United States District Court,
E.D. Texas, Marshall Division.

TIVO INC,
Plaintiff.
v.
ECHOSTAR COMMUNICATIONS CORP., et al,
Defendants.

No. 2:04-CV-1-DF

Aug. 18, 2005.

CLAIM CONSTRUCTION ORDER

DAVID FOLSOM**, District Judge.**

Before the Court are EchoStar's Opening Claim Construction Brief (Dkt. No. 79), filed April 11, 2005, TiVo Inc.'s Opening Brief on Claim Construction (Dkt. No. 80), filed April 11, 2005, TiVo Inc.'s Opposition Brief on Claim Construction (Dkt. No. 97), filed May 12, 2005, and EchoStar's Response to TiVo's Opening Brief on Claim Construction (Dkt. No. 98), filed May 12, 2005. The Court conducted a claim construction hearing on May 23, 2005. The Parties provided the Court with copies of their slide presentations from the hearing and a Joint Claim Construction Chart (Dkt. No. 120), filed June 7, 2005. The Court now issues this Order to resolve the Parties' claim construction disputes.

I.

FACTUAL AND PROCEDURAL BACKGROUND

Plaintiff TiVo, Inc. (hereafter "TiVo") filed suit against defendants on January 5, 2004, for alleged infringement of U.S. Patent No. 6,233,389 (the "'389 patent"). Defendants (collectively referred to as "EchoStar") are a group of inter-related companies who together operate or support a satellite television service called the Dish Network in combination with digital video recorders ("DVRs"). TiVo alleges that EchoStar, by making, using, offering to sell, and/or selling digital video recording devices, digital video recording device software, and/or personal television services in the United States, is infringing, has infringed, and/or has contributed to and induced infringement of one or more claims of the '389 patent. In addition, TiVo alleges that such infringement has been willful and deliberate. *See* Amended Complaint for Patent Infringement (Dkt. No. 3), at para.para. 11-12 (filed Jan. 15, 2004).

The '389 patent, entitled "MULTIMEDIA TIME WARPING SYSTEM," describes a digital video recorder system that digitally records television signals from analog and digital sources such as cable and satellite television providers. In their briefing and during the claim construction hearing, the parties focused their presentations on claims 1, 31, 32, and 61 of the '389 patent. Clams 1 and 31 are process claims, and claims 32 and 61 are the apparatus claims that respectively correspond to claims 1 and 31. Accordingly, the parties

request the Court to construe terms that appear in these claims. The text of each of the claims at issue is set forth below:

1. A process for the simultaneous storage and play back of multimedia data, comprising the steps of:

accepting television (TV) broadcast signals, wherein said TV signals are based on a multitude of standards, including, but not limited to, National Television Standards Committee (NTSC) broadcast, PAL broadcast, satellite transmission, DSS, DBS, or ATSC;

tuning said TV signals to a specific program;

providing at least one Input Section, wherein said Input Section converts said specific program to an Moving Pictures Experts Group (MPEG) formatted stream for internal transfer and manipulation;

providing a Media Switch, wherein said Media Switch parses said MPEG stream, said MPEG stream is separated into its video and audio components;

storing said video and audio components on a storage device;

providing at least one Output Section, wherein said Output Section extracts said video and audio components from said storage device;

wherein said Output Section assembles said video and audio components into an MPEG stream;

wherein said Output Section sends said MPEG stream to a decoder;

wherein said decoder converts said MPEG stream into TV output signals;

wherein said decoder delivers said TV output signals to a TV receiver; and

accepting control commands from a user, wherein said control commands are sent through the system and affect the flow of said MPEG stream.

31. A process for the simultaneous storage and play back of multimedia data, comprising the steps of:

providing a physical data source, wherein said physical data source accepts broadcast data from an input device, parses video and audio data from said broadcast data, and temporarily stores said video and audio data;

providing a source object, wherein said source object extracts video and audio data from said physical data source;

providing a transform object, wherein said transform object stores and retrieves data streams onto a storage device;

wherein said source object obtains a buffer from said transform object, said source object converts video data into data streams and fills said buffer with said streams;

wherein said source object is automatically flow controlled by said transform object;

providing a sink object, wherein said sink object obtains data stream buffers from said transform object and outputs said streams to a video and audio decoder;

wherein said decoder converts said streams into display signals and sends said signals to a display;

wherein said sink object is automatically flow controlled by said transform object;

providing a control object, wherein said control object receives commands from a user, said commands control the flow of the broadcast data through the system; and

wherein said control object sends flow command events to said source, transform, and sink objects.

32. An apparatus for the simultaneous storage and play back of multimedia data, comprising:

a module for accepting television (TV) broadcast signals, wherein said TV signals are based on a multitude of standards, including, but not limited to, National Television Standards Committee (NTSC) broadcast, PAL broadcast, satellite transmission, DSS, DBS, or ATSC;

a module for tuning said TV signals to a specific program;

at least one Input Section, wherein said Input Section converts said specific program to an Moving Pictures Experts Group (MPEG) formatted stream for internal transfer and manipulation;

a Media Switch, wherein said Media Switch parses said MPEG stream, said MPEG stream is separated into its video and audio components;

a module for storing said video and audio components on a storage device;

at least one Output Section, wherein said Output Section extracts said video and audio components from said storage device;

wherein said Output Section assembles said video and audio components into an MPEG stream;

wherein said Output Section sends said MPEG stream to a decoder;

wherein said decoder converts said MPEG stream into TV output signals;

wherein said decoder delivers said TV output signals to a TV receiver; and

accepting control commands from a user, wherein said control commands are sent through the system and affect the flow of said MPEG stream.

