EXHIBIT M

Westlaw.

2002 WL 31556392
USITC Inv. No. 337-TA-454

United States International Trade Commission (U.S.I.T.C.)

Commission Determination

IN THE MATTER OF CERTAIN SET-TOP BOXES AND COMPONENTS THEREOF

FINAL INITIAL DETERMINATION

USITC Inv. No. 337-TA-454
June 21, 2002

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This is the administrative law judge's final initial determination, under Commission rule 210.42. The administrative law judge, after a review of the record developed, finds no violation by any respondent of section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337). [FN1]

FN1. Should the Commission find a violation the administrative law judge is making recommendations as to remedy and bonding in this final initial determination.

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b. The language "storage means in a data processor"
c. The language "supplying user program selection criteria to the data

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processor, said user program selection criteria comprising a plurality of independent user chosen program selection criteria and at least one program choice, the data processor combining said user selection criteria, selecting those programs meeting the combined user selection criteria for viewing from the program schedule information in said storage means in the data processor"

i. Whether a "program choice" is part of the "said user selection criteria" combined by the data processor

ii. Whether the "said user selection criteria" combined by the data processor is limited to the criteria of theme, prime time and channels

iii. Whether "combining", as used in claim 18, requires the use of logical "AND" combining of the selection criteria or whether it can mean just the use of logical "OR" combining

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ABBREVIATIONS

CFF	Complainants' Proposed Findings Of Fact
CORFF	Complainants' Objection To Respondents' Proposed Finding Of Fact
CPost	Complainants' Initial Posthearing Brief
CPre	Complainants' Prehearing Brief
CRBr	Complainants' Reply Brief

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CRRFF	Complainants' Rebuttal To Respondents' Proposed Finding Of Fact
CX	Complainants' Exhibit
EPost	EchoStar's Initial Posthearing Brief
ERBr	EchoStar's Reply Brief
EPre	EchoStar's Prehearing Brief
FF	Findings Of Fact
JX	Joint Exhibit
PPost	Pioneer's Initial Posthearing Brief
PPre	Pioneer's Prehearing Brief
PRBr	Pioneer's Reply Brief
RFF	Respondents' Proposed Findings of Fact
ROCFF	Respondents' Objection To Complainants' Proposed Finding Of Fact
RRCFF	Respondents' Rebuttal To Complainants' Proposed Finding Of Fact
RX	Respondents' Exhibit
S-A Post	S-A's Initial Posthearing Brief
S-A Pre	S-A's Prehearing Brief
S-A RBr	S-A's Reply Brief
SFF	Staff's Proposed Finding Of Fact
SPost	Staff's Initial Posthearing Brief
SPre	Staff's Prehearing Brief
SRBr	Staff's Reply Brief
SX	Staff's Exhibit
Tr.	Hearing Transcript Of Record

I. PROCEDURAL HISTORY

By notice, issued on March 14, 2001, the Commission instituted an investigation, pursuant to subsection (b) of section 337 of the Tariff Act of 1930, as amended, to determine whether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation into the United States, or the sale within the United States after importation of certain set-top boxes by reason of infringement of claims 18-24, 26-28, 31, 32, 33, 36, 42, 43, 48-51, 54, 57-61 and 66 of United States Patent 4,706,121 (the '121 patent), claims 1-

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5 and 10-14 of United States Patent 5,253,066 (the '066 patent), claims 1, 3, 8, and 10 of United States Patent 5,479,268 (the '268 patent), and claims 14-17, 19, and 31-35 of United States Patent 5,809,204 (the '204 patent) and whether there exists an industry in the United States as required by subsection (a)(2) of section 337. The notice of investigation was published in the Federal Register on March 21, 2001. (66 Fed. Reg. No. 55 at 15,887-89).

Complainants identified in the Commission notice were Gemstar-TV Guide International, Inc. (Gemstar) and StarSight Telecast, Inc. (StarSight). As respondents, the following were named in the notice: Pioneer Corporation, Pioneer North America, Inc., Pioneer Digital Technologies, Inc., Pioneer New Media Technologies, Inc. [FN1] (collectively, Pioneer), Scientific-Atlanta, Inc., (S-A), EchoStar Communications Corporation, and SCI Systems, Inc. (collectively, EchoStar).

On March 21, 2001, the presiding Administrative Law Judge Morriss issued a notice in which she advised the parties that she owned one of the accused products (an EchoStar 4900 set-top box) and that she had an ongoing service contract with DISH Network, which she believed was related to EchoStar. Judge Morriss stated that, if any party requested her disqualification as the presiding administrative law judge, she would seek to recuse herself from the investigation and directed each party to file a written submission to her attorney-advisor, by April 2, indicating whether the party requested her disqualification or whether the party consented to her continuing to preside over the investigation. Judge Morriss directed that said submission should not be filed or served on the other parties.

By notice, issued on April 4, 2001, the Commission chairman directed that the submissions ordered by Judge Morriss should be filed with the Commission by the close of business on April 6. Respondent Pioneer subsequently filed a submission with the Commission requesting disqualification of Judge Morriss. On April 10, the Commission issued an order designating the undersigned as the presiding administrative law judge in this investigation in place of Judge Morriss.

Order No. 1, which issued on April 12, 2001, set a target date for completion of this investigation of June 21, 2002. Revised Order No. 55, which issued on March 19, was an initial determination which extended the target date to October 21. On April 24, the Commission issued a notice stating that it would not review said initial determination.

Order No. 2, which issued on April 2, 2001, was the protective order. Order No. 6, which issued on May 17, denied complainants' Motion No. 454-10 regarding modification of Order No. 2. Order No. 6 further imposed a limitation on patent prosecution attorneys subscribing to the protective order. Order No. 9, which issued on May 31, granted Pioneer's Motion No. 454-13 to amend their response to include two additional factual allegations to the Ninth Affirmative Defense and to reference supplemental exhibits submitted by complainants.

Order No. 17, which issued on July 9, 2001, granted EchoStar's Motion Nos. 454-31 and 454-32 to modify the response to the complaint and the notice of investigation by providing additional details regarding the products imported by or in behalf of EchoStar. Order No. 18, which issued on July 12, denied EchoStar's Motion No. 454-15 for an order sanctioning complainants.

Order No. 24 was an initial determination, which issued on August 23, 2001, and granted complainants' Motion No. 454-43 to attach copies of license agreements and a list of licensees to the complaint, and to amend the complaint to reflect the attachments. In a notice dated December 14, the Commission determined not to review

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Order No. 24.

Order No. 25, which issued on August 28, 2001, denied complainants' Motion No. 454-45 to strike the First Affirmative Defense of Pioneer relating to patent misuse. Order No. 29, which issued October 9, denied S-A's Motions Nos. 454-55 and - 56 to take evidence relating to public interest and to certify to the Commission the question of whether the administrative law judge can receive evidence relating to public interest issues and to amend the notice of investigation to allow the administrative law judge to take evidence relating to public interest issues. Order No. 32, which issued on October 12, denied complainants' Motion No. 454-52 to disqualify Miller & Chevalier from representing EchoStar in this investigation. Order No. 46, which issued November 21, denied respondent Pioneer's motion to disqualify Fish & Richardson from representing complainants in this investigation.

Order No. 36, which issued on November 2, 2001, denied Motion No. 454-82 of non-party Peter Vogel, the named inventor on the '066 patent, to compel the return of allegedly privileged documents, and granted Pioneer's Motion No. 454-81 for in camera review of those documents to determine if the documents in issue were subject to any privilege. In the same order, complainants' Motion No. 454-80 to exclude the use of those same documents in issue was denied.

Order No. 37, which issued on November 6, 2001, granted respondents' joint Motion No. 454-78 to amend responses to the complaint and to assert an additional affirmative defense that the '066 patent is unenforceable because of inequitable conduct. Order No. 38, which issued on November 7, denied complainants' Motion No. 454-50 for summary determination requesting dismissal of certain affirmative defenses regarding patent misuse. Order No. 39, which issued on November 14, denied complainants' Motion No. 454-92 for summary determination regarding the economic prong of the domestic industry requirement. Order No. 41, which issued on November 15, granted S-A's Motion No. 454-89 to amend its response to the complaint and notice of investigation to assert additional affirmative defenses that the '121 patent is unenforceable due to inequitable conduct and that the '121 patent is invalid due to non-joinder of an actual inventor.

Complainants, in a letter to the administrative law judge dated November 15, 2001, gave notice of their intention to remove all of the asserted claims of the '066 patent, two claims of the '268 patent, and two claims of the '204 patent from this investigation. Order No. 44, which issued on November 20, was an initial determination granting complainants' Motion No. 454-103 to terminate the investigation with respect to the '066 patent, claims 8 and 10 of the '268 patent, and claims 19 and 35 of the '204 patent. On January 30, 2002 the Commission determined not to review the initial determination. Thus, the claims that remain at issue in this investigation are claims 18-24, 26-28, 31, 32, 33, 36, 42, 43, 48-51, 54, 57-61 and 66 of the '121 patent, claims 1 and 3 of the '268 patent, and claims 14-17, and 31-34 of the '204 patent.

