and I said I believe that I did not look at any of them in my work on this case, but I'm not absolutely certain of that.

Q Sir, isn't it true that you haven't even read each of the 95 patents cover to cover?

A I have not read some of the 95 patents cover to cover. I have read some of them cover to cover more than once, but there are some that I have not read cover to cover. I have read the appropriate portions of them, as I testified earlier, in order to have a sufficient amount of information about the broadest of the independent claims to understand that that claim would read on an interactive program guide.

Q Sir, and again, to use your words and your standard, you have not done a detailed claim analysis of the patents in GemStar's portfolio, have you?

A I have not done a detailed analysis to the extent of preparing claim charts that, element by element, list the precise definitions of every term, as one would do if one were dealing with a single patent in a litigation where there was an infringement or validity issue. But I have looked at the claims in sufficient detail and in light of the specification to believe that I understand what they read on and to render an opinion that I believe they do read on interactive electronic program guides to the point where they would block their implementation.

Q You haven't looked at prior art as a part of your work in this case, have you?

A I have not looked at prior art specifically in my work in this case, that is correct.

Q And you simply presume that every claim of each of the 95 patents is valid; isn't that true?

A That is correct.

Q You know that the validity of several of the patents that you're relying on has, in fact, been challenged, don't you?

A I'm not aware of any specific details with respect to that, but I understand from what I've been told by some of the -- well, from what I've been told by you and, I guess, Mr. Lamison, that some of the patents are being challenged on validity, but I have no specific information of that.

* * *

Q Sir, is it your testimony that you are relying, as a part of your expert analysis, on information that I have given you?

A I believe you just told me in your previous question that some of the patents in the group of 95 are being challenged on validity, and it's in that kind of context that I am aware, I guess, that some of them are being challenged on validity.

Q Thank you.

A But I have no personal knowledge of the details of any of those challenges.

Q Are you saying that you until today had no personal knowledge that some of the claims of some of the patents that you rely on, that the validity of those claims is being challenged?

A I don't believe that I have been given any written information that tells me about the validity of any of those claims being challenged.

Respondents have alleged that Lechner did not review even the file wrapper for the '121 patent, claim 18. (RFF 2806). Complainants, in rebuttal, admitted that Lechner in coming to his own interpretation of the clauses in claim 18 of the '121 patent, had not looked at the file wrapper. (CRFF2806). Based on the foregoing, the administrative law judges finds that Lechner has not read all of the patents in complainants' portfolio and that he has not even read any file wrappers, which can be crucial for a proper interpretation of any claimed subject matter of any patent. [FN61] Complainants argued that Lechner primarily relied on the plain language of

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claim 18 of the '121 patent and can find support for the language in the specification. Lechner's testimony however is lacking as to the specific support in the '121 patent specification for each of the clauses of claim 18 of the '121 patent. Moreover, in the absence of an analysis of the file wrapper (including the extensive reexamination proceeding) of the '121 patent, Lechner's testimony as to the interpretation of claim 18 is found to carry no weight.

Even assuming arguendo that some weight were given to certain testimony of Lechner, when Lechner was asked if it would be technically feasible to design around the GemStar portfolio, he answered (Tr. at 5551):

A I'm not going to answer that with an absolute yes or no, but you're close. What I'm saying is that you could design a guide that did not practice any of the patents in the GemStar portfolio. And I think I gave an example of one such guide, the scrolling guides that are used by some cable systems today, but I don't think that if you tried to charge people money for those, that they are commercially viable. I don't think you can sell them in competition with the kinds of guides that are being sold today.

Thus, Lechner admitted that it is possible to design an interactive electronic program guide that did not practice any of the patents in the Gemstar portfolio which is a position inconsistent with complainants' position. While complainants point to Lechner's conclusion that the product would not be commercially viable in the sense that no one would pay for the product, the administrative law judge finds no specific facts testified to by Lechner which support Lechner's conclusion.

Based on the foregoing the administrative law judge gives no weight to the testimony of Lechner as to the existence of any blocking patents. Hence he rejects Gemstar's argument that Gemstar should be immune from respondents' patent misuse defenses because Gemstar has acquired a blocking position in the IPG technology market.

VIII. VALIDITY (Prior Art)

Respondents have challenged the validity of the '121 patent, '268 patent and '204 patent based on certain prior art. Any invalidity defense must be established by clear and convincing evidence. See, e.g., WMS Gaming, Inc. v. Int'l Game Tech, 184 F. 3d 1339, 1355 (Fed. Cir., 1999).

A. The '121 Patent

Respondents argued that, under complainants' interpretation, the asserted claims of the '121 patent are invalid based on an analysis presented in an Exhibit A attached to S-A's post hearing brief [FN62] that relies on (1) a system developed by the CableData Company of California the features of which are described in a publication entitled "ViaCable," published in December 1981 by CableData (RX-4256); (2) Honjo 2, a publication (RX-4297) which was filed on May 12, 1982 in Japan and was laid open or published on November 16, 1983 (RFF 4412), (3) Honjo 1, a publication (RX-4294) which was filed on February 10, 1982 in Japan and was laid open or published on August 15, 1983, just a few months before the Honjo 2 publication was laid open or published (4) a U.S. patent (RX-4300) to Muguet; (5) a system by Kruger, which was known as the ZPS system and resulted in a report detailing the features of the ZPS system, which was made public at the German national library in 1980 (JX-32 at 10-15, RX-3477, RX-3476); a German patent (JX-32 at 66-68, RX-3470, RX-3611 at 10-12), a U.S. patent (JX-32 at 81-86, RX-3026) and various published articles (JX-32 at 72-75, 95-97, 99, RX-3474, RX-3495, RX-3480); and (6) a system described by Reiter. (RX-4301).