61. An apparatus for the simultaneous storage and play back of multimedia data, comprising:

a physical data source, wherein said physical data source accepts broadcast data from an input device, parses video and audio data from said broadcast data, and temporarily stores said video and audio data;

a source object, wherein said source object extracts video and audio data from said physical data source;

a transform object, wherein said transform object stores and retrieves data streams onto a storage device;

wherein said source object obtains a buffer from said transform object, said source object converts video data into data streams and fills said buffer with said streams;

wherein said source object is automatically flow controlled by said transform object;

a sink object, wherein said sink object obtains data stream buffers from said transform object and outputs said streams to a video and audio decoder;

wherein said decoder converts said streams into display signals and sends said signals to a display;

wherein said sink object is automatically flow controlled by said transform object;

a control object, wherein said control object receives commands from a user, said commands control the flow of the broadcast data through the system; and

wherein said control object sends flow command events to said source, transform, and sink objects.

II.

LEGAL PRINCIPLES OF CLAIM CONSTRUCTION

A determination of patent infringement involves two steps. First, the patent claims are construed, and, second, the claims are compared to the allegedly infringing device. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1455 (Fed.Cir.1998) (*en banc*).

The legal principles of claim construction were recently reexamined by the Federal Circuit in Phillips v. AWH Corp., 415 F.3d 1303, 2005 WL 1620331 (Fed.Cir., July 12, 2005). Reversing a summary judgment of non-infringement, an *en banc* panel specifically identified the question before it as: "the extent to which [the court] should resort to and rely on a patent's specification in seeking to ascertain the proper scope of its claims ." *Id*. at *4. Addressing this question, the Federal Circuit specifically focused on the confusion that had amassed from its recent decisions on the weight afforded dictionaries and related extrinsic evidence as compared to intrinsic evidence. Ultimately, the court found that the specification, "informed, as needed, by the prosecution history," is the "best source for understanding a technical term." *Id*. at (quoting Multiform Dessicants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed.Cir.1998). However, the court was mindful of its decision and quick to point out that *Phillips* is not the swan song of extrinsic evidence, stating:

[W]e recognized that there is no magic formula or catechism for conducting claim construction. Nor is the court barred from considering any particular sources or required to analyze sources in any specific sequence, as long as those sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence.

Phillips, 2005 WL 1620331, *16 (citations omitted). Consequently, this Court's reading of *Phillips* is that the Federal Circuit has returned to the state of the law prior to its decision in Texas Digital Sys. v. Telegenix, Inc., 308 F.3d 1193 (Fed.Cir.2002), allotting far greater deference to the intrinsic record than to extrinsic evidence.

Additionally, the Federal Circuit in *Phillips* expressly reaffirmed the principles of claim construction as set forth in Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed.Cir.1995) (*en banc*), af'd, 517 U.S. 370 (1996), Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576 (Fed.Cir.1996), and Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111 (Fed.Cir.2004). Thus, the law of claim construction remains intact. Claim construction is a legal question for the courts. Markman, 52 F.3d at 979. The claims of a patent define that which "the patentee is entitled the right to exclude." Innova, 381 F.3d at 1115. When construing claim language, claim terms are generally given their ordinary and customary meaning as they would be understood by "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." Phillips, 2005 WL 1620331, *5; PC Connector Solutions LLC v. SmartDisk Corp., 406 F.3d 1359, 1363 (Fed.Cir.2005) ("A claim cannot have different meanings at different times; its meaning must be interpreted as of its effective filing date."); *see* Vitronics, 90 F.3d at 1582. However, the Federal Circuit stressed the importance of recognizing 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." Phillips, 2005 WL 1620331 at *5.

Advancing the emphasis on the intrinsic evidence, the *Phillips* decision explains how each source, the claims, the specification as a whole, and the prosecution history, should be used by courts in determining how a skilled artesian would understand the disputed claim term. *See, generally, id*. at *6-*9. The court noted that the claims themselves can provide substantial guidance, particularly through claim differentiation. Using an example taken from the claim language at issue in *Phillips,* the Federal Circuit observed that "the claim in this case refers to 'steel baffles,' which strongly implies that the term 'baffles' does not inherently mean objects made of steel." *Id*. at *6. Thus, the "context in which a term is used in the asserted claim can often illuminate the meaning of the same term in other claims." *Id*. Likewise, other claims of the asserted patent can be enlightening, for example, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id*. at *7.

Still, the claims "must be read in view of the specification, of which they are part." Markman, 52 F.3d at 978. In *Phillips,* the Federal Circuit reiterated the importance of the specification, noting that "the specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.' " Phillips, 2005 WL 1620331 at *7 (quoting Vitronics, 90 F.3d at 1582). To emphasize this position, the court cites extensive case law, as well as "the statutory directive that the inventor provide a 'full' and 'exact' description of the claimed invention." *Id*. at *8, *see also* 35 U.S.C. s. 112, para. 1. Consistent with these principles, the court reaffirmed that an inventor's own lexicography and any express disavowal of claim scope is dispositive. *Id*. at *8. Concluding this point, the court noted the consistency with this approach and the issuance of a patent from the Patent and Trademark Office and found that "[i]t is therefore entirely appropriate for a court, when conducting claim construction, to rely heavily on the written description for guidance as to the meaning of the claims." *Id*. at *9.

