; 9:1-6. The '090 Patent specification never shows an embodiment with an LCD display as the primary display unit. Further, Plaintiff's second argument, which points out that the prosecution history of the '090 Patent family shows a liquid crystal display, should be given little weight. See *Honeywell Int'l, Inc. v. ITT Industries, Inc.*, 452 F.3d 1312, 1319 (Fed. Cir. 2006) (patentee's statements during prosecution seeking to expand claim scope are entitled to "little weight").

The Court also rejects Defendants' argument that the prosecution history of the '180 patent disclaimed LCD displays to distinguish the Moriconi prior art. The inventor did not distinguish the Moriconi prior art because it was a LCD display. Rather, the Moriconi prior art essentially disclosed a laptop configured to accept removable displays of different types that plugged into a structure hinged to the body of the computer, that is, the body of the laptop. '759 Patent, Abstract. The inventor in this case distinguished the '180 patent invention because the '180 patent had a video circuit adapted to display an image "based on the video signals sent by the *externally* connected video source." Response on Aug. 12, 2004, attached as Ex. M to Def.'s Br., Dkt. No. 230, at 5 (emphasis added). The Moriconi prior art, on the other hand, had a "[flat panel] display board 41 *incorporated into the computer* with connection to the system parallel bus." '759 Patent, 4:51-56 (emphasis added). Thus, Defendants' prosecution history disclaimer argument is rejected.

The Court construes “display unit” in the ‘090 Patent family as “an apparatus for displaying video signals” for the same reasons the Court did for the ‘812 patent family.

d. “control”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
23. A display unit for displaying an image based on an image signal inputted from an externally connected computer, comprising: a processor adapted to control display of the display unit . . . (‘970 Patent, claim 23.) The “control” term, as construed here, is also used in the ‘970 Patent, claims 25 and 27 and the ‘181 Patent, claim 1.	receiving and applying control instructions to adjust an image	to direct, regulate, or influence

1. The Parties’ Construction Arguments

Plaintiff argues “control,” in the context of claims 23 and 25 of the ‘970 Patent and claim 1 of the ‘181 Patent, should mean “receiving and applying control instructions to adjust an image.” Plaintiff argues that the specification teaches a display capable of receiving control instructions, wherein the processor in the display applies the control instruction so as to adjust the displayed image. For example, the specification states:

The microcomputer 7 identifies this control instruction and generates control signals to the relevant portions to be adjusted in the deflection circuit 10 or video circuit 11. . . . By doing this, the display size and position, brightness, contrast, and hue of images displayed on the CDT 14 are made most suitable to a user of the computer system.

‘090 Patent, 4:57-67. Further, Plaintiff argues that in reexamination of the ‘970 Patent the Patent Owner acted as its own lexicographer when it explained that “control” refers to “receiving and applying control instructions from a computer to adjust image parameters such as brightness,

contrast, position, etc.” (Dkt. No. 222, Ex. 29, Bates label MTL 171051-52.) It is worth mentioning, however, that this statement was made during reexamination on June 18, 2010, which was merely a few months before Plaintiff filed its initial claim construction brief.

Defendants argue that “control” should be construed in accordance with its ordinary meaning, which is “to direct, regulate, or influence.” *See Random House Dictionary of the English Language* 442 (1987), attached as Ex. N to Dkt. No. 230 (defining control as “1. To exercise restraint or direction over; dominate, command . . . 6. The act or power of controlling; regulation; domination or command”). Defendants state that the specification of the ‘970 Patent does not define the term control and the specification uses the term constituent with its ordinary meaning. *See* ‘970 Patent, 2:31-34 (“An object of the present invention is to provide an information output system wherein a computer can exercise various types of control of an information output device such as a display device.”).