The Exhibit A analysis does not include independent claim 32 of the '121 patent

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since complainants have not accused S-A of infringing independent claim 32. Respondent EchoStar has been accused of infringing claim 32 and argued that respondents' expert Grimes relied on at least the following prior art references to invalidate claim 32: (1) the Honjo 1 publication, (2) Reiter system, (3) CableData system, (4) the Muguet patent, (5) the Kruger system, (6) a Keiser reference (RX-7468, RX-3022), (7) a Hashimoto reference (RX-7468, RX-4288) and (8) the VideoCipher system (RX-7468, RX-3685) (EPost at 220-223). [FN63]

Complainants argued that respondents have not met their burden of proof and were not specific as to the applicability of the prior art. The staff argued that because respondents' invalidity arguments rested upon the use of claim constructions that the staff considered incorrect and which differ from respondents' own claim constructions on the issue of infringement, the staff was of the view that respondents have not carried their burden of establishing by clear and convincing evidence that the claims at issue are invalid for obviousness or anticipation. (SPost at 57, 58).

Respondents' arguments that the asserted claims of the '121 patent are invalid on the basis of prior art were premised on complainants' proposed claim constructions. (See, e.g., EPost at 194; S-A Post at 175). Moreover, the analyses by Grimes and Tjaden relied upon by respondents to meet their burden of proof regarding prior art were provided in accordance with complainants' constructions of the disputed claim elements. However, the administrative law judge has rejected complainants' proposed constructions of claim elements with respect to all of the asserted claims of the '121 patent.

Thus with respect to independent claim 18, dependent claims 19-24, 26-28 and 31 and independent claim 36 of the '121 patent, the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions: that "data processor" is a CPU; that "storage means" consists of at least the program list, the screen, the prime time, the channel and the theme buffers; that incoming schedule information had to be stored in the CPU itself; that the data processor must be capable of logical "OR" and logical "AND" combining; and that the schedule information that was to be stored for each selected program included the program's title. See supra. The administrative law judge finds that respondents have not met their burden of proving that those claims, when properly construed, were anticipated or rendered obvious by the cited prior art references.

With respect to claim 32, the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions, that: "data processor" is a CPU and that incoming schedule information had to be stored in the CPU itself. See supra. The administrative law judge finds that respondents have not met their burden of proving that claim 32 when properly construed, was rendered obvious by the cited prior art references.

With respect to independent claim 33, the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions, that: "data processor" is a CPU; that "storage means" consists of at least the program list, the screen, the prime time, the channel and the theme buffers; that incoming schedule information had to be stored in the CPU itself; that the data processor must be capable of logical "OR" and logical "AND" combining; and that "turning on" a VCR means that the system must cause power to be supplied to the VCR. See supra. The administrative law judge finds that respondents have not met their burden of proving that claims 33, when properly construed, was rendered obvious by the cited prior art references.

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With respect to independent claim 42, dependent claims 43, 48, 49 and 50 and independent claim 51 the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions, that: "storage means" consists of at least the program list, the screen, the prime time, the channel and the theme buffers; the "first input means" is limited to the corresponding structures disclosed in FIGs. 3 and 4 or their 35 U.S.C. § 112, ¶ 6 equivalents; and the selectable display consists of an initial display comprising information selected by the data processor in response to user inputs, as well as either the current channel that the television is tuned to or the current time. See supra. The administrative law judge finds that respondents have not met their burden of proving that those claims when properly construed, were anticipated or rendered obvious by the cited prior art references.

With respect to independent claim 54 the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions, that: the "storage means" consists of at least the program list, the screen, the prime time, the channel and the theme buffers; the "first input means" is limited to the corresponding structures disclosed in FIGs. 3 and 4 or their 35 U.S.C. § 112 ¶ 6 equivalents; and the selectable display consists of an initial display comprising information selected by the data processor in response to user inputs, as well as either the current channel that the television is tuned to or the current time. See supra. The administrative law judge finds that respondents have not met their burden of proving that claim 54, when properly construed, was anticipated or rendered obvious by the cited prior art references.

With respect to independent claim 57 and dependent claims 58, 59, 60 and 61 the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions, that: the "storage means" consists of at least the program list, the screen, the prime time, the channel and the theme buffers; the "separating means" is limited to the corresponding structures disclosed in FIGs. 4a and 4b or their 35 U.S.C. § 112, ¶ 6 equivalents; and the selectable display consists of an initial display comprising information selected by the data processor in response to user inputs, as well as either the current channel that the television is tuned to or the current time. See supra. The administrative law judge finds that respondents have not met their burden of proving that those claims, when properly construed, were anticipated or rendered obvious by the cited prior art references.

With respect to claim 66, the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions, that: "data processor" is a CPU; that "storage means" consists of at least the program list, the screen, the prime time, the channel and the theme buffers; that incoming schedule information has to be stored in the CPU itself; and that the data processor must be capable of logical "OR" and logical "AND" combining. See supra. The administrative law judge finds that respondents have not met their burden of proving that claim 66, when properly construed, was anticipated or rendered obvious by the cited prior art references.

Based on the foregoing, the administrative law judge finds that respondents have not met their burden of proving that the assessed claims of the '121 patent were anticipated or rendered obvious by the cited prior art references. [FN64]

B. The '268/'204 Patents

It was argued by respondents that the asserted claims of the '204 and '268 patents are invalid under complainants' claim construction on the basis of prior

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art which either anticipated or rendered obvious the asserted claims of the '204 and '268 patents. (See, e.g., EPost at 258; S-A Post at 179). However, the administrative law judge has rejected complainants' proposed constructions of claim elements with respect to all of the asserted claims of the '204 and '268 patents. See supra.

With respect to independent claim 1 and dependent claim 3 of the '268 patents, the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions: that "visual identification" is the "innovative curser" defined in the specification as a cursor that (1) highlights the entire cell, (2) identifies the current half-hour position within a cell that is longer than a half-hour, and (3) differentially identifies the remaining portions of the cell; that the movement requirement requires the cursor to move in equal time intervals within a grid; and that "means ... for displaying" includes a video switcher. See supra. Therefore, the administrative law judge finds that respondents have not met their burden of proving that these claims were anticipated or rendered obvious by the cited prior art references.