Finally, the Federal Circuit curtailed the role of extrinsic evidence in construing claims. In pointing out the less reliable nature of extrinsic evidence, the court reasoned that such evidence (1) is by definition not part of the patent, (2) does not necessarily reflect the views or understanding of a person of ordinary skill in the

relevant art, (3) is often produced specifically for litigation, (4) is far reaching to the extent that it may encompass several views, and (5) may distort the true meaning intended by the inventor. *See id*. at *11. Consequently, the Federal Circuit expressly disclaimed the approach taken in *Texas Digital*. While noting the *Texas Digital* court's concern with regard to importing limitations from the written description-"one of the cardinal sins of patent law," the Federal Circuit found that "the methodology it adopted placed too much reliance on extrinsic sources such as dictionaries, treatises, and encyclopedias and too little on intrinsic sources, in particular the specification and prosecution history." *Id*. at *13. Thus, the court renewed its emphasis on the specification's role in claims construction.

In light of *Phillips,* this Court will resort to extrinsic evidence only if unable to reach a claim construction based upon the intrinsic record. Vitronics, 90 F.3d at 1584 ("Only if there were still some genuine ambiguity in the claims, after consideration of all available intrinsic evidence, should the trial court have resorted to extrinsic evidence ..."). Where it is necessary to consider extrinsic evidence to arrive at a construction, such evidence should be used with caution.

Many other principles of claims construction, though not addressed in *Phillips,* remain significant in guiding this Court's charge in claim construction. The Court is mindful that there is a "heavy presumption" in favor of construing claim language as it would be plainly understood by one of ordinary skill in the art. Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999). Words in patent claims are given their ordinary meaning in the usage of the field of the invention, unless the text of the patent makes clear that a word was used with a special meaning. *See* Multiform Desiccants, Inc., 133 F.3d at 1477. Though a patentee may choose to act as his own lexicographer, the intrinsic evidence must 'clearly set forth' or 'clearly redefine' a claim term so as to put one reasonably skilled in the art on notice that the patentee intended to so redefine the claim term. Bell Atl. Network Servs., Inc. v. Covad Communs. Group, Inc ., 262 F.3d 1258, 1268 (Fed.Cir.2001) (internal citations omitted).

Claim construction is not meant to change the scope of the claims but only to clarify their meaning. Embrex, Inc. v. Service Eng'g Corp., 216 F.3d 1343, 1347 (Fed.Cir.2000) ("In claim construction the words of the claims are construed independent of the accused product, in light of the specification, the prosecution history, and the prior art.... The construction of claims is simply a way of elaborating the normally terse claim language[ ] in order to understand and explain, but not to change, the scope of the claims.") (citations and internal quotations omitted). Though a claim or claim term may be used according to its plain meaning, where appropriate, this Court offers claim construction for clarification.

Each term used in a claim is presumed to have meaning. Innova, 381 F.3d at 1119 ("While not an absolute rule, all claim terms are presumed to have meaning in a claim."). Thus, a claim construction that would render terms meaningless or redundant is presumably incorrect. Where different terms are used in a claim, a court can infer that the patentee intended that the terms have different meanings. *Id*. Similarly, a claim term is generally given the same construction throughout the specification and the claims. *See id.;* Phillips, 2005 WL 1620331 at *7 ("Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.").

III.

DISCUSSION

Having reviewed the principles of claims construction, the Court now turns to a discussion of the patent in

suit and the disputed terms that appear in claims 1, 31, 32, and 61.

A. Claims 1 and 32

1. "accepting television (TV) broadcast signals, wherein said TV signals are based on a multitude of standards"

TiVo argues no construction is needed for this limitation, or, if construed, should be defined as "accepting transmitted television programming that is based on one or more established specifications." *See* TiVo's Op. Br. 5-7; TiVo's Markman Slides at 51-60.

EchoStar argues "multitude" means "a large number." EchoStar's Opening Br. at 6-8; EchoStar's Slide Presentation at 49-53. During the claims construction hearing, EchoStar stated that "the plain meaning of multitude [is] many, a large number ... It is not a specific technical term." 5/23/05 Hr. Tr. at 92:14-17. EchoStar further argues "accepting television (TV) broadcast signals, wherein said TV signals are based on a multitude of standards" means "accepting for processing a large number of different TV broadcast signals formatted in conformance with different TV broadcast signal standards." EchoStar's Opening Br. at 6-8; EchoStar's Slide Presentation at 49-53.

Though "multitude" is a term that is understood by persons of skill in the art, for clarification purposes, the Court defines it as "numerous." The construction proposed by defendant, "a great number," does not clarify the meaning of the term "multitude" and instead only adds ambiguity as the term "great" is a term of degree in need of further construction. The Court's construction accords with the plain meaning of the term "multitude" and with the use of the term in the patent claims and the patent specification. '389 patent at col. 2:4-10; 3:32-37; *see also* '389 patent Abstract. Further, as written, the claim language requires an invention that accepts TV broadcast signals that are based on a multitude of standards-not that the invention actually process a multitude of TV broadcast standards. *See* TiVo Op. Br. at 6-7.