2. Analysis

The Court agrees with Defendants’ construction. As an initial matter, Plaintiff agrees that Defendants’ construction is appropriate if the Court decides to use the term’s ordinary meaning. (*See* Pl.’s Br., Dkt. No. 222, at 19 (“Divorced from any context from the intrinsic evidence, this would be an appropriate ordinary meaning of the verb ‘to control.’”).) In addition, the specification uses the word “control” in accordance with its ordinary meaning. *See, e.g.*, ‘970 Patent, 2:31-34 (quoted in full above). Finally, Plaintiff’s construction is inappropriate in this case because it adds the limitation “instructions to adjust an image,” but the specification is not so restricting and the claim language is broad. The “processor,” which is the “control processing means,” is not always used to “adjust” the image, but it also controls whether or not

to send information to the display. ‘970 Patent, 3:20-24 (“When no comparison result match occurs, the above control processing means controls so that information which is sent from the computer to this information output device is not normally outputted from the information output device.”). In one embodiment, this may result in “the video display period [being] blanked so that no image is displayed on the CDT 14.” ‘970 Patent, 7:4-6. This is not “adjusting” the image, but instead, this is blanking the image completely so there is no image displayed at all. Thus, Plaintiff’s construction cannot be correct. The Court construes “control” as “to direct, regulate, or influence.”

e. “bi-directionally communicating” and similar terms

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Constructions
1. A display unit comprising: ... A communication controller capable of bi-directionally communicating with the video source (‘090 Patent, claim 1.) (See also ‘090 Patent, claim 3; ‘088 Patent, claims 1, 5, 9, 10, 14, 18, & 22; ‘970 Patent, claims 18, 19, 20, 21, 22, 23, 25, & 27; ‘342 Patent, claims 1, 3, 5, 9, 13 & 14; ‘180 patent, claims 1, 14, 21, 23, 25, & 26; ‘181 Patent, claim 1.) Other similar terms being consistently construed: • “bi-directionally communicated” • “bi-directional communication” • “a bi-directional communications link”	No construction needed—plain and ordinary meaning. Alternatively—“sending and receiving information or messages”	<u>Defendants Innolux and TPV:</u> Agree with Plaintiff that no construction needed—plain and ordinary meaning. <u>Defendant Hon Hai:</u> providing a communication path in either direction between two or more communication controllers

Plaintiff and two of the defendants agree that these phrases possess their ordinary meaning and require no further construction. Defendant Hon Hai, however, argues the Court

should construe this phrase, and relating phrases, as “providing a communication path in either direction between two or more communication controllers.”

1. The Parties’ Construction Arguments

Plaintiff and two of the three defendants argue these phrases possess their ordinary meaning. Plaintiff argues this position is supported by the specification, which describes communication quite broadly as the sending and receiving of data. *See, e.g.*, ‘090 Patent, 7:50-52 (“The communication controller 25 sends or receives data to or from the computer 1 in the same way as the communications controller 8 . . .”). To the extent any construction is needed, Plaintiff Mondis proposes “sending and receiving information or messages.” Defendant Hon Hai argues that its proposed construction of “providing a communication path in either direction between two or more communication controllers” is supported by the understanding of the term “bi-directionally communicating” by one with ordinary skill in the art. Further, Hon Hai argues that the ‘090 Patent shows communication to and from a pair of communication controllers. *See, e.g.*, ‘090 Patent, FIG. 1 (showing a double-headed arrow between the two communication controllers).

2. Analysis

The Court agrees with Plaintiff and the two defendants that the phrases possess their plain and ordinary meaning and need no construction. Hon Hai’s construction, which adds “providing a communication path in either direction,” merely extends the claim language without clarifying it. Further, Hon Hai’s additionally structural limitation of “two or more communication controllers” is not necessary according to the specification and is unclear. The language is unclear because in claim 1 of the ‘090 Patent, for example, it reads “a communication controller

capable of *bi-directionally communicating*.” If the “bi-directionally” construction proposed by Hon Hai is adopted, the particular claim language could potentially require at least three communication controllers. For example, adopting Hon Hai’s construction could result in “two or more communication controllers,” in accordance with Hon Hai’s construction, in addition to the “communication controller” expressly described in the claim language. None of the embodiments mentioned in the ‘090 Patent specification includes three communication controllers.