With respect to independent claim 14 and dependent claims 15, 16 and 17 of the '204 patent, the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions, that: the "visual identification" is the "innovative curser" defined in the specification as a cursor that (1) highlights the entire cell, (2) identifies the current half-hour position within a cell that is longer than a half-hour, and (3) differentially identifies the remaining portions of the cell; the movement requirement requires the cursor to move in equal time intervals within a grid; and "means ... for displaying" includes a video switcher. See supra. Therefore, the administrative law judge finds that respondents have not met their burden of proving that these claims were anticipated or rendered obvious by the cited prior art references.

With respect to independent claim 31 and dependent claims 32, 33 and 34 of the '204 patent, the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions: that "visual identification" is the "innovative curser" defined in the specification as a cursor that (1) highlights the entire cell, (2) identifies the current half-hour position within a cell that is longer than a half-hour, and (3) differentially identifies the remaining portions of the cell, the movement requirement requires the cursor to move in equal time intervals within a grid. See supra. Therefore, the administrative law judge finds that respondents have not met their burden of proving that those claims were anticipated or rendered obvious by the cited prior art references.

IX. VALIDITY (Alleged Impermissible Broadening - Claims 18-31, 33, 34, 36 and 38 of the '121 Patent)

Respondents argued that prior to the reexamination of the '121 patent, each process claim required "supplying program schedule information to a data processor;" that during the reexamination, claims 18-31, 33, 34, 36 and 38 were amended to read "supplying program schedule information to storage means in a data processor;" and that this amended claim language was also included in new claims 66 and 67. It was argued that complainants construed the amended claim language "storage means in a data processor" to mean "storage means that is part of or within a data processor;" that because the data processor of the claims is the CPU, under complainants' construction the claim language "supplying program schedule information to storage means in a data processor" would be satisfied by supplying schedule information to storage means that is a part of, but not in, a data

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processor; and that the original process claims of the '121 patent required the supply of schedule information to a data processor, and would not have been met by supplying schedule information to a storage means that is a part of the '121 patent. Hence it was argued that complainants' construction would broaden the scope of the '121 patent. Thus respondents argued that, pursuant to the Federal Circuit's holding in Anderson v. Int'l Eng'g & Mfg., Inc., 160 F. 3d 1345, 1369 (Fed. Cir. 1998), claims 18-31, 33, 34, 36 and 38 of the '121 patent are invalid for impermissable broadening. (See, e.g., EPost at 231). [FN65]

The administrative law judge has found that the proper interpretation of the "data processor" in the asserted claims of the '121 patent is a CPU. Hence respondents' argument that certain claims of the '121 patent are invalid due to impermissible broadening during reexamination has been mooted.

X. INVENTORSHIP ('121 Patent)

The patent statute provides that when an invention is made by two or more persons, they shall apply for the patent jointly. 35 U.S.C. § 116. Where there is joint inventorship, the patent must issue to all inventors. 35 U.S.C. § § 102(f), 116, and 256. If nonjoinder of an actual inventor is proved by clear and convincing evidence, the patent is rendered unenforceable. See Pannu v. Iolab Corp. 155 F.3d 1344, 1349 (Fed. Cir. 1998). In the absence of deceptive intent, the unenforceability may be overcome by naming the non-joined inventor as an inventor of the patent by court order or by application to the PTO, in accordance with the procedures set forth in 35 U.S.C. § 256. Stark v. Advanced Magnetics, Inc., 119 F.3d 1551, 1555 (Fed. Cir. 1997).

The issuance of a patent creates a presumption that the named inventor(s) are the true and only inventors. Ethicon, Inc. v. United States Surgical Corporation, 135 F.3d 1456, 1460 (Fed. Cir.), cert. denied, 119 S.Ct. 278 (1998) (Ethicon). To rebut this presumption, "a party challenging validity for omission of an inventor must present by clear and convincing evidence that the omitted individual actually invented the claimed invention." See Acromed Corp. v. Sofamor Danek Group, Inc., 253 F.3d 1371, 1379 (Fed. Cir. 2001). The testimony of an alleged inventor, standing alone, does not constitute corroboration, and cannot rise to the level of clear and convincing proof. Ethicon, 135 F.3d at 1461, citing Price v. Symsek, 988 F.2d 1187, 1194 (Fed. Cir. 1993) (Price). [FN66]

A "[c]onception is the touchstone of inventorship." Burroughs Wellcome Co. v. Barr Laboratories, Inc., 40 F.3d 1223, 1227 (Fed. Cir. 1994), cert. denied, 516 U.S. 1070 (1996). It is the "formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention as it is hereafter to be applied in practice." Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1376 (Fed. Cir. 1986) (Hybritech). An "idea is sufficiently 'definite and permanent' when 'only ordinary skill' would be necessary to reduce the invention to practice, without extensive research or experimentation" Ethicon, 135 F.3d at 1460. The conceived invention "must include every feature of the subject matter claimed in the patent." Ethicon 135 F.3d at 1460 citing Sewall v. Walters, 21 F.3d 411, 415 (Fed. Cir. 1994).

To be a joint inventor, "an individual must make a contribution to the conception of the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention." Fina Oil & Chemical Co. v. Ewen, 123 F.3d 1466, 1473 (Fed. Cir. 1997) (Fina). However, each of the joint inventors does not have to make the same type or amount of contribution to the invention. Thus each needs to perform only a part of the task which produces the invention. Ethicon, 135 F.2d at 1460. One does not qualify as a joint inventor

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by merely assisting the actual inventor after conception of the claimed invention. A coinventor however need not make a contribution to every claim of a patent. A contribution to one claim is enough. Id. Thus, the critical question for joint conception is "who conceived, as that term is used in the patent law, the subject matter of the claims at issue." Id.

Respondents argued that the '121 patent is invalid and unenforceable on the ground that Patrick Young, the only inventor named on the patent, is not the sole inventor, and that Edward Neil should have been named as a coinventor.

