

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

PERSONALIZED MEDIA
COMMUNICATION, LLC

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vs.

CASE NO. 2:08-CV-70-CE

MOTOROLA, INC., ET AL.

MEMORANDUM OPINION AND ORDER

I. INTRODUCTION

On February 19, 2008, plaintiff Personalized Media Communication, LLC (“PMC”) filed suit against defendants Motorola Incorporated, EchoStar Corporation, and DISH Network Corporation, alleging infringement of U.S. Patent Nos. 4,965,825 (the “‘825 Patent”); 5,109,414 (the “‘414 Patent”); 5,233,654 (the “‘654 Patent”); 5,335,277 (the “‘277 Patent”); and 5,887,243 (the “‘243 Patent”). Just prior to the *Markman* hearing, defendant Motorola and PMC settled their dispute. Therefore, this claim construction order will address only defendant EchoStar Corporation and DISH Network Corporation’s (collectively “Defendants”) claim construction arguments.

The patents-in-suit disclose a number of inventions that relate, among other things, to the delivery of programming content to consumers. This includes the concept of delivering “personalized” broadcast programming. The parent application for the patents-in-suit was filed in 1981 and issued as U.S. Patent No. 4,694,490 (the “‘490 Patent”). The ‘490 Patent was supplemented by a continuation-in-part application in 1987, which issued as the ‘825 Patent. The asserted patents all share the same specification. For convenience, all specification citations herein are to the ‘825 Patent unless otherwise noted.

The asserted patents have an extensive litigation history. PMC has filed four prior lawsuits asserting some or all of the patents-in-suit in this case. Three of those cases involved substantive rulings on the patents, including claim construction. In 1996, PMC litigated against DIRECTV and Thomson Consumer Electronics in the U.S. International Trade Commission (the “ITC litigation”). *In the Matter of Certain Digital Satellite System (DSS) Receivers and Components Thereof*, Inv. No. 337-TA-392 (U.S. Int’l Trade Comm’n). The Administrative Law Judge in that matter issued an Initial Determination, including a claim construction. After the ITC found no violation of PMC’s patents, the Federal Circuit affirmed the ITC findings of non-infringement and invalidity but vacated and remanded other aspects of the decision. *See Personalized Media Commc’ns, LLC v. Int’l Trade Comm’n*, 161 F.3d 696 (Fed. Cir. 1998). PMC dismissed the ITC action and a parallel patent suit against these defendants in May 1999.

On December 4, 2000, PMC filed a suit against DIRECTV and Thomson asserting different claims in the District of Delaware. *Pegasus Dev. Corp. v. DirecTV Inc.*, No. 00-10200-GMS (D. Del.) (the “Delaware litigation”). On March 28, 2002, PMC filed suit in the Northern District of Georgia against certain cable television set-top box manufacturers, including Scientific-Atlanta. *Personalized Media Communications, LLC v. Scientific-Atlanta, Inc.*, No. 1:02-cv-824-CAP (N.D. Ga.) (the “Atlanta litigation”). In both cases, the courts addressed claim construction using special masters, and a report was issued on claim construction in each action. Defendants were not parties to these prior actions.

The court held a *Markman* hearing on May 6, 2011. Thereafter, PMC filed a motion sever and stay eight asserted claims, including ’825 Patent, Claim 3; ’414 Patent, Claim 13; ’654 Patent; Claim 59; and ’277 Patent, Claims 24, 25, 41, 42 and 43 (Dkt. No. 230). The court granted PMC’s motion to stay the eight asserted claims identified in its motion. As such, the

following terms that appear exclusively in the stayed claims will not be addressed in this claim construction order: (1) carrier receiving means; (2) carrier transmission receiving means; (3) demodulating means; (4) instruct-to-generate-and-transmit signal; (5) instruct-to-generate signal; (6) means for demodulating; (7) predetermined time interval; (8) recorder means; and (9) unit identification information signal. After considering the submissions and the arguments of counsel, the court issues the following order concerning the claim construction issues.

II. 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 patents-in-suit include 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.

III. TERMS IN DISPUTE

a. “Transmission” Terms

The following terms will be addressed in this section of the court’s claim construction order: “information transmission” (‘825 Patent, Claims 3 and 14-17); “broadcast transmission” (‘654 Patent, Claims 7, 10, 59); “selected broadcast or cablecast transmission” (‘277 Patent, Claim 43); “programming transmission” (‘277 Patent, Claims 24-26.); “television program transmission” (‘277 Patent, Claims 11, 14, 19, 20, 22, 23, 41, 42); “separately defined television program transmission” (‘277 Patent, Claim 20.).

i. “Transmission”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Any attempt to construe this simple and straightforward phrases is more likely to confuse, not assist, the jury.	“Transmission” means “sequential transfer of uncompressed content for a single program.”

The parties’ primary dispute with regard to “transmission” is whether the patents-in-suit are limited to the dominant American TV standard in 1987 – analog NTSC – or cover digital

transmissions as well. Defendants argue that the patents are so limited and, therefore, urge the court to construe the term “transmission” to mean “sequential transfer of uncompressed content for a single program.” Defendants note that the various transmissions and the equipment for processing these transmissions are often described in the patents-in-suit as “conventional” and “well known in the art.” *See, e.g.*, ‘825 Patent at 7:11-17 (the purpose of the invention is “combining [] relevant user specific information and conventional broadcast programming”); *id.* at 11:8-16 (the Wall Street Week embodiment “receives a conventional television broadcast transmission”); *id.* at 11:62-68; *id.* at 12:5-13 (the Wall Street Week program “is transmitted by conventional television network feed transmission means”); ‘490 Patent at 10:28-30 (“The means for and method of transmission of programing [sic] described here is well known in the art.”). Defendants argue that a person of ordinary skill in the art reading the patents in 1987¹ would have understood that “transmissions” were limited to the conventional television and radio transmissions available at the time. According to Defendants, in 1987 a person of ordinary skill in the art would have understood that a conventional television transmission was an NTSC transmission, which uses a process called uniform linear scanning that requires the use of transmissions that are sequential, uncompressed, and limited to a single program.

Defendants further point out that the patents recognize that the Federal Communications Commission (“FCC”) regulates television transmissions. *See* ‘825 Patent at 7:36-40 (describing methods for maintaining the logs mandated by the FCC). In 1987, the FCC required television transmissions to comply with the NTSC standards – no other type of television transmission was permitted in the United States. Thus, Defendants argue that, even assuming *arguendo* that other types of transmissions existed, they would not have been understood as conventional in 1987.

¹ During the claim construction hearing, Defendants conceded that the appropriate priority date is 1987 and that the patents-in-suit should be interpreted according to what one of ordinary skill in it the art would have understood them to cover as of 1987.

As such, Defendants argue that the patents-in-suit are limited to analog NTSC and, therefore, the court must construe “transmission” in a manner that reflects this limitation.

Defendants rely on *Kopykake Enters., Inc. v. Lucks Co.*, 264 F.3d 1377, 1382-83 (Fed. Cir. 2001), for its contention that the use of the words “conventional” and “well known in the art” in the specification demonstrates the patentee’s intention to limit the transmission-related claim elements to analog NTSC transmissions. In *Kopykake*, the limitation at issue required “screen printing” of images on foodstuffs and the accused product used “ink jet printing.” *Id.* at 1380. The issue was, therefore, whether the claimed “screen printing” literally covered ink jet printing. *Id.* The specification explicitly defined the term “screen printing” to “encompasses not only conventional screen printing, but also includes any other conventional printing process and any other conventional means.” *Id.* Although ink jet systems were well known in the field of paper printing, it was not a conventional printing process for applying images to foodstuffs. *Id.* at 1383-84. The court therefore held that ink jet printing was not covered by the claim term at issue. *Id.* at 1384.

In this case, however, Defendants have failed to identify any definition of “transmission” that expressly limits the scope of the term to “conventional” transmission systems known in 1987. As such, this case more closely mirrors the circumstances presented in *Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 878-81 (Fed. Cir. 2004). There, the federal circuit held that where the patentee does not clearly limit his invention to what was “conventional” at the time of the invention, the claims are not so limited. *Id.* at 879. Although the patents-in-suit disclose several embodiments in which certain transmissions, programming, or broadcasting are described as “conventional” or “well known in the art,” these are only examples showing how the inventions could be implemented using conventional technology. In fact, there are instances

in the specification where the “conventional” and “well known in the art” qualifiers are not used. *See, e.g.*, ‘825 Patent at 216:50-66 (describing receiver stations displaying “*any form of electronically transmitted programming*” that “may be received *via any electronic transmission means* including wireless or cable means”) (emphasis added); *id.* at 188:58-61 (concepts of invention “apply to *all forms of electronically transmitted programming*”) (emphasis added).

Furthermore, although Defendants argue that digital television technology was in its nascent stage in 1987, they concede that it was, at the least, known by persons of ordinary skill in the art as early as 1981. In fact, the Federal Circuit in *Superguide* observed that “the first digital television standard was created in 1981” and that they had “little doubt that those skilled in the art knew of the existence of digital video data” as of 1985. *Superguide*, 358 F.3d at 877. Most importantly, the Federal Circuit explained that:

Had the patentees intended to limit the disputed claim terms to ‘analog’ technology, they could have easily done so by explicitly modifying the disputed claim language with the term ‘analog.’ ... The law ‘*does not require that an applicant describe in his specification every conceivable and possible future embodiment of his invention.*’ ... We find no reason here to limit the scope of the claimed invention to analog technology, when ‘regularly received television signals,’ i.e., video data, is broad enough to encompass both formats and *those skilled in the art knew both formats could be used for video.*

Id. (emphasis added). Defendants’ offer no arguments as to why the court should ignore the Federal Circuit’s well reasoned analysis, which concludes that digital data transmission was known as early as 1981. Considering this, the court rejects Defendants’ contention that the patentee’s use of the terms “conventional” and “well known in the art” limit the scope of the invention to analog NTSC.

The other dispute regarding the Defendants’ proposed construction of “transmission” is whether the “transmission” must be limited to a single program. This “single program” limitation arises from Defendants’ rejected argument that the claims are limited to analog NTSC.

Even if Defendants’ analog NTSC argument had not been rejected, there is no support in the specification for the proposed “single program” limitation. Defendants argue there is no support in the patents-in-suit for the proposition that a transmission may include more than one program on a single channel. The patents, however, expressly state that a transmission may be a “multi-channel” transmission and, thus, comprised of multiple programs being transmitted at the same time. *See, e.g.*, ‘490 Patent at 10:24-29 (mentioning multiple channels being cablecast); *id.* at 1:30-33 (also mentioning local delivery of many channels of programming); ‘825 Patent at Fig. 2 (identifying input as “multichannel cable transmission”). As such, the court rejects Defendants’ proposed “single program” limitation.

In conclusion, the court rejects Defendants’ proposed construction of “transmission.” The court agrees with Plaintiffs’ that this term needs no construction as it is readily understandable by those ordinary skill in the art when read in conjunction with the patent specification.

ii. “Broadcast Transmission” / “Selected Broadcast or Cablecast Transmission”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>Any attempt to construe these simple and straightforward phrases is more likely to confuse, not assist, the jury.</p> <p>To the extent a definition is required, “broadcast transmission” means “a transmission of information from one location to multiple locations.”</p>	<p>“Transmission” means “sequential transfer of uncompressed content for a single program.”</p> <p>“Broadcast” means “transmission over the air directly from one terrestrial location to many terrestrial locations.”</p>

The term “broadcast transmission” is found in Claim 43 of the ‘277 Patent and Claims 7, 10 and 59 of the ‘654 Patent. PMC contends that the term need not be construed or, in the alternative, that “broadcast transmission” should be construed to mean “a transmission of information from one location to multiple locations.” Defendants, on the other hand, argue that

the term “broadcast” should be construed to mean a “transmission over the air directly from one terrestrial location to many terrestrial locations” and that “transmission” should be construed as explained above.

Considering that the court has rejected Defendants’ proposed construction of “transmission,” the only issue left to be decided with regard to the term “broadcast transmission” is the appropriate construction of “broadcast.” Both parties agree that a “broadcast” must occur from one location to many locations. PMC, however, argues that no further construction is required and notes that the special master in Delaware litigation agreed with this contention. The special master defined “broadcast transmission” as a means for “transmitting information from one location to multiple locations.” Ex. H at 37, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136.

The parties’ primary dispute regarding Defendants’ proposed construction of “broadcast” is whether “broadcast” requires that the transmission be “over the air,” thereby excluding cable and other forms of transmission. Defendants argue that the term “broadcast” is expressly defined in the patents-in-suit to mean “over-the-air” as opposed to “over hard-wire” or cablecast. The specification explains that:

The programming may be delivered by any means including over-the-air, hard-wire, and manual means. The stations may transmit programming *over-the-air* (hereinafter, “broadcast”) or over hardwire (hereinafter, “cablecast”).

‘825 Patent at 7:31-40 (emphasis added). Considering this, Defendants argue that the patents-in-suit clearly limit the term “broadcast” to over-the-air transmissions.

In response, PMC argues that although the specification at times refers to over-the-air transmissions as “broadcast” and to cable transmissions as “cablecast,” two embodiments in the specification demonstrate that the patentees did not disclaim cablecast as a form of broadcast

transmission. First, PMC argues that the patent's disclosures with regard to the WNBC program demonstrate a broader usage of "broadcast." See '825 Patent at 178:6-13. The section of the specification on which PMC relies states:

For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News *as broadcast over station WNBC in New York City*. Recorder, 217, might *receive the programming over Manhattan Cable TV channel* and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985.

Id. (emphasis added). The plain reading of this passage, however, demonstrates that the reference to "broadcast" is a reference to the content originator, WNBC, who broadcasts its programs over-the-air. The quoted passage merely describes how over-the-air broadcast television was retransmitted over cable. It does not represent a broader interpretation of "broadcast."

Second, PMC relies on the WNET embodiment, which recites:

In the example, *the subscriber station of FIG. 1 is in New York City and is tuned to the conventional broadcast television transmission frequency of channel 13 at 8:30 PM on a Friday evening when the broadcast station of said frequency, WNET, commences transmitting a television program about stock market investing, "Wall Street Week."* Said WNET station is an intermediate transmission station for said program which actually originates at a remote television studio in Owings Mills, Md. (Hereinafter, a studio or station that originates the broadcast transmission of programming is called the "program originating studio.") *From said program originating studio said program is transmitted by conventional television network feed transmission means, well known in the art, to a large number of geographically dispersed intermediate transmission stations that retransmit said program to millions of subscriber stations where subscribers view said program.* Said network transmission means may include so-called landlines, microwave transmissions, a satellite transponder, or other means.

Id. at 11:62-12:14. PMC argues that this embodiment discloses that a "broadcast" using "conventional television network" to "a large number of geographically dispersed" intermediate stations and "millions" of subscriber stations may be accomplished through "network

transmission means” including “so-called landlines, microwave transmissions, a satellite transponder, or other means.” That is not, however, what this embodiment discloses. The embodiment starts with the “subscriber station of FIG. 1,” which through a “conventional antenna, receives a conventional television broadcast transmission.” *Id.* The transmission received by that subscriber station is over-the-air, and originates from WNET in Maryland. The language relied upon by PMC simply explains that as an intermediate transmission station WNET can transmit the program using other means besides conventional broadcast television. Thus, the list of “network transmission means” does not define or expand “broadcast.”

Considering that neither of the embodiments relied on by PMC broaden the scope of the patentees’ explicit definition of “broadcast” as being programming transmitted “over-the air,” the court rejects PMC’s proposed construction of “broadcast.” Defendants, however, provided no support for their “terrestrial location” limitation, and as such, the court rejects that proposed limitation. The court concludes that the appropriate construction of “broadcast” is “an over-the-air transmission from one location to many locations.” This construction captures the express definition provided for the term in the specification without importing unsupported limitations into the claims.

iii. “Information Transmission”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>Any attempt to construe these simple and straightforward phrases is more likely to confuse, not assist, the jury.</p> <p>To the extent a definition is required, “information transmission” means “signals sent or passed from one location to another location for the purpose of conveying information.”</p>	<p>“Transmission” means “sequential transfer of uncompressed content for a single program.”</p> <p>To the extent construction is necessary, “information” should be construed to mean “a transmission including data located in embedded signals.”</p>

The disputed term “information transmission” is found in Claims 3, 14-17 of the ’825 Patent. PMC argues that this term would be readily understood in accordance with the ordinary meaning of its words. To the extent that a definition is required, PMC proposes “signals sent or passed from one location to another location for the purpose of conveying information.” Defendants propose that, to the extent construction is necessary, “information” should be construed to mean “a transmission including data located in embedded signals.” Defendants, however, offers no support for their proposed construction.