f. “signal” and pertinent limitations

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
26. A display unit for displaying an image based on video signals inputted from an externally connected video source, comprising: a video circuit adapted to display an image based on the video signals sent by said externally connected video source; a memory in which at least display unit information is stored, said display unit information including an identification number for identifying at least a type of said display unit; and a communication controller capable of bi-directionally communicating with said video source; wherein said communication controller is capable of communicating said display unit information from said display unit to said video source, <i>said display unit being capable of receiving a signal from said video source that is generated based on said display unit information</i>, said display unit being capable of controlling said displayed image on said display unit by using a control signal received from said video source via said communication controller.² (‘180 patent, claim 26) The “signal” term or phrase is also found, and construed consistently in: ‘090 Patent, claims 1, 3; ‘088 Patent, claims 1, 5, 10, 14, 18, 22; ‘970 Patent, claims 22, 27; ‘181 Patent, claim 6; ‘180 patent, claims 9, 10, 11, 16, 26.	<u>Plaintiff proposes to construe “signal” as:</u> “a detectable physical quantity or impulse (as a voltage, current, magnetic field strength) by which messages or information can be transmitted”	In ‘180 patent, claim 26, Defendants propose a construction of “said display unit being capable of receiving a signal from said video source that is generated based on said display unit information” as “said display unit being capable of receiving a control instruction from said video source that is generated based on said display unit information.” Essentially, Defendants wish to construe “<i>signal</i>” as “<i>control instruction</i>” in selected phrases.

² As noted with the bold font in the table, the term Plaintiff seeks the Court to construe is “signal.” As noted with the italic font in the table, the phrase Defendants seek the Court to construe is “said display unit being capable of receiving a signal from said video source that is generated based on said display unit information.” Defendants do not seek a construction of the second “signal” term that is stated in the claim.

1. The Parties' Construction Arguments

Plaintiff seeks a construction of “signal” as “a detectable physical quantity or impulse (as a voltage, current, magnetic field strength) by which messages or information can be transmitted.” Plaintiff argues this is the ordinary meaning of the term, and the term is used consistently with its ordinary meaning throughout the patent. *See Webster's Third New Int'l Dictionary*, attached as Ex. 31 to Dkt. No. 222, at MTL 180701 (defining signal as “a detectable physical quantity or impulse (as a voltage, current, magnetic field strength) by which messages or information can be transmitted”).

Defendants argue that in the context of a signal received by the display unit and generated based on display unit information or on an ID number, “signal” refers to a control instruction. Defendants state their proposed construction is supported by the language of the disputed term, which requires that the display unit receive a signal “based on the display unit information.” ‘090 Patent, 10:65. Further, it is argued that each instance in the ‘090 Patent that the display unit receives a signal from a video source that is based on display unit information or an identification number, the received signal is a “control instruction.” *See, e.g.*, ‘090 Patent, 5:42-51. Finally, Defendants argue that the asserted claims recite both “video signals” and “signal,” which, Defendants argue, make clear that the two terms have different meanings.

2. Analysis

The Court adopts Plaintiff's construction. “Signal” appears to be used in accordance with its ordinary meaning, and Plaintiff's dictionary definition gives a reasonable and accurate ordinary meaning to “signal.” Defendants' proposed construction has a number of flaws. First, the ‘090 Patent specification uses both the term “signal” and “control instruction,” and the terms

are used in different contexts. Thus, “signal” cannot mean “control instruction.” For example, the specification states that “[t]he microcomputer 7 identifies this *control instruction* and generates control *signals* to the relevant portions to be adjusted in the deflection circuit 10 or video circuit 11.” ‘090 Patent, 4:57-60 (emphasis added).³ The specification does not state that the signal *is* the control instruction; rather, it implies that the signal is *generated based on* the control instruction. Further, in another portion of the specification, it mentions “[w]hen a *control instruction* of the display device 6 is inputted firstly by a user of the computer from a general keyboard” ‘090 Patent, 39-41 (emphasis added). The control instruction here is not a signal but instead an input by the user. Then, after this control instruction is digitally coded, it later *generates* a control signal and is sent to the deflection circuit or video circuit. See ‘090 Patent, 4:39-65.