On December 3, 2001, the hearing commenced and continued through December 19. During the hearing, the administrative law judge granted respondents' Motion No. 454-111 to preclude complainants from asserting infringement under the doctrine of equivalents. (Tr. at 92). Also during the hearing, the administrative law judge granted an unopposed motion by EchoStar to amend their answer to add defenses that the '121 patent is unenforceable due to inequitable conduct and that the '121 patent is invalid due to non-joinder of an inventor similar to the relief granted to S-A in Order No. 41. (Tr. at 5337-38).

On January 17, 2002, respondents jointly moved to strike the testimony of complainants' proffered expert witness, Dr. Philip Faillace, and related findings

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and exhibits on any topics relating to the IPG [FN2] source code for the accused products. (Motion Docket No. 454-143A). Order No. 62, which issued on June 21 granted in part said motion.

Post hearing submissions have been made. The matter is now ready for decision.

The final initial and recommended determinations are based on the record compiled at the hearing and the exhibits admitted into evidence. The administrative law judge has also taken into account his observation of the witnesses who appeared before him during the hearing. Proposed findings of fact submitted by the parties not herein adopted, in the form submitted or in substance, are rejected as either not supported by the evidence or as involving immaterial matters and/or as irrelevant. Certain findings of fact included herein have references to supporting evidence in the record. Such references are intended to serve as guides to the testimony and exhibits supporting the findings of fact. They do not necessarily represent complete summaries of the evidence supporting said findings.

II. PARTIES

See FF 1-22.

III. JURISDICTION

The complaint and notice of investigation state a cause of action under section 337 of the Tariff Act of 1930, as amended. Thus, the Commission has jurisdiction over the subject matter of this investigation. See Amgen, Inc. v. U.S. International Trade Commission, 902 F. 2d 1531, 1536 (Fed. Cir. 1990). Each of the named respondents responded to the complaint and notice of investigation and participated in the hearing. Thus, the Commission has personal jurisdiction over each of the respondents.

While EchoStar appeared at the hearing, it argued that named respondent EchoStar Communications Corporation (ECC) is not a proper respondent under section 337 because ECC is a holding company; that ECC does not import the accused devices; that ECC does not sell the accused devices for importation; and that because there is no evidence that ECC has committed the acts alleged by complainants to invoke the Commission's jurisdiction under section 337, complainants have not met their statutory burden under section 337. (EPost at 279-284). Charles Ergen, who testified at the hearing, is the Chairman and Chief Executive Officer of ECC{* *}in that ETC is a wholly owned subsidiary of EchoStar DBS Corporation which is a wholly owned subsidiary of EchoStar Broadband Corporation, a wholly owned subsidiary of ECC. (Ergen, Tr. at 2985- 87, 3029, RX-1943, RX-7448). Ergen is an officer of ETC. (Tr. at 3043). ETC has participated in the design of accused set-top boxes. (Ergen, Tr. at 3046-47, CX-3773, No. 1). In addition, ETC participates in the importing, purchasing and licensing of EchoStar set-top boxes. (Ergen Tr. at 3032-33). In view of Ergen's testimony and the referenced evidence, the administrative law judge rejects EchoStar's argument that ECC is not a properly named respondent.

Respondents argued that they cannot be found to have violated section 337 because they do not import an alleged infringing article. (See, e.g., S-A Post at 294). Complainants argued that respondents admitted that they imported the accused set-top boxes and/or components thereof into the United States, or that such articles were imported on their behalf; that the evidence established that all of the accused set-top boxes and/or components thereof were imported with hardware and/or software that enable the later downloading of infringing IPG software or resident software applications(s) that contain an infringing IPG. The staff argued that

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there is subject mater jurisdiction because the evidence of record established that set-top boxes alleged to be part of an infringing system or process have been manufactured abroad, imported into the United States, and sold within the United States after importation. (SPost at 95).

Subject matter jurisdiction in section 337 investigations is established by the filing of a complaint alleging "unfair acts in the importation of articles ... into the United States, or in the sale of such articles by the owner, importer, or consignee." 19 U.S.C. § 1337(a)(1)(A). The term "unfair acts" has been construed broadly to include infringement of patents, and the alleged unfair acts occurring incident to importation of the articles or products involved or affected. See Novelty Glasses, ITC Inv. No. 337-TA-55, USITC Pub. No. 991 (1979); Welded Stainless Steel Pipe and Tube, Inv. No. 337- TA-29, USITC Pub. Np. 863 (1978); In re von Clemm, 229 F. 2d 441 (C.C.P.A. 1955). In Hardware Logic Emulation Systems, Inv. No. 337-TA-383, Final Initial Determination at 159 (July 31, 1997), this administrative law judge rejected respondents' arguments that they must directly infringe the patents-in-issue in order to violate section 337, stating that "[t]here is nothing in the plain language of section 337(a)(1)(B), or the legislative history that would limit articles that 'infringe a ... patent to only those articles that directly infringe, and would exclude those articles that contributorily infringe." See also Certain Flash Memory Circuits and Products Containing Same, Inv. No. 337- TA-382, Comm'n Op. at 15-16 (June 9, 1997), Certain Curable Fluoroelastomer Compositions and Precursors Thereof, Inv. No. 337-TA-364, Unreviewed Initial Determination at 66 (December 15, 1994).

The record does establish that set-top boxes alleged to be part of an infringing system or process have been manufactured abroad imported into the United States, and sold within the United States after importation by the named respondents. See, e.g. SX-3 (EchoStar) at 18-23, SX-4 (SCI) at 14-15, SX-5 (Pioneer) at 12-13 and SX-3 (S-A) at 11-17. {* * *}

{* * *}In addition, while S-A relied on Greg Durden's testimony to support the argument that an Explorer set-top box can be used without IPG software, Durden, who has worked for S-A for around 21 years (Tr. at 2713), was unable to identify any end user who has actually employed an Explorer set-top box with SARA software but without SARA IPG software (Tr. at 2810):

Q Is it correct that Scientific-Atlanta cannot identify any end user who has actually employed an Explorer set-top box with SARA software but without SARA IPG software (Tr. at 2810).

A I believe that's correct, yes.

Q Is it also true that Scientific-Atlanta is unaware of any MSO that has installed Explorer boxes with SARA software but without the SARA IPG software?

A As far as I know, yes.

Accordingly the administrative law judge rejects respondents' contention that they cannot be found to have violated section 337 because they do not import an alleged infringing article.

IV. PATENTED SUBJECT MATTER IN ISSUE

In issue are certain claims of the '121 patent, the '268 patent and the '204 patent. The '121 patent, entitled "TV Schedule System and Process," initially issued to Patrick Young on November 10, 1987, based on Application Serial No. 860,077 filed on May 6, 1986. Serial No. 860,077 was a continuation-in-part of abandoned Application Serial No. 754, 630 filed July 12, 1985. On December 14, 1993, Reexamination Certificate B1 4,706,121 issued to Patrick Young on the initial '121 patent. (FF 23-25, 31, 32). In issue are independent claim 18 (and, by dependency, claims 19-24, 26-28, and 31), independent claims 32, 33, 36, 42 (and,

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by dependency, claims 43, 48-50), independent claims 51, 54, 57 (and, by dependency, claims 58-61) and independent claim 66. [FN3]

The '268 patent, entitled "User Interface for Television Schedule System," issued to Patrick Young, John H. Roop, Alan R. Ebright, Michael W. Faber and David Anderson on December 26, 1995, based on Application Serial No. 198,538 filed on February 18, 1994. Serial No. 198,538 was a continuation of abandoned Application Serial No. 579,555 filed on September 10, 1990, which in turn was a continuation of abandoned Application Serial No. 579,555 filed September 10, 1990, which in turn was a continuation-in-part of Application Serial No. 219,971, filed July 15, 1998, which issued as U.S. Patent No. 4,977,455. In issue are independent claim 1 and dependent claim 3. (FF 26, 27).

The '204 patent, entitled "User Interface for Television Schedule System," issued to Patrick Young, John H. Roop, Alan R. Ebright, Michael W. Faber and David Anderson on September 15, 1998 based on Application Serial No. 484,412. filed on June 7, 1995. [FN4] Serial No. 484,412 was a continuation of Application Serial No. 198,538, filed February 18, 1994 (now the '268 patent). (FF 28-30). In issue are independent claims 14 and 31, claims 15 through 17, which are dependent upon claim 14, and claims 32 through 34, which are dependent upon claim 31.

V. CLAIM CONSTRUCTION

Claim construction is a question of law to be decided by the administrative law judge. Markman v. Westview Instruments, Inc., 52 F.3d 967, 978, 34 U.S.P.Q.2d 1321, 1328 (Fed. Cir. 1995), aff'd, 517 U.S. 370, 376 (1996) (Markman). The construction of the language of a claim should be made independently of what is being alleged to infringe the claim. See Donald S. Chisum, Patents § 18.03.

As for proper claim construction:

It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history. Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.