Considering that the court has rejected Defendants’ proposed construction of “transmission” and concluded that that term must be accorded its plain and ordinary meaning, the court agrees with the parties that the term “information” also needs no further construction. When read in the context of the claims and the specification, a person of ordinary skill in the art would readily understand the meaning of “information transmission.”

iv. “television program[ming] transmission”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>Any attempt to construe these simple and straightforward phrases is more likely to confuse, not assist, the jury.</p> <p>To the extent a definition is required, a “television program transmission” (or “television programming transmission”) is “a single transmission enveloped within a single carrier wave. That term is not limited to analog transmission, nor is it limited to a single program or service.”</p>	<p>“Transmission” means “sequential transfer of uncompressed content for a single program.”</p> <p><i>See</i> “information transmission” in ’825 Patent, Cl. 3, 14-17 and ’277 Patent, Cl. 3 above.</p>

This disputed term is found in Claims 11, 14, 19, 20, 22, 23 41, 42 of the ’277 Patent. PMC argues that it need not be construed because it may be plainly understood from its constituent elements and context as “transmissions of television programming.” Defendants’ proposed definition is the same offered for “transmission” and “information.” The court agrees with PMC that the term “television program[ming] transmission” needs no further construction.

v. “Separately Defined” Transmission Terms

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>“separately defined television program transmission” means “something other than a standard analog television transmission”</p> <p>“television programming separately defined from standard analog television” means “something other than a standard analog television transmission”</p>	<p>Sequential transfer of uncompressed content for a single program, which is not defined by FCC standards.</p> <p><i>See</i> “information transmission” in ‘825 Patent, Cl. 3, 14-17 and ‘277 Patent, Cl. 3 above.</p>

PMC argues that when the patents refer to “separately defined” transmissions, they are referring to anything other than standard analog transmissions. This is the construction recommended by the special masters in the Atlanta and Delaware litigation – i.e., “separately defined” means “a television program transmission that is something other than a standard analog video and audio television transmission,” and includes “multi-channel digital television technology.” Ex. G at 416, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136; Ex. H at 65-66. PMC argues that the patents make clear that in addition to standard analog transmissions, non-standard television transmissions can be utilized. *See* ‘490 Patent at 6:42-7:1 (Figure 2A discloses TV decoder that detects embedded signals found in standard television signal via Path A (in vertical blanking interval of standard TV signal) and Path B (in audio of standard TV signal), while Path C provides for detecting digital signals in “separately defined” TV transmission); ‘490 Patent at 7:22-35 (“Were it desirable to process signals in other transmissions such as broadcast microwave transmissions or cablecast transmissions on other than standard TV and radio frequencies, the mixers and switches would be appropriately reconfigured and one or more other signal decoders as described in FIG. 2C would be added”).

Furthermore, PMC notes that it was well known in 1987 that analog television standards included analog television with embedded digital data. Accordingly, PMC argues that a “separately defined” television transmission would exclude analog television with or without

embedded digital data. The special master in the Delaware litigation specifically adopted this view, explaining that he intended the phrase “a television transmission that is not a standard analog video and audio television transmission” to “exclude a standard analog video and audio television transmission with digital information embedded therein.” Ex. G at 1, attached to Plaintiff’s Reply Brief, Dkt. No. 161. Considering this, PMC urges the court to construe the “separately defined” terms to mean “something other than a standard analog television transmission.”

Defendants’ proposed construction arises from its contention that the patents-in-suit are limited to analog NTSC. As discussed above, the court has rejected that contention, and accordingly, the court rejects Defendants’ proposed construction of the “separately defined” terms.

The court agrees with PMC and the special masters from both the Atlanta and Delaware litigation that the “separately defined” transmission terms connote a television transmission that is something other than a standard analog video and audio television transmission, and it includes digital television technology. Furthermore, the court agrees that the terms exclude a standard analog video and audio television transmission with digital information embedded therein. As such, the court construed the “separately defined” terms to mean “something other than a standard analog television transmission.”

vi. “Transmission Means” / “Member Information”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>This limitation is governed by 35 U.S.C. § 112(6).</p> <p>Recited function: “transmitting said data to said data collection station.”</p> <p>Corresponding structure: a connection to a telephone network or a data transfer network, and equivalents known as of the issue date of</p>	<p>This limitation is governed by 35 U.S.C. § 112(6).</p> <p>Recited function: transmitting said data to said data collection station</p> <p>Corresponding structure: controller 20, auto dialer 24 and telephone connector 22</p>

the patent. Similar structures are found in the figures from both the 1981 specification (i.e., the '490 Patent) and the 1987 specification (i.e., the '825 Patent).	
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The term “transmission means” appears in Claims 7-10 of the ‘654 Patent. The parties agree that “transmission means” is a means-plus-function limitation governed by § 112, ¶ 6 and that the appropriate function of the “transmission means” is “transmitting said data to said data collection station.” The parties, however, disagree as to structure corresponding to that function.

PMC argues that the corresponding structure is “a connection to a telephone network or a data transfer network, and equivalents known as of the issue date of the patent.” This is the corresponding structure that was identified by the special master in the Delaware litigation. Ex. H at 30, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136. In response, Defendants contend that PMC’s cited structure is incorrect because it would include “other data transfer networks, 97, and 99.” ‘825 Patent at 187:53-65. Defendants argue that: (1) the “transmission means” operates solely on “member information” – not programming records; (2) data networks 97 and 99 only transmit programming records, not data resulting from the processing of “member information,” and therefore, cannot be included in the corresponding structure; (3) the specification, however, explains that telephone connection 22 is used to transfer data resulting from the processing of “member information” (*id.* at 18:31-34); and accordingly (4) the corresponding structure for “transmission means” is controller 20, auto dialer, 24 and telephone connector 22.

The parties dispute, therefore, centers on whether “member information” includes programming records. The term “member information” is found in Claims 7, 10 and 59 of the ‘654 Patent. Subsequent to submitting its claim construction briefing, the parties agreed that the term “member information” should be construed to mean “data regarding a subscriber.” The parties, however, did not indicate whether that construction would exclude programming records

and also did not come to an agreement as to the construction of “transmission means.” Considering this, the parties apparently still disagree as to whether their agreed construction of “member information” encompasses programming records.

Defendants argue that “member information” does not encompass all types of information about the subscriber. According to Defendants, the specification leaves no doubt that member information is more than just information from a subscriber, like a selection of a show to watch – it is data that define the subscriber’s tastes or needs. The specification, however, explains that one type of “member information” can be a subscriber request for content or information indirectly related to a subscriber such as stock portfolio information. *See* ‘490 Patent at 20:12-59 (subscriber orders recipe in “Julia Child” example); *id.*, at 17:34-20:11; ‘825 Patent at 161:26-37 (selected programming, local weather, stock prices or audio requests); ‘490 Patent at 18:44-68 (information provided to member and/or stored at subscriber’s station that indirectly relates to member, e.g., stock data for the user’s portfolio in “Wall Street Week” example). Considering this, the court is not convinced that the patentee intended “member information” to exclude programming records. The court, therefore, rejects Defendants’ proposed construction of “member information.”

Considering that the court has rejected Defendants’ narrow construction of “member information,” the court also rejects Defendants’ proposed structure for “transmission means.” Even if network connections 97 and 99 transmit only *programming* records, the court has concluded that such records are not excluded from the definition of “member information.” As such, since Defendants’ have conceded that the “transmission means” operates on “member information,” the court rejects Defendants’ proposed construction because it would exclude data networks 97 and 99 which transmit “member information” as defined by the court.

In conclusion, the court construes the term “member information” to mean “data regarding a subscriber, including programming records.” And the court construes “transmission means” as follows: (1) the function is “transmitting said data to said data collection station;” and (3) the structure is “a connection to a telephone network or a data transfer network.”

b. Embedded Signal Terms

i. “embedded signal[s]”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>“Signal” means “a detectable physical quantity or impulse by which messages or information can be transmitted.”</p> <p>“Embedded signals” means “signals that are enclosed within or made an integral part of a transmission.”</p>	<p>“Signal” means “a series of pulses encoded on a waveform that includes bit information required for error correction and can be used to communicate coded data, instructions, or commands.”</p> <p>“Embedded signals” means “precisely-timed signals that are concealed in, and cannot become separated inadvertently from, the video or audio portion of a television program.”</p>

The term “embedded signal[s]” appears in Claims 3 and 14-17 of the ’825 Patent. Claim 14 is representative and recites: “the step of detecting and identifying embedded signals on said information transmission; (d) the step of passing said embedded signals to a device or devices to be controlled based on instructions identified within said embedded signals....”

1. Plaintiff’s Proposed Construction

PMC argues that the term “embedded signals” should be defined as “signals that are enclosed within or made an integral part of a transmission.” PMC’s proposed construction mirrors the construction recommended by the special master in the Atlanta litigation – the special master concluded that “embedded signals” should be defined as those “signals that are enclosed within or made an integral part of a transmission.” Ex. G at 174, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136. Furthermore, PMC argues that its proposed construction is consistent with the dictionary definition of “embedded signals,” such as the Webster’s Third

New International Dictionary of the English Language Unabridged (1981), which defines “embed” to mean “to introduce as an integral part.” Ex. K at 739, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136.

Defendants argue that the weight of the intrinsic evidence shows that PMC’s construction is wrong, as was the pre-*Phillips* construction by the Atlanta special master. Defendants contend that both constructions place undue emphasis on dictionary definitions, rather than the specification. As discussed below, Defendants argue that the specification leaves no doubt that “embedded” and “signals” have a special significance within the claimed invention.

2. Defendants’ Proposed Construction

Defendants argue that the patentee acted as his own lexicographer in defining “embedded signals” when he described his invention as follows:

The present invention employs signals embedded in programming. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing. They occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions. They can be conveniently monitored.

‘825 Patent at 8:5-12. Defendants contend that this portion of the specification describes the fundamental characteristics of the “embedded signals” of the “the present invention,” not a mere embodiment. *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1330 (Fed. Cir. 2009) (“[W]hen the preferred embodiment is described in the specification as the invention itself, the claims are not necessarily entitled to a scope broader than that embodiment.”) (citing *Chimie*, 402 F.3d at 1379); *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) (claim scope limited where the specification referred to a feature as part of “the present invention”). Considering this, Defendants urge the court to conclude that the “embedded signal” of the invention is a “precisely-timed series of pulses encoded on a waveform that includes bit

information required for error correction and can be used to communicate coded data, instructions, or commands that are concealed in, and cannot become separated inadvertently from, the video or audio portion of a television program.”

The parties’ disputes regarding Defendants’ proposed construction include whether the embedded signals must: (1) be concealed in the video or audio portion of a television program, such that the signals can only be transmitted on an analog NTSC transmission; (2) be precisely-timed; and (3) include bit information required for error correction. The parties further dispute whether, as Defendants contend, all “signals” recited in the claims should be construed to be “embedded signals.”

First, Defendants argue that “embedded signals” must be concealed in the video or audio portion of a television program. Defendants’ make it clear that these proposed limitations are based solely on their contention that, as discussed above, the term “transmission” is limited to analog NTSC transmission – i.e., an “embedded signal” can only be embedded in an analog NTSC transmission and the only way to embed digital information in NTSC was to conceal it in the video and audio. For the reasons discussed above, however, the court rejects Defendants’ attempt to circumscribe the disclosed invention to analog NTSC Television as it existed in 1987. Furthermore, Defendants’ argument that embedded signals must be concealed in the video or audio portion of a television transmission is not convincing in the face of numerous statements indicating that such signals can be “transmitted on frequencies *outside the ranges of television and radio.*” ‘490 Patent at 4:26-29; *see also* ‘825 Patent at 9:31-33 (“4 digital signal is embedded...and transmitted in a television, radio, *or other transmission*”) (emphasis added); *id.* at 13:17-20 (“The signals...may be embedded in the programming *or may be elsewhere*”) (emphasis added); *id.* at 20:46-48 (“signal information embedded in a frequency *other than a*

television or radio frequency”) (emphasis added)); *id.* at 46:64-68 (“SPAM signals...embedded in television or radio *or other programming transmissions*”) (emphasis added). Considering this, the court rejects Defendants’ proposed “concealed in the video or audio portion of a television program” limitation.

Second, Defendants contend that embedded signals must be found at precise times in the programming. As discussed above, the Summary of the Invention supports this contention, reciting that one of the several advantages of “embedded signals” are that “[t]hey occur at precise times in programming and can synchronize the operation of receiver station apparatus to the timing of programming transmissions.” ‘825 Patent at 8:5-12. Furthermore, Defendants argue that precise timing is necessary because the embedded signals must be capable of triggering actions on multiple receivers at the same time, as illustrated by the Wall Street Week embodiment. *Id.* at 14:47-15:27. In that example, every television receiving the TV program must display the viewer’s stock portfolio at the same time, when prompted by the program announcer.

In response, PMC concedes that one of the “advantages” of embedded signals is that they can occur at precise times in the programming and that the Wall Street Week embodiment does indeed illustrate precisely timed “embedded signals.” PMC, however, argues that, as the special master in the Atlanta litigation correctly observed, patents are not limited to stated “advantages” identified in the specification. *See* Ex. G at 166, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136 (citing *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1332 (Fed. Cir. 2004); *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1370 (Fed. Cir. 2003)). Moreover, PMC contends that Defendants’ proposed “precisely-timed” limitation would read the

Monitoring Receiver Station Reception and Operation embodiment out of the patents-in-suit.

With regard to this embodiment, the specification explains that:

For example, a subscriber might instruct video recorder/player, 217, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City. Recorder, 217, might receive the programming over Manhattan Cable TV channel and record the programming at the time of original broadcast transmission--from 7:00 PM to 7:30 PM on the evening of July 15, 1985. *Each discrete bit of this information could be transmitted to the subscriber station of FIG. 5 in meter-monitor information (of a SPAM command with an appropriate execution segment such as information of the pseudo command) embedded in the transmitted programming.* So embedding and transmitting said meter-monitor information would cause recorder, 217, to record said information....(Simultaneously, the information of said programming is being displayed at the monitors, 202M, of other subscriber stations that are tuned to the frequency of said News as broadcast; decoders, 145, associated with said monitors, 202M, *are detecting said embedded meter-monitor information* and transmitting said information to the signal processors, 200, of said stations; and said signal processors, 200, are recording signal records of programming displayed at said monitors, 202M.) Subsequently, the subscriber might play back the recorded programming and view said programming on TV monitor, 202M, from 10:45 PM to 11:15 PM the same evening. *So playing back and transmitting the recorded programming to monitor, 202M, would cause TV signal decoder, 145, to detect said meter-monitor information* and transfer said information, together with appropriate source mark information, to signal processor, 131, causing said signal processor, 200, to record a signal record of said information together with date and time information of said 10:45 PM to 11:15 PM the same evening selected from the clock, 18, of signal processor, 200.

'825 Patent at 177:6-49 (emphasis added). The special master in the Atlanta litigation observed that in this embodiment:

the SPAM signals are the 'embedded signals,' but do not appear to occur at any particular time, much less a precise time. [The patents-in-suit]...do not discuss timing or time of the disputed signals. Although program transmission may arguably occur at a precise time in the program, whether during transmission or on playback, that does not seem to be required by definition.... *It is, of course, possible to place 'embedded signals' at precise times or intervals in a program as the defendants urge, but the specification does not require the same.*

Id. at 169 (emphasis added). Considering this, PMC urges the court to conclude, as the special master did, that embedded signals do not necessarily have to be precisely timed.