In addition, as noted above, a “control signal” is generated based on the control instruction. *Id.* Thus, when a signal was related to the control instruction in the ‘090 Patent, the patentee knew how to use the language “control signal.” Further, the term “signal” is used

³ See also ‘090 Patent, 10:11-18 (“Next, the operation of FIG. 12 will be explained. In FIG. 12, *video information is sent* to the display device 6 from the communication controller 5 *in addition to a control instruction* of the display device 6 which is explained in the embodiment shown in FIG. 1. *This video information is a digital signal* in the same way as a signal which is inputted to the display controller 3 in the embodiment shown in FIG. 1. The communication controller 8 of the display device 6 sends video information among the received signals to the display controller 37. The display controller 37 performs an operation which is the same as that of the display controller shown in FIG. 1 and *generates a video signal* to be inputted to a general display. By doing this, also in the embodiment shown in FIG. 12, an effect which is the same as that shown in FIG. 1 can be obtained. Furthermore, in FIG. 12, since video information is transmitted via a communication interface which is connected between the computer 1 and display device 6, a video signal line which is conventionally necessary is not necessary.”) (emphasis added). This italicized text shows how, in this context, the “signal” is different than the “control instruction.” To illustrate, the “video information,” which “is a digital signal,” is sent “*in addition to a control instruction.*” *Id.*

differently than “control signal.” This is clear from an examination of the ‘180 patent, where a single claim discloses a “signal” and also a “control signal.” See ‘180 patent, claim 26. Thus, it would be improper to refer to a “signal” as a “control instruction” in the context of these claims. Such a construction would result in a reading of “control control instruction” in claim 26 of the ‘180 patent. This is perhaps why Defendants chose to construe “signal” as “control instruction” in some phrases in the claims but then not construe “signal” in other phrases.

Finally, as Plaintiff points out, the specification of the ‘090 Patent discloses many different types of signals. For example, the ‘090 Patent mentions “video signals” (1:27-30); “various signals” (4:17-18); “synchronizing signal” (6:32-33); “audio signal” (9:25); “digital signal” (10:16); and “control signals” (4:59). The claims also used the term “signal” in a general sense, (see ‘090 Patent, claim 1, 10:64), or referred to specific types of signals such as “video signals” (‘090 Patent, claim 1, 10:53) or “control signal” (‘180 patent, claim 26, 14:14). Thus, the patentee knew how to claim a specific type of signal or a general signal, and the Court construes “signal” in a general manner to reflect such a decision by the patentee.

g. “display unit information”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
1. A display unit comprising: means for receiving video signals for video display from a video source; memory means for storing at least display unit information, wherein said display unit information includes an identification number for uniquely identifying the display unit; and a communication controller capable of bi-directionally communicating with the video source; wherein said communication controller communicates the display unit information to the video source and the display unit receives a signal from the video source that is generated based on the display unit information. (‘090 Patent, claim 1) The “display unit information” term is also found, and construed consistently in: ‘090 Patent, claims 1, 3; ‘088 Patent, claims 1, 4, 5, 8, 9, 10, 13, 14, 17, 18, 21, 22; ‘970 Patent, claims 22, 27; ‘181 Patent, claims 1, 4, 6; ‘180 patent, claims 14, 21, 23, 26.	No construction needed—plain and ordinary meaning.	<u>Defendants Innolux and TPV:</u> No construction needed—plain and ordinary meaning. <u>Defendant Hon Hai:</u> Indefinite Or Plain and ordinary meaning

1. The Parties’ Construction Arguments

Three out of the four parties in this case, Plaintiff Mondis and Defendants Innolux and TPV, agree that the term “display unit information” is not indefinite and no construction is necessary because the term should be given its plain and ordinary meaning. Defendant Hon Hai, however, argues that the term “display unit information” is indefinite. Hon Hai argues that the patents provide no meaningful guidance to determine what is, and what is not, “display unit information.” Further, Mondis does not contend that it is a term having a well known meaning in the art, nor does the specification demonstrate that Hitachi acted as its own lexicographer to define the term—the specification never uses the term “display unit information.”