Complainants, citing In the Matter of Certain EPROM, EEPROM, Flash Memory, and Flash Microcontroller Semiconductor Devices, and Products Containing Same, Inv. No. 337-TA-395, "1998 ITC LEXIS 371 at 101 (July 9, 1998)" [FN67] (Eprom), argued that respondents failed to even attempt to meet the governing ITC precedent on the issue of joint inventorship. (CPost at 339).

{* * *}
The staff also argued, that with respect to the hardware used in the invention in issue, it appears undisputed that Young had experience in FM technology prior to the "brainstorming" sessions, citing{* * *}Neil, Tr. at 3398 and{* * *}The staff, however, noted that Neil apparently had experience in the area of VBI technology from his work on computer games, citing Neil, Tr. at 3347, and that Young in his witness statement and testimony about his background never claimed to have experience in that area, citing CX-1226. The staff further noted that Neil testified that encoding information into the VBI "was Pat's area," citing Neil Tr. at 3399-400. The staff also noted, with respect to the software needed to use the invention, that Neil appeared to have had more experience than Young in the area of software development, including spreadsheet technology, citing Neil, Tr. at 3334-39 and CX-126, and that Neil had been head of software development at Advanced Telecommunication Systems (ATS) where he met Young in 1984, citing Neil, Tr. at 3339 and Young, Tr. at 958. (SPost at 62). Thus, it was argued by the staff that the circumstantial evidence of the relative backgrounds of Neil and Young suggest that Neil may have contributed to the conception of the invention of the '121 patent with respect to the use of spreadsheet technology and/or the use of the VBI. However it was then argued by the staff that while the circumstances suggest that Neil could have contributed to the hardware and/or software components of the invention disclosed in the '121 patent, Neil had no "contemporaneous documents" which Neil prepared and that there was no testimony other than that of Neil himself to support Neil's account. The staff argued that{* * *}However the staff concluded that the evidence of the men's backgrounds does not rise to the level of clear and convincing evidence in support of respondents' allegation of "misjoinder of invention" and accordingly that the '121 patent should not be found invalid for "misjoinder of inventor." (SPost at 62-63).

Complainants are correct that governing ITC precedent on coinventorship is from the Eprom case. In support complainants cited to a Commission opinion that was filed on December 11, 2000 (12/11/00 op.). The law of the Eprom case on coinventorship however is the Commission opinion of July 9, 1998 (7/9/98 op.), reported in Pub. No. 3136 (October 1998). Thus, Investigation No. 337-TA-395, was instituted in March 1997, and assigned to this administrative law judge. Before the administrative law judge, respondents and intervenor argued that the '903 patent was invalid and/or unenforceable because it allegedly did not identify other actual inventors in addition to the named inventor Larry Jordan. Complainant argued that the evidence presented supported the legal presumption that Jordan as the sole inventor of the '903 patent. The staff argued that the evidence, taken as a whole, did not establish clearly and convincingly that another person made such a substantive contribution in the conception of the '903 patent so as to have

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required joinder of such a person as a co-inventor of Jordan.

In the final initial determination (ID), in Inv. No. 337-TA-395, which issued on March 19, 1998, it was found that the '903 patent was not unenforceable for failure to name a coinventor as argued by respondents and intervenor. Hence it was stated (ID at 96-98):

Though a joint inventor need not contribute to the subject matter of each claim or even contribute equally to the overall invention under section 116, 'one does not qualify as a joint inventor merely by assisting the actual inventor after conception of the claimed invention' Ethicon, Inc. v U. S. Surgical Co., 45 U.S.P.Q.2d 1545 (Fed Cir. 1998) (Ethicon); Sewall v. Walters 21 F.3d at 416, 417, (Fed. Cir. 1994) (Sewell); Shatterproof, 758 F.2d at 624. Conception is the formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice. Hybritech,, 802 F.2d at 1376 (Fed.Cir.1986). Also, '[a]n inventor may use the services, ideas and aid of others in the process of perfecting his invention without losing his right to a patent.' Hess v. Advanced Cardiovascular Sys., Inc., 106 F.3d 976, 980, (Fed.Cir.), cert. denied, 117 S.Ct. 2459, (1997) (Hess). Finally, depending on the scope of a patent's claims, one of ordinary skill in the art who simply reduced the inventor's idea to practice is not necessarily a joint inventor, even if the specification discloses that embodiment to satisfy the best mode requirement. Ethicon at 45 U.S.P.Q.2d at 1548; Sewall, 21 F.3d at 416.

It is well established that '[p]atent issuance creates a presumption that the named inventors are the true and only inventors.' Ethicon, 45 U.S.P.Q.2d at 1547 (citing Hess 106 F.3d at 980). This is a strong presumption to overcome on the basis of nonjoinder: 'the burden of showing misjoinder or nonjoinder is a heavy one that must be proved by clear and convincing evidence.' Hess, 106 F.3d at 980; Fina Oil & Chemical Co. v. Ewen, 123 F.3d 1466, 1466 (Fed. Cir. 1997).

In Ethicon, the Federal Circuit noted in proving inventorship, that:

an inventor's testimony respecting the facts surrounding a claim of derivation or priority of invention cannot, standing alone, rise to the level of clear and convincing proof. Price v. Symsek, 988 F.2d 1187, 1194, 26 USPQ2d 1031, 1036 (Fed.Cir.1993). The rule is the same for an alleged co-inventor's testimony. See Hess, 106 F.3d at 980. Thus, an alleged co-inventor must supply evidence to corroborate his testimony. See Price, 988 F.2d at 1194. Whether the inventor's testimony has been sufficiently corroborated is evaluated under a 'rule of reason' analysis. Id. at 1195. Under this analysis, '[a]n evaluation of all pertinent evidence must be made so that a sound determination of the credibility of the [alleged] inventor's story may be reached.' Id.