Though not determinative in the Court's decision, it is of note that construing "multitude" as "numerous" further accords with extrinsic evidence proffered by defendant. *See* EchoStar's Opening Br. at 6-7 citing Exh. D, THE AM. HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (4th ed.2000) at 1156 ("multitude. n.: 1. the condition or quality of being numerous") and Exh. E, the OXFORD ENGLISH DICTIONARY ONLINE, 2004 ("multitude. n. 1. A mass noun: the character, quality, or condition of being many; numerous").

The Court finds that the remaining terms do not require construction. FN1 Therefore, the Court construes "accepting television (TV) broadcast signals, wherein said TV signals are based on a multitude of standards" as **"accepting television (TV) broadcast signals, wherein said TV signals are based on numerous standards."**

FN1. EchoStar argues that the claim term "standards" is indefinite and renders the entire claim invalid. EchoStar Opening Br. at 2, 20-22. Whether or not the claim is indefinite, however, is an invalidity question and should be raised in the context of a summary judgment motion. Patents are presumed valid. 35 U.S.C. s. 282. During claim construction, courts will construe claims unless, because of an ambiguity, one of ordinary skill in the art could not reasonably understand the scope of the claim. *See* Exxon Research and Eng'g Co. v. United States, 265 F.3d 1371, 1375 (Fed.Cir.2001); *see also* Phillips, 2005 WL 1620331 at *19 (noting that a validity analysis is not a regular component of claim construction). Presently, this Court finds the term "standards" is not so ambiguous that the claim cannot be construed.

2. "tuning said TV signals to a specific program"

TiVo argues no construction is needed for these terms, or, if construed, should mean "adjusting the system to receive signals at a particular frequency or a particular program." *See* TiVo's Op. Br. at 7-8; '389 patent at col. 3:37-46; TiVo's Markman Slides at 61-68.

EchoStar argues these terms should be defined as "using a tuner to select a radio frequency bandwidth that carries exactly one television program at a time." EchoStar's Opening Br. at 8-9; EchoStar's Response Br. at 15; EchoStar's Slide Presentation at 54-58.

The specification does not explicitly define "a specific program ." The claim term "a specific program" does not appear in the specification. Based, however, on its use in the claims, the Court finds that one of ordinary skill in the art would understand "a specific program" is to mean "a specified frequency range." The Court finds that the claim term "tuning" was used according to its plain meaning in the '389 patent and does not require further construction.

Therefore, the Court defines "tuning said TV signals to a specific program" as **"tuning said TV signals to a specified frequency range."**

3. "Input Section" and "converts said specific program to an Moving Pictures Experts Group (MPEG) formatted stream"

TiVo argues no construction of these terms is needed, or, if construed, should be limited to the definition of "Input Section" as "hardware and/or code that changes or adapts the form or function of the TV program data to an MPEG format suitable for internal transfer and manipulation." *See* TiVo's Op. Br. at 8-11; ' 389 patent at cols. 2:13-14, 3:30-4:2, 6:26-27, 6:30-33, 12:40-42, 12:44-47; TiVo's Markman Slides at 69-84.

EchoStar argues "Input Section" is specially defined by the '389 patent as "a separate module that obtains input from outside an assembly, tunes to a signal carrying a particular television program, and includes an MPEG encoder that encodes the program into MPEG." FN2 ' 389 patent at cols. 3:32-33, 3:43-52, 4:15, & Fig. 1; EchoStar's Opening Br. at 16-17; EchoStar's Response Br. at 15; EchoStar's Slide Presentation at 99-104.

FN2. In support of its proffered construction, EchoStar argues that the capitalization of terms in a patent indicates that the terms were specially defined by the patentee and therefore must be given a special meaning instead of their plain meaning. EchoStar argues that because three terms in the '389 patent were capitalized-Input Section, Media Switch, and Output Section-the patentee necessarily acted as his own lexicographer and that these terms cannot be construed to have a plain meaning. EchoStar Opening Br. at 15 ("By using terms that are proper nouns and not generic terms of art, the applicants acted as their own lexicographers ... In order to understand what was intended by the capitalized terms, therefore, one must refer to the specification."). Notably, EchoStar does not cite any patent cases for this proposition and instead, draws an analogy to contract law wherein, EchoStar argues, capitalization of a term indicates the creation of a term of art. Id. This Court has not found this rule in patent case law and does not here create such a rule. Instead, this Court will follow Federal Circuit precedent in determining whether or not a patentee chose act as his own lexicographer. Bell Atl. Network Servs., Inc. v. Covad Communs. Group, Inc., 262 F.3d 1258, 1268 (Fed.Cir.2001).

EchoStar further argues "said Input Section converts said specific program to an Moving Pictures Experts Group (MPEG) formatted stream" means "the Input Section changes the format of the TV program data signal from non-MPEG to MPEG." *See* '389 patent at col. 2:10-14; EchoStar's Opening Br. at 9-11, 16-17; EchoStar's Response Br. at 15; EchoStar's Slide Presentation at 59-75.