2. Analysis

The Court agrees with Plaintiff and the two Defendants that state the term “display unit information” is not indefinite and that it should have its plain and ordinary meaning. The claim language of claim 1 in the ‘090 Patent teaches that the “display unit information includes an identification number for uniquely identifying the display unit.” Further, the specification describes that “necessary *information* is all written into the memory 9 in *the display device 6*. FIG. 2 is a memory map showing the contents of the memory 9 in the display device 6.” ‘090 Patent, 5:13-16 (emphasis added). Figure 2 shows various types of information in the memory 9, such as “Registered ID Numbers” and “Delivery Adjustment” data, that would help one of ordinary skill in the art to understand the scope of “display unit information.” ‘090 Patent, FIG. 2. Indeed, claim 1 of the ‘090 Patent discloses a “memory means for storing at least display unit information. Thus, “display unit information” is not indefinite.

h. Terms involving “identification” or “identifying”

The claims of the ‘090 Patent family use several different versions of a limitation related to “identification” or “identifying.” Although each limitation uses slightly different terms, the differences in the language are not great and the proposed constructions by the parties are largely similar. For example, one phrase to be construed, which is perhaps the most basic, is “identification information.” See ‘970 Patent, claim 25. Plaintiff proposes a construction of “information associated with the identity of the display unit.” Defendant Innolux proposes a construction of “information that can be used to identify a display unit and is used for determining whether to allow control of the display unit by a computer.” Defendants Hon Hai and TPV propose a construction of “information that can be used to identify a display unit.”

There are two primary dissimilarities with these constructions. Plaintiff's proposed construction is "information *associated with* the identity of the display unit," whereas Defendants Hon Hai and TPV propose "information that *can be used to* identify a display unit." The primary difference is the "associated with" language and the "can be used to" language. Then Defendant Innolux's construction adds the limitation "and is used for determining whether to allow control of the display unit by a computer" to the other defendants' construction. Each difference is consistent throughout the "identification" terms and is discussed in turn below.

Defendant Innolux, to support its additional limitation of "and is used for determining whether to allow control of the display unit by a computer," argues that in every embodiment employing an identification number, the number is compared with another number, which is then used to determine whether to allow control of the display unit by the computer. Allowing the claims to be construed more broadly, as Plaintiff proposes, would divorce the claims from the written specification. Defendant Innolux provides many citations to the specification for support. *See, e.g.*, '090 Patent, Abstract; Figs. 3 & 5; 1:18-26; 2:41-3:23; 5:17-6:4; 6:18-27; 6:49-7:11; 7:12-45; 10:38-45. Further, in the original file history, the patentee explained:

In accordance with the present invention as recited in the claims, communication between the externally connected computer and the display unit is permitted or prohibited as a result of the comparison of the first and second identification information and enables or disables display control

'090 Patent Prosecution History, 12/20/1999 Amendment at 10, attached as Ex. P to Def.'s Br., Dkt. No. 230.

The Court rejects Defendant Innolux's additional limitation. There is no doubt the limitation is a preferred embodiment in the patent, but adopting Innolux's limitation would be unnecessarily importing a preferred embodiment into the claims. The claims themselves are

written more broadly. The doctrine of claim differentiation demonstrates that Innolux's limitation is not proper. "Differences among claims can also be a useful guide in understanding the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314. "[C]laim differentiation takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous." *AllVoice Computing PLC v. Nuance Commc'n*, 504 F.3d 1236, 1247 (Fed. Cir. 2007) (internal quotes and citations omitted). To illustrate, one independent claim in the '970 Patent requires "a reception prohibition means for prohibiting reception of a control command from said computer . . . when said first and second identification information do not match as a result of the comparison by said comparing means" '970 Patent, claim 3. The "identification information" may include an "identification number." '970 Patent, claim 4. As a result of that claim language, claims 3 and 4 include the limitation that Defendant Innolux suggests, which is to determine whether to allow control by using the reception prohibition means and the comparing means. Alternatively, other claims in the '970 Patent only require "a communication controller which sends the information number stored in said memory to said computer" and the communication controller further "enables bi-directional communication." '970 Patent, claim 23. This claim, unlike claims 3 and 4, includes no limitation that the identification number be used to determine whether to allow control of the display unit. Such differences between these claims would be rendered superfluous by adding the limitation to "identification information" or "identification number" that it be "used for determining whether to allow control of the display unit by a computer." Thus, the Court rejects Defendant Innolux's additional limitation.