Corroborating evidence may take many forms. Often contemporaneous documents prepared by a putative inventor serve to corroborate an inventor's testimony. See id. at 1195-96. Circumstantial evidence about the inventive process may also corroborate. See Knorr v. Pearson, 671 F.2d 1368, 1373, 213 USPQ 196, 200 (CCPA 1982) ([S]ufficient circumstantial evidence of an independent nature can satisfy the corroboration rule.). Additionally, oral testimony of someone other than the alleged inventor may corroborate. See Price, 988 F.2d at 1195-96 [45 U.S.P.Q.2d at 1548].

It was then found in the ID, referring to the invention in issue of the '903 patent, that:

while Jordan used the skills of Gupta [the coinventor then alleged by the intervenor and respondents] to construct the physical embodiment of the invention in the '903 patent, the work he performed for Jordan was basic and well known implementations of ordinary electrical engineering skills. (FF 594, 602). Also ... Gupta asserted that he is not co-inventor and Jordan ... did not admit that Gupta or anyone else was responsible for the invention; ... [that] Jordan with a definite problem and a solution in his mind, the conception of Silicon Signature, sought out an engineer who had not the depth of experience to conceive Jordan's invention, but

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only the ability to supply his knowledge of materials and circuit elements to Jordan's specifications.
(ID at 99).

Complainant petitioned for review of the ID of March 19, 1998. The Commission determined to review most of the findings of said ID, including those relating to the joint inventorship issue. Complainant argued before the Commission that the evidence presented supported the legal presumption that Jordan was the sole inventor of the '903 patent. The staff argued that the evidence, taken as a whole, did not establish clearly and convincingly that another person made such a substantive contribution in the conception of the '903 patent so as to have required joinder of that person as a coinventor along with Jordan.

On final disposition of Eprom in the 7/9/98 op., as reported in Pub. No. 3136, the Commission found, inter alia, that the '903 patent was unenforceable for failure to name a co-inventor. At that time there were only three Commissioners in office: then Chairman Bragg, then Vice Chairman Miller, and Commissioner Crawford. Since former Vice Chairman Miller did not participate in the investigation, the Commission's 7/9/98 op. was made by former Chairman Bragg and Commissioner Crawford. Commissioner Crawford subsequently issued a statement on September 28, 1998 (also reported in Pub. No. 3136) wherein she concluded that her decision on inventorship "would have been different had the General Counsel provided me accurate information."

On August 12, 1998, after issuance of the 7/9/98 op., complainant filed a petition with the PTO to correct the inventorship of the '903 patent pursuant to PTO rule 324, 37 C.F.R. § 1.324. Complainant, reversing the position it took before the administrative law judge, sought to correct the inventorship of the '903 patent by adding Gupta as a coinventor along with Jordon. The PTO granted complainant's petition on August 18, 1998, and issued a certificate of correction on October 6, 1998.

On September 8, 1998, complainant filed with the Commission a "Petition For Relief From Final Determination Finding U.S. Patent No. 4,451,903 Unenforceable." Respondents and the staff filed responses to the petition. The Commission ruled on complainant's petition on January 25, 1999, determining to treat complainant's petition as a petition for reconsideration, granting the petition, and reopening the record of the investigation for the limited purpose of resolving the issues arising from the PTO's issuance of the certificate of correction for the '903 patent. Investigation No. 337-TA-395 was remanded to this administrative law judge with instructions to issue an initial determination (ID(2)) addressing the issues presented.

Complainant, respondents, intervenor, and the staff participated in the remand proceeding. The ID(2) issued on May 17, 2000, with the following principal findings:

Complainant committed inequitable conduct at the PTO in the procurement of the certificate of correction for the '903 patent;

The inventors listed on the PTO certificate of correction (Larry Jordan and Anil Gupta) are not the correct inventors; and

No inequitable conduct was shown to have taken place at the PTO in the the prosecution of the original patent application that matured into the '903 patent.

Complainant petitioned for review, inter alia, of the following findings made in the ID(2): (1) that complainant committed inequitable conduct in the PTO correction proceeding, and (2) that the inventors listed on the PTO certificate of correction (Jordan and Gupta) were not the correct inventors. Complainant also alleged that

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the administrative law judge in the remand proceeding exhibited such bias against it that complainant was denied a fair hearing. The staff opposed complainant's petition in part, but also petitioned for review, inter alia, the rulings on inequitable conduct and inventorship. Respondents and intervenor filed a joint response in opposition to the petitions for review.

On July 17, 2000, the Commission determined to review the issues which included:
This administrative law judge's determination that the PTO certificate of correction for the '903 patent was procured inequitably.
This administrative law judge's determination that the inventors named on the PTO certificate of correction (Jordan and Gupta) are incorrect.

The Commission, in its 12/11/00 op. [FN68] as to its principal determinations concerning the '903 inventorship and inequitable conduct issues: (1) found that complainant did not commit inequitable conduct before the PTO during the correction proceedings; and (2) found that the correct inventors were listed on the certificate of correction of the '903 patent. [FN69] The Commission, however, in its 12/11/00 op. repeatedly stated that the 7/9/98 op. is the "law of the case." See, e.g., 12/11/00 op. at pp. 7 ("The Commission's Opinion of July 9, 1998 ... is the law of the case"), 21 ("the Commission's 7/9/98 decision ... was the law of the case"), and 34 ("In this investigation, the law of the case is that [quoting from the 7/9/98 op.]"). Hence, the 12/11/00 op. is not the law from Inv. No. 337-TA-395 case on coinventorship. Rather it is the 7/9/98 op.