Finally, Defendants argue that all of the signals in the asserted patents must be types of “embedded signals.” Although both “signals” and “embedded signals” appear in the claims of the patents-in-suit as different claim limitations, Defendants note that the 1987 specification defines the word “SPAM” as being “*signal processing apparatus and methods of the present invention.*” ‘825 Patent at 22:66-68. And as the 1981 specification makes clear, “[e]ach of the paths described in Figs. 2A, 2B, and 2C can *identify and process only signals embedded in the particular transmission* channel inputted to said paths.” ‘490 Patent at 9:37-40 (emphasis added). Defendants seem to argue that these sections demonstrate that the patentee acted as his own lexicographer and defined all “signals” in the claims of the patents-in-suit to be “embedded signals.”

PMC, however, argues that there are numerous disclosures of “signals” that are sent within an apparatus, but not in a “transmission” and certainly not “concealed in . . . the video or audio” of an analog TV broadcast, as Defendants would construe “embedded signal.” *See, e.g.*, ‘414 Patent at 312:48-56; ‘490 Patent at 20:25-26. For example, in the Julia Childs recipe example, a user presses “567” on a local input device (remote control) and a “signal is conveyed to the buffer/comparator.” ‘490 Patent at 20:25-26. Plaintiff argues that the signal from a remote control to a set-top box device to order the recipe is certainly not “embedded” in a transmission as Defendants would require. *See also* ‘825 Patent at 261:35-43 (“Each subscriber—in particular, the subscriber of the station of FIGS. 7 and 7F, said second subscriber, and said third subscriber--*enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.*”) (emphasis added); *id.* at 257:3-8 (“To minimize

the risk that program instruction sets may become separated from their associated television programming, said sets are normally embedded in their associated television transmissions. *But it is not an absolute requirement of the preferred embodiment that all program instruction sets be so embedded.*”) (emphasis added).

3. Analysis

As explained above, the court rejects Defendants’ proposed concealed in the video or audio portion of a television program limitation. Furthermore, with regard to Defendants’ proposed precisely-timed limitation, the court agrees with the Atlanta special master’s conclusion that requiring embedded signals to be precisely timed would run contrary to meter-monitoring embodiment disclosed in the specification. ’825 Patent at 177:6-49. Defendants respond to this embodiment by arguing that, contrary to the special master’s conclusions, the meter-monitor information must occur at a precise time because the example notes that the transmission it pertains to is sent “simultaneously” on broadcast to many users. But this does not mean that across viewers, the meter-monitor signal itself appears simultaneously or at any precise time. The specification requires no such thing. Moreover, Defendants ignore the fact that the very same passage subsequently observes that if a single subscriber has recorded the broadcast, then at a later time, and not simultaneously with other viewers, he can playback the broadcast, which would cause the detection of a meter-monitor signal, this time certainly not occurring “simultaneously” or necessarily at any precise time. Considering that Defendants’ proposed limitation would impermissibly read an embodiment out of the patents-in-suit, the court rejects Defendants’ proposed “precisely-timed” limitation.

Moreover, Defendants’ argument that the patentees acted as their own lexicographer in defining all “signals” to be “embedded signals” is not convincing. When nothing in the

specification expressly equates “signals” and “embedded signals,” the court cannot dismiss the fact that the claims use two different words, which indicates that the words reference two different claim elements. Furthermore, as PMC noted, there are numerous disclosures of “signals” that are sent *within an apparatus*, but not in a “transmission” as an “embedded signal” would be sent. As such, the court rejects Defendants’ contention that all “signals” in the patents-in-suit are “embedded signals.”

Turning to PMC’s proposed construction, the court agrees with PMC that its proposed construction accurately captures the broad manner in which the specification defines the “embedded signals” of the invention. The court concludes that, as illustrated above, the specification of the patents-in-suit do not implicitly limit the broad definition of the claimed “embedded signals.” As such, the court construes “embedded signals” to mean “signals that are enclosed within or made an integral part of a transmission.”

ii. The “Instruct-To” Signal Terms

The terms “instruct-to-decrypt signal” and “instruct signal which is effective [] to coordinate presentation” will be addressed together in this section. With regard to both of these terms, PMC argues that no construction is necessary because the meaning of the term is clear from the plain language of the respective claims. Defendants, however, argue that none of these terms has an ordinary meaning to one of skill in the art, and therefore, they must be construed.

1. “instruct-to-decrypt signal[s]” / “signal needed for decryption”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>The plain language of the claims defines the “instruct-to-decrypt signal.”</p> <p>In the alternative, “instruct-to-decrypt signal” means “an instruction or command or control signal that enables decryption.”</p>	<p>“Instruct-to-decrypt signal” means “an embedded control signal that causes the execution of a decryption function automatically and specifies the decryption key to use.”</p> <p>“signal needed for decryption” means “information of an embedded instruct-to-decrypt signal that specifies the decryption key to use.”</p>

The term “instruct-to-decrypt signal” appears in Claims 19, 20, 22-26, and 41 of the ‘277 Patent. Claim 24 is representative, and recites: “programming said processor with information of a procedure for identifying an *instruct-to-decrypt signal* in a plurality of signal types or for locating *instruct-to-decrypt signals* that are transmitted in varying locations or in a varying pattern of timing; transmitting *instruct-to-decrypt signals* to said station in varying locations or a varying pattern of timing in a mass medium programming transmission that contains a plurality of signal types....” (emphasis added).

PMC argues that the meaning of “instruct-to-decrypt signal” is clear from the plain language of the respective claims. The special master in the Atlanta litigation agreed with PMC, concluding that “[t]he plain language of the claims defines the ‘instruct-to-decrypt signal.’” Ex. G at 473, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136. In fact, the special master believed that had “Harvey et al. simply used the word ‘signal’ [instead of ‘instruct-to-decrypt’ signal], the claims would have made just as much sense.” *Id.* at 471. In the alternative, PMC argues that, if any further clarification is needed, the court should construe the phrase to mean “an instruction or command or control signal that enables decryption.”

Defendants argue that “instruct-to-decrypt signal” should be construed to mean “an embedded signal that causes the execution of a decryption function automatically and specifies the decryption key to use.” The parties’ arguments over Defendants’ proposed construction focus on three issues: (1) whether the signal is embedded; (2) whether the signal automatically “causes,” rather than merely “enables,” decryption; and (3) whether the signal must identify a specific decryption key.

With regard to whether the signal must be “embedded,” some of the asserted claims explicitly state that the instruct-to-decrypt signal is found “*in* a mass medium programming

transmission.” Defendants argue that the word “in” means “embedded” in the context of the claims. Defendants note that, in the Atlanta litigation, PMC conceded that “*in a television program transmission*” means “*embedded within the television program transmission,*” and persuaded the special master to agree. *Id.* at 389-92. According to Defendants, PMC did so in part by relying on the findings of the ALJ in the ITC investigation, who found that signals described in the claims as being “in” a transmission are embedded. *See id.* at 390-391; *see also* Ex. F at 46-48, attached the Motorola’s Responsive Claim Construction Brief, Dkt. No. 149. Accordingly, Defendants argue that the instruct-to-decrypt signals (which are located *in* a mass medium transmission) are embedded.

In response, PMC concedes that it equated the term “in” with “embedded” in the Atlanta litigation but notes that its proposed definition of “embedded” in that litigation was simply “[s]ignals carried on, within, or made an integral part of a transmission.” In this litigation, however, Defendants’ proposed construction of “embedded signals” is “precisely-timed series of pulses encoded on a waveform that includes bit information required for error correction and can be used to communicate coded data, instructions, or commands that are concealed in, and cannot become separated inadvertently from the video or audio portion of a television program.” As such, Plaintiff argues that, given Defendants’ different definition of embedded signals, the court should reject Defendants’ attempt to equate “in” with “embedded” in this litigation.

Defendants further argue that the “instruct-to-decrypt signal” must automatically “cause,” rather than simply “enable,” decryption to occur and must specify the key required to decrypt.

Defendants argue that the following section of the specification supports their argument:

Just as is the case with the first message of example #4, at the subscriber station of Fig. 3 (and at other stations that are preprogrammed with decryption key J), receiving the 1st supplementary message (#6) *causes the apparatus of said station to decrypt said message (using key J)* and execute any controlled functions that

are invoked by the unencrypted execution segment of said message. *Automatically*, control processor, 39J, causes decryptor, 39K, to receive the information of said message; decryptor, 39K, *decrypts the encrypted information....*

'825 Patent at 157:21-31 (emphasis added). According to Defendants, this language explains that the instruct-to-decrypt signal (i.e., supplementary message (#6)), instructs the receiver to execute a “controlled function” that decrypts using key J. As such, Defendants argue that the signal *specifies* the decryption key to use and *causes* the decryption function to execute *automatically*. Defendants cite to numerous other embodiments disclosed in the specification which they argue support their contention that all of the claimed control and instruct signals cause devices to execute their functions automatically. *See, e.g.*, '852 Patent at 23:40-44; *id.* at 6:43-62; '490 Patent at 3:32-37.

In response, PMC argues that Defendants' proposed construction is inconsistent with the plain language of the claims and specification. For example, Claim 24 specifically states that the instruct-to-decrypt signal “*enable[s]* said station to decrypt...,” as does Claim 26. The signals may, for example, “inform decrypter/interrupter, 101, how to decrypt or interrupt the programing [sic] if decrypter/interrupter, 101, is capable of multiple means” or “transmit a code or codes necessary for the decryption of the transmission.” *Id.* at 13:28-32. Furthermore, PMC argues that there is no warrant for Defendants' insistence that decryption must occur “automatically.” Indeed, PMC argues that, in many embodiments, the instruct-to-decrypt signal does not automatically cause decryption to occur, but rather enables decryption to occur *after* other events have transpired. *See, e.g.*, '825 Patent at 263:35-265:9 (in Julia Child example, after instruct-to-decrypt signal sent, consumer must subsequently input “#567” before decryption occurs); '490 Patent at 20:16-59 (consumer must input TV567# in the Exotic Meals of India example).

a. Analysis

The court agrees with the Plaintiff that the term “instruct-to-decrypt signal[s]” needs no construction in light of the surrounding claim language. As did the special master in the Atlanta litigation, the court finds that the patentee “set forth the function of the signal in the claim” and that the plain language of the claims sufficiently defines the “instruct-to-decrypt signal.” Ex. G at 473, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136.

Considering this, the court rejects Defendants’ proposed construction. Although Defendants cited to numerous embodiments in the specification in which the signal caused the decryption function to happen automatically, the Defendants did not identify anything in the specification or prosecution history of the patents-in-suit that indicate a clear disclaimer of instruct-to-decrypt signals containing other functionalities. In fact, as illustrated above, Plaintiff identified specific embodiments in which the instruct-to-decrypt signal does not automatically cause decryption to occur. Defendants, however, failed to address these embodiments.

The court notes that it agrees with the conclusions of both the ALJ and Atlanta special master that signals described in the claims as being “in” a transmission are “embedded signals.” Ex. G at 390-91, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136; Ex. F at 46-48, attached to the Motorola’s Responsive Claim Construction Brief, Dkt. No. 149. The court, however, rejects Defendants’ attempt to read the court’s construction of the term “in” a transmission into its construction of “instruct-to-decrypt signals.” If the claim language requires an “instruct-to-decrypt signal” to be “in” a transmission, as does Claim 20 of the ’277 Patent, then, and only then, will the “instruct-to-decrypt signal” be an “embedded signal” as the court has construed that term.

In conclusion, the court concludes that the term “instruct-to-decrypt signal[s]” shall be construed according to its plain and ordinary meaning. Likewise, the court construes the related term “signal needed for decryption” according to its plain and ordinary meaning.

2. “instruct signal which is effective [] to coordinate presentation”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>To the extent a definition is required, the plain language of the claims defines the “instruct signal.”</p> <p>In the alternative, “instruct signal ...” means “a signal that carries information or data used to place or arrange elements of a presentation in proper position relative to each other in terms of time, location (place), fashion of playing, or manner of presentation.”</p>	<p>“instruct signal ...” means “an embedded control signal that causes a device to execute a function of creating order to a presentation automatically.”</p>

The term “instruct signal which is effective to coordinate presentation” is found in Claim 13 and 14 of the ‘243 Patent. Claim 13 is representative and recites: “processing said *instruct signal which is effective to coordinate presentation* of at least a mass medium program segment with a predetermined presentation sequence at said subscriber station in consequence of said step of determining”

PMC again argues that this term need not be construed, and the special master in the Atlanta litigation agreed with PMC. The special master explained that “‘an instruct signal’ is simply a signal” and that “[t]he function of that signal is expressly set forth in the claim, namely, that it ‘is effective at said receiver station to coordinate presentation of said at least a portion of said data with one of a mass medium program and a program segment presentation sequence.’” Ex. G at 520, attached to Plaintiff’s Claim Construction Brief, Dkt. No. 136. As such, the special master concluded that “the plain language of the claims defines the ‘instruct signal.’” *Id.* PMC, however, proposes that, if the court determines that a definition is required, the court should construe the term to mean “a signal that carries information or data used to place or arrange

elements of a presentation in proper position relative to each other in terms of time, location (place), fashion of playing, or manner of presentation.”

Defendants, on the other hand, argue that the court should construe this term to mean “an *embedded* control signal that *causes* a device to execute a function of creating order to a presentation *automatically*.” Defendant seeks to incorporate the same limitations that they propose with regard to the “instruct-to-decrypt signal.” As discussed above, the court rejects Defendants’ limitations.

The court agrees with the special master’s findings in the Atlanta litigation and, therefore, concludes that, in light of the explicit claim language defining the function of the instruct signal, the term “instruct signal which is effective to coordinate presentation” needs no additional construction.

iii. Timing and Location of Signal Terms

Defendants’ proposed constructions of the following terms arise from the same arguments Defendants made with regard to the construction of “embedded signals:” (1) “[predetermined] frequency range[s] or at [predetermined] locations within said programming;” (2) “varying locations or [in] a varying pattern of timing;” (3) “varying location or timing pattern;” (4) “specific signal [in said transmission];” (5) “technique by which said detector locates;” (6) “technique for identifying;” (7) “the manner by which said station locates;” and (8) “how to locate.” As discussed above, the court has rejected Defendants’ proposed construction of “embedded signals,” along with all of the arguments Defendants’ made with regard to that term. As such, the court rejects Defendants’ constructions of the various time and location of signal terms enumerated above.

As to the appropriate constructions of the terms:

- **“[predetermined] frequency range[s] or at [predetermined] locations within said programming:”** These terms are found in Claims 7, 10 and 13 of ‘414 Patent. The court agrees with PMC that they may be plainly understood from their constituent elements as referring to signals that are within a range of frequency or in some part or portion of the television program transmission. This is consistent with the conclusion of the special master in the Atlanta litigation that “location” simply means “some part or portion of a television program transmission. Considering this, the court concludes that “location” means “some part or portion of a television transmission. The court further concludes that these phrases need no further construction.
- **“varying locations or [in] a varying pattern of timing” / “varying location or timing pattern:”** These phrases appears in Claims 11, 24-26, and 41-42 of the ‘277 Patent. Considering that the court has rejected Defendants’ arguments with regard to the appropriate construction of “embedded signal,” the court agrees with PMC that this phrase needs no further construction, other than the court’s construction of “location.”
- **“specific signal [in said transmission]:”** This phrases appears in Claim 11 of the ‘277 Patent. Defendants argue that a “specific signal” must be “found at a particular location or time,” but Claim 11 already specifies how the specific signal identified in the claim is detected—“based upon a location or timing pattern of said specific signal”—and thus there is no need to import further limitations as to time or location into the construction of the term itself. *See* ‘277 Patent, at 313:50-52. As such, the court rejects Defendants’ proposed construction. The court agrees with PMC that this phrase needs no further construction.