Vitronics Corp. v. Conceptronic Inc., 90 F.3d 1576, 1582, 39 U.S.P.Q.2d 1573, 1576 (Fed. Cir. 1996) (citation omitted) (Emphasis added) (Vitronics). To construe the claims of a patent "a court principally consults the evidence intrinsic to the patent, including the claims, the written description, and the relevant prosecution history." Watts v. XL Sys. Inc., 232 F.3d 877, 882 (Fed. Cir. 2000).

In considering claim language, the "ordinary and customary meaning of a disputed claim term is presumed to be the correct one." K-2 Corp. v. Salomon, S. A., 191 F.3d 1356, 1363 (Fed. Cir. 1999). "[T]he focus is on the objective test of what one of ordinary skill in the art at the time of the invention would have understood the term to mean." Markman, 52 F.3d at 986. A claim term must be given the same interpretation whenever it is employed in the claims, i.e., the meaning of a claim term should not vary from claim element or from claim to claim. Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1579 (Fed. Cir. 1995).

The specification contains a written description of the invention that must enable one of ordinary skill in the art to make and use the invention. For claim construction purposes the written description may act as a dictionary, which explains the invention and may define terms used in the claims. A patentee is free to be his own lexicographer, although any special definition given to a word must be clearly defined in the specification. Markman, 52 F.3d at 978, 979, 34 U.S.P.Q.2d at 1328, 1329; Vitronics, 90 F.3d at 1580.

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The prosecution history is of "critical significance in determining the meaning of the claims" Vitronics, 90 F.3d at 1582 (Emphasis added). "The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution" Id. at 1583 (quoting Southwall Technologies, 54 F.3d 1570, 1576 (Fed. Cir. 1995) (Emphasis added)). Claims may not be construed one way in order to obtain their allowance and in a different or inconsistent way against accused infringers. Spectrum International, Inc. v. Sterlite Corp., 164 F.3d 1372, 1379 (Fed. Cir. 1998). The Federal Circuit has made it clear that the public is entitled to rely on an applicant's representations. See Hockerson-Halberstadt, Inc. v. Avia Group International, Inc. 222 F.3d 951, 957 (Fed. Cir. 2000).

The administrative law judge may, in his discretion, receive extrinsic evidence to aid him in coming to a correct conclusion as to the true meaning of language employed in a patent. Markman, 52 F.3d at 981, 34 U.S.P.Q.2d at 1331. Extrinsic evidence consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries and learned treatises. The evidence may be helpful to explain scientific principles and the meaning of technical terms, and terms of art that appear in the patent and prosecution history. It may also demonstrate the state of the prior art at the time of the invention. Extrinsic evidence, however, is not to be used for the purpose of clarifying ambiguities in claim terminology. Markman, 52 F.3d at 981, 34 U.S.P.Q.2d at 1331. Moreover, neither the patentee nor the alleged infringer may alter the scope of the claims. Thus,

> where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper. The claims, specification, and file history, rather than extrinsic evidence, constitute the public record of the patentee's claim, a record on which the public is entitled to rely.

Vitronics, 90 F.3d at 1538-39, 34 U.S.P.Q.2d at 1577. The testimony of an inventor on the proper construction of claims, based on the text of the patent, is entitled to no deference because it amounts to no more than legal opinion about the process of construction that the administrative law judge must undertake. No inquiry as to the subjective intent of the inventor or of the U.S. Patent and Trademark Office (PTO) is appropriate or even possible in the context of a patent infringement action. In fact, commonly the claims are drafted by the inventor's patent solicitor and they may even be drafted by the patent examiner in an examiner's amendment subject to the approval of the inventor's solicitor. Markman, 52 F.3d at 985, 34 U.S.P.Q.2d at 1334-35. The scope of a patent is defined by the claims, and not by the description of the preferred embodiment in the specification. Gart v. Logitech, Inc. 254 F.3d 1334, 59 U.S.P.Q.2d 1290 (Fed. Cir. 2001).

35 U.S.C. § 112, ¶ 6 provides guidelines for interpreting means-plus-function limitations.

This section of the patent statute states:

> 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, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Only the disputed claim elements need be interpreted by the administrative law judge. See In the Matter Certain Hardware Logic Emulation Systems and Components Thereof, Inv. No. 337-TA-383, (July 31, 1997) (Hardware Logic); and In the Matter of Certain Ion Trap Mass Spectrometers and Components Thereof, Inv. 337-TA-393 at p. 24-25 (February 25, 1998). [FN5]

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A. '121 Patent

In issue are claims 18-24, 26-28, 31-33, 36, 42, 43, 48-51, 54, 57-61 and 66.

1. Independent Claim 18.

Independent process claim 18 (FF 33), the earliest numbered claim in issue of the '121 patent, reads:

18. A process for controlling the presentation of broadcast programs to a television receiver, which comprises supplying program schedule information to storage means in a data processor, supplying user program selection criteria to the data processor, said user program selection criteria comprising a plurality of independent user chosen program selection criteria and at least one program choice, the data processor combining said user selection criteria, selecting those programs meeting the combined user selection criteria for viewing from the program schedule information in said storage means in the data processor, storing information identifying the selected programs, said stored information identifying broadcast schedule time, channels, and program titles, and using the stored information to tune the television receiver to the selected programs.

The administrative law judge finds that the language of the preamble, viz., "[a] process for controlling the presentation of broadcast programs to a television receiver," pursuant to the plain meaning of the language, refers to a process for controlling the presentation of broadcast programs to a conventional TV set. Such interpretation is consistent with EchoStar's proposed construction that "television receiver" is a conventional TV set (respondents' jointly proposed claim constructions submitted pursuant to the administrative law judge's November 27, 2001 telephonic hearing) and complainants' proposed construction that "the presentation of broadcast programs to a television receiver" refers to providing television programs to a television set. (RX-3311 at 4). He further finds that the language of process claim 18 describes a process in which several discrete steps occur. First claim 18 recites that the process "comprises supplying program schedule information to storage means in a data processor, [and] supplying user program selection criteria to the data processor." (Emphasis added) (FF 33). Therefore, claim 18 requires that during the process two things first occur: program schedule information is supplied to the data processor's storage means and user program selection criteria is supplied to the data processor. The claim language does not expressly mandate that "program schedule information" and the "user program selection criteria" be provided to the data processor in any given order in relation to each other, i.e., the claim language does not state that the "program schedule information" must be supplied before the "user program selection criteria" is supplied, or vice versa, or whether both are to be supplied simultaneously. The claim language however does expressly state that the "program schedule information" is to be supplied to a particular location in the data processor (viz., the data processor's storage means), whereas no particular part of the data processor is specified with respect to the "user program selection criteria."

The administrative law judge further finds that claim 18 goes on to describe the "user program selection criteria" that is supplied to the data processor in the preceding step as "comprising a plurality of independent chosen program selection criteria and at least one program choice." (FF 33). Therefore, from this clause the claim discloses that the data processor had been provided two or more "independent chosen program selection criteria" and one or more program choices. This clause clearly refers to more than one "independent chosen program selection criteria" as it refers to "a plurality of independent chosen program selection criteria," which

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is in stark contrast to the second part of the clause which specifies that "at least one program choice" is to be provided to the data processor, instead of a "plurality of program choices." Id. There is no indication as to when the "plurality of independent chosen program selection criteria" or the "program choice" must be supplied in relation to each other, i.e., the claim language does not state that the "program choice" is to be supplied after the "independent chosen program selection criteria," or vice versa, or whether both are to be supplied simultaneously. Id.

In the claim 18 process, the next step that is recited is that the data processor "combin[es] said user selection criteria." (FF 33). The administrative law judge finds from this language, that this step must occur after the data processor has been supplied with "user selection data" as the data processor cannot combine the "said user selection criteria" before it is supplied with the "user selection criteria." However, the claim language does not specify whether the "said user selection criteria" refers to the "user program selection criteria" or the "independent user selection criteria." The next step in the process, pursuant to the language of claim 18, is that the data processor selects the programs that meet the "combined user selection criteria" from the "program schedule information" that is stored in the data processor's storage means, which step must take place after the data processor "combin[es] the user selection criteria," or else there would be no "combined user selection criteria" and, since the data processor is selecting from the "program schedule information in [its] storage means," the selection step must also occur after the data processor's storage means has been supplied with "program schedule information."

The data processor then stores information identifying the programs that it had just selected. The administrative law judge finds that this step must occur only after the data processor has selected programs meeting the "combined user selection criteria," or else there would no information identifying the selected programs to store. The information identifying the programs is further described as identifying the broadcast schedule times, channels, and the program titles. (CX-1, col. 5, lns. 26-27). The data processor then uses the "stored" information to tune the television to the selected programs which is the last step in process claim 18. (Emphasis added) (FF 33). As the plain language of this clause indicates, the information identifying the selected programs must have been stored prior to the data processor using it to tune the television receiver to the selected programs.

The construction of claim 18, supra, as including a number of discrete steps is consistent with the specification of the '121 patent, which states:

> The process of this invention includes the following steps. Program schedule information is supplied to a data processor. User program selection criteria are supplied to the data processor. The user selection criteria are used to select programs for viewing from program schedule information in the data processor. The stored information is used to tune the television receiver to the selected programs.