The Commission, in its 7/9/98 op., in reversing the administrative law judge and finding that the '903 patent was unenforceable unless and until the PTO or a court makes the inventorhip correction, [FN70] [FN71] stated that the administrative law judge had "noted that both the named inventor (Larry Jordan) and the engineer (Anil Gupta) who testified that he implemented Jordan's idea in silicon, attributed the essential conception of the invention to Jordan; Engineer Gupta testified that he implemented the elements of the invention of the '903 patent using well known circuit techniques, and that as a young engineer he did not have the breadth of experience to come up with Silicon Signature" [FN72] (7/9/98 op. at 7); and that at the time of the issuance of the March 19, 1998 ID:
Federal Circuit cases had sent mixed signals as to what constitutes conception of an invention. One panel stated that [conception] is complete when one of ordinary skill in the art could construct the apparatus without unduly extensive research or experimentation. [citing Sewall]. Another panel stated that [conception] is the formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice. [citing Hybritech] The former statement appears to support the ALJ's finding on inventorship, while the latter statement appears to indicate that named inventor Jordan's contribution falls short of that which is necessary for a complete conception of an invention. [7/9/98 op. at 8]
The 7/9/98 op. then stated that it appeared from the record that Jordan, the sole named inventor of the '903 patent, was a marketing person who had never designed semiconductor products in his career, citing hearing Tr. at 3104, [FN73] that Jordan's testimony is to the effect that he had a "general concept" of Silicon Signature in block diagram form, but that he had no involvement in the physical realization of the invention, citing Tr. at 3107-08; that Jordan admitted that he did not conceive any of the circuitry by which the elements of the '903 patent claims at issue were realized, citing Tr. at 3108-10, [FN74] and that while Jordan's "concept could be and was implemented using common circuit techniques without undue experimentation," the disclosure of Jordan did not rise to the level of an "operative invention" within the meaning of Hybritech (7/8/98 op. at 7-8).
The Commission then stated (Id. at 8- 9):
Analysis of the inventorship issue is complicated by the fact that certain

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claim elements of the '903 patent are written in means plus function language. A patent specification must disclose some structure with respect to means plus function elements that performs each of the claimed functions. Thus, a patent would not have been granted on the basis of Jordan's disclosure alone. The question is whether the person(s) who selected particular circuit structures for each of the means plus function claim elements (presumably Gupta) is a co-inventor.

Since inventorship is a disfavored technical defense [citing Certain Double-Sided Floppy Disk Drives and Components Thereof, Inv. No. 337-TA-215, USITC Pub. 1860 (1986)] that must be proven by clear and convincing evidence, we are ordinarily reluctant to go behind an ALJ's findings on this issue. Since the ID issued, however, the Federal Circuit has issued an opinion [Ethicon] that answers the question posed.[[FN75]] In Ethicon, Inv. v. United States Surgical Corp., 135 F.3d 1456 (Fed. Cir. 1998), the court dealt with the contribution of an electronics technician to an invention for a surgical instrument claimed in means plus function format. The court emphasized the Hybritech standard of a complete and operative invention. Of even more significance, however, is the following statement concerning inventorship in the means plus function context:

> The contributor of any disclosed means of a means-plus-function claim element is a joint inventor as to that claim, unless one asserting sole inventorship can show that the contribution of that means was simply a reduction to practice of the sole inventor's broader concept [citing Sewell].

... We find that named inventor Jordan's involvement in the particulars of the circuit design in this investigation did not rise to the level of the sole inventor's involvement in Sewall.[[FN76]] Jordan neither selected nor simulated the performance of any circuit means. Therefore, we conclude that the above stated exception in Ethicon does not apply.

On the basis of Ethicon, we find that '903 patent is unenforceable for failure to name an inventor....

The '121 patent in issue in this investigation was issued on November 10, 1987, based on an application filed on May 6, 1986 which in turn was a continuation-in-part of an abandoned application filed on July 12, 1985. (FF 23). The '121 patent was subsequently reexamined by the PTO and the PTO then issued a Reexamination Certificate on December 14, 1993. (FF 25). Before the filing of the initial application on July 12, 1985, the record shows no actual reduction to practice. [FN77] Hence, the critical issue is who conceived the claimed invention before the constructive reduction to practice on July 12, 1985.

Thus the Commission, in its 7/9/98 op., in finding that respondents and the intervenor met the clear and convincing burden of establishing that Jordan was not the sole inventor of the invention of the '903 patent, examined the background of Jordan and found that Jordan was a marketing person who had never designed semiconductor products in his career. The testimony relied on in the 7/9/98 op. does show that Jordan did conceive figure 1 of the '903 patent in the sense of the major elements. See, supra. Also the Commission in the 7/9/98 op. did find that Jordan's "concept could be and was implemented using common circuit techniques without undue experimentation."

In view of the 7/9/98 op., the background of the named inventor Young and the putative inventor Neil should be examined. According to Young's witness statement, Young graduated from U.C. Berkeley in 1958 with a Bachelor of Science degree in Electrical Engineering. (CX-1226). Young worked for Systems from 1960 to 1962 designing frequency counter instrumentation and systems. He left Systems in 1962 to work for Able Research to 1968. At Able Research, he created and built the first intelligent broadband microwave counter from 1970 to 1972. Young was the chief designer at a small start-up company called Dietzgen Electronics (Dietzgen), a engineering slide rule company. There he developed several digital products for

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Dietzgen. From 1972 to 1975, Young was the research and development manager for GT&E, developing a multifunction business transaction telephone. From 1975 to 1978, he worked for Advanced Memory Systems developing solid state memory cards for mid-size computers. From 1978 to 1980, Young was a research and development engineer for Electronic Telephone Co. where he developed the first all digital touch tone generator chip for use in telephones. The company was acquired by AT&E and Young continued to work there until July 1984. One of the products he worked on was a wrist pager that had a novel power scheme allowing a watch battery to operate the pager for long periods. The pager used the FM SCA band for distribution of the paging signals. Young went to work in August 1984 for Advanced Telecommunication Systems (ATS) on a product for controlling PCs from a remote location. (CX-1226 at 2). He left that position in December 1984, and remained unemployed until May 1985 when he became VP of engineering for Tiara Inc., a company that he founded with two other people. Id. At Tiara, Young was overseeing a range of card products from Taiwan for the IBM PC. He was also involved in redesigning the user interface of a networking product to compete with the Ethernet. In May 1986, about ten months after the original application for the '121 patent was filed on July 12, 1985, Young founded a company called Insight Technology, which was later renamed StarSight Telecast. (CX-1226 at 3). He retired from StarSight in September 1994. Id. Young's position at StarSight was Chief Scientist for a portion of time running from 1986 until 1991. (Tr. at 937-938). Based on Young's background, the administrative law judge finds that Young's experience up to July 12, 1985 is primarily in the area of hardware and working with broadcast FM signals.