The Court need look no further than the claims themselves to define these terms, as the specification does not explicitly define them. *See* '389 patent at cols. 12:43-46, 15:25-28. The plain and ordinary meaning of an "Input Section" is "the portion of a device that receives inputs." The claim term "converts" needs no further construction. Though EchoStar argued in favor of construing "convert" as "change," no such construction is necessary.FN3

FN3. EchoStar cites Superguide Corp. v. DirectTV Eters., Inc., 358 F.3d 870, 891 (Fed.Cir.2004) in support of its proposed construction of "convert." EchoStar argues that in that case, the Federal Circuit "[held] that in the television broadcasting field, the ordinary meaning of 'convert' is 'changing from one form or format to another.' " In *Superguide,* the Federal Circuit considered the construction of a claim phrase containing the term "converting." In support of their respective proposed constructions, the two parties each proposed constructions of "converting" that used the term "change" and the district court's final construction of the term construed "conversion" as "change." The construction of this term, however, was not squarely before the court. Further, though the Federal Circuit, affirmed the district court's claim construction, the court did not hold generally that the ordinary meaning of "conversion" in the television broadcasting field is "change."

Therefore, the Court construes "providing at least one Input Section, wherein said Input Section converts said specific program to an Moving Pictures Experts Group (MPEG) formatted stream for internal transfer and manipulation" as **"providing at least one portion of a device that receives inputs, wherein said portion of the device that receives inputs converts said specified frequency range to an Moving Picture Experts Group (MPEG) formatted stream for internal transfer and manipulation."**

4. "Media Switch" and "parses said MPEG stream, said MPEG stream is separated into its video and audio components"

TiVo argues "Media Switch" means "hardware and/or code that connects with CPU and memory." TiVo's Opening Br. at 8-9; TiVo's Op. Br. at 19-21; '389 patent at col. 3:62-64 ("The Media Switch 102 mediates between a microprocessor CPU 106, hard disk or storage device 105, and memory 104."); id. at cols. 2:22-25, 6:59-63, 7:5-23, 14:21-22; TiVo's Markman Slides at 85-97.

EchoStar argues "Media Switch" is specially defined by the '389 patent as "a hardware module that is separate from the computer's CPU, is connected to temporary memory, receives MPEG data representing a television program from one or more Input Sections, parses data into separate video and audio components, using a parser that detects the start of all important events in a video or audio stream and the start of all frames, sends the data to a storage device, retrieves the data from the storage device, and sends it to one or more Output Sections." *See* '389 patent at cols. 3:62-4:2, 5:51-64, 6:16-46, 6:59-65; 7:19-26; 8:44, & Figs. 1, 2, 7 & 13; EchoStar's Response Br. at 4-7; EchoStar's Slide Presentation at 99-112.

The Court finds that the specification is the best guide to the meaning of the term "Media Switch." As used in the '389 patent, "Media Switch" is hardware and/or code that mediates between a microprocessor CPU, hard-disk or storage device, and memory." This definition is consistent with the use of the term in the patent claims and specification. *See* '389 patent at col. 3:62-4:2, 4:34-36, 4:55-58, 5:34-36, 6:16-27, 6:59-65, 7:5-11. Neither the claims nor specification limit the Media Switch to a physical device.

Regarding the term "parse", TiVo construes "parse" as "analyze" arguing that "parses said MPEG stream, said MPEG stream is separated into its video and audio components" means "analyzes an MPEG stream, the MPEG stream having distinguished video and audio components." TiVo's Opening Br. at 9-11; TiVo's Op. Br. at 11-13; '389 patent at cols. 4:26-30, 5:3-6, 5:33-36, 6:36-58, & Figs. 6 & 13; TiVo's Markman Slides at 98-112.

EchoStar argues "parses" means "separates," and "said Media Switch parses said MPEG stream, said MPEG stream is separated into its video and audio components" means "the Media Switch must analyze the content of an MPEG Systems stream carrying one television program and from it output two distinct streams: one video MPEG stream and one audio MPEG stream." *See* '389 patent at Fig. 3 & col. 4:23-29; EchoStar's Opening Br. at 11-12; EchoStar's Response Br. at 7-10; EchoStar's Slide Presentation at 76-98; 6-7-05 Joint Claims Construction Chart at 3.

Although the court finds persons of ordinary skill in the art understand the meaning of the term "parses," for clarification purposes, it defines the term as "analyzes." The claim language and the specification are instructive in this regard as both "parse" and "separate" are at times used in the same sentences and claims indicating that the terms are not interchangeable. '389 patent at col. 2:15-16; claims 1 and 32; Abstract; *see* Innova, 381 F.3d at 1119 (noting that each term used in a claim is presumed to have meaning and that it is permissible to infer, where different terms are used in a claim, that the patentee intended a differentiation in the meaning of those terms). As further evidence that the terms are not interchangeable, "parse" is often used without the term "separate" several times in the specification. '389 patent at cols. 2:22-24, 4:52-54, 5:3-6, 6:36-39, 7:12-16; '389 patent Abstract; s *ee* Innova, 381 F.3d at 1119; *see* Phillips, 2005 WL 1620331 at *7.