(col. 4, lns. 53-60). The only difference in this description of the '121 invention and that which is described in claim 18, is the description of the process in the specification specifies that program schedule information is supplied to the data processor first, and then the user program selection criteria is supplied to the data processor, whereas claim 18 does not explicitly require one to be supplied before the other.

The prosecution history of the '121 patent is also consistent with the administrative law judge's interpretation of claim 18 as comprising a number of discrete steps. In its November 23, 1992 amendment to the '121 patent, filed during the re-examination, the applicant described original claim 18 accordingly, in an

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attempt to distinguish it from certain prior art references:

Process claim 18 contains similar limitations which distinguish over the prior art. Regarding the claimed "combining of user selection criteria," the Examiner has asserted that this reads on the plurality of data needed to identify a single program to be recorded (channel, time, etc.). This trivializing simplification, however, ignores the plain meaning and interpretation of the claims, which interpretation is also supported by the specification. Of course, programming information such as channel and time might be used as selection criteria, but, such as is recited in claim 18, the selection criteria must then be combined, the combined criteria must be used to select programs from the schedule information, and then the schedule information for the selected programs is stored. These steps are clearly not met by the simple input and storage of programming data for a single program.

(Emphasis in original omitted) (FF 91).

During reexamination the applicant in a February 26, 1993 supplemental amendment further described the process disclosed in several of the claims of the '121 patent:

Several of the present claims recite a process in which the user enters user program selection criteria, and the user enters user program selection criteria, and the data processor combines the program selection criteria, and the data processor combines the program selection criteria, searches through the stored selection criteria, searches through the stored schedule information, and creates and stores a display list of program listings that meet the combined criteria. This is disclosed, for example, at co. 17 lines 33 et seq. The user may then make program selection choices (which the Examiner has characterized as further program selection criteria) from this display. The data processor then stores information for these program selections, including information identifying program titles, in a reminder calender list.

(FF 150).

There follows the interpretation of the clauses of claim 18 that are recited after the preamble and in the order in which they are recited.

a. The language "comprises supplying program schedule information to"

Claim 18 recites, after the preamble, the clause "comprises supplying program schedule information to storage means in a data processor." (FF 33). In issue is the meaning of "program schedule information."

Complainants argued that "program schedule information" is merely information concerning scheduled television programs. (CFF 282). Respondents argued that the '121 reexamination prosecution history in the context of the asserted claims of the '121 patent explicitly provides that "schedule information" refers to times, titles and channels. (RFF 640). The staff argued that the proper construction of "program schedule information" requires that the term include the titles of programs, as well as the scheduled broadcast time and the channels on which the broadcast is to occur. (SPost at 7).

Original claim 18 of the '121 patent was amended in the examination prosecution to read (FF 33, 165):

A process for controlling the presentation of broadcast programs to a television receiver, which comprises supplying program schedule information to storage means in a data processor, supplying user program selection criteria to the data processor, said user program selection criteria comprising a plurality of independent user program selection criteria and at least one program choice, the data processor combining said user selection criteria, selecting those programs

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meeting the combined user selection criteria for viewing from the program schedule information in said storage means in the data processor, storing information identifying the selected programs, said stored information identifying broadcast schedule times, channels and program titles, and using the stored information to tune the television to the selected program. (CX-1, B '121 Patent at col. 5, lns. 14-29) (underlined language was added in the reexamination proceeding) Thus, the language of claim 18 in issue conclusively shows that in the reexamination proceeding, applicant Patrick Young specifically amended claim 18 to identify the information in the storage means as "broadcast schedule times, channels and program titles." (Emphasis added).

Original independent process claim 18, as issued on November 10, 1987, did not refer to "program titles." (FF 91). Moreover, the phrase "program titles" was included in claim 18 in response to rejections by the Examiner. In reference to the reexamination proceedings, the Examiner in an Office Action of June 8, 1992 rejected all of the claimed subject matter in light of certain prior art. (FF 94). In an amendment received by the Patent Office on August 13, 1992, while new independent claim 57 directed to a "television schedule system" defined "broadcast schedule information" as "comprising broadcast schedule times, titles and channels," independent process claim 18 was not amended to include program titles. (FF 96).

Following a rejection on September 22, 1992 in which the claimed subject matter was rejected prior art (FF 108-112), applicant, in a response filed on November 23, 1992, rewrote the claims. (FF 113). While revised independent claim 57 relating to a "television schedule system" again defined "broadcast schedule information" as comprising broadcast schedule times, titles and channels, rewritten independent process claim 18 did not include the phrase "program titles." (FF 113). In a Final Office Action of January 5, 1993, claim 18, which still did not include "program titles," was rejected by the Examiner in light of prior art. (FF 121-128). A proposed amendment attached to a Reexamination Interview Summary Form and relating to a telephonic interview on January 6, 1993 did not include "program titles" in claim 18. (FF 129). On January 21, 1993, applicant faxed to the Examiner a proposed amendment. Proposed claim 18 in the amendment was again devoid of any reference to "program titles." (FF 130). Likewise applicant in an amendment after final date-stamped at the Patent Office on January 29, 1993 and in a proposed supplemental amendment after final faxed to the Examiner in February 16, 1993, each in response to the Patent Office action of January 5, 1993, did not amend claim 18 to include "program titles." (FF 132).

Applicant, ultimately, in a proposed Supplemental Amendment After Final, faxed to the Examiner on February 23, 1993, proposed to amend claim 18 by adding the language "said stored information identifying broadcast schedule times, channels, and program titles." (FF 141). In the accompanying remarks, it was stated that independent claim 18, inter alia, had been amended "to further clarify that the schedule information stored for the selected programs identifies not only program channels and times, but also program titles." (FF 141). Likewise, in a February 26, 1993 Supplemental Amendment After Final, applicant added to claim 18 the phrase "said stored information identifying broadcast schedule times, channels, and program titles." (FF 146). In commenting on the amendment applicant specifically stated (FF 150):

> In response to earlier arguments that the claims require schedule information including program title to be stored for selected programs, the Examiner only argued that the term "schedule information" was not defined so as to require program title. Several claims have been amended to specify the storage of program title for the selected programs and are thus believed to be allowable. As previously noted, prior art systems simply program the VCR with the channels and

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times for selected programs; information identifying the title was not stored. (Emphasis added). Thereafter, the Examiner, in each of a Notice Of Intent To Issue Reexamination Certificate dated June 2, 1993 and a supplemental notice dated August 26, 1993, specifically stated that claim 18 avoided the art of record in at least the art of record did not show or suggest a process for controlling the presentation of broadcast programs to a television receiver which comprises, inter alia, "storing information identifying the selected programs and identifying broadcast schedule times, channels and titles." (FF 163-164).

Complainants argued that "schedule information" is used in two contexts in claim 18, and only the second context, in which schedule information for the selected programs is stored, requires the inclusion of time, title, and channel for the selected programs. The administrative law judge rejects complainants' argument because pursuant to the plain language of independent claim 18, programs are selected from schedule information already in the storage means in the data processor. Hence, if the schedule information from which the selected programs are selected did not already include time, title, and channel, the process would not be able to store information identifying time, title and channel for the selected programs.

Based on the instrinsic evidence, the administrative law judge finds that the claimed phrase "program schedule information" in claim 18 requires that it includes the titles of programs, the scheduled broadcast times and the channels on which the programs are to be broadcast.

b. The language "storage means in a data processor"

Complainants argued that "storage means in a data processor" should be construed as the "directly addressable" or "main memory" of a data processor's processing unit. (CRRFF760). Complainants also argued that such memory, in addition to constituting the storage means of claim 18, should also be considered to be part of, and therefore within, a data processor. (CFF 305).

Respondents argued that "storage means" should be construed as memory that includes a program list buffer, screen buffer and a user pre-configured channel buffer (containing a list of user-selected channels), user pre-configured theme buffer (containing a list of user-selected themes), and user pre-configured prime time buffer (containing a user selected time range). (PPost at 64, S-A Post at 61, EPost at 58). Respondents also argued that "storage means in a data processor" should be construed as meaning a "storage means in a central processing unit (CPU)" (PPost at 72), i.e., a memory internal to the CPU (S-A at 87), such that the five buffers constituting the storage means are within the CPU (EPost at 65). The staff argued that evidence presented at the hearing established that the claim term "data processor" refers to a CPU and that the meaning of the phrase "in a data processor" means that the storage means must be within, and not merely connected to, the data processor. (SPost at 13-17).

The administrative law judge finds that the record establishes that the claimed term "storage means" does not have a clear meaning to one of ordinary skill in the art. However, he finds, based on the specification of the '121 patent and the re-examination history, that "storage means" should be interpreted as including at least five buffers that are disclosed in the ' 121 patent as constituting the "storage means": viz., the "program list buffer," "theme buffer," "screen buffer," "channel buffer," and "prime time buffer."