Edward Neil obtained a bachelor's degree in computer science from Arizona State University in 1972. (Neil, Tr. at 3333-34). Neil was hired after college by Motorola, where he was a test engineer, writing software to test various kinds of specialized integrated circuits. Thereafter, he transferred to the semiconductor engineering group at Motorola where he was again involved with writing software for testing and evaluation of various processes that the company was using. (Tr. at 3334). The next company Neil worked for was Bowmar Instruments, where he wrote the specialized software for doing algorithms for calculations. He then went back to work for Motorola as a teaching engineer and taught microprocessor technology to other engineers and customers of Motorola. Next Neil worked for ASM America when he designed control language for semiconductor processing equipment which allowed customer to program their own customized processes. (Tr. at 3334-35). After that, at around 1978 or 1979, he consulted for various companies as Mircao and Motorola. (Tr. at 3336). In 1981, he moved to the Bay area (Silicon Valley, San Jose) and began working at a company called Axlon in Silicon Valley, California. Axlon was in the business of making specialized hardware and software for Atari home computers. Neil's job was to write software that allowed the company's products to work effectively on Atari home computers and he was involved in an effort to add additional products and functionality to the Atari. (Neil, Tr. at 3336-37). After working at Axlon, Neil worked for Human Engineered Software as manager of software development. While at Human Engineered Software, Neil worked on software for Atari and Commodore home computers, including games, productivity products, and spreadsheets, and also traveled to Boston to see the early development of Lotus computer spreadsheets and to learn about the techniques which the Lotus company was using to present those spreadsheets. (Neil, Tr. at 3338, 3346). At that time, Lotus was demonstrating the capability to search and sort through spreadsheet data based upon certain various search criteria. (Neil, Tr. at 3346-47). Neil's next position was at ATS as its manager of software development and chief coder. ATS manufactured and sold a board that plugged into a personal computer to allow users to conference between their personal computers. (Neil, Tr. at 3338). Neil's responsibility at ATS was to write the software code for the functions of the board product. (Neil, Tr. at 3338). Neil also worked with computer spreadsheets while he was employed by ATS. (Neil, Tr. at 3345 - 3346).

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After ATS, Neil started his own company in the 1985-86 time frame. (Tr. at 3336). For the next five years, Neil did consulting work until he went to work for NEC Technologies where he was manager of laser printer software development for almost two years. (Tr. at 3336-37). He again did a short stint of consulting for Okidata and a couple of small companies. Thereafter Neil went to a company called In Sight Development and worked on a product that was Internet-related and for which he got a patent. (Tr. at 3337). In 1996 Neil moved to his current address in Healdsburg, Calif. where he did some consulting work for local wineries and also did about a year with Watrories. Currently, he is the chief technology officer of a company called Iris Solutions. (Tr. at 3337). Based on Neil's background, while the administrative law judge finds that Young's experience when the initial application for the '121 patent was filed on July 12, 1985, is primarily hardware and working with broadcast FM signals, Neil's experience up and to July 12, 1985 by contrast is found to be generally in the area of software engineering and includes experience in home computers, video games and spreadsheet as well as VBI related work.

Aside from CX-1397 and CX-687, referenced by the staff, there are no contemporaneous documents generated prior to the July 12, 1985 filing date that relate to the conception of the claimed invention of the '121 patent. [FN78] Hence, what is left is the live testimony of inventor Young and putative inventor Neil. As Ethicon stated, which statment of Ethicon was quoted by the administrative law judge in his March 19, 1998 ID. an alleged coinventor must supply evidence to corroborate his testimony. However corroborating evidence may take many forms. Whether the inventor's testimony has been sufficiently corroborated is evaluated under a "rule of reason" analysis. Under this analysis, an evaluation of all pertinent evidence is made. See supra.

Regarding the foci of the invention of the '121 patent, complainants' expert witness Faillace, testified:

Q You told us this problem was the proliferation of channels. Collectively the claims of the '121 have a focus of addressing the problem?

A Yes.

Q What was that?

A That was the focus, that was to help that average user use database techniques to take this sea, this 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, so that instead of looking at thousands of descriptions of programs, he would look at just maybe a half dozen or so and then be able to make an educated choice.

Q Were there any other sort of principal focuses collectively of the claims of the '121?

A I think it's combining that database feature with the programatic control feature, that is once you've identified from this tightly focused group of programs the ones you want to watch, then it's just a matter of hitting a button on the remote control to having it on your screen, if it's a current program, or to setting it up for tuning and recording in the future if it's a future program.

Q Did the claims of the '121 collectively address in any way the manner of getting programs schedule information and what to do with it once it's gotten --

A They address the issue, somewhere the program selection -- excuse me, the program schedule information upon which these choices are based, has to be in the data processor so that it can present them to the user.

(Tr. at 1150-51 (Emphasis added)). Accordingly, Faillace identified two key facets of the invention of the '121 patent: (1) the use of database techniques to allow the user to narrow the number of programs presented to him or her, and (2) allowing the user to cause the television to tune to one of the selected programs or to cause the VCR to be programmed to record one of the selected programs by "hitting a

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button on the remote." The spreadsheet technology testified about, by Neil at the hearing, accomplishes the first facet of the invention of the '121 patent, as well as other aspects disclosed in individual claims.