Therefore, the Court construes "providing a Media Switch, wherein said Media Switch parses said MPEG stream, said MPEG stream is separated into its video and audio components" as **"providing hardware and/or code that mediates between a microprocessor CPU, hard-disk or storage device, and memory, wherein said device, portion of a device, or code analyzes said MPEG stream, said MPEG stream is separated into its video and audio components."**

5. "storing said video and audio components on a storage device"

TiVo argues no construction of these terms is needed, or, if construed, should mean "storing program data to memory." *See* TiVo's Op. Br. at 11-13; '389 patent at cols. 4:1-2, 6:4-8, 6:56-63, 12:53-60; TiVo's Markman Slides at 113-21.

EchoStar argues "storing said video and audio components on a storage device" means "the video MPEG stream and audio MPEG stream are stored as separate components on a hard disk or other computer storage device." *See* EchoStar's Opening Br. at 12-13; EchoStar's Slide Presentation at 76-98.

Upon review of the parties' briefs and of the patent, the Court finds that these terms do not require construction.

6. "Output Section," "extracts said video and audio components from said storage device," and "assembles said video and audio components into an MPEG stream"

TiVo argues no construction of these terms is needed, or, if construed, should mean "hardware and/or code that takes program data from memory and brings it together as an MPEG stream for playback." *See* TiVo's Op. Br. at 15-16; '389 patent at cols. 4:23-33, 4:45-54, 5:33-6:15, 7:12-16; TiVo's Markman Slides at 122-31.

EchoStar argues "Output Section" is specially defined by the '389 patent as "a separate module that decodes an MPEG stream and produces TV output signals." *See* '389 patent at cols. 3:65-4:6 & Figs. 1 & 13; EchoStar's Opening Br. at 19-20; EchoStar's Slide Presentation at 99-104.

EchoStar further argues "said Output Section extracts said video and audio components from said storage device" means "the Output Section must obtain the separate video stream and audio stream from the storage device." *See* EchoStar's Opening Br. at 14; EchoStar's Slide Presentation at 76-98.

EchoStar further argues "said Output Section assembles said video and audio components into an MPEG stream" means "the Output Section must multiplex the separate video stream and audio stream into one MPEG Systems stream." *See* EchoStar's Opening Br. at 14; EchoStar's Slide Presentation at 82, 98.

The Court finds it need look no further than the claims themselves to define these terms, as the specification does not explicitly define them, and the claims are presumed to represent the understanding of those of ordinary skill in the art. *See* '389 patent at cols. 12:53-55, 15:35-37; TiVo's Op. Br. at Gibson Decl., para. 38 (corollary of definition of "Input Section" for "Output Section" is the portion of a device that receives outputs). The plain and ordinary meaning of an "Output Section" to one of ordinary skill in the art is **"the portion of a device that decodes data from memory and produces output signals."** This definition is consistent with the use of the term in claims 1 and 32 and the context of the specification.

The Court finds it unnecessary to construe "extracts said video and audio components from said storage device" or "assembles said video and audio components into an MPEG stream." Further, the Court disagrees with EchoStar's argument that "extracts" should be construed as "obtains." In claims 31 and 61, both the terms "extract" and "obtain" are used. Each of these terms is presumed to have a separate meaning, and each term is presumed to have the same meaning throughout the patent claims. *See* Innova, 381 F.3d at 1119; *see also* Phillips, 2005 WL 1620331 at *7. Although the term "obtain" is not used in claims 1 and 32, both terms are found in claims 31 and 61. Thus, in order to construe "extract" consistently in each of the four claims, "extract" cannot mean "obtain" or the construction would violate the presumption that each term has its own meaning and that the use of different terms reflects a differentiation in meaning. There is no evidence rebutting these presumptions. Thus, "extracts" cannot be construed as "obtains."

7. "control commands"

TiVo argues no construction of "control commands" is needed, or, if construed, should mean "commands that control the DVR system ." TiVo's Opening Br. at 12; '389 patent at cols. 12:65-67, 15:47-49.

EchoStar argues "control commands" means "commands that are accepted and sent through the system" and "affect the flow of said MPEG stream, including, for example, reverse, fast forward, play-pause, fast/slow reverse play, and fast/slow play." FN4 *See* ' 389 patent at col. 2:33-37; EchoStar's Response Br. at 14.

FN4. EchoStar argues that "said MPEG stream" is indefinite and cannot be construed due to a lack of antecedent basis for the term. EchoStar's Opening Br. at 20-21; EchoStar's Slide Presentation at 134-36. EchoStar also argues claim 32 is indefinite because it combines apparatus and process limitations in a single claim. EchoStar Opening Br. at 21-22. As discussed above in footnote 1, definiteness is a validity challenge that should be raised by summary judgment motion.

The court finds "control commands" is defined clearly by claims 1 and 32, with no indication from the specification that any specific meaning should attach. Therefore, for purposes of clarification, the Court defines "control commands" as **"commands that control the system."**

B. Claims 31 and 61

1. "parses video and audio data from said broadcast data"

TiVo argues these terms should be construed to mean "analyzes video and audio data." *See* TiVo's Opening Br. at 9-11; TiVo's Op. Br. at 11-13; '389 patent at cols. 5:3-6, 5:33-36, 6:36-58, & Fig. 6; TiVo's Markman Slides at 135-39; *see also* id. at col. 12:48-50 ("... parses said MPEG stream ...").