The specification defines the "storage means" as comprising the "program list buffer," "theme buffer," "screen buffer," "channel buffer," and "prime time

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buffer." Thus it recites: "[p]rogram list buffer 303, screen buffer 353, and the other buffers discussed above." (FF 168). This portion of the specification refers to FIG. 8, which is a flow chart of software used with the systems shown in FIGs. 3 and 4. FIGs. 3 and 4 are block diagrams of receiver and television receiver control systems that are to be used in conjunction with the systems to be used to broadcast program schedule information depicted in FIGs. 1 and 2 and are the only systems implementing the invention of the '121 patent disclosed in the '121 patent (col. 5, lns. 64-66, col. 6, lns. 1-14). Moreover, the administrative law judge finds the binding nature of this definition is reinforced by the '121 patent's reexamination proceeding which demonstrates that the language added to the specification was necessary to obtain the allowance of claim 18.

In a Proposed Amendment attached to a January 6, 1993, Reexamination Interview Summary Form, Young added the language "storage means comprising an electronic memory" to system claims 1, 12, 14, 15, 39, 42, 51, 52 and 54, and the language "electronic memory associated with a data processor" to process claims 18, 33, 34, 36, and 38 in an attempt to overcome the rejection. (FF 129). However, the phrase "comprising an electronic memory" was subsequently omitted in the February 16, 1993 Proposed Supplemental Amendment After Final. (FF 134).

In a Proposed Supplemental Amendment After Final, faxed on February 23, 1993, Young attempted to find support in the specification that "electronic memory" could comprise the claimed "storage means" (FF 142):

A group of claims have been amended to clarify that the schedule information is provided to a storage means (in some claims recited as an electronic memory in the data processor), the data processor combines user selection criteria, and programs meeting the combined criteria are then selected from the schedule information in the storage means. Support of these limitations can be found in a number of locations in the patent, including at column 8, lines 23 et. seq., and at column 17, lines 33 et seq. It is believed inherent and implicit that the list operations described in column 17 are performed on information in an electronic memory.

The Examiner in a Reexamination Interview Summary Form, in reference to interviews that took place on February 19 and 24, 1993, "expressed concerns that the term 'electronic memory' and the recitations that the schedule data is stored and retrieved from such a memory did not appear to have clear support in the disclosure." (FF 143).

In a February 26, 1993 Supplemental Amendment After Final, Young attempted to overcome the Examiner's rejections with three amendments to the '121 patent's specification: (1) changing from "A memory" at column 7, line 47 to "An electronic memory" (2) amending column 17, line 38 to specify that the "program listing" is stored in "program list buffer 303;" and (3) amending column 17, line 49 to read, "Program list buffer 303, screen buffer 353, and the other buffers discussed above are located within an electronic memory coupled to the data processor, such as electronic memory 111." (FF 144). Young explained the reason for these proposed amendments to the specification as follows:

As suggested by the Examiner, various minor amendments have been made to the specification to make explicit various aspects of the invention that were implicit but not totally explicit in the original specification. At column 7, language was added to make explicit the fact that the memory employed by the data processor is an electronic memory. This is believed not to be new matter because it is inherent and implicit in the original specification that in the disclosed embodiment the memory used by the data processor is electronic (as opposed to human, for example).

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In column 17 language was added to make explicit the facts that program listing 325 is stored in program list buffer 303, and that the various buffers are within electronic memory coupled to the data processor. This is believed not to be new matter because at column 16, lines 45 et. seq., it is stated that the CPU stores the program data in program list buffer 303, and because it is inherent and implicit in the original specification that in the disclosed embodiment the various buffers manipulated by the data processor must be in the electronic memory, or the data processor could not do the recited functions.
(FF 144).

The Examiner in a Office Action dated March 26, 1993 rejected Young's attempt to amend the specification so as to disclose an "electronic memory," stating (FF 153):

In Column 7, line 47, 'A memory' has been changed to - - an electronic memory - -. This amendment is considered to introduce new matter because: a) it is not clear from the disclosure as originally filed what kind of memories are included or excluded by the term "electronic memories" (i.e. RAM, disc, tape, storage tubes, etc...); and b) it appears to suggest that said memory is now intended to be limited only to memories of some certain type (i.e. electronic) while the disclosure as originally filed appears to have recited a generic memory (i.e. inclusive of all types).

Accordingly, the Examiner found that "[c]laims 1-12, 14, 15, 18-31, 33, 34, 36, 38, 54-56, and 64-67 recited that the schedule information is stored in an 'electronic memory'. Such recitations do not appear to be supported by the specification as originally filed" and thus he rejected those claims. However, the Examiner stated that if this deficiency in the claim language were remedied, the claims at issue would be patentable. (FF 154).

Young next attempted to overcome this rejection in an amendment dated April 6, 1993 by again amending the claims to delete "comprising an electronic memory" or "electronic memory," and adding the phrase "storage means." (FF 156). Furthermore, Young proposed amending the specification to recite "[p]rogram list buffer 303, screen buffer 353, and the other buffers discussed above are located within a data storage device coupled to the data processor." Id. Young explained this proposed amendment as follows,

Applicant has amended the specification as requested by the Examiner, and has amended the claims to no longer refer to an electronic memory. It is respectfully submitted that the original specification fully supports the claims and that the objection to the specification and the § 112 rejection of claims is therefore overcome.

(FF 157). Applicant Young again, however, failed to describe the scope of the pertinent claim term "storage means."

In a Reexamination Interview Summary form regarding a telephonic interview held on April 19, 1993, the Examiner stated that "[a]pplicant agreed to change the last two lines in the sixth full paragraph of column 17 so as to avoid the issue of the new matter" [The last two lines was a reference to the following: "[p]rogram list buffer 303, screen buffer 353, and the other buffers discussed above are located within a data storage device coupled to the data processor."] (FF 158).

The next day, Young submitted a Supplemental Amendment dated April 20, 1993 that amended the specification to change "data storage device coupled to a data processor" to "data storage means" and to define explicitly that they comprise the five recited buffers. (FF 159, 160). Young's remarks explain his motivation for this supplemental amendment to the specification: "During the telephone conversation of April 19, 1993, Applicant ... agreed to change the amendment to column 17 of the specification to simply refer to a data storage means." (FF 160). Furthermore, the Examiner stated in the April 19, 1993 Reexamination Interview

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Summary Form that: "[a]pplicant agreed to change the last two lines in the sixth full paragraph of column 17 so as to avoid the issue of new matter." (FF 158). This amendment was accepted and appears in the Reexamination Certificate at column 2, lines 38-52. (FF 162). The Examiner then, on June 2, 1993, issued a Notice of Intent to Issue Reexamination Certificate. (FF 163).

Accordingly, in light of the specification and the prosecution history, the administrative law judge finds that the "storage means" of claim 18 is composed of at least the following buffers: the program list buffer, the screen buffer, the channel buffer, the theme buffer, and the prime time buffer.

The administrative law judge further finds based on the intrinsic evidence that the claimed phrase "storage means in a data processor" refers to a storage means within a CPU. Thus, the ordinary meaning of the term "in" when used to connote the location of an object "in" another object is "within." In In the Matter of Certain Digital Satellite Sys. (DSS) Receivers & Components Thereof, Inv. No. 337-TA-392, USITC Pub. 3418. Initial Determination, (Oct. 20, 1997), this administrative law judge construed the claim language "a predetermined signal in a television program transmission." Id. at 248. Based in part on dictionary definitions of the term "in," he concluded that the ordinary meaning of "'a predetermined signal in a television program transmission' requires a 'predetermined signal' that is located or positioned within an electronic transmission" Id. Likewise, it is found that the plain meaning of the phrase "storage means in a data processor" indicates that the "storage means" must be "within" the CPU.

In addition the administrative law judge finds the abstract of the '121 patent, which supplies relevant evidence for claim interpretation, [FN6] correlates the claim limitation "data processor" with "CPU 110" four times. Thus the front page of the patent has a diagram identifying the "CPU" as "110" (CX-1). The abstract then states:

A data processor (110) is connected to receive the schedule information ... user remote control transmitter 116-remote receiver (118) combination supplies user selection inputs to the data processor (110). The data processor (110) selects programs from the schedule information based on the user inputs. The schedule information for the selected programs is stored in a memory (111), and is used by the data processor (110) to control a programmable TV tuner (132).

Id. The prosecution history of the '121 patent further supports the finding that the claimed storage means is within a CPU. When Young first attempted, in a proposed amendment attached to a Reexamination Interview Summary Form concerning a telephonic interview on January 6, 1993, to add language to the first occurrence of "a data processor" in claim 18, which language was the precursor of "storage means in," he did so by adding the language "electronic memory associated with a data processor." (FF 129). On the face of this proposed amendment to claim 18, hand-written brackets were placed around the words "associated with" and the word "in" was hand-written next to the end of that line of text. Id. This change was incorporated into Young's next Proposed Amendment faxed on January 21, 1993 which read "electronic memory in" a data processor. (FF 130). Thus, the Examiner did not allow Young to claim an electronic memory that was "associated with," but not "in," a data processor.