- **“technique / “manner by which” / and “how to” terms:** These terms appear in claims 20, 22, 23, and 28 of the ‘277 Patent. The court agrees with PMC that these terms needs no further construction. “Technique,” “manner,” and “how to” are generic words that do not have specialized meaning in the context of the asserted patents. They are tied to the recited functions specified elsewhere in the claims, and do not describe any specific function themselves.

iv. Detecting Embedded Signals

1. “detector means” & related terms

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>These terms should not be construed as means-plus-function elements under §112(6)</p> <p>In the alternative, Recited functions: “determining the presence or absence of an embedded signal in the information transmission within a predetermined time interval and for detecting said signal and removing it from said information transmission” (‘825 Patent, Cl. 3);</p> <p>“detecting in a broadcast transmission at least one instruction/datum” (‘654 Patent, Cl. 7, 10, 59);</p> <p>“detecting control signals respecting said programming and transferring said control signals to storage/transfer [/buffer] means” (‘414 Patent, Cl. 7, 10, 13).</p> <p>Corresponding Structure: a detector or equivalent thereof, such as, in the ‘490 Patent, signal processor 100 in FIG. 1 [or alternatively any of the following signal processors with corresponding functions: signal processor 71 in FIG. 3A, signal processor 96 in FIG. 3C, signal processor 100, 103, 106, 109, or 112 in FIGs. 4A-E, signal processor 130 in FIG. 5, or signal processor 200 in FIGs. 6A-G], digital detectors 38, 34, or 37 in FIG. 2A, digital detector 43 in FIG. 2B, digital detector 46 in FIG. 2C, TV signal decoders 80, 84 or 88, or signal strippers 81, 85 or 89 in FIG. 3C, TV signal decoders 131, 136, 150, 149, or 145, radio decoder 138, or other signal decoders 143 or 147 in FIG. 5, TV signal decoders 203, 218, radio decoder 211, other signal decoder 227, or signal stripper 229 in FIGs. 6A-G. Similar structures are found in the figures from the 1987 specification (i.e., the ‘825 Patent).</p>	<p>These limitations are governed by 35 U.S.C. § 112(6).</p> <p>Recited functions: accepting instructions from a control means and determining the presence or absence of an embedded signal in the information transmission within a predetermined time interval and detecting said signal and removing it from said information transmission (‘825 Patent, Cl. 3)</p> <p>detecting in a broadcast transmission at least one [instruction/datum] (‘654 Patent, Cl. 7, 10, 59)</p> <p>detecting control signals respecting said programming in a predetermined frequency range or at [a] predetermined location[s] within said programming and transferring said control signals to storage/transfer means (‘414 Patent, Cl. 7, 10)</p> <p>detecting control signals respecting said programming in specified frequency ranges or at specified locations within said programming and transferring said control signals to a buffer means (‘414 Patent, Cl. 13)</p> <p>Corresponding structure: line receiver [33] and digital detector [34], or audio demodulator [35] high pass filter [36] and digital detector [37], which use techniques well known in the art as of 1987</p>

The various “detector means” terms are recited throughout the patents-in-suit. Claim 3 of the ’825 Patent is representative and recites: “*detector means* for determining the presence or absence of an embedded signal in the information transmission within a predetermined time interval and for detecting said signal and removing it from said information transmission.”

The parties’ first dispute whether the “detector means” terms are subject to § 112, ¶ 6 treatment. PMC contends that the term is easily understood as a reference to a “detector,” which is a term commonly used to refer to a device for determining the presence of a signal. Furthermore, PMC notes that this is precisely the construction that the Federal Circuit accorded to the term “detector” in construing PMC’s claims in ITC litigation. The Federal Circuit held that “the term ‘detector’ is a sufficient recitation of structure,” stating that “[d]etector’ is not a generic structural term such as ‘means,’ ‘element,’ or ‘device’; nor is it a coined term lacking a clear meaning, such as ‘widget’ or ‘ram-a-fram.’” “Instead,” the Federal Circuit concludes that, “‘detector’ had a well-known meaning to those of skill in the electrical arts connotative of structure.” *Personalized Media Comm’s v. ITC*, 161 F.3d 696, 704-05 & n.12 (Fed. Cir. 1998). Moreover, the special masters in both the Atlanta and Delaware litigations recommended that “detector means” not be construed as a means-plus-function element and found the term to mean simply a detector. Ex. G at 222, attached to Plaintiff’s Opening Claim Construction Brief, Dkt. No. 136 (“The limitation ‘detector means * * *’ ... should not be construed as a means-plus-function limitation under § 112(6). ... a ‘detector’ is a device for determining the presence of a signal.”); Ex. H, at 33 (“Accordingly, this limitation [‘detector means’] should not be construed under §112¶6, but should be construed to mean a detector, as that term is generally understood by persons of ordinary skill in this art.”). Considering this, PMC urges the court to interpret “detector means,” as a “detector,” or a “device for determining the presence of a signal.”

In response, Defendants first notes that because the “detector means” limitation recites the word “means,” there is presumption that the limitation is subject to § 112, ¶ 6. Defendants then baldly assert that the “detector” provided in the claims is merely a nominalization of the detecting function, and the “detector” does not provide sufficient structure to rebut the presumption that § 112, ¶ 6 applies.

Although Defendants’ are correct that there is a presumption that the “detector means” terms are subject to § 112, ¶ 6 treatment, the court agrees with PMC that this presumption is rebutted because the claim language recites structure sufficient to perform the claimed functions in their entirety. *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1375 (Fed. Cir. 2003). Although the Federal Circuit was considering the term “digital detector,” as opposed to “detector means,” it noted in that context that “the term ‘detector’ is a sufficient recitation of structure,” that it “had a well-known meaning to those of skill,” and that nothing in the intrinsic or extrinsic record “casts doubt on this conclusion.” *Personalized Media Comm’s*, 161 F.3d at 703. The court is not convinced that the mere fact that “means” is appended to this term compels a different conclusion. Furthermore, both of the special masters in the Atlanta and Delaware litigations agreed with the conclusion that the “detector means” terms should not be construed under § 112, ¶ 6. In conclusion, the court rejects Defendants’ argument that the “detector means” terms should be construed pursuant to § 112, ¶ 6. Rather, the court construes “detector means” to mean a “device for determining the presence of a signal.”

2. “digital detector”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
A device that acts to detect the digital signal information in another stream of information.	A device for detecting the digital information of embedded signals.

The term “digital detector” appears in Claim 20 and 24-26 of the ’277 Patent. Claim 20 is representative and recites: “a *digital detector* operatively connected to said decryptor for receiving information of a separately defined television program transmission....”

PMC argues that this term should be construed to mean “a device that acts to detect the digital signal information in another stream of information.” PMC’s proposed definition is drawn from the Federal Circuit’s decision in the ITC litigation. *See Personalized Media Comm’s*, 161 F.3d at 705-06. In the ITC litigation the Federal Circuit explained that “the written description of the specification is sufficient to inform one skilled in the art of the meaning of the claim language ‘digital detector.’ It explicitly defines a ‘digital detector’ as a device that ‘acts to detect the digital signal information’ in another stream of information.” *Id.* PMC’s proposed construction was also adopted in both the Delaware and Atlanta litigations. Ex. G at 362, attached to Plaintiff’s Opening Claim Construction Brief, Dkt. No. 136 (“The parties also agree that the term ‘digital detector’ means ‘a device that acts to detect the digital signal information in another stream of information’ as construed by the Federal Circuit in *Personalized Media*.”); Ex. H at 66 (“Accordingly, ‘digital detector’ should be construed to mean a device that acts to detect the digital signal information in another stream of information.”).

Defendants, however, argue that the term “digital detector” should be construed to mean “a device for detecting the digital information of embedded signals.” Defendants, however, make no attempt to explain why the court should disregard the Federal Circuit’s well reasoned analysis of this claim term and its conclusion that the “digital detector” is “a device that ‘acts to detect the digital signal information’ in another stream of information.” Considering this, the court rejects Defendants’ proposed construction.

The court adopts PMC’s proposed construction. As such, the term “digital detector” means “a device that acts to detect the digital signal information in another stream of information.”

3. “decoder”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“ decoder ” means “a data processor or device that acts to detect digital signal information in a transmission.”	“ decoder ” means “a line receiver or audio demodulator coupled to a digital detector.”

The term “decoder” is recited in Claims 28 and 43 of the ’277 Patent. Claim 28 is representative and recites: “a plurality of *decoders*, each operatively connected to a specific programming receiver, display, storage, processing, transmission, or output device for locating or identifying identifier information that identifies specific programming received, displayed, stored, processed, transmitted, or outputted by said specific device....”

PMC argues that, as used in the ’277 Patent claims and in the specifications of the patents-in-suit, the term “decoder” means as “a data processor or device that acts to detect digital signal information in a transmission.” *See, e.g.* ’277 Patent at Claim 28 (stating the “decoders” “locat[e] or identify[] certain types of information); *id.* at Claim 43 (disclosing “a decoder operatively connected to said mass medium receiver for locating or identifying information in said selected broadcast or cablecast transmission,” “said decoder also identifying information that identifies specific programming received by said receiver”); ’490 Patent at 19-20 (various disclosures of a decoder, 203, identifying digital signals in transmissions).

Defendants, on the other hand, argue that the court should limit the claimed “decoder” to “a line receiver or audio demodulator coupled to a digital detector.” Defendants’ proposed limitation, however, excludes preferred embodiments of signal decoders that have no line

receivers or audio demodulators, such as Path C in Fig. 2A and Figs. 2B and 2C. As such, the court rejects Defendants’ proposed construction.

The court agrees with PMC that its proposed construction accurately captures the manner in which the claims and the specification use and define the claimed “decoder.” As such, the court construes “decoder” to mean “a data processor or device that acts to detect digital signal information in a transmission.”

v. Other Signal Terms

1. “control signals”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “control signals” means “signals that carry information or data that affects, controls, or enables processing.”	“control signal” means “an embedded signal that causes a device to execute controlled functions automatically.”

“signal which controls said receiver station”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “signal which controls said receiver station” means “a signal which carries information or data that influences, directs, or regulates the operation of the receiver station.”	See proposed construction of “control signal”

The term “control signal” is recited in Claims 7, 10 and 13 of the ‘414 Patent and Claim 3 of the ‘277 Patent. PMC contends that this term needs no construction and notes that the parties to Atlanta litigation agreed as such. Ex. G at 195, attached to Plaintiff’s Opening Claim Construction Brief, Dkt. No. 136 (“The parties agree that the following terms require no construction: (1) ‘control signal,’ ...”).

Defendants, on the other hand, argue that the court should construe this term to mean “an embedded signal that causes a device to execute controlled functions automatically.” Defendants first argue that the “control signals” of the patents-in-suit are embedded signals. According to

Defendants, this fact is evident from the claims themselves, which recite control signals “respecting said programming” or “associated with said encrypted information transmission” and specify that the signals are located in predetermined frequency ranges or locations within said programming. Defendants provide the court with nothing more than a conclusory assertion that, in the context of the specification, signals are “respecting” or “associated with” a program transmission when they are embedded in it. As such, the court rejects that position. Furthermore, as discussed above, the court rejects Defendants’ contention that all control signals must necessarily be embedded – rather, it is when the claim language requires the signals to be “in” a transmission that they are embedded. Considering this, the court rejects Defendants’ proposed “embedded signal” limitation.

Defendants also argue that “control signals” *cause* a device to execute controlled functions *automatically*. Defendants contend that this limitation is solidly grounded in the specification. The specification, however, discloses commands that are conditional and, as such, do not cause functions to occur automatically. For example, the specification explains that

[p]articular commands (called, hereinafter, “specified condition commands”) always contain meter-monitor segments. Said commands cause addressed apparatus to perform controlled functions only when specified conditions exist, and meter-monitor information of said commands specifies the conditions that must exist.

’825 Patent at 25:25-29. Considering this, the court rejects Defendants proposed “automatically” limitation.

In conclusion, the court agrees with PMC that attempting to construe this simple and straightforward phrase is more likely to confuse, not assist, the jury. As such, the court construes the term “control signal” and the associated term “signal which controls said receiver” to have their plain and ordinary meaning.

2. “signal types” / “types of signals”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “type of signal information” and “signal type” mean “a kind or class of signal.”	“type of signal information” and “signal type” mean “kinds of embedded signals detected by a digital detector.

The term “signal type” appears in Claims 24-26 of the ’277 Patent. Having reviewed the intrinsic record, the court agrees with PMC that these terms need no further construction. The court rejects Defendants’ contention that “signal types” and “types of signal[s]” must necessarily be embedded and notes that Defendants made no attempt to support the rest of their proposed construction with citations to the intrinsic record.

3. “instructions [identified within]” / “instructions [within]” / “instruction[s]”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “instruction” means “an expression, message, or code that causes or enables a processor to perform an operation.”	“instruction” means “commands located in embedded signals that cause devices to execute controlled functions automatically.

The terms “instructions” is recited in a number of claims of the ’825 and ’654 Patents. The court agrees with PMC that this straightforward term needs no further construction. The court notes that Defendants’ proposed construction is contradicted by the specification. For example, the specification discloses that instructions may enable the execution of a function, including a further instruction, based on a condition that may or may not exist at the time the instruction is sent. *See* ’490 Patent at 20:27-38 (signal “instructs buffer/comparator, 8” to transmit further instruction only “if 567 has been received from signal generator”). Furthermore, the specification explains that devices may also be controlled “based on” transmitted instructions, which does not require the instruction to “cause” directly the “automatic” execution of any function. ’825 Patent at Claim 14. Finally, the plain meaning of the term “instruction”

does not restrict the term only to “commands” or “embedded signals,” and Defendants fail to provide the court any citations to intrinsic evidence that would support such a restriction. As such, the court rejects Defendants’ proposed construction.

4. “operating instructions” / “control instructions” / “computer control instructions”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>“control instructions” refers to “operating instructions that control said first controller.”</p> <p>To the extent a definition is required, “computer control instructions” means “expressions, messages, or codes that cause or enable a computer to perform one or more operations.”</p> <p>“Operating instructions” means “computer instruction or software that controls.”</p>	<p>“[Computer] control instructions” means “embedded control signals comprising operating instructions.”</p> <p>“Operating instructions” means “computer programs or computer code that control the operation of a device.”</p>

The term “operating instructions” appears in Claim 55 of the ‘277 Patent, as does the term “control instructions.” The term “computer control instructions” appears in Claim 15 of the ‘243 Patent. PMC argues that a person of ordinary skill in the art would understand what these terms mean, according to their constituent words and limited only by the surrounding claim language. In response, Defendants also rely on the claim language itself to support their proposed constructions.

Having carefully reviewed the claim language and the parties’ proposed constructions, the court concludes that PMC’s proposed constructions accurately reflect the meaning of these terms in light of the explicit claim language. The plain language of Claim 55 defines the “operating instructions” as “instructions” held in a “memory device” that function to control a first controller. ’277 Patent at 327:17-19. Furthermore, the term “control instructions” is defined by Claim 55 as “instructions” “receive[ed], detect[ed], or locat[ed],” and input into a memory device. ’277 Patent at 328:1-5. Finally, the court agrees with PMC that the “control

instructions” recited in Claim 55 of the ‘277 Patent should not be grouped with the “computer control instructions” recited in Claim 15 of the ‘243 Patent because the two terms establish different limitations. “Computer control instructions” are received pursuant to a subscriber instruction to receive the computer control instructions. ’243 Patent at 300:59-64. As such, the “computer control instructions” limitation is materially different from those instructions recited in Claim 55 of the ‘277 Patent.

Considering the claims description of these terms, the court construes the terms in the following manner: (1) “control instructions” refers to “operating instructions that control said first controller;” (2) “computer control instructions” means “expressions, messages, or codes that cause or enable a computer to perform one or more operations;” and (3) “operating instructions” means “computer instructions or software that controls.”²

5. “programming identification signals” / “identification signals” / “unit identification information signal”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>To the extent a definition is required, “programming identification signals” means “signals that enable identification of programming.”</p> <p>To the extent a definition is required, “identification signal” means “a signal that enables identification.”</p> <p>To the extent a definition is required, “unit identification information signal” is defined by the language of the claim as “a signal that identifies a unit of information associated with a television program.”</p>	<p>“Programming identification signals” and “identification signals” mean “embedded signals that identify the television programming in which they are embedded.”</p> <p>“unit identification information signal” means “an embedded signal that identifies the particular unit of television programming in which the signal is embedded.”</p>

Having reviewed the parties’ arguments, the court agrees with PMC that the terms “programming identification signals,” “identification signals,” and “unit identification

² The court notes that Defendants failed to identify any alleged deficiencies in PMC’s proposed constructions of these terms.

information signals” need no further construction. For the same reasons discussed above, the court again rejects Defendants’ contentions that these signals must be embedded.