The other issue presented for all of the “identification” terms is whether to use the “associated with” language as Plaintiff proposes or the “can be used to” language as Defendants propose. In Plaintiff’s reply brief it states:

Defendants state that their construction for these limitations would not exclude identification information such as model numbers. Def. Br. at 39-40. Given Defendants’ representation on this issue, Mondis would be willing to accept TPV’s proposed construction if the *Markman* order makes clear that model or product numbers are not excluded.

(Pl.’s Reply Br., Dkt. No. 238, at 12.) The plaintiff confirmed at the *Markman* hearing that it agreed to Defendants’ construction. Thus, the Court adopts the “can be used to” language that Defendants Hon Hai and TPV propose.

i. “identification information” / “identifying information of the display unit”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
25. A display unit for displaying an image based on an image signal inputted from an externally connected computer, comprising: a processor adapted to control display of the display unit; a memory which stores identification information; and a communication controller which sends the identification information stored in said memory to said computer in response to power on of at least one of said display unit and said computer; wherein said communication controller enables bi-directional communication between said display and said computer. (‘970 Patent, claim 25) <i>See also</i> ‘088 Patent, claims 1, 5, 9, 10, 14, 18, 22.	information associated with the identity of the display unit	<u>Defendant Innolux:</u> information that can be used to identify a display unit and is used for determining whether to allow control of the display unit by a computer <u>Defendants Hon Hai and TPV:</u> information that can be used to identify a display unit

All parties agree that “identification information” and “identifying information of the display unit” have the same meaning even though they use different language. Pursuant to the discussion above, the Court construes these phrases as “information that can be used to identify a display unit.”

ii. “identification number” / “identification number of the display unit”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
23. A display unit for displaying an image based on an image signal inputted from an externally connected computer, comprising: a processor adapted to control display of the display unit; a memory which stores an identification number; and a communication controller which sends the identification number stored in said memory to said computer; wherein said communication controller enables bi-directional communication between said display and said computer. (‘970 Patent, claim 23) <i>See also</i> ‘181 Patent, claim 4.	a number associated with the identity of the display unit	<u>Defendant Innolux:</u> a number that can be used to identify a display unit and is used for determining whether to allow control of the display unit by a computer <u>Defendants Hon Hai and TPV:</u> a number that can be used to identify a display unit

All parties agree that “identification number” and “identifying number of the display unit” have the same meaning even though they use different language. Pursuant to the discussion above, the Court construes these phrases as “a number that can be used to identify a display unit.”

iii. “identification number for identifying the display unit”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
27. A display unit for displaying an image based on an image signal inputted from an externally connected video source, comprising: a processor adapted to control display of the display unit; a memory in which at least display unit information is stored, wherein the display unit information includes an identification number for identifying the display unit; and a communication controller capable of bi-directionally communicating with the video source; wherein the communication controller communicates the display unit information from the display unit to the video source and the display unit receives a signal from the video source that is generated based on the display unit information. (‘970 Patent, claim 27) See also ‘088 Patent, claims 12, 16, 20, 24; ‘342 Patent, claims 1, 5, 9, 14.	a number for identifying the display unit itself as opposed to just the type of capabilities of the display unit	<u>Defendant Innolux:</u> a number that can be used to identify a display unit and is used for determining whether to allow control of the display unit by a computer <u>Defendants Hon Hai and TPV:</u> a number that can be used to identify a display unit

Defendants agree that “identification number for identifying the display unit” should be construed the same as “identification number of the display unit” because there is no substantive difference between the terms. Plaintiff, however, proposes a different construction for this phrase. Plaintiff proposes “a number for identifying the display unit itself as opposed to just the type of capabilities of the display unit.” Plaintiff makes two points to support its construction. First, Plaintiff states that figure 5 of the specification and the accompanying description supports its construction. See ‘090 Patent, Fig. 5; 7:11-26. Second, Plaintiff states that the Patent Owner presented this ordinary meaning construction to the PTO at least twice, in re-examination, while distinguishing the prior art. Plaintiff is arguing that the Patent Owner was its own lexicographer.