Also on two separate occasions, the Examiner rejected Young's attempts to amend the specification to state that the buffers discussed at column 17, lines 38-49, are located within some form of storage device coupled to, rather than in, the data processor/CPU. First, in a February 26, 1993 supplemental amendment Young attempted to amend column 17, line 49 to read, "Program list buffer 303, screen buffer 353, and the other buffers discussed above are located within an electronic memory coupled to the data processor, such a electronic memory 111." (FF 144). Young

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argued that this amendment made explicit various aspects of the invention, and the changes to the specification were not "new matter because at column 16, lines 45 et seq., it is stated that the CPU stores the program data in program list buffer 303." (FF 144). The Examiner, in an Office Action dated March 26, 1993, disagreed and rejected this amendment as "new matter." (FF 152). The Examiner's explanation as to why he considered this new matter was cut-off in the document. (FF 153).

A subsequent amendment dated April 6, 1993 stated, "Program list buffer 303, screen 353, and the other buffers discussed above are located within a data storage device coupled to the data processor." (FF 156, 157). The Examiner, however, in a Reexamination Interview Summary form regarding a telephonic interview held on April 19, 1993, rejected this amendment because he found that the language "are located within a data storage device coupled to the data processor" constituted new matter. (FF 158). In Young's next amendment to the specification, dated April 20, 1993, Young changed "data storage device coupled to a data processor" to "data storage means," as he had agreed he would in the April 19, 1993, "telephone conversation" with the Examiner. (FF 159, 160). This amendment was accepted, and the claims were allowed. (FF 160, 161). Hence, the administrative law judge finds that the Examiner refused to allow Young to amend the specification to place the buffers that comprise the storage means outside of the data processor/CPU.

Complainants argued that if "data processor" is interpreted to mean a CPU without any associated memory, such an interpretation would render the '121 patent invalid for lack of an enabling disclosure and therefore such an interpretation should be avoided. The basis for complainants' argument that interpreting "data processor" as a CPU would invalidate the '121 patent is that the CPU disclosed as part of the preferred enablement of the '121 invention using a Little Board/186 Microcomputer does not have sufficient capacity in its internal memory to store the volume of data that would be required to be stored by the claims in issue. (See, e.g., CRPost at 62-65). Neither respondents nor the staff dispute that the Little Board/186 Microcomputer would be incapable of containing the data required to be held by the storage means in the claim 18 invention.

The '121 patent states, "[t]he systems shown in FIGS. 1-4 are preferably implemented with the commercially available subsystems shown in the following table." (col. 21, lns. 21-22). Among the "commercially available subsystems" so identified is the "Little Board/186 Microcomputer," which is the subsystem identified as being the preferred method of implementing system control units 106 (of Fig. 3) and 180 (of Fig. 4) (col. 21, lns. 30-31). System control units 106 and 180 each are depicted in FIGs. 3 and 4, respectively, as a block containing, inter alia, another block representing a CPU. The Little Board/186 Microcomputer has an integrated 80186 CPU and has either 128K or 512K of RAM. (Tr. at 3740-41; CX-3452). Respondents' expert, Rhyne, agreed, with respect to the Little Board/186 Microcomputer and after examining the Little Board's specification sheet (CX 3542), that it would be impossible to store the data required to be held in the storage means available on the CPU. (Tr. at 3742). However, complainants made no allegation before the administrative law judge that the Examiner, either during the original prosecution or during the extensive reexamination proceedings (FF 92-168) was given access or made aware of the Little Board's specification sheet.

Furthermore, although the specification of the '121 patent identifies the Little Board/186 Microcomputer as the preferred device to enable system control units 106 and 180, the specification does not state that the Little Board device is the only device capable of being used to implement the control system units. Complainants claimed that no CPU, as of 1985, was capable of storing the information on its internal registers that claim 18 required to be stored on the storage means. [FN7] In support of this argument, complainants relied upon the testimony of their

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expert, Faillace, and that of respondents' experts, Grimes and Rhyne.

Faillace testified that "[t]he most expensive microprocessor you could get in 1985 had in its internal registers that were available for storing things, about two dozen bytes of storage," and that this would be inadequate to hold the information required to be held in claim 18's storage means. (Tr. at 1208- 10; 5624-25). Faillace also testified as microcomputers existed in 1985 they would be unable to hold the information required to be held by claim 18's storage means (Tr. at 1219-20) and that one in the ordinary skill of the art as of 1985 would not have interpreted the '121 patent to be referring to the internal registers of a CPU because such an interpretation would not have read on the preferred embodiment. (Tr. at 1225). Rhyne testified that he was unaware of a CPU with sufficient memory within itself to meet the storage requirements, but testified that if such a CPU existed it would have read on claim 18. (Tr. at 3785). In fact, both of respondents' expert witnesses, Grimes and Rhyne, were unable to identify any CPU that existed, as of 1985, that would have had sufficient memory internally to hold the data required to be held by the storage means of the claims in question. (Tr. at 3784-85; 4343-49).

Under Talbert Fuel Systems Patents Co. v. Unocal Corp., 275 F.3d 1371 (Fed. Cir. 2002), it is complainants' burden to show that a proferred construction would render the patent invalid for lack of an enabling disclosure. In Talbert the federal circuit affirmed a district court's construction of a patent claim relating to a "gasoline having a boiling point range of 121-345° F" in which the lower court interpreted the claim "as limited to gasolines having a final boiling point of 345° F, and excluding gasolines having a higher final boiling point," despite the plaintiff's claim that the lower court's construction was "incorrect because it was inoperable." Id. at 1374-76. In rejecting the plaintiff's argument, the federal circuit observed that, "while it agreed that a construction that renders the claimed invention inoperable should be viewed with extreme skepticism," the plaintiff "did not demonstrate inoperability or provide any basis for judicially interpreting the claim to adjust the temperature range that [the plaintiff] stat[ed was] the inoperable limitation." The administrative law judge finds that complainants have not met their burden in establishing that the invention disclosed in claim 18 would be inoperable if the data processor were interpreted to be a CPU.

In Genentech, Inc. v. Novo Nordisk, 108 F.3d 1361 (Fed. Cir. 1997), the Federal Circuit observed that "[t]o be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation."' Id. at 1365. The court further noted that "[p]atent protection is granted in return for an enabling disclosure of invention, not for vague intimations of general ideas that may or may not be workable." Id. at 1366. [FN8]

There is no question that the specification for the '121 patent is more than a "vague intimation[] of general ideas that may or may not work." The only argument that was raised concerning the enablement of the '121 patent was that there was no CPU in 1985 that was capable of performing all the data storage functions of the data processor of claim 18. While Rhyne and Grimes testified that they were unaware of any microcomputer existing in 1985 that had sufficient internal memory to satisfy the storage requirements of claim 18, there is no indication that either one made any attempt to locate such a CPU. Such an omission is determinative, because both Grimes and Rhyne were respondents' witnesses, and respondents were not challenging the validity of their proposed construction. It was complainants' burden to ascertain whether or not there were such CPUs available in 1985.

Complainants' sole remaining evidence in support of their argument is the

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testimony of Faillace, who made a conclusory statement that there were no such CPUs available in 1985. Faillace did not detail how he had determined that no such CPU had been available in 1985 nor did he identify what CPUs were available in 1985 and that any specific microcomputer was inadequate. An expert's opinion on the ultimate legal issue of enablement must be supported by something more than a conclusory statement. See In re Buchner, 929 F.2d 660, 661, 18 U.S.P.Q.2d 1331, 1332 (Fed. Cir. 1991). Thus the administrative law judge rejects complainants' argument that construing "data processor" to be "CPU" would render the '121 patent invalid on account of a lack of an enabling disclosure.

c. The language "supplying user program selection criteria to the data processor, said user program selection criteria comprising a plurality of independent user chosen program selection criteria and at least one program choice, the data processor combining said user selection criteria, selecting those programs meeting the combined user selection criteria for viewing from the program schedule information in said storage means in the data processor"

The parties disputed the proper interpretation of the terms "said selection criteria" and "combining" as used in the above portion of claim 18. Complainants argued that the "said user selection criteria" must include a "program choice" and are not limited to the criteria of theme, channels, and prime time. (CPost at 52). Respondents and the staff argued that "said user selection criteria" do not include a "program choice" and are limited to the criteria of theme, prime time and channels. (RFF 789, SPost at 11).

The parties also disputed whether the term "combining" as used in claim 18, requires the data processor to employ logical "AND" combining of the selection criteria, or whether the data processor can employ logical "OR" combining of the selection criteria instead of logical "AND" combining. Complainants argued that the data processor could employ just logical "OR" combining, such that the data processor would use the combined "user selection criteria" to select those programs that satisfied any of the user selection criteria. (CPost at 59-60). Respondents and the staff argued that the data processor must employ logical "AND" combining, such that the data processor, using the combined user selection criteria, would select only those programs that satisfied all of the combined selection criteria. (RFF 854; PPost at 82-83).

Finally, complainants argued that the combining step could be performed through multiple, sequential searches. (CRRFF 817.3). Respondents and the staff argued that the combining step had to be performed prior to any search by the data processor. (RFF 817).