6. “information”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “information” means “any data and/or code.”	“information” means “data located in an embedded signal.”

The term “information” appears throughout the claims of the ’277 and ’243 patents. The court agrees with PMC that this straightforward term needs no further construction. The court notes that the specification of the patents-in-suit identify both data and software code as types of information. *See, e.g.*, ’825 at 199:28-29 (“The set information so generated may consist of computer program instructions and/or data.”); ’490 Patent at 5:16-20 (“permanent operating instructions and other information,” wherein the “permanent operating instructions” refers to software code). As such, the court rejects Defendants’ proposed “data” limitation. Furthermore, for the reasons discussed above, the court also rejects Defendants’ proposed “located in an embedded signal” limitation.

7. “programming identification information” / “specific unit programming identification information” / “scheduled program identification information”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>To the extent a definition is required, “programming identification information” means “information that enables identification of programming.”</p> <p>To the extent a definition is required, “specific unit programming identification information” means “information that enables identification of a particular unit of programming.”</p> <p>To the extent a definition is required, “scheduled program identification information” means “information that enables identification of scheduled programming.”</p>	<p>“Programming identification information” means “data located in an embedded signal that identifies the television programming in which the signal is embedded.”</p> <p>“Specific unit programming identification information” and “scheduled program identification information” mean “data located in an embedded signal that identifies the particular unit of television programming in which the signal is embedded.”</p>

Having reviewed the intrinsic record and the parties’ arguments, the court agrees with PMC that the terms “programming identification information,” “specific unit programming identification information,” and “scheduled program identification information” need no further construction. These terms are recited in Claim 14 of the ’277 Patent and are readily understandable in light of the surrounding claim language. Neither the claim language nor its plain meaning limits these terms to “embedded signals” or requires that they be located within television programming. As such, the court rejects Defendants’ proposed constructions.

8. “data units”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “ data units ” means “discrete groups or sets of data.”	“ data units ” means “portions of embedded signals carrying data.”

The term “data unit” is found in Claim 23 of the ’414 Patent. The court agrees with PMC that this term needs no further construction. Furthermore, the court again rejects Defendants’ contention that the “data units” must be “portions” of embedded signals.

9. “data of interest”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “ data of interest ” means “data that is useful or relevant to, or requested by, a receiver station.”	“ data of interest ” means “data located in an embedded signal requested by a subscriber.”

Claim 13 of the ’243 Patent recites: “A method of providing *data of interest* to a receiver station from a first remote data source, said *data of interest* for use at said receiver station in at least one of generating and outputting a receiver specific datum....” PMC proposes that the court construe “data of interest” to mean “data that is useful or relevant to, or requested by, a receiver station.” Defendants, on the other hand, argue that the term should be construed to mean “data located in an embedded signal requested by a subscriber.” Although the specification states that “[e]ach subscriber programs his subscriber station apparatus to select

particular data of interest,” Defendants make no attempt to explain why the term “data of interest” should be limited to this preferred embodiment. The court finds no basis in the claim language or the specification for concluding that “data of interest” is necessarily “requested by a subscriber.” Furthermore, the court finds no support for the contention that “data of interest” must necessarily be contained in an “embedded signal.” As such, the court rejects Defendants’ proposed construction.

The court agrees with PMC that its proposed construction accurately captures the meaning of the term “data of interest” in light of the surrounding claim language. As such, the court construes “data of interest” to mean “data that is useful or relevant to, or requested by, a receiver station.”³

10. “one datum”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “one datum” means “one unit of data.”	“one datum” means “a single bit value located in an embedded signal.”

The term “one datum” is recited in Claim 10 of the ’654 Patent. The court agrees with PMC that this term needs no further construction. The court notes that Defendants provide no support for their proposed “single bit value” limitation. Furthermore, as discussed above, the court rejects Defendants’ contention that the “one datum” must necessarily be located in an embedded signal.

³ The court notes that Defendants’ did not identify any alleged deficiencies or inaccuracies in PMC’s proposed construction.

c. Encrypt/Decrypt and Related Terms

i. “encrypt[ed]”/“decrypt[ing/ion]”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “ encrypt[] ” and “ decrypt[] ” mean “encoding/decoding digital data using a key and algorithm to prevent unauthorized access.”	“encrypt” means “encoding data with a preprogrammed key to prevent unauthorized access” “decrypt” means “decoding data using a preprogrammed key identical to the key used for encryption”

The following discussion addresses the parties’ proposed constructions of: “encrypt[ed]” (‘825 Patent, claims 15, 17; ‘277 Patent, claims 3, 20, 23-26); “decrypt” (‘277 Patent, claims 19, 24-26); “decrypting” (‘825 Patent, claims 15, 17; ‘277 Patent, claims 3, 19, 20, 22-26, 55); and “decryption” (‘277 Patent, claims 19, 22, 24-26).

1. The Parties’ Construction Arguments

The parties’ dispute regarding the proper construction of the “encrypt” and “decrypt” terms centers on three issues: (1) whether the acts of encrypting and decrypting should be narrowly construed to be performed only on digital data (thereby excluding the scrambling/descrambling of analog television transmissions); (2) whether the key used to decrypt a transmission can be different from the key used to encrypt the same transmission; and (3) whether encrypting and decrypting requires *preprogrammed* keys. With regard to the first issue, PMC argues that the court should narrowly construe the encrypt/decrypt terms to exclude analog transmissions. According to PMC, the specification limits the encrypt/decrypt terms to “digital” data. *See, e.g.*, ‘490 Patent at 4:61-5:2 (receiver/decoder/detectors that “convert encoded signals to digital information; decryptors that may convert the received information, in part or in whole, to other digital information”); *id.* at FIG 1 and FIG 2A (depicting signals that are passed to the identified decrypter 10 only after the signals are passed through one of the digital detectors 34, 37, or 38); ‘825 Patent at 159:63-68 (describing decryptors as “conventional” decryptors that can

receive “encrypted digital information, decrypting said information by means of a selected cipher algorithm and a selected cipher key, and outputting the decrypted information”); *id.* at 110:19-26 (describing techniques to encrypt “binary information” – i.e., digital information). Furthermore, according to PMC’s technical expert, a person of ordinary skill in the art in 1987 would have understood the encrypt/decrypt terms to be limited to digital data. Finally, PMC notes that the construction accorded the encrypt/decrypt terms by the Board of Patent Appeals and Interferences (“BPAI”) further supports its argument that the terms must be limited to digital data. The BPAI determined that “‘encryption,’ as it would have been commonly defined by one of ordinary skill in the art at the time of filing, requires a ‘digital’ signal,” and further that “‘encryption’ and ‘decryption’ are not broad enough to read on ‘scrambling’ and ‘unscrambling.’” *See* Ex. N at 53-54, attached to PMC’s Opening Claim Construction Brief, Dkt. No. 136. Even the parties to the Atlanta litigation stipulated to the fact that “encryption” does not encompass the scrambling of an analog television transmission. *Id.*, Ex. I at 3. The notion that “encryption/decryption” does not including scrambling of analog television is merely a corollary of PMC’s argument that encryption/decryption are digital operations on digital data.

In response, Defendants argue that the specification supports a broad construction of the encrypt/decrypt terms that includes encryption/decryption of analog information as well as digital information. Defendants concede that the specification contains a number of disclosures demonstrating encryption and decryption of digital information. Notwithstanding this fact, Defendants argue that the specification nowhere excludes analog transmissions from the scope of encrypt/decrypt terms. In fact, according to Defendants, the intrinsic record includes conventional descramblers that act on analog signals within the definition of “decryptor:”

And for example, the “Wall Street Week” transmission may be of conventional analog television, and *the decryptors, 107, 224, and 231, may be conventional*

descramblers, well, known in the art, that descramble analog television transmissions and are actuated by receiving digital key information.

‘825 Patent at 173:41-47. Defendants also argue that the broad scope of the “encrypt” and “decrypt” terms is further evidenced by the use of these terms in the other claims of the patents-in-suit. For example, Claim 16 of the ‘277 Patent uses “decrypting” in connection with an analog television transmission:

A system for locating an embedded instruct-to-*decrypt signal* out of a plurality of signals embedded in the video of an analog television transmission and enabling a *decryptor to decrypt* a portion of the television transmission, said system comprising:

a line receiver for receiving *a video signal of an analog television transmission* and selecting portions of one or more lines of said video that contain embedded signals, said line receiver capable of changing the specific portions of said video lines that are selected

a digital detector operatively connected to said line receiver for receiving said selected portions of video lines that contain the embedded signals, detecting the instruct-to-*decrypt signal* in said selected portions;

a decryptor operatively connected to said digital detector for receiving information on the instruct-to-*decrypt signal* from said detector and *decrypting a portion of said transmission* in response to receiving said information; and...

‘277 Patent at Claim 16 (emphasis added). Finally, Defendants’ expert argues that the terms “encryption” and “scrambling” were used interchangeably in 1987, as were “decryption” and “descrambling.” Accordingly, Defendants argues that a person of ordinary skill in the art at that time would have understood that “encrypt/decrypt” could be used to address encoding of either analog or digital signals.

With regard to whether the encryption/decryption key must be preprogrammed, PMC argues that, although the key may be programmed, neither the claims nor the specification necessarily require that the key be preprogrammed. Indeed, although PMC concedes that one

embodiment does disclose a decryption key that is preprogrammed, PMC argues that several other embodiments do not share that characteristic. PMC relies on embodiments where the decryption key is transmitted to a device that, on the basis of the received decryption key, will perform the decryption function. *See, e.g.*, ‘825 Patent at 5:22-32 (noting prior art has no capacity for controlling decryption “on the basis of signals that are embedded in said programming that contain keys for the decryption of said programming”); *id.* at 156:33-38 (noting that the invention provides a system for regulating “the reception and use of SPAM information—including decryption key and algorithm information”). Furthermore, PMC notes that this broad understanding of decryption keys was also disclosed in the ‘490 Patent, which made clear in FIG 4A that the “signals that enable the decrypter/interrupter, 101, to decrypt...programming uninterrupted *may be embedded in the programming* or may be elsewhere.” ‘490 Patent at 13:13-20 (emphasis added). In response, Defendants argue that the embodiments on which PMC rely merely demonstrate the transmission of information in embedded signals that is used to identify which preprogrammed key to use for decryption. According to Defendants, these embodiments do not allow the key itself to be transmitted.

Finally, Defendants argue that “decryption” must be restricted to keys “identical” to those used for encryption. When the keys used for encryption and decryption are the same, this is referred to as “symmetric” encryption. When the keys are different, this is referred to as “asymmetric” encryption. Defendants contend that a person of ordinary skill in the art reviewing the intrinsic record of the patents-in-suit in 1987 would have understood that the patents disclose symmetric encryption. Defendants note that the patent specification describes using the same key for encryption/decryption, but do not disclose a comparable method of asymmetric encryption/decryption. ‘825 Patent at 157:11-17 (“In each message, the information of said

segments is encrypted prior to transmission in the same fashion that the information of the first message of example #4 is encrypted, except that the *encryption is done with key J* rather than key Z and the encrypted information of the execution segment instructs subscriber stations *to decrypt with key J.*) (emphasis added).

In response, PMC argues that nothing in the patents themselves supports a limitation requiring that identical keys be used for decryption. Indeed, PMC contends that the '825 Patent makes clear that identical encryption and decryption keys need not be used, and in fact that different decryption keys can be used to decode a particular transmission:

Given this capacity, any central control station of the present invention that originates a SPAM transmission can cause subscriber station apparatus to decrypt received SPAM information in different fashions with each station decrypting its received information in its own station specific fashion. A central station can cause different stations to compute different station specific decryption cipher keys and/or algorithms to use in any given step of decryption or to compute station specific key and/or algorithm identification information that differs from station to station and controls each station in identifying the key and/or algorithm to use for any given step of decrypting.

'825 Patent at 156:7-14.

2. Analysis

The court rejects PMC's attempt to limit the encrypt/decrypt terms to digital data. PMC's proposal fails to cite intrinsic evidence that mandates a narrow reading of "encrypt" and "decrypt" to exclude scrambling and descrambling of analog transmissions. In its proposal, PMC purports to rely on intrinsic evidence that merely recites examples of decryption or encryption of digital signals. '490 Patent at 4:61-5:2; '825 Patent at 159:63-68, 110:19-26. These citations do not limit the scope of the encrypt/decrypt terms to digital signals. Furthermore, as shown above, PMC's position is belied by the fact that the patents-in-suit also disclose decrypting analog signals. '825 Patent at 173:41-47 ("...the decryptors, 107, 224, and

231, may be conventional descramblers, well, known in the art, that descramble analog television transmissions and are actuated by receiving digital key information.”). As such, the court agrees with Defendants that nothing in the intrinsic record reflects a clear intent on the part of the patentee to limit the scope of the encrypt/decrypt terms to digital signals.

The court, however, agrees with PMC that neither the encryption nor the decryption key need be “preprogrammed” in the device and that the decryption key need not be identical to the key used for the original encryption. The fact that there are embodiments disclosing a key that is preprogrammed, or identical to that used for encryption, does not mean that the claims should be so limited. Furthermore, the patents provide that an incoming transmission may itself “includ[e] decryption key and algorithm information.” ‘825 Patent at 156:36-37. The patents also explain that different decryption keys can be used to decrypt a particular transmission. *See* ‘825 Patent at 156:7-14. As such, the court rejects Defendants’ proposed “preprogrammed” and “identical” key limitations.

In conclusion, the court adopts the following constructions: (1) “encrypt” means “encoding data using a key to prevent unauthorized access;” and (2) “decrypt” means “decoding data using a key.”

ii. “decryptor/decryptor means”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Decryptor is a device “that uses a key and algorithm to decipher digital data.”	Decryptor is “a standard information decryptor or analog descrambler that uses conventional decryptor techniques well known in the art as of 1987.

The parties agree that “decryptor means” is not a means plus function element falling under 35 U.S.C. § 112(6). The parties further agree that the terms “decryptor” and “decryptor means” should be construed consistent with the decryption/encryption terms discussed immediately above because they refer to the device that performs the “decrypt” functionality.

Accordingly, PMC proposes that “decryptor” and “decryptor means” be defined as a device “that uses a key and algorithm to decipher digital data.” Defendants, on the other hand, argue that a person of ordinary skill in the art would have understood these terms to mean “a standard information decryptor or analog descrambler that uses conventional decryptor techniques well known in the art as of 1987.” According to Defendants, the patents-in-suit clearly indicate that the term “decryptor” is limited to “standard” or “conventional” decryptors, existing at the time of the invention, including conventional analog descramblers. *See* ‘825 Patent at 17:40-45, 173:41-47 (“[D]ecryptors, 107, 224, and 231, may be conventional descramblers....”). As such, Defendants argue that a person of ordinary skill in the art would have recognized that such conventional descramblers did not necessarily require the use of a digital key or a mathematical algorithm to scramble analog signals.

Considering that, as explained above, the court rejects PMC’s contention that the encrypt/decrypt terms are limited to digital data, the court rejects PMC’s proposed construction of the related “decryptor” and “decryptor means” terms. The court also rejects Defendants’ proposed construction to the extent that it seeks to limit the “decryptor” and “decryptor means” terms to “standard” decryptors that use “conventional decryptor techniques well known in the art as of 1987.” Defendants have failed to identify any explicit definition in the specification that limits the “decryptor” to those decryptors that were “well known in the art as of 1987.” *See Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 879 (Fed. Cir. 2004) (explaining that where the patentee does not clearly limit his invention to what was “conventional” at the time of the invention, the claims are not so limited). Although the specification indicates that the claimed decryptor “*may be* conventional descramblers,” this is far from a clear indication on the

part of the patentee that he intended to limit his invention to “standard information decryptors that uses conventional decryptor techniques well known in the art as of 1987.”