The Court agrees with Defendants Hon Hai and TPV. The claim language here is not used any differently from the language in the claims which recites “identification number of the display unit.” The Court acknowledges that the claim language does add the words “*for identifying* the display unit” to “identification number of the display unit,” which indicates that this is a specific type of identification number—partially because different words in a claim usually indicates there is a different meaning. *But see Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1076 (Fed. Cir. 2005) (“Although Invitrogen suggests, *inter alia*, that ‘no detectable’ and ‘lacks’ might have different meanings, Invitrogen does not provide any cogent argument explaining why there is error in this trial Court ruling.”); *Comark Commc’n, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (“the doctrine of claim differentiation is not a hard and fast rule of construction”). This specific type of identification number, however, is also addressed in Defendants’ construction as it reads “a number *that can be used to identify* a display unit.” Plaintiff’s citation to Figure 5 and its supporting text provides little support because it shows only that a computer may be able to identify different display units by virtue of their identification numbers, but that is essentially a key concept of the invention. In the Court’s view, figure 5 and its supporting text does not provide strong support for either Plaintiff’s or Defendants’ position. Further, Plaintiff’s argument that the applicant acted as his own lexicographer is without merit. The statements to which Plaintiff refers were made in re-examination merely months before Plaintiff filed its claim construction brief—thus they should be given little, if any, weight. *See Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1270 (Fed. Cir. 1986) (papers filed with the PTO during litigation “might very well contain merely self-serving statements which likely would be accorded no more weight than testimony of an

interested witness or argument of counsel”). The Court agrees with Defendants that “identification number for identifying the display unit” is not used any differently in the claims than “identification number of the display unit.” Therefore, the Court construes “identification number for identifying the display unit” as “a number that can be used to identify a display unit.”

iv. “identification number for uniquely identifying the display unit”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
22. A method of communicating between a display unit and a video source from which video signals are sent to the display unit for display, the method comprising the steps of: communicating display unit information stored in a memory of the display unit from the display unit to the video source, wherein said display unit information includes an identification number for uniquely identifying the display unit; and sending a signal from the video source to the display unit, wherein said signal is generated based on the display unit information, wherein information is bi-directionally communicated with the video source and the display unit. (‘970 Patent, claim 22) See also ‘090 Patent, claims 1, 3; ‘088 Patent, claims 3, 7.	a number for identifying a specific display unit from among other display units	<u>Defendant Innolux:</u> a number that can be used to distinguish a display unit from another display unit and is used for determining whether to allow control of the display unit by a computer <u>Defendants Hon Hai and TPV:</u> a number that can be used to distinguish a display unit from another display unit

This phrase adds the “uniquely” adverb to the last phrase for which the parties sought a construction. Plaintiff seeks a construction of “identification number for uniquely identifying the display unit” as “a number for identifying a specific display unit from among other display units.” Defendants Hon Hai and TPV seek a construction that reads “a number that can be used to distinguish a display unit from another display unit.” The main difference rests on the “distinguish” language that Defendants use and the Plaintiff’s language that reads “identifying a specific display from among other display units.”

1. The Parties' Construction Arguments

Plaintiff argues that the specification provides examples in which the ID number is used as a security feature to prevent “careless display” of information on an unauthorized display unit. ‘090 Patent, 7:5-10. This security feature is facilitated when the ID number uniquely identifies a specific display unit from among others. Thus, if multiple displays within a pertinent group share the same ID number, it would be difficult to limit display to a single authorized monitor. Plaintiff states that this supports the construction of “identifying a specific display from among other display units.” Further, as with the last proposed construction, Plaintiff states that the Patent Owner acted as lexicographer in reexamination, but that argument is rejected because the statement was made merely months before claim construction briefs were due and was likely inspired by litigation arguments.

Defendants argue that in Figure 5 of the ‘090 Patent and the accompanying description, three separate display devices are assigned ID numbers for the purpose of distinguishing those displays. ‘090 Patent, 7:11-37. Thus, to “uniquely” identify in this context simply means that the computer can distinguish between the displays.