EchoStar argues "parses" means "separates," and "parses video and audio data from said broadcast data" means "analyzes the content of broadcast data and from it transmits two distinct components: one video component and one audio component." *See* '389 patent at Fig. 3 & col. 4:23-29; EchoStar's Opening Br. at 11-12; EchoStar's Response Br. at 7-10; EchoStar's Slide Presentation at 76-98, 123-24.

As was the Court's analysis of the term "parses" in the context of claims 1 and 32, the Court similarly finds that "parse" as it is used in claims 31 and 61 means "analyzes." These terms are recited clearly by claims 31 and 61 and understood by persons of ordinary skill in the art. *See* '389 patent at cols. 14:55-58, 18:5-8. This definition is consistent with the use of the term in claims 31 and 61 and the context of the specification. *See, e.g.,* '389 patent at col. 4:23-33 & Fig. 3 (describing the analysis of interleaved video and audio streams from an incoming MPEG stream).

Therefore, the court defines "parses video and audio data from said broadcast data" as **"analyzes video and audio data from the broadcast data."**

2. "obtains a buffer"

TiVo argues this claim term is newly raised by EchoStar after the claim construction hearing and believes no construction is needed. 6/7/05 Joint Claims Construction Chart at 9. EchoStar argues "obtains a buffer" means "obtains a set of buffer memory addresses into which it can write data." *See* ' 389 patent at cols. 7:47-50, 8:9-18; 8:38-65, & Fig. 8; EchoStar's Opening Br. at 23-25; EchoStar Slide Presentation at 127-28. The Court, however, finds "obtains a buffer" requires no construction, as persons of ordinary skill in the art readily understand its meaning as written in claims 31 and 61.

The Court finds that, although the term "buffer" has a plain and ordinary meaning to persons of skill in the art, it requires additional construction for clarification. Because neither party has offered a stand-alone construction for this term in their papers, and is not defined in the '389 patent, the Court turns to extrinsic evidence in order to assist its understanding of the term. Phillips, 2005 WL 1620331 at *15. In this instance,

the Court turns to technical dictionary published by the Institute of Electronic and Electrical Engineers, the IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS (6th ed.1997), which defines "buffer" as: "(5)(A) A device or storage area used to store data temporarily to compensate for differences in rates of data flow, the time occurrence of events, or amounts of data that can be handled by the device or process involved in the transfer or use of the data." IEEE STANDARD DICTIONARY OF ELECTRICAL AND ELECTRONICS TERMS at 113 (6th ed.1997). The Court notes that EchoStar's expert witness, Dr. Rhyne, has acknowledged that the IEEE dictionary this is a widely accepted technical dictionary in the electrical engineering field. Rhyne Decl. at 45. On the basis of the use of the term in the '389 claims, and on the basis of its IEEE dictionary definition, "buffer" will be construed as "memory where data can be temporarily stored for transfer." This definition is further consistent with the definition provided by counsel during the claims construction hearing. 5/23/05 Hr. Tr. 58:11-13.

The claim phrase as a whole, "obtains a buffer" is therefore construed as **"obtains memory where data can be temporarily stored for transfer."**

3. "automatically flow controlled"

TiVo argues these terms mean "the flow of data is self-regulating." *See* TiVo's Op. Br. at 24-26; '389 patent at col. 8:48-49 ("[T]he pipeline is self-regulating; it has automatic flow control."); id. at col. 8:39-65; TiVo's Markman Slides at 166-80.

EchoStar argues the terms mean "the transform object controls when and where video and audio data is stored by the source object." *See* EchoStar's Opening Br. at 26-27; EchoStar's Slide Presentation at 125-31.

The Court agrees with TiVo's position and defines "automatically flow controlled" as **"self-regulated"** due to its clear definition in the specification. *See* '389 patent at col. 8:48-49.

4. "source object"

TiVo argues an "object" is "a collection of data or operations, i.e., portions of a computer program." *See* TiVo's Opening Br. at 11-12; TiVo's Op. Br. at 21-22, *citing* IEEE 100: THE AUTHORITATIVE DICTIONARY OF IEEE STANDARD TERMS at 752 (7th ed.2000) (defining "object" as "a collection of data and operations"); TiVo's Markman Slides at 140-53. It further argues no construction beyond "object" is needed for "source object" or, if construed, should mean "the portion of a computer program that (1) 'extracts video and audio data from said physical data source,' (2) 'converts video data into data streams,' (3) 'obtains a buffer from said transform object,' and (4) 'fills said buffer with said streams.' " *See* TiVo's Op. Br. at 22; '389 patent at cols. 7:48-50, 8:39-40, 14:59-61, 14:65-67, 18:9-10, 18:13-15; TiVo's Markman Slides at 140-53.

EchoStar argues "object" means "an item written with an object-oriented computer programming method (for example, in C) that encapsulates data and the procedures necessary to operate on that data and can inherit properties from a class or another object." *See* '389 patent at cols. 8:9-18, 8:40-42, 11:27; EchoStar's Opening Br. at 22-23; EchoStar's Response Br. at 10-14; EchoStar's Slide Presentation at 113-20.

EchoStar further argues "source object" means "a software object that serves as a point of origin of video and audio data." *See* '389 patent at cols. 7:47-50, 8:9-18; 8:38-65, & Fig. 8; EchoStar's Opening Br. at 23-25; EchoStar's Slide Presentation at 127-28.