Considering that the parties agree that “decryptor means” is not a means-plus-function limitation, the court concludes that these terms need no further construction. When read in the context of the claims, one of ordinary skill in the art would understand that the terms “decryptor” and “decryptor means” merely refer to the device that performs the “decrypt” functionality. As such, these terms are readily understandable to one of ordinary skill in the art and need no further construction.

iii. “comprising a code necessary for the decryption”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
To the extent a definition is required, “ comprising a code necessary for the decryption ” means “including a code needed for the decryption.”	“ comprising a code necessary for the decryption ” means “data located in an instruct-to-decrypt signal that identifies the preset key to use for decryption.

The term “comprising a code necessary for the decryption” is found in Claim 19 of the ‘277 Patent. Claim 19 recites:

A television subscriber station comprising:

a plurality of decryptors, each decryptor capable of decrypting a selected one of a plurality of portions of a television program transmission; and

a processor operatively connected to some of said decryptors for identifying and passing to a selected decryptor an instruct-to-decrypt signal that instructs the selected decryptor to decrypt some of the video portion of said transmission, said instruct-to-decrypt signal *comprising a code necessary for the decryption* of said program transmission.

PMC argues that consistent with the Atlanta special master’s determination, the term “comprising a code necessary for decryption” needs no construction. PMC, however, proposes that if a definition is needed, it should be defined as “including a code needed for the decryption.” Defendants, on the other hand, argue that the court should construe this term to

mean “[d]ata located in an instruct-to-decrypt signal that identifies the preset key to use for decryption.”

Having reviewed the intrinsic evidence and the parties’ arguments, the court agrees with PMC that no further construction of this term is necessary. Furthermore, as discussed above, the court rejects Defendants’ contention that the key must be “preset.”

d. Terms Defendants Argue Are Indefinite Under *WMS Gaming*

Defendants argue that the following claim terms are indefinite because the specification fails to disclose an algorithm for implementing the recited functions: “processor means;” “control means;” “computer control means;” “means for transferring;” “means for selectively receiving.” In making their indefiniteness argument, Defendants rely on the Federal Circuit’s decision in *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339 (Fed.Cir.1999), and its progeny. In *WMS Gaming*, the court addressed a § 112, ¶ 6 limitation in which the recited function was implemented by a general purpose computer. *Id.* at 1346 The patent claimed slot machines having a “means for assigning a plurality of numbers representing” the angular positions of each slot reel. *Id.* The parties agreed that a computer controlled the means-plus-function limitation, and the district court construed the limitation to cover “any table, formula, or algorithm that might be used to perform the function of assigning numbers representing the angular positions of the reel.” *In re Katz Interactive Call Processing Patent Litig.*, No.2009–1450, 2011 WL 607381, at *6 (Fed. Cir. Feb. 18, 2011); *see also id.* The Federal Circuit rejected that interpretation and construed the limitation to cover only the specific algorithm disclosed in the specification. 184 F.3d at 1348. In sum, the court construed the corresponding structure not to be a general purpose computer, but rather to be a special purpose computer programmed to perform the disclosed algorithm. *Id.* at 1348–49.

Several years after the Federal Circuit decided *WMS*, the court decided *Aristocrat Tech. Australia Pty Ltd. v. Int'l, Game Tech.*, 521 F.3d 1328 (Fed.Cir.2008). The patent at issue in *Aristocrat* covered a slot machine with a “control means” to control displayed images, to define a set of predetermined arrangements for a given game depending on the player’s selections, and to pay a prize when a predetermined arrangement of symbols was displayed. *Id.* at 1330–31. The only disclosed structure was a standard microprocessor-based gaming machine with “appropriate programming.” *Id.* The court, therefore, affirmed the district court’s ruling that the claims were indefinite due to the lack of structure corresponding to the recited functions. The court explained that “[b]ecause general purpose computers can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to ‘the corresponding structure, material, or acts’ that perform the function, as required by section 112 paragraph 6.” *Id.* at 1333. Furthermore, the court noted that the algorithm by which the functions are performed must be disclosed so as “to avoid pure functional claiming.” *Id.*

Most recently, the Federal Circuit further refined the *WMS* line of cases in *In re Katz*. 2011 WL 607381, at *6. In *Katz*, the court addressed several claims argued to be indefinite under the *WMS* line of cases. *Id.* The court grouped these claims into two separate categories, finding only one of the categories to be “clearly indefinite” under the principles of *WMS* and *Aristocrat*. The first category included a means-plus-function limitation that recites a “processing means...for receiving customer number data entered by a caller and for storing the customer number data... and based on a condition coupling an incoming call to the operator terminal, the processing means visually displaying the customer number data.” The court found that the patents-in-suit did not disclose an algorithm that corresponded to the “based on a

condition coupling an incoming call to the operator terminal” function. As such, considering that “computers can be programmed to conditionally couple calls in many ways,” the court concluded that the claims were indefinite because they exhibited the ““overbreadth inherent in open-ended functional claims.”” *Id.* at 7 (quoting *Halliburton Energy Servs. v. M-I LLC*, 514 F.3d 1244, 1256 n. 7 (Fed. Cir. 2008)).

With regard to the second category of means-plus-function claims, however, the Federal Circuit concluded that the district court had interpreted the *WMS* line of cases “too broadly” and, therefore, vacated the district court’s indefiniteness ruling and remanded to the district court for application of the correct rule. *Id.* These claims recited: (1) a “means for processing at least certain of said answer data signals;” (2) an “analysis structure for receiving and processing said caller data signals;” (3) an “analysis structure connected to the record memory for processing at least certain of the data relating to certain individual callers subject to qualification by the qualification structure;” and (4) a “means for processing coupled to said forwarding means for processing caller information data entered by an operator.” The district court found these claims to be indefinite because it “interpreted *WMS* and its progeny to require that ‘the specification...disclose an algorithm for [any] recited function’ that is performed solely or predominantly by a general purpose computer.” *Id.* In *Katz*, the Federal Circuit clarified that the *WMS* rule does *not* apply to each and every function that is merely “linked” to a general purpose computer. *Id.* The court noted that *WMS* and *Aristocrat* involved “specific functions that would need to be implemented by programming a general purpose computer to convert it into a special purpose computer capable of performing those specified functions.” *Id.* By contrast, the court explained that:

[a]bsent a possible narrower construction of the terms ‘processing,’ ‘receiving’ and ‘storing,’ ...those functions can be achieved by any general purpose computer

without special programming. As such, it was not necessary to disclose more structure than the general purpose processor that performs those functions. Those seven claims do not run afoul of the rule against purely functional claiming, because the functions of ‘processing,’ ‘receiving,’ and ‘storing’ are coextensive with the structure disclosed, i.e., a general purpose processor.

Id. The court will now address the terms that Defendants contend are rendered indefinite under the *WMS* analysis.

1. Processor Means Terms

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>Not subject to § 112, ¶ 6.</p> <p>To the extent these “processor means” terms are construed under §112(6), the functions are self-explanatory and do not require any special programming or algorithm—one with ordinary skill in the art readily understands that each function can be implemented by a general-purpose processor or computer</p> <p>See ‘490 Patent, cable program controller & computer 73 and/or signal processor 71 in FIG. 3B.</p> <p>To the extent needed, the following portions of the specifications provide a sufficient disclosure of algorithms: ‘490 Patent, FIGs. 1, 2A-2C, 3B, 5; Col. 8, l. 20 – Col. 9, l. 21; Col. 11, ll. 3-17; Col. 11, l. 32 – Col. 12, l. 35; Col. 16, ll. 3-24; Col. 20, ll. 23-38; Col. 20, ll. 43-47. ‘825 Patent, FIG. 2, 2A-2D, 6A-6B; Col. 16, l. 7 et seq. (“The Signal Processor”); Col. 18, l. 39 – Col. 19, l. 10; Col. 20, l. 61 – Col. 21, l. 46; Col. 22, ll. 1-29; Col. 181, ll. 56-61; Col. 182, ll. 18-28; Col. 182, ll. 57-61; Col. 182, l. 62 – Col. 183, l. 14; Col. 262, ll. 3-40; Col. 262, ll. 56-63.</p>	<p>This term is indefinite.</p>

The “processor means” terms are recited in Claims 7, 10 and 13 of the ‘414 Patent and Claims 7, 10, and 59 of the ‘654 Patent. PMC argues that the “processor means” terms are not means-plus-function elements and refer generally to processors. Both of the special masters in the Atlanta and Delaware litigation agreed with PMC, concluding that the term “processor means” connotes sufficient structure to avoid means-plus-function construction. *See* Ex. G at 281, attached to Plaintiff’s Reply Claim Construction Brief, Dkt. No. 159; Ex. H at 28.

Defendants, however, argue that the claims themselves do not recite sufficient structure for the recited functions and, therefore, the terms are subject to § 112, ¶ 6.

The court will first address the applicability of 35 U.S.C. § 112, ¶ 6 in general. As discussed above, use of the term “means” in a claim limitation creates a presumption that § 112, ¶ 6 has been invoked, but that presumption may be rebutted if the properly construed claim limitation itself recites sufficiently definite structure to perform the claimed function. *Allen Eng'g Corp. v. Bartell Industries, Inc.*, 299 F.3d 1336, 1347 (Fed. Cir. 2003). Here, the court agrees with the special masters in the Atlanta and Delaware litigation that the term “processor means” as recited in the '654 Patent connotes sufficient structure to avoid means-plus-function construction. Claims 7, 10, and 59 of the '654 Patent recite: (1) “*processor means* operatively connected to said first memory means and said detector means *for processing* said input information in accordance with said instruction and outputting data that include additional information besides said input information; (2) “*processor means* operatively connected to said first memory means and said detector means *for processing* said input information and said datum and outputting data that include additional information besides said input information;” and (3) “*processor means* operatively connected to said memory means and said detector means *for processing* said input information in accordance with said instruction and assembling output records that include additional information besides said input information.” These claims require only a “processor means...for processing” and thus any general purpose processor could perform the recited functions. As such, the court concludes that these terms are not subject to § 112, ¶ 6.

Claims 7, 10 and 13 of the '414 Patent recite the following with regard to “processor means:” (1) “a *processor means* for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means;” (2) “a *processor means* for

controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command; and (3) “a processor means for controlling the output functions of said matrix switch means and the transfer functions of said buffer means in response to said control signals.” Here, the claim language requires that the “processor means” control specific functions of the claimed invention – that is, the “processor means” must do more than simply process. Under these circumstances, the court concludes that the § 112, ¶ 6 presumption is not overcome and, therefore, the “processor means” terms are subject to means-plus-function treatment. *See Motorola, Inc. v. VTECH Commc’n, Inc.*, No. 5:07CV171, 2009 WL 2026317, at *14-15 (E.D. Tex. July 6, 2009).

The court concludes that one of ordinary skill in the art would understand the function of the “processor means” recited in the ‘414 Patent to be that which is expressly recited in the claims. As such, the court adopts the following functions for the “processor means” recited in the ‘414 Patent: (1) the function of “a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means” is “controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means”; (2) the function of “a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command” is “controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means”; and (3) the function of “a processor means for controlling the output functions of said matrix switch means and the transfer functions of said buffer means in response to said control signals” is “controlling the output functions of said matrix switch means and the transfer functions of said buffer means.”

With regard to the corresponding structure, PMC argues that, in accordance with the Federal Circuit's decision in *Katz*, the "controlling" functions of the "processor means" recited in the '414 Patent do not require any special programming or algorithm. Defendants, on the other hand, argue that the computer implemented "processing means" requires more specific functionality than the generic "processing," "receiving," and "storing" at issue in the terms addressed in *Katz*. The court agrees with Defendants. The functions required of the '414 Patent's "processor means" are closer to the functions recited in *Aristocrat* and category 1 of *Katz*. As such, the court rejects Plaintiff's argument that no additional structure needs to be disclosed.

Although Plaintiff has identified numerous sections of the specifications of the '490 and '825 Patents that Plaintiff argues disclose algorithms corresponding to the functions recited for the "processor means" of the '414 Patent, Plaintiff fails to demonstrate how these sections explain to one of ordinary skill in the art the manner in which the claimed functions are implemented. For instance, Plaintiff provides no explanation for how the sections of the '490 Patent it identifies correspond to the specification contained in the '414 Patent, which is over 300 columns long. Plaintiff also fails to explain which sections of the specification it identifies are alleged to perform the various functions recited in claims 7, 10 and 13 of the '414 Patent. Considering this, should Plaintiff continue to assert these claims, the court grants Plaintiff leave to file a supplemental claim construction brief, which explains the manner in which the sections of the specification it identifies disclose algorithms corresponding to the functions of the various "processor means" of the '414 Patent. This supplemental brief shall be no more than fifteen (15) pages and shall be filed within fourteen (14) days after this order is issued. Further, Defendants are granted leave to file a response to Plaintiff's supplemental brief, which specifically identifies

any alleged deficiencies in Plaintiff’s proposed structures. Defendants’ response shall be no more than fifteen (15) pages and shall be filed within fourteen (14) days after Plaintiff’s supplemental brief is filed.

2. Control Means Terms

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>To the extent these “control means” terms are construed under §112(6), the functions of “instructing said carrier receiving means,” “instructing said detector means,” or “instructing said recorder means” do not require any special programming or algorithm.</p> <p>To the extent needed, the following portions of the specifications provide a sufficient disclosure of algorithms: for “control means for instructing said carrier receiving means,” see ‘490 Patent, Col. 8, ll. 25-32, Col. 9, ll. 47-57; for “control means for instructing said detector means,” see ‘490 Patent, Col. 8, ll. 25-35; for “control means for instructing said recorder means,” see ‘490 Patent, Col. 8, ll. 25-55.</p>	<p>This term is indefinite.</p>
<p>If the Court construes the “computer control means” term under §112(6), the function is as recited in this claim.</p> <p>To the extent needed, the following portions of the specifications provide sufficient structure: in the ‘490 Patent, PRAM controller 20 in FIG. 1, signal processor 71 in FIG. 3A, cable program controller & computer 73 in FIG. 3B, signal processor 96 in FIG. 3C, signal processor 100, signal processor 103, signal processor 106, signal processor 109, or signal processor 112 in FIGs. 4A-E, signal processor 130, microcomputer 142, or monitor or processor 140 in FIG. 5, signal processor 200, microcomputer 205, monitor or processor 204, 219 or 228, microcomputer with input means 205, control means 220, 226 or 229 in FIGs. 6A-G, or equivalent thereof. Similar structures are found in the figures from the 1987 specification (i.e., the ‘825 Patent).</p>	<p>This term is indefinite.</p>

The parties dispute whether the terms “control means” and “computer control means” is subject to § 112, ¶ 6. As explained above, use of the term “means” in a claim limitation creates a presumption that § 112, ¶ 6 has been invoked. PMC has failed to rebut this presumption by directing the court to any evidence that the claim limitation itself recites sufficiently definite structure to perform the claimed function. As such, the court concludes that the § 112, ¶ 6 presumption is not overcome and, therefore, the “control means” terms are subject to means-plus-function treatment. *See Aristocrat*, 521 F.3d at 1331 (finding that the term “control means” is subject to § 112, ¶ 6).

PMC argues that the functions of the “control means” are “instructing said carrier receiving means,” “instructing said detector means,” and “instructing said recorder means.” PMC proposes that the functions of the “computer control means” are “identifying the remote site receiver, determining an identification code for said remote site receiver, comparing said identification code for said remote site receiver to a list of authorized information recipients, and directing a selected portion of said control signals to a decryptor means based on a favorable result of said identification step.” Defendants, on the other hand, argue that the functions of the “control means” terms are “instructing a carrier receiving means to receive the appropriate carrier transmission within a predetermined time interval and to direct the received carrier transmission to a demodulating means and detector means; instructing a detector means to detect the presence or absence of an embedded signal within a predetermined time interval; instructing a recorder means to transmit the information recorded thereon to a remote site.” Defendants further argue that the functions of the “computer control means” are “identifying a remote site receiver, determining an identification code for said remote site receiver and comparing said identification code for said remote site receiver to a list of authorized information recipients.”