2. Analysis

The Court adopts Plaintiff’s construction for a reason neither party advanced. Plaintiff’s construction more closely tracks the claim language of “uniquely identifying” when it reads “identifying a specific display.” See ‘090 Patent, 10:57-60. On the other hand, Defendants’ construction completely reads out the “identifying” limitation because it only requires the ability to “distinguish.” Further, Defendants’ construction uses the “distinguish” language, which is not mentioned anywhere in the patent. Thus, “identification number for uniquely identifying the

display unit” is construed as “a number for identifying a specific display unit from among other display units.”

v. “identification number for making said computer recognize that said display unit is communicatable with said computer”

Representative Claim Language	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
19. A display unit for displaying an image based upon an image signal inputted from an externally connected computer, comprising: memory means for storing an identification number for making said computer recognize that said display unit is communicatable with said computer; and a communication control means for sending said identification number stored in said memory means to said computer in response to power on of at least one said display unit and said computer, wherein said communication control means enables bi-directional communication with said display unit and said computer. (‘970 Patent, claim 19) See also ‘970 Patent, claims 18, 20, 21.	Plaintiff seeks no construction except to construe “communicatable” as “capable of receiving control instructions”	<u>Defendant Innolux:</u> a number that can be used to identify a display unit and is used to determine whether to allow or not allow control of the display unit <u>Defendant TPV:</u> a number that can be used to identify a display unit <u>Defendant Hon Hai:</u> a number that can be used to identify whether a display unit is capable of being controlled by
“communicatable [with]”	capable of receiving control instructions	<u>Defendant Innolux:</u> allowed to control or be controlled by <u>Defendant TPV:</u> (see above construction containing “communicatable”) <u>Defendant Hon Hai:</u> capable of being controlled by

Plaintiff argues that “communicatable” means “capable of receiving control instructions.”

Other than in the claims, the term “communicatable” is not used in the patent. Plaintiff’s argument to support its construction is that the patentee acted as his own lexicographer during prosecution and expressly defined “communicatable with” to mean “capable of receiving control

instructions.” Defendants make essentially the same type of arguments that they make for the “identification number” limitation. That argument is that the question addressed by the ‘090 Patent specification is whether the computer should be allowed to communicate with and control the display. Defendants continue to allege that no other uses of ID numbers are described in the ‘090 Patent specification, thus the Court should incorporate such a limitation into the claims.

The Court rejects the parties’ constructions as they are not supported by the intrinsic record. The Court has already construed “identification number” as “a number that can be used to identify a display unit.” This phrase, however, adds the “communicatable with” limitation that reads “for making said computer recognize that said display unit is communicatable with said computer.” *See, e.g.*, ‘970 Patent, claim 19. Thus, the Court will construe the “communicatable with” phrase as adding an additional limitation to the Court’s construction of “identification number.” The claim language in this phrase requires not only that the identification number be used to identify the display unit but also to make the computer recognize whether the display is communicatable with the computer. Although the patents in the ‘090 Patent family never use the words “communicatable with” in the specification, the “Summary of the Invention” describes how the determination is made regarding whether the computer will communicate with the display device (i.e., whether the computer is “communicatable with” the display device). *See* ‘090 Patent, 2:63-3:24. The “Summary of the Invention” describes a “comparison result match” that is determined by “compar[ing] the identification number of the computer stored in the memory means with the identification number sent by the computer” ‘090 Patent, 3:18; 3:3-6. The Court finds that this determination of the “comparison result match” is what the claim language is referring to when it

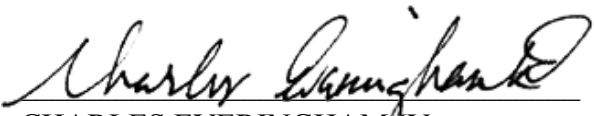
describes an identification number for making the computer recognize whether the display unit is “communicatable with” the computer. The “identification number” described, for example, in claim 19 of the ‘970 Patent, is compared to the identification number in the computer to make the computer either “communicate[] with the information output device” or, if not, the information sent by the computer is “not normally outputted” on the information output device. See ‘090 Patent, 3:10-24. Thus, considering the construction of “identification number” and the ‘090 Patent’s teachings that are described above, the Court construes “identification number for making said computer recognize that said display unit is communicatable with said computer” as “a number that can be used to determine whether or not the computer will communicate with the display device.”

VII. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents in the ‘812 Patent family and the ‘090 Patent family. 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.

It is so ORDERED.

SIGNED this 24th day of January, 2011.



CHARLES EVERINGHAM IV
UNITED STATES MAGISTRATE JUDGE