After a thorough examination of the intrinsic record, the Court has concluded that "object" is used according to its plain meaning to one of ordinary skill in the art at the time of the invention. Neither the claims nor specification, however, elaborate on the plain meaning of this term. The Court therefore turns to extrinsic evidence in order to assist its understanding of the term. Phillips, 2005 WL 1620331 at *15. In this instance, the Court looked to a technical dictionary, the IEEE 100: THE AUTHORITATIVE DICTIONARY OF IEEE STANDARD TERMS at 752 (7th ed.2000) which defines "object" as "a collection of data and operations." The Court notes that EchoStar's expert witness, Dr. Rhyne, has acknowledged that this is a widely accepted technical dictionary in the electrical engineering field. Rhyne Decl. at 45. Thus, for clarification purposes the Court construes "object" as "a collection of data and operations." This same construction of "object" applies to the terms "transform object," "sink object," and "control object."

The Court further finds that persons of ordinary skill in the art readily understand the meaning of "source object" upon a reading of the claim language and its context in the specification. *See* '389 patent at cols. 14:59-61, 14:65-15:2, 15:15-16, 18:9-10, 18:13-17, 18:29-30. The specification states: "[w]ith respect to FIG. 8, the program logic within the CPU has three conceptual components: sources 801, transforms 802, and sinks 803." Id. at col. 7:48-50. In addition, specification describes a class hierarchy of the program logic according to the invention and refers to the source 901, transform 902, and sink 903 objects. *See* id. at col. 8:9-18 & Fig. 9. Therefore, in accordance with its ordinary meaning, the Court construes "source object" as **"a collection of data and operations that (1) extracts video and audio data from a physical data source, (2) obtains a buffer [memory where data can be temporarily stored for transfer] from a transform object, (3) converts video data into data streams, and (4) fills the buffer [memory where data can be temporarily stored for transfer] with the streams."**

5. "transform object"

TiVo argues no construction for this term beyond a definition for "object" is necessary, or, if construed, should mean "the portion of computer program that 'stores and retrieves data streams onto a storage device.' " *See* TiVo's Op. Br. at 22-23; '389 patent at cols. 7:48-50, 8:39-40, 14:62-64, 18:11-12; TiVo's Markman Slides at 140-49, 154-57.

EchoStar argues "transform object" means "a software object that changes the form of the data upon which it operates." *See* '389 patent at cols. 7:47-57, 7:66-8:18, 8:49-65, & Fig. 8; EchoStar's Opening Br. at 23-25; EchoStar's Slide Presentation at 121-22.

The Court finds it need look no further than the claims themselves to arrive at the plain and ordinary meaning for this term. For clarification purposes, however, this Court construes the term "transform object" as **"a collection of data and operations that transforms the form of data upon which it operates."**

6. "sink object" and "obtains data stream buffers"

TiVo argues these terms require no construction beyond a definition for "object," or, if construed, should mean "the portion of computer program that '[1] obtains data stream buffers from said transform object and [2] outputs said streams to a video and audio decoder.' " *See* TiVo's Op. Br. at 23; '389 patent at cols. 7:48-50, 8:39-40, 15:3-5, 18:19-21; TiVo's Markman Slides at 140-49, 158-62.

EchoStar argues "sink object" means "a software object that receives video and audio data." *See* '389 patent at cols. 7:47-57, 8:8-18, 8:52-65; EchoStar's Opening Br. at 23-25; EchoStar's Slide Presentation at 127-28. EchoStar further argues that "obtains data stream buffers" means "obtains a set of buffer memory addresses

from the transform object and reads the data from that buffer." *See* EchoStar's Opening Br. at 28; EchoStar's Response Br. at 14.

The term "object" will be construed throughout the patent as set forth above. In light of the claims and specification, a "sink object" will be construed as **"a collection of data and operations that (1) obtains data stream buffers [memory where data can be temporarily stored for transfer] from a transform object and (2) outputs the streams to a video and audio decoder."**

Further, the Court finds that the claim phrase "obtains data stream buffers" has a plain meaning readily understood by persons of ordinary skill in the art. For clarification purposes, however, the Court incorporates its definition of "buffer" and construes the claim phrase as **"obtains data stream buffers [memory where data can be temporarily stored for transfer]."**

7. "control object"

TiVo argues no construction of this term beyond a definition for "object" is necessary, or, if construed, the term should mean "the portion of a computer program that (1) 'receives commands from a user, said commands control the flow of the broadcast data through the system'; and (2) 'sends flow command events to said source, transform, and sink objects.' " *See* TiVo's Op. Br. at 23-24; ' 389 patent at cols. 7:48-50, 8:39-40, 15:11-16, 18:26-30; TiVo's Markman Slides at 140-49, 163-65.

EchoStar argues "control object" should have the same construction as "control commands."

The Court finds that persons of ordinary skill in the art readily understand the meaning of "control object" upon a reading of the claim language and its context in the specification. *See* '389 patent at cols. 7:48-49, 8:9-18, 15:10-12, 18:28-29. Therefore, in accordance with its ordinary meaning, the Court construes "control object" as **"a collection of data and operations that receives commands from a user that control the flow of broadcast data."**

IV.

CONCLUSION

For the foregoing reasons, the Court enters this claim construction order.

E.D.Tex.,2005.
TiVo Inc. v. Echostar Communications Corp.

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