Defendants’ proposed functions for “control means” replicate the language of the claims, and PMC’s proposed functions for “computer control means” does the same. Considering that neither party has identified any reason the court should stray from the functions explicitly recited in the claims, the court adopts Defendants’ proposed functions for the “control means” and PMC’s proposed functions for “computer control means.”

With the regard to the structure corresponding to these functions, PMC argues that the recited functions of both the “control means” and the “computer control means” require no special programming or algorithm – i.e., one of ordinary skill in the art would readily understand

that each of these functions can be implemented by a general purpose processor or computer. Defendants, on the other hand, argue that the various functions of these means-plus-function terms are exceedingly specific and, therefore, require additional algorithms identified in the specification as corresponding structure. The court agrees with Defendants. These functions are at least as complicated and detailed as those described in category one of *Katz*.

Having carefully reviewed the sections of the specification identified by PMC, the court is not convinced that those sections provide algorithmic support for the functions of the “control means” and the “computer control means.” For instance, the structures identified by PMC as corresponding to the functions of the “computer control means” are themselves merely processors. It is therefore unclear how any of them accomplish the functions recited for the “computer control means.” As such, considering that PMC has failed to identify any algorithms explaining the manner in which the recited functions of the “control means” and the “computer control means” are carried out, the court concludes that these terms are indefinite.

3. Means For Transferring

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>This term should be construed as a means-plus-function element under §112(6).</p> <p>The recited function is “transferring said information from one of said decoder to a processor.”</p> <p>The corresponding structure is one or more devices or connections between the decoder(s) and a processor, such as, in the ‘490 Patent, signal processor or monitor 12 and/or PRAM controller 20 as depicted in FIG. 1, signal processor 71 in FIG. 3A, cable program controller & computer 73 in FIG. 3B, each signal processor (100, 103, 106, 109, or 112) in FIG. 4, signal processor 130 in FIG. 5, signal processor 200 in FIG. 6. Similar structures are found in the figures from the 1987 specification (i.e., the ’825 Patent).</p>	<p>This term is indefinite.</p>

The parties agree that the term “means for transferring” should be construed as a means-plus-function term under § 112, ¶ 6. The parties also agree that the recited function is

“transferring said information from one of said decoder[s] to a processor.” As such, the parties’ dispute centers on the structure corresponding to the recited function.

PMC again argues that the function of “transferring said information from one of said decoder[s] to a processor” is self-explanatory and does not require any special programming or algorithm – i.e., one with ordinary skill in the art readily understands that this function can be implemented by a general-purpose processor. In response, Defendants argue the function requires a specific algorithm to inform the means how to execute its special purpose task – i.e., determining which “one of said decoder[s]” to transfer information from. The task of determining which decoder to transfer information from, however, is no more specific and involved than the task of determining which data in a group should be processed by an analysis structure – a task that the *Katz* court found performable by a general purpose processor. *See Katz*, 2011 WL 607381, at *7 (determining that an “analysis structure connected to the record memory *for processing at least certain of the data* relating to certain individual callers subject to qualification by the qualification structure” was performable by a general purpose processor). As such, the court rejects Defendants’ contention that the function of “transferring said information from one of said decoder[s] to a processor” requires a specific algorithm.

The court agrees with PMC that the structures corresponding to the function of “transferring said information from one of said decoder[s] to a processor” are “signal processor or monitor 12 and/or PRAM controller 20 as depicted in FIG. 1, signal processor 71 in FIG. 3A, cable program controller & computer 73 in FIG. 3B, each signal processor (100, 103, 106, 109, or 112) in FIG. 4, signal processor 130 in FIG. 5, signal processor 200 in FIG. 6 of the ‘490 Patent, and equivalents thereof.”

4. Means For Selectively Receiving

Plaintiff's Proposed Construction	Defendants' Proposed Construction
<p>This term should be construed as a means-plus-function element under §112(6).</p> <p>The recited function is “selectively receiving television programming from either one of said receiver/distributors or said storage device and selectively transferring the received television programming to either said storage device or to said output device.”</p> <p>The corresponding structure is any of the signal processor or monitor 12 depicted in FIG. 1, or matrix switch 75 and/or cable program controller & computer 73 in FIG. 3B, or matrix switch 256 in FIG. 6F and/or microcomputer 205 in FIG. 6G of the '490 Patent, or equivalent thereof. Similar structures are found in the figures from the 1987 specification (i.e., the '825 Patent).</p> <p>To the extent needed, the following portions of the specifications provide a sufficient disclosure of algorithms: '490 Patent, Col. 11, ll. 18-37; '825 Patent, Col. 182, l. 62 – Col. 183, l. 14.</p>	<p>This term is indefinite.</p>

Claim 14 of the '277 Patent recites:

A television receiver station comprising:

a plurality of receiver/distributors with at least one receiving a television programming transmission, each transmission including the television programming and programming identification signals identifying the programming;

an output device for displaying television programming or transmitting television programming to a remote subscriber station;

a storage device for receiving and storing television programming;

means for selectively receiving television programming from either one of said receiver/distributors or said storage device and *selectively transferring* the received television programming to either said storage device or to said output device;

The parties agree that the term “means for selectively receiving” should be construed under § 112, ¶ 6. The parties also agree that the function of this means-plus-function term is “selectively receiving television programming from either one of said receiver/distributors or said storage device and selectively transferring the received television programming to either said storage device or to said output device.” The parties, however, disagree as to the structure corresponding

to this function. The court agrees with Defendants that the recited function is more akin to those recited in category 1 of *Katz*, and therefore, the court concludes that the corresponding structure must be supported by algorithms recited in the specification. However, having carefully reviewed the portions of the specification PMC has identified as corresponding structure, the court concludes that the portions are insufficient to explain the manner in which the processor performs the recited function of the “means for selectively receiving.” As such, this term is indefinite.

e. Other Terms Argued To Be Indefinite

i. “Selected” in Claim 23 of the ‘414 Patent

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>“a selected intermediate input means”</p> <p>This phrase need not be construed.</p>	This term is indefinite.
<p>“a selected data unit”</p> <p>To the extent a definition is required, “[a] selected data unit” means “a group or set of data that has been chosen or designated.”</p>	This term is indefinite.
<p>“selected information”</p> <p>To the extent a definition is required, “selected information” means “information that has been chosen or designated.”</p>	This term is indefinite.
<p>“selected time”</p> <p>To the extent a definition is required, “selected time” means “a point in time or a time period that has been chosen or designated.”</p>	This term is indefinite.
<p>“selected processor”</p> <p>To the extent a definition is required, “selected processor” means “a processor that has been chosen or designated.” A “processor” is “a digital electronic device that processes information by operating on data according to instructions.”</p>	This term is indefinite.

Claim 23 of the ‘414 Patent recites:

A method of inputting data in a system that consists of a first input means, at least one intermediate input means, and a plurality of processors consisting of the steps of:

transmitting a plurality of data units,

causing memory means associated with a *selected intermediate input means* to record a *selected data unit*, and

causing said memory means to transmit *selected information* of said selected data unit at a *selected time*,

thereby to cause said intermediate input means to input data of said *selected data unit* to at least one *selected processor* at said *selected time* and cause said processor to process said input data.

Defendants argue that the terms “selected,” “a selected intermediate input means,” “a selected data unit,” “selected information,” “selected time,” and “selected processor” are indefinite because there is no suggestion in the intrinsic record as to who or what “selects” these items or what “selected” means within the context of the claim. PMC, however, argues that “selected” is a commonly used term in drafting patent claims and merely means “chosen or designated.”

Defendants have not met their burden to show by clear and convincing evidence that the “selected” terms are insolubly ambiguous and, therefore, indefinite. Rather, as PMC notes, there are numerous disclosures in the specification explaining who or what may do the selecting in a particular situation. As just one example, the specification explains that “[a]utomatically SPAM-controller, 205C, selects particular information that begins at a bit distance after the first bit of said binary information....” ‘825 Patent at 67:58-66; *see also id.* at 66:29-68:2. In all, the specification uses the term “selected” over 200 times and the term “select” over 100 times. In light of this, the court rejects Defendants’ contention that these terms are insolubly ambiguous.

With regard to the appropriate construction of the “selected” terms, the court agrees with PMC that these term needs no further construction.

ii. First Input Means / Intermediate Input Means

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>“First Input Means”</p> <p>To the extent a definition is required, “first input means” should not be construed under §112(6).</p> <p>If the Court construes “a first input means” under §112(6), the recited function is “to input.”</p> <p>The corresponding structure is any of receivers 50, 57, 60, or 62 in FIG. 3A of the ‘490 Patent or equivalent thereof. Similar structures are found in the figures from the 1987 specification (i.e., the ’825 Patent).</p>	<p>This term is indefinite.</p>
<p>“Intermediate Input Means”</p> <p>To the extent a definition is required, “[a selected] intermediate input means” should not be construed under §112(6).</p> <p>If the Court construes “intermediate input means” under §112(6), the recited function is “to input.”</p> <p>The corresponding structure is, in the ‘490 Patent, any of video recorder & player 76 or VTR 78 in FIG. 3B, local input 74 in FIG. 3C, video cassette recorder 135 in Figure 5, video recorder/player 217 in Figure 6C, television recorder/player 217, audio recorder/player 255, or computer memory unit 256 in Figure 6F, and/or converter box 114, 133, 134, 201, or 222 in Figures 4-6, or equivalent thereof. Similar structures are found in the figures from the 1987 specification (i.e., the ’825 Patent).</p>	<p>This term is indefinite.</p>

Defendants argue that the terms “first input means” and “intermediate input means” in Claim 23 of the ‘414 Patent render the claim indefinite. Claim 23 recites: “[a] method of inputting data in a system that consists of a first input means” and “at least one intermediate input means.” Defendants first argue that since the terms use the word “means,” and since the term “input” is functional, the presumption that this term must be construed pursuant to § 112, ¶ 6 is not overcome. PMC, on the other hand, argues that “input means” itself denotes sufficient structure and, therefore, should not be construed under § 112, ¶ 6. There is nothing, however, in the claims or the specification to suggest that “input means” inherently discloses sufficient structure to remove it from § 112, ¶ 6. Thus, the court rejects PMC’s argument and construes the term under § 112, ¶ 6.

The parties seemingly agree that the appropriate function of the “input means” terms is “to input.” Defendants, however, argue that since the only function recited in the claims is “inputting,” these terms are insolubly ambiguous because one of ordinary skill in the art would not understand how the “first” and “intermediate” “input means” differ. In response, PMC argues that both terms can be understood, and differentiated by the surrounding language of the claims. For example, the claims explain that the “intermediate input means” “input[s] data of said selected data unit to at least one selected processor at said selected time...” Furthermore, PMC argues that, as understood by a skilled artisan, the modifiers “first” and “intermediate” clearly distinguish the respective “input means” based upon their relative positions along an information path. The court agrees with PMC that this claim is not rendered insolubly ambiguous because it recites only one function for both the “first input means” and the “intermediate input means.”

With regard to the structure corresponding to the “to input” function of the “input means” terms, PMC argues that the following structures are clearly linked to the recited function:

- “first input means:” in the ‘490 Patent, any of receivers 50, 57, 60, or 62 in FIG. 3A, or equivalent thereof; and
- “intermediate input means:” in the ‘490 Patent, any of video recorder and player 76 or VTR 78 in FIG. 3B, local input 74 in FIG. 3C, video cassette recorder 135 in Figure 5, video recorder/player 217 in Figure 6C, television recorder/player 217, audio recorder/player 255, or computer memory unit 256 in Figure 6F, and/or converter box 114, 133, 134, 201, or 222 in Figures 4-6, or equivalent thereof.

Defendants do not argue that PMC’s proposed structure is in any way over-inclusive or under-inclusive. Having carefully reviewed PMC’s proposed structure, the court agrees with PMC that

the structures enumerated above are clearly linked to the inputting function of the “first input means” and the “intermediate input means.” As such, the court adopts PMC’s proposed structure.

iii. Broadcast Transmission Means

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>To the extent a definition is required, this term should be construed as a means-plus-function element under § 112(6).</p> <p>The recited function is “broadcast transmission” which means “transmitting information from one location to multiple locations.”</p> <p>One corresponding structure disclosed is the cable field distribution system 93 depicted in FIG. 3C of the ‘490 Patent. [Also, over-the-air (OTA) or wireless broadcasting of television programming was widely known by the filing date of the ‘490 Patent; in fact, it is disclosed in FIG. 3A by virtue of over-the-air receivers 57 and 60.]</p>	<p>This term is indefinite.</p>

Claim 7 of the ‘414 Patent recites:

In a signal processing system,

a receiver/distribution means for receiving programming from a plurality of program sources and for outputting said programming to a matrix switch means and a control signal detector means,

a matrix switch means for receiving said programming from said receiver/distributor means and for directing selected portions of said received programming to a **broadcast transmission means**....

The parties agree that the term “broadcast transmission means” must be construed under § 112, ¶

6. They disagree, however, as to both the appropriate function and structure.

In accordance with their proposed construction of the term “broadcast,” Defendants argue that the function of the “broadcast transmission means” is “transmitting over-the-air.” As discussed above, the court agrees with Defendants that the patentee acted as his own lexicographer in defining the term “broadcast” to include only over-the-air transmissions. As

such, in accordance with the court's construction of "broadcast,"⁴ the court concludes that the function of the "broadcast transmission means" is "transmitting information over-the-air from one location to multiple locations."

With regard to the corresponding structure, Defendants argue that this term is indefinite because it is not supported by adequate structure in the specification. According to the Defendants, although the specification does disclose various transmission means, none of those means transmits over-the-air. The court, however, rejects this contention. In example number seven, the specification explains that "the program originating studio that originates the 'Wall Street Week' transmission transmits a television signal....Said studio transmits the information of said program to a plurality of intermediate transmission stations by so-called 'landline' means *and/or Earth orbiting satellite transponder means*, well known in the art." '825 Patent at 160:6-161:5. As such, Defendants' contention that the "broadcast transmission means" term is indefinite because there is no corresponding structure recited in the specification is rejected.

The special master in the Atlanta litigation construed the "broadcast transmission means" terms as follows:

The recited function is "broadcast transmission." A "broadcast transmission" is a wireless or over-the-air transmission from one location to many locations. The structure "corresponding" to that function is a broadcast station that was conventional during the relevant time frame.

Ex. G at 267, attached to Plaintiff's Claim Construction Brief, Dkt. No. 136. The court has carefully reviewed the special master's analysis of this term and is persuaded that the special master correctly identified the structure corresponding to the claimed "broadcast transmission means." *Id.* at 250-67. Considering this, the court concludes that the structure corresponding to the function of "transmitting information over-the-air from one location to multiple locations" is

⁴ The court has construed "broadcast" to mean "an over-the-air transmission from one location to many locations."

“a broadcast station that was known at the time the patent issued for transmitting information over-the-air from one location to multiple locations.”⁵

f. Various Other Means-Plus-Function Claim Terms

i. “receiver/distribution means”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>This term is governed by §112, ¶ 6</p> <p>Recited function: “receiving programming from a plurality of program sources” and “outputting said programming to a matrix switch means and a control signal detector means.”</p> <p>Corresponding structures: elements 50-62, as depicted in FIG. 6A of the ‘825 Patent or equivalent thereof. Each of the alternative receiver/distributor means shown in FIG. 6A constitutes an alternative structure that may separately perform the recited functions. These same elements are also depicted in FIG. 3A of the ‘490 Patent.</p>	<p>This limitation is governed by § 112, ¶ 6</p> <p>Recited function: receiving [television] programming from a [plurality of program sources/multichannel television transmission facility] and outputting said programming to a matrix switch means and a control signal detector means.</p> <p>Corresponding structure: receiver/modulator/input apparatus [53 through 62]</p>

The term “receiver/distribution means” appears in Claims 7, 10, and 13⁶ of the ‘414 Patent. The parties agree that this term should be construed as a means-plus-function limitation. The parties, however, disagree as to the appropriate function and corresponding structure to be ascribed to this term.