Accordingly, there are four areas of dispute relating to the language: (1) whether a "program choice" is part of the "said user selection criteria" combined by the data processor, (2) whether the "said user selection criteria" combined by the data processor are limited to the criteria of theme, prime time, and channels, (3) whether "combining," as used in claim 18, requires the use of logical "AND" combining of the selection criteria or whether it can mean just the use of logical "OR" combining, and (4) whether the combining step could be performed through multiple sequential searches or has to be performed prior to any search. These four issues will be addressed ad seriatim.

i. Whether a "program choice" is part of the "said user selection criteria" combined by the data processor

The above portion of claim 18 mentions criteria in three contexts, viz., (1) "user program selection criteria," which is supplied to the data processor, (2)

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"independent user chosen program selection criteria," which, in part, composes the "user program selection criteria," and (3) "user selection criteria," which is "combined" by the data processor. In addition, the phrase "user selection criteria" is referred to as "said user selection criteria," but there is no preceding use of the term "user selection criteria." In fact, claim 18 only uses criteria in connection with two terms before reciting "said user selection criteria," viz., "user program selection criteria," and "independent user chosen program selection criteria." Therefore, the administrative law judge finds that the plain language of the claim indicates that "said user selection criteria" is referring to one of those two terms. Referring to the plain language of claim 18, if "said user selection criteria" were interpreted to refer to "user program selection criteria," "said user selection criteria" would include a "program choice," as well as "independent user chosen program selection criteria." However, if "said user selection criteria" were interpreted to refer only to "user chosen program selection criteria," then this would exclude "program choice" from being a "said user selection criteria," since "independent user chosen program selection criteria" and "program choice" are separate and distinct components of "user program selection criteria." Thus, a finding must be made as to whether "said user program selection criteria" refers to "user program selection criteria" or "independent user chosen program selection criteria."

From the plain language of claim 18 and the specification, the administrative law judge finds that "said user selection criteria" refers to "independent user chosen program selection criteria," exclusive of the program choice. A "program choice" is the user's choice of a single television program at a specific date and time, as the term "choice" means "the voluntary and deliberate action of picking, singling out, or selecting from two or more that which is favored or superior.' (RX-7407 at ES-7033-000671). Thus, a "program choice" is the deliberate selection or singling out of a specific program, on a specific channel, at a specific time. The '121 patent's specification supports this construction. For example, the '121 patent's specification (and its original claims) never use the term "program choice." Said specification does, however, give examples of a user making a selection of a particular program, provided on a particular channel, at a particular time and date. (See, e.g., CX-1, at col. 16, lns. 18-23, col. 18, lns. 16-18). Hence the administrative law judge finds that a "program choice" by the viewer, i.e., an actual selection of a particular program to watch by the user, would render any subsequent combining of "user selection criteria" so as to select those programs for viewing from the stored program schedule information, needless. The user does ultimately make a "program choice," but this is after the data processor has combined the "user selection criteria" and has selected those programs satisfying the combined criteria, so that the user makes his "program choice" from those programs selected by the data processor.

Furthermore, interpreting "said user selection criteria" to mean only "independent user chosen selection criteria" is consistent with the earlier use of the term "said user program selection criteria," in the claim, which refers to the antecedent "user program selection criteria," as the term "independent user chosen program selection criteria" has not yet occurred in the claim. Therefore, when the inventor wanted to refer to "user program selection criteria" he referred to it as "said user program selection criteria." Hence "said user selection criteria" must mean something other than "user program selection criteria."

The interpretation that "said user selection criteria" refers to "independent user chosen selection criteria" is consistent with the language of the specification which states:

A search of the program listing 352 is made. The search is dependent on the status of the channel buffer, the theme buffer, the prime time buffer, and the

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direction of the search. If the page 356 is up, the search direction is forward starting from the list pointer. When the search satisfies the above criteria, the program listing is placed into the screen buffer 353. The search continues until the screen buffer is full 354 in which case the search is terminated. The status lines information is passed to the screen and displayed by the TV.

* * *

If an SEL key entry is detected at 370, the channel of the programmable tuner 132 or 164 will be set to the channel listed at 375 at the current cursor position of the MG display.
(CX-1 at col. 17, ln. 38-col. 18., ln. 4). Therefore, as this excerpt from the specification makes clear, the data processor's search of the program schedule information does not take into account the viewer's selection of a particular program to view, because such a selection occurs after the search.

The interpretation of "said user selection criteria," as referring to "independent user chosen program selection criteria," is supported by the reexamination history, during which the applicant, in order to distinguish the use of combined selection criteria by the invention disclosed in the '121 patent over the selection of a single program, stated in the Amendment of November 23, 1992 that:

> Regarding the claimed 'combining of user selection criterion,' the Examiner has asserted that this reads on the plurality of data needed to identify a single program to be recorded (channel, time, etc.) This trivializing simplification, however, ignores the plain meaning and interpretation of the claims, which interpretation is also supported by the specification. Of course, programming information such as channel and time might be used as selection criteria, but, such as is recited in claim 18, the selection criteria must then be combined, the combined criteria must be used to select programs from schedule information, and then the schedule information for the selected programs is stored. These steps are clearly not met by the simple input and storage of programming data for a single program.

(FF 117) (Emphasis in original).

Said interpretation is also consistent with the applicant's February 26, 1993 Supplemental Amendment After Final:

> Combining User Selection Criteria and Selecting Programs
>
> Several of the present claims recite a process in which the user enters user program selection criteria, and the data processor combines the program selection criteria, searches through the stored schedule information, and creates and stores a display list of program listings that meet the combined criteria. This is disclosed, for example, at col. 17 lines 33 et seq. The user may then make program selection choices (which the Examiner has characterized as further program selection criteria) from this display. The data processor then stores information for these program selections, including information identifying program titles, in a reminder calendar list.
>
> Several claims recite the data processor combining a plurality of user selection criteria other than the program choices. This is different from the scenario that the Examiner has proposed would be inherent in Levine and similar art, namely that the user could enter a date as a first selection criteria, then be presented with a page of program listings, and then enter a program choice as a second selection criteria to be "combined" with the date selection criteria. As amended, several claims (such as claim 1) require the the [sic] data processor combine a plurality of selection criteria in addition to the program choice. The Examiner's proposed date entry does not meet the requirement of combined selection

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criteria even if entered as a series of page commands. Each page command simply establishes a new requirement that supersedes and replaces the previous requirement rather than being combined with it.
(FF 150) (emphasis in original omitted and emphasis added).

Based on the foregoing, as complainants' representations to the Examiner during the '121 patent's reexamination bear out, the administrative law judge finds that the "said user selection criteria" that is combined by the data processor does not include the "program choice," but instead consists of the "independent user chosen program selection criteria." Hence, a "program choice" is found not to be a "said user selection criteria" that is combined by the data processor.

ii. Whether the "said user selection criteria" combined by the data processor is limited to the criteria of theme, prime time and channels

The claimed language in issue uses the word "criteria." Criteria is the plural of criterion which is defined as "a standard on which a decision or judgement may be based." (Webster's Third New Int'l Dictionary (1993)). Thus the administrative law judge finds that "independent user chosen program selection criteria," which is referred to by the "said program selection criteria," are two or more standards used for the selection of programs by the data processor. Further he finds that the plain language of "independent user chosen program selection criteria" indicates that it is the user who determines which criteria are to be so used and sets those criteria. As set forth in the specification:

> It is a further object of the invention to provide such a system in which the user supplied selection criteria can be combined by the system to make program selection.

(CX-1, col. 3, lns. 14-20).

> Because the system will search through a volume of schedule information to find programs meeting the viewer's selection criteria, the program selection is much easier and more rapid with the system of this invention than with manual selection.

(CX-1, col. 5, lns. 19-36). However, the administrative law judge finds that the intrinsic evidence, specifically, the specification and the re-examination proceeding, makes it clear that the term "independent user chosen program selection criteria" refers to the criteria of "theme" (i.e., selection of programs classified in a particular theme, e.g., "news" or "drama"), "channel" (i.e., selection of programs being broadcast on particular channels), and "prime time" (i.e., selection of programs being scheduled for broadcast at a particular time slot), the parameters of which can be pre-selected by the user. For example, the specification describes what is shown on the screen when the claimed invention is working in the "Master Guide (MG) mode:"

> At the bottom of the screen is a two line status display; showing the actual time and date, and whether any of the search restrictions (prime, theme, and channel) are activated.

(CX-1, col. 11, lns. 34-37 (emphasis added)).

The specification later describes how the invention, when working in the "Program Guide (PG) mode," conducts searches of the program listings according to the theme, prime time, and channel criteria as set by the user. (See CX-1, col. 12, ln. 12 - col. 15, ln. 17; and, in particular, col. 12, ln. 45 - col. 13, ln. 58; col 13, ln. 60 - col. 14, ln. 34; and col. 14, ln. 36 - col. 15, ln. 17). Also, the specification describes the invention as conducting searches only on the basis of theme, channel, and prime time:

> For advanced users, the Program Master can be set up to list only the types of programs (theme), only certain channels, and only programs within a certain time, such as Prime Time.

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(CX-1, col. 12, lns. 13-16). [FN9]

Furthermore, during the re-examination of the '121 patent, the applicant repeatedly indicated that "selection criteria" were prime time, theme, and channel. For example, the applicant in his August 13, 1992 amendment distinguished his invention over a prior art system of Kram by noting that the prior art "cannot automatically combine two selection criteria such as 'weather' and 'channels 2, 5, and 11."'). (FF 107). Thus, according to the applicant, the theme ("weather") and the list of desired channels ("2, 5, and 11") are each a single criterion. Later in the reexamination proceeding, the applicant reiterated that each of theme, channel, and prime time is an individual selection criterion. For example, in the Amendment of February 26, 1993, Young stated:

> The user selection criteria may be entered and activated independently under different categories (theme, channel, prime time) and are maintained by the data processor whether currently activated or not. This is disclosed, for example, from column 12 line 12 to column 15 line 17 (wherein it is stated that buttons can be pressed to independently activate the THEME, PRIME-TIME, and CHANNEL selection criteria) and from Column 18 line 11 to column 20 line 38. Furthermore, the selection criteria can be combined as alternatives (in a logical OR fashion), such as a list of acceptable channels or a list of acceptable themes.

(FF 148) (emphasis added).

Additionally, applicant Young in the August 10, 1992 Amendment, specifically argued that his invention provided for prime time, channel and theme criteria that could be independently activated and stored for use after being selected:

> Typical schedule selection criteria include accessible satellite symbols or channel numbers, viewing times, or programs themes (news, sports, comedy, etc.) The system stores the schedule selection criteria, and the various selection criteria may then be enabled or disabled by the user as desired. When schedule information is presented to the user, the data processor system automatically combines all the currently enabled schedule selection criteria and presents to the user only schedule information meeting the requirements of the combined criteria.

(FF 97). The applicant reaffirmed his position that his invention provided for prime time, channel and theme criteria that could be independently activated and stored for use after being selected in his February 26, 1993 Supplemental Amendment After Final:

> The user selection criteria may be entered and activated independently under different categories (theme, channel, prime time) and are maintained by the data processor whether currently activated or not.... Also the prior art does not allow complex entries such as theme or channel lists to be deactivated yet stored in memory.

(FF 150) (Emphasis in original).

As found, supra, the '121 patent describes a channel list as one of the three user selection criteria that can be stored in a buffer and independently activated. The administrative law judge finds the '121 prosecution history shows that a list of favorite channels is a single user selection criterion, even though more than one channel is included in the list. In the Amendment of August 13, 1992, Young stated: "The system of Kram cannot automatically combine two selection criteria such as 'weather' and 'channels 2, 5, and 11' to provide the user a custom assembled list of programs meeting the combined criteria." (FF 107). By placing quotes around "weather" and "channels 2, 5, and 11" Young identified the two referenced selection criteria. If each channel were itself a selection criterion he would have referenced four criteria (channels 2, 5 and 11 and weather) not two (weather and channels).

Furthermore, as Young explicitly stated in the February 23, 1993 Proposed

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Supplemental Amendment After Final:
III. Clarifying Manner of Combining: Independent claims 65 and 68 now require that at least some of the selection criteria are combined as alternatives. This is supported, for example, at column 14, in the discussion of the Channel Restriction selection criteria. Multiple channels may be specified, and the combined channel criterion is satisfied whenever any one of the selected individual channel criteria matches a listing.
(FF 141) (Emphasis added). Thus, as Young made explicit during the reexamination proceeding, even though more than one channel may be specified so as to restrict the data processor's search, the channels so specified constitute collectively only one selection criterion.

Based on the foregoing, in view of the plain language of claim 18, the specification of the '121 patent and its prosecution history, the administrative law judge finds that the "user program selection criteria" are the theme, channel and prime time criteria.

iii. Whether "combining," as used in claim 18, requires the use of logical "AND" combining of the selection criteria or whether it can mean just the use of logical "OR" combining

Claim 18 requires "combining said user program selection criteria." The term "combining," as used in claim 18, means the combining of "independent user chosen program selection criteria" such that the programs selected in the subsequent search satisfy all of the selection criteria. The administrative law judge finds that the intrinsic evidence makes it clear that when combining the user selection criteria (theme, prime time and channel) such combining is logical "AND" (the selected programs must satisfy all of the combined criteria). However, the administrative law judge further finds that the intrinsic evidence establishes that the channel and theme selection criteria may be comprised of lists of multiple themes or channels, wherein the channels or themes composing these lists are combined in a logical "OR" manner, such that a selected programs must satisfy only one of the listed themes or one of listed channels.

Referring to the reexamination proceeding, the applicant, in his Amendment of August 21, 1993, specifically stated:
Furthermore, even if the system of Kram could be used as a television guide controller for Kruger, the present system would not result. First, it is noted systems such as Kram cannot custom assemble a new page of data combining a plurality of listings earlier received. Systems such as Kram are only capable of associating related but distinct pages of data which must be viewed one at a time. The Examiner cited a "weather", then "city" operation in Kram. This type of operation is explained in more detail from col. 24, line 52 to col. 26, line 41. If the user selects a keyword topic "weather", the system constructs an index menu including each page having the keyword "weather". Each such page will also have a particular supplemental keyword which will be displayed on the index menu. The user then chooses one of the index entries to retrieve either a single page or a series (one at a time) of relational pages. The system of Kram cannot automatically combine two selection criteria such as "weather" and "channels 2, 5, and 11" to provide the user a custom assembled list of programs meeting the combined criteria. The system of Kram could only provide a first index in response to "weather", from which the user would have to select "channel 2" to receive that screen, and then select "channel 5" to receive that screen, and then select "channel 11" to receive that screen. Furthermore, as with Kato, Kram is very specific and does not remedy the general deficiencies of Kruger.
(FF 107) (Emphasis added). From the wording of this statement the administrative law judge finds that the applicant was distinguishing his invention from prior art,

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since his invention could automatically create a list of programs that related to "weather" and were to scheduled to be broadcast on channel "2" or channel "5" or channel "11." Moreover, this statement demonstrates the logical "AND" combining between selection criteria (i.e., themes (weather) and channels (2, 5, and 11)) and the logical "OR" combining between the individual channels comprising the channels selection criterion (i.e., "2, 5, and 11"), that the invention was designed to accomplish. This is apparent by the steps a user of the Kram system of would need to carry out in order to duplicate the results of the '121 invention. Thus, the user would have to first select "weather," and then the user would have to select channel 2 to receive a listing of the programs relating to programs relating to weather on channel 2 from the index provided to him by the Kram system. The user would then need to select channel 5 to receive a listing of the programs relating to weather on channel 5. Finally, the user would need to select channel 11 to receive a listing of the programs relating to weather on channel 11. Upon completition of those steps, the user of the Kram system would have received listings of all of the programs relating to "weather" and occurring on channel 2 or channel 5 or channel 11. While this result duplicates the '121 invention's logical "AND" combining of the theme and channel selection criteria and its logical "OR" combining of the list of channels comprising the channel selection criterion, the administrative law judge finds that it does not duplicate the results of using only logical "OR" combining because the user would not have received a list of all the programs relating to weather (only those programs relating to weather and occurring on channels 2, 5, and 11) and would not have received a listing of all the programs occurring on channels 2, 5, and 11 (only those programs relating to weather).

The administrative law judge finds that the claim 18 invention's requirement of logical "AND" combining is consistent with the teaching of the '121 patent itself. Thus, the '121 patent teaches the use of independent user chosen program selection criteria to reduce the number of scheduled programs to a subset which have certain characteristics of particular interest to the viewer. For example, the '121 patent teaches using "combined" criteria to select a particular subset of the available programs. (See, e.g., at col. 1, lns. 14-17; col. 3, ln. 14-17; col. 3, ln. 19-24; col. 5, ln. 19-27). To eliminate programs that the viewer is not interested in, programs containing the characteristics of each of the combined criteria are selected. As amended, the specification provides:

A search of the program listing 352, stored in program list buffer 303, is made. The search is dependent on the status of the channel buffer, the theme butter, the prime time buffer, and the direction of search. If the page is down 357, the search direction will be backward 358 from the current list pointer. When the search satisfies the above criteria, the program listing from program list buffer 303 is placed into the screen buffer 353.

('121 Reexam. Certificate col. 2, ln. 38-52 amending original '121 patent, col. 17, lns. 38-49). As stated by complainants' expert, Faillace, the focus of the '121 patent was to help the average user use database techniques to take a vast sea of program schedule information, cut it down to size, and enable that user to focus just on those programs most likely to be of interest to him. (Failace, Tr. at 1150).

Also Young, in a February 26, 1993 Amendment, stated:

The user selection criteria may be entered and activated independently under different categories (theme, channel, prime time) and are maintained by the data processor whether currently activated or not. This is disclosed, for example, from column 12 line 12 to column 15 line 17 (wherein it is stated that buttons can be pressed to independently activate the THEME, PRIME-TIME, and CHANNEL selection criteria) and from Column 18 line 11 to column 20 line 38. Furthermore, the selection criteria can be combined as alternatives (in a logical OR fashion), such as a list of acceptable channels or a list of acceptable themes.

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