In accordance with the claim language and the findings of the special master in the Atlanta litigation, the court concludes that the functions of the “receiver/distribution means” recited in Claims 7 and 10 are “receiving programming from a plurality of program sources” and “outputting said programming to a matrix switch means and a control signal detector means.” See Ex. G. at 210-11, attached to PMC’s Opening Claim Construction Brief, Dkt. No. 136.

⁵ Pursuant to § 112, ¶ 6, the corresponding structure for this and the other “means” terms also includes structural equivalents.

⁶ The court notes that Claim 13 of the ‘414 Patent has been stayed and, therefore, will not be addressed here.

Furthermore, the court agrees with the conclusion of the special master from the Atlanta litigation that the structures corresponding to these functions are “elements 50-62, as depicted in Fig. 6A of the ’825 Patent.” *See id.* at 207-10; ’414 Patent at 12-28.

ii. “matrix switch means”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>This limitation is not governed by §112(6).</p> <p>If the Court construes this term under §112(6), the functions are as recited in the respective claims.</p> <p>The corresponding structure is a matrix switch or equivalent thereof, such as any of the following in the ’490 Patent: matrix switch 75 in FIG. 3B or matrix switch 258 in FIG. 6F; or any of the following in the ’825 Patent: matrix switch 258 in FIGs. 4, 5 and 7, matrix switch 75 in FIG. 6A, or matrix switch 259 in FIG. 8.</p>	<p>This limitation is governed by 35 U.S.C. § 112(6).</p> <p>Recited function: receiving said programming from said receiver/distribut[or/ion] means and directing selected portions of said received programming to a [broadcast transmission means/multichannel television distribution means]</p> <p>Corresponding structure: a conventional matrix switch [75], well known in the art as of 1987, which is not a multiplexer</p>

The term “matrix switch means” appears in Claims 7, 10, and 13⁷ of the ’414 Patent. The parties disagree as to whether this term should be construed pursuant to § 112, ¶ 6. PMC argues that the disputed limitation connotes sufficient structure to one of ordinary skill in the art to rebut the presumption that § 112, ¶ 6 applies. The special master in the Atlanta litigation engaged in an extensive analysis of the term and agreed with PMC, finding that “one of ordinary skill in the art would understand that a ‘matrix switch’ is one in which one or more inputs may be connected to one or more outputs.” Ex. G. at 249, attached to PMC’s Opening Claim Construction Brief, Dkt. No. 136. The court has carefully reviewed the special master’s analysis and finds it convincing. As such, the court concludes that the “receiver/distribution means” terms are not subject to means-plus-function treatment and that a “matrix switch” is a “switch in which one or more inputs may be connected to one or more outputs.” Furthermore, the court agrees with the

⁷ The court notes that Claim 13 of the ’414 Patent has been stayed and, therefore, will not be addressed here.

special master in the Atlanta litigation that “[a] ‘multiplexer’ may or may not be configured to function as a ‘matrix switch,’ *i.e.*, a ‘multiplexer’ and a ‘matrix switch’ may or may not have overlapping functions, but a ‘multiplexer’ is not a ‘matrix switch.’” *Id.*

In conclusion, the court construes “matrix switch” to mean “switch in which one or more inputs may be connected to one or more outputs, but which is not a multiplexer.”

iii. “storage/transfer means”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>This limitation is governed by 35 U.S.C. § 112(6).</p> <p>The recited function is “receiving and storing said control signals” and “transferring at least a portion of said control signals for further processing.”</p> <p>The corresponding structure is a memory or buffer device or equivalent thereof, such as buffer/comparator 8, signal processor or monitor 12, and/or PRAM controller 20 as depicted in FIG. 1 of the ‘490 Patent. Similar structures are found in the figures from the 1987 specification (<i>i.e.</i>, the ‘825 Patent).</p>	<p>This limitation is governed by 35 U.S.C. § 112(6).</p> <p>Recited function: Receiving and storing said control signals and transferring at least a portion of said control signals for further processing.</p> <p>Corresponding structure: RAM or disk drive of cable program controller and computer [73]</p>

The parties’ sole dispute regarding the construction of “storage/transfer means” is whether the corresponding structure is limited to “RAM or disk drive of cable program controller and computer [73]” as Defendants’ contend. The parties provide little or no argument in support of their proposed structure. The court, however, has the benefit of reviewing the in-depth and well-reasoned analysis of this term provided by the special master from the Atlanta litigation. *See Ex. G.* at 271-78, attached to PMC’s Opening Claim Construction Brief, Dkt. No. 136. The court agrees with special master’s conclusions and, therefore, construes the term “storage/transfer means” as follows: (1) the function is “receiving and storing said control signals” and “transferring at least a portion of said control signals for further processing;” and (2) the structure corresponding to those functions is “buffer/comparator 8, including PRAM.”

iv. “buffer means”

The parties dispute whether the term “buffer means” is subject to § 112, ¶ 6. The court agrees with PMC and the special master from the Atlanta litigation that this term is not subject to means-plus-function treatment. *Id.* at 233-34. The court concludes that the term “buffer means” means a “buffer.”

v. “multichannel television distribution means”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>To the extent a definition is required, this term should be construed as a means-plus-function element under §112(6).</p> <p>The recited function is “multichannel television distribution.”</p> <p>One corresponding structure disclosed is the cable field distribution system 93 depicted in FIG. 3C of the ‘490 Patent. [Also, over-the-air (OTA) or wireless distribution of multichannel television programming was widely known by the filing date of the ‘490 Patent; in fact, it is disclosed in FIG. 3A by virtue of over-the-air receivers 57 and 60.]</p>	<p>This limitation is governed by 35 U.S.C. § 112(6).</p> <p>Recited function: distributing multichannel television</p> <p>Corresponding structure: cable channel modulators 83, 87, 91</p>

The term “multichannel television distribution means” is recited in Claims 10 and 13 of the ’414 Patent. The parties’ agree that this term is subject to means-plus-function treatment and they also seemingly agree on the recited function – i.e., multichannel television distribution. The parties’ main dispute is whether the structure corresponding to this function should be limited to “cable channel modulators 83, 87, and 91” as Defendants propose. Defendants, however, make no argument in support of their proposed structure. Furthermore, PMC proposes that the court generally define the structures corresponding to the recited function to be “a cable field distribution system or equivalent wireless system, known at the time the patent issued, for transmitting information from one location to multiple locations.” PMC, however, fails to explain how such a general structure is “clearly linked” to the recited function of “distributing

multichannel television.” As such, the court rejects both PMC’s and Defendants’ proposed structures.

The court again finds the analysis of the Atlanta special master convincing. As such, the court construed the term “multichannel television distribution means” as follows: (1) the function is “multichannel television distribution;” and (2) the corresponding structure is “cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92, in cable distribution system 93.”

vi. “input means for inputting member information”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
<p>To the extent a definition is required, his limitation is governed by 35 U.S.C. § 112(6).</p> <p>The recited function is “inputting member information.”</p> <p>The corresponding structure is local input 225 or micro-computer 205 as depicted in FIG. 6, or local input 102, 105, 108, 112, or 116 in FIG. 4, or “Widget Signal Generator and Local Input” described in connection with FIG. 6D of the ‘490 Patent, or equivalent user input device. Similar structures are found in the figures from the 1987 specification (i.e., the ’825 Patent).</p>	<p>This limitation is governed by 35 U.S.C. § 112(6).</p> <p>Recited function: inputting member information</p> <p>Corresponding structure: telephone keypads, typewriter or microcomputer keyboards</p>

With regard to the term “input means for inputting member information,” the parties’ only dispute the structure corresponding to the function of “inputting member information.” Again, neither party devotes much time to explaining why their proposed structure is correct and the other’s is wrong. As such, the court has carefully reviewed the Atlanta special master’s findings with regard to this term. The court agrees with the special master’s analysis and, therefore, construes the term “input means for inputting member information” as follows: (1) the function is “inputting member information;” and (2) the structures clearly linked to this function are “a microcomputer disk drive, a microcomputer modem connected to a telephone or data communication network, and ‘local input 225’ ‘actuated by keys that are depressed manually by

the subscriber in the fashion of the keys of a so-called touch-tone telephone or the keys of a typewriter (or microcomputer) keyboard.”

g. Various Other Disputed Terms

i. “computer” and “computer use station”

“Computer” is found in Claims 41-43 of the ‘277 Patent. “Computer user station” is found in Claim 28 of the ‘277 Patent. Considering that the specification of the patents-in-suit disclose computers which need not have a display or a disk drive or a user interface in order to operate, the court rejects Defendants’ attempt to limit these terms to “general purpose user operated device[s] with a processor, a separate display, and disk drives.” *See, e.g.*, ‘490 Patent at FIG. 3B (disclosing “Cable Program Controller & Computer 73”); *id.* at FIGs. 6C, 6E and 6G (disclosing Micro-Computer 205); *id.* at FIG. 5 (disclosing Micro-Computer 142). The court agrees with PMC that these terms need no further construction.

ii. “identification code”

The court agrees with PMC that the term “identification code” can be readily understood from its constituent words and the surrounding claim language. Furthermore, the court rejects Defendants’ proposed construction – i.e., “[a] unique designation for a particular subscriber receiver.” The surrounding claim language expressly indicates that the identification code at issue corresponds to a particular “remote site receiver,” and thus there is no warrant for repeating in the definition of “identification code” what is already made clear in the claim language. In addition, the patents do not describe identifiers as being unique in all instances. *See, e.g.*, ‘490 Patent at 8:20-24 (embodiment “*may* contain a unique digital code capable of identifying” (emphasis added)); *id.* at 4:47-54 (no disclosure of uniqueness).

iii. “receiver station” and related terms

The court rejects Defendants’ proposed construction, which seeks to equate the “receiver station” terms with the “remote site receiver.” Nothing in the claim language or in the plain meaning of the terms require that the “receiver station” be the “remote site receiver.” The court agrees with PMC that the following terms (identified in the briefing as the “receiver station and related terms”) need no further construction: (1) receiver station; (2) remote subscriber station; (3) television receiver station; (4) television subscriber station; (5) television subscriber [or computer user station]; and (6) [mass medium transmission] receiver station.

iv. “receiving at said remote data source a query”

Defendants propose that the court construe the term “receiving at said remote data source a query” to mean “receiving a data communication over a telephone line from a subscriber receiver requesting the data of interest.” Defendants’ proposed construction, however, is contrary to the teachings of the specification, which explains that data communications between a subscriber station and a remote data source can be via “telephone or other data transfer network.” *See, e.g.*, ‘490 Patent at 11:18-21, 12:55-57; *see also* FIGs. 1 and 6B of the ‘490 Patent (“TELEPHONE OR OTHER DATA TRANSFER [NETWORK]”). As such, the court rejects Defendants’ proposed construction. The court agrees with PMC that this term needs no further construction.

v. “coordinated presentation”

Defendants propose that the court construe “coordinated presentation” to mean “a presentation with a set order.” Defendants offer no argument regarding their proposed construction and, as such, the court rejects it because it cannot ascertain what Defendants mean

by “set order” – a term which appears nowhere in the specification or claims of the patents-in-suit. The court agrees with PMC that no further construction of this term is needed.

vi. “causing said tuner to select”

Defendants argue that the court should construe the term “causing said tuner to select” to mean “directing the tuner to tune to a specific channel automatically, based on the information of the selected television program unit. Defendants again offer no support for their proposed construction and the court cannot readily identify any support in the intrinsic record for their restrictive definition. Specifically, although one manner in which a tuner may select a specific television transmission is “automatically,” the court finds no justification for limiting the term to that manner. As such, the court rejects Defendants’ proposed definition. The court agrees with PMC that this limitation needs no further construction.

vii. “causing said recorder to record”

Defendants propose that the court construe “causing said recorder to record” to mean “directing the recorder to record the selected television program unit automatically, based on the information of the selected television program unit.” Defendants offer no support for their proposed construction and, as such, the court rejects it. The court agrees with PMC that this phrase needs no further construction.

viii. “operatively connected”

Defendants argue that the court should construe the term “operatively connected” to mean “connected in a way required to perform the recited functions.” The court cannot ascertain what Defendants’ proposed construction is meant to cover because Defendants again offered no support for their proposed construction. As such, the court rejects Defendants’ proposed construction and concludes that this term needs no further construction.

ix. “a list of authorized information recipients”

Defendants proposed that the court construe the term “a list of authorized information recipients” to mean “a data file delivered to each subscriber receiver using embedded signals that identifies every receiver allowed to view restricted programming.” The court can identify no support for restricting this term to “embedded” data or data files “delivered to each subscriber receiver using embedded signals that identifies every receiver allowed to view restricted programming.” As such, the court rejects Defendants’ proposed construction and concludes that this term needs no further construction.

x. “programming transmission” / “mass medium programming transmission”

Defendants argue that the terms “programming transmission” and “mass medium programming transmission” should be construed in the same manner as they proposed for “information transmission.” The court rejects Defendants’ proposed construction. The court agrees with PMC that these terms are readily understandable according to their plain and ordinary meaning. As such, the court concludes that these terms need no further construction.

xi. “in response to said control signals or a local command”

Defendants argue that the court should construe the term “in response to said control signals or on local command” to mean “according to commands encoded in the control signals or to commands entered through an user-mediated input device coupled to the system.” Defendants’ proposed construction imposes numerous improper limitations, such as that the control signal must be a “command” or be “entered through a user-mediated input device.” The specification explains that control signals may contain data used in executing an operation wherein the data is not in and of itself a command, but is used to specify when an operation will be initiated by a command. Furthermore, the specification expressly recognizes that the local

input may be either user mediated or a machine interface and that “microcomputer, 205, may also automatically substitute for local control, 225.” ‘825 Patent at 160:30-50. Considering this, the court rejects Defendants’ proposed constructions. The court agrees with PMC that this phrase needs no further construction.

xii. “that includes”

With regard to the term “that includes,” Defendants argue that, although the term is found in the preamble to Claim 24 of the ’277 Patent, it is clearly limiting. Defendants, however, provide no argument to rebut the presumption that this term is not limiting because it is found in the preamble. As such, the court rejects Defendants’ argument that this term is limiting. The court agrees with PMC that the term “that includes” needs no further construction.

xiii. “directing a selected portion of said control signals to a decryptor...”

Defendants argue that the court should construe the phrase “directing a selected portion of said control signals to a decryptor [] based on a favorable result of said identification step” to mean “providing [a selected portion of said control signals] to a decryptor only if the subscriber receiver is on the list of authorized information recipients.” This construction changes “directing” to “providing” and by doing so improperly limits the claim language. The court agrees with PMC that “directing,” certainly encompasses “providing” but is not so narrow – while a device that “directs” a signal to another device may itself provide the signal to that second device, it may also enable a third device to pass the signal, a situation that Defendants’ construction would prevent. As such, the court rejects Defendants’ proposed construction. The court agrees with PMC that this term need not be construed because it may be plainly understood from the ordinary meaning of the language of the claim.

xiv. “receiver/distributors”

Defendants argue that the court should construe “receiver/distributors” to mean “receivers and distribution components of a cable field distribution system known in the art as of 1987.” The court rejects Defendants’ proposed construction because it would exclude transmissions other than cable, including over-the-air transmission. *See* ‘277 Patent at 9:5-15 (“The programming may be delivered by any means including over-the-air, hard-wire, and manual means,” and “stations may transmit programming over-the-air . . . or over hard-wire.”). The court agrees with PMC that this term needs no further construction.

xv. “video portion” terms

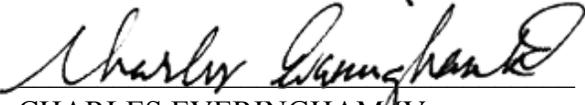
Defendants argue that the court should construe the “video portion” terms recited in the ‘277 Patent to mean “the lines comprising the active and/or inactive video.” Because Defendants make no arguments regarding their proposed construction, the court cannot determine what Defendants mean by “active and/or inactive video” – terms that appear nowhere in the specification or claims of ‘277 Patent. As such, the court rejects Defendants’ proposed construction. The court agrees with PMC that this term needs no further construction.

IV. CONCLUSION

The court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit. 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 30th day of September, 2011.



CHARLES EVERINGHAM IV
UNITED STATES MAGISTRATE JUDGE