{* * *}Specifically, the use of a matrix-type spreadsheet allows a system or process to display a television grid similar to two-dimensional grids that are used to present printed schedule information. (Tr. at 3345-46). Spreadsheet technology also allows the implementer to hide within the layers of the spreadsheet additional information about the programs, beyond that which is displayed on the two dimensional grid, so that a user could select a particular program in the spreadsheet and, thereby, cause additional information about the program to appear in another box on the screen. (Tr. at 3346). This additional information could also be associated with the displayed programs, so as to allow searches for particular categories or types of programs. (Tr. at 3352- 53). The ability to store additional information, so as to allow searches, enables the television guide system to "select[] those programs meeting the combined user selection criteria for viewing from the program schedule information," as required by claim 18 and, by dependency, claims 19-24, 26-28 and 31, as well as a similar limitations in claims 32, 33, 36, 42 (and, by dependency, claims 43, 48, 49 and 50), 54 and 66. Such a capability also enables claim 28 and 29's requirement that there be{* * *}Such a feature enables the{* * *}

Neil's testimony is corroborated by his background which included{* * *} (CX-1397, CX-687). Neil's primary work experience was in the{* * *}He had received a degree in{* * *}Neil's work experience also had encompassed{* * *}See supra. Neil was aware of the{* * *}See supra.

The original{* * *} (CX-1397). The disclosure described certain aspects of the{* * *}as follows:

{* * *}

(CX-1397 at 1) (Emphasis added). Furthermore, {* * *} (CX-1397 at 1).

The administrative law judge finds that such characteristics listed in the { * * *}Consistent with Neil's suggestion to use{* * *}In the second version of the product disclosure, which is styled as just{* * *} {* * *} [FN79]

Moreover, all of the asserted claims of the '121 patent require supplying schedule information to the data processor. See Section V(A), supra. The ' 121 patent only discloses two methods of supplying the data processor with schedule information: through an FM transmission system or through the VBI. Figure 1 depicts a transmission system using an FM transmitter to broadcast schedule information, while Fig. 3 depicts an embodiment capable of receiving such transmitted information and supplying it to its CPU. Figure 2 shows a transmission system that transmits schedule information through the VBI, while Figs. 4a and 4b depict embodiments of the '121 patent capable of receiving such data and supplying it to their CPUs. Those three embodiments are the only embodiments of the '121 patent depicted and described in the specification, and two of them are designed to receive schedule information through the VBI. Furthermore, the ability to transmit the schedule information, so that it could be updated continuously, is also a key component to the '121 invention. For instance, under the Background of the Invention section, the '121 patent states: "[c]onventionally published program listings are not capable of handling last minute schedule changes and additions." (col. 2, lns. 2-4). Similarly, under the Summary of the Invention section, it is stated that "[i]t is another object of this invention to provide such a system and process which is capable of accommodating last minute schedule changes and additions." (col. 3, lns. 11-13).

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{* * *}
Neil's testimony that he had suggested to Young that the VBI should be used to supply the data processors with schedule information, is corroborated by the backgrounds of Young and Neil as well as{* * *} (CX-687) and by Young's admission that{* * *}Neil had experience with transmitting information in the VBI (or the vertical retrace). See supra. He gained this experience during his employment at Human Engineered Software. Young admitted that the only discussions that he had with Neil regarding{* * *} {* * *} (Tr. at 894-95). Young had extensive experience working{* * *} (Tr. at 857-58). The only experience with transmitting information through the VBI that Young had, that is evidenced in the record, is in removing nondisplay information encoded into the VBI of a video signal, which was a hardware technique that Young knew well. (Tr. at 3400). [FN80]

The original{* * *}described as follows: {* * *} {* * *}Accordingly, the administrative law judge finds that{* * *} [FN81] The second version of the { * * *}687), purports to be the{* * *}

The Supreme Court, in Marshall v. Lonberger, 459 U.S. 422, 434 (1983), has stated:

As was aptly stated by the New York Court of Appeals, although in a case of rather different substantive nature: 'Face to face with living witnesses the original trier of the facts holds a position of advantage from which appellate judges are excluded. In doubtful cases the exercise of his power of observation often proves the most accurate method of ascertaining the truth... How can we say the judge is wrong? We never saw the witnesses... To the sophistication and sagacity of the trial judge the law confides the duty of appraisal.' Bovd v. Bovd, 252 N.Y. 422, 429, 169 N.E. 632, 634.

Having had the opportunity to observe both Neil and Young's demeanor at the hearing, the administrative law judge finds Neil's demeanor was credible and straightforward, while Young's demeanor was lacking those characteristics. [FN82] Moreover, he finds testimony of Young, who was complainants' corporate deposition designee on the '121 patent conception, conflicts with documents and other testimony of Young. [FN83] For example, at the hearing on December 5, 2001, as to conception of the claimed invention, Young testified (Tr. at 852- 65):

Q Mr. Young, when do you first recall having the idea that led to the '121 patent?

A This is the last week of the 1984 and the time frame to the first week of 1985, January.

Q Mr. Young, how is it that you recall that date today?

A This is the period of 49er playoff, and this is -- it happened in a year in which they won the Super Bowl, and my wife is an avid fan of the 49ers, and I'm just an interested party.

Q What's the connection between the 49ers and your wife's interest in the 49ers and the invention of the '121 patent?

A I spent quite a bit of time during this playoff recording games for her. Basically I would set up the VCR, and my wife never learned to master the programming steps required.

Q What specifically was your wife's difficulty, Mr. Young?

A I think she could not remember the sequence of steps required.

Q What role did you play in helping your wife?

A I tried to teach her, and in the end I wind up doing the entire programming task.

Q And at some point did you come up with a way to help your wife with programming her 49er games?

A Right. I think this is after I've been recording like the nth game for that year, and I, for whatever the reason, I point to her that if I put the name, list of 49er games on the TV, will you be able to take this remote controller, point at

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it, and pick the game you want, click the button, and in turn automatic programming process will be done for you. And right away she liked the idea. She though that was something she could handle.

* * *

Q I'd like to just take you back to the initial idea that you had. You say that you were going to display something on a screen. What is it you had in mind at that time in late December 1994 [sic], early January 1985 of displaying on the screen?

A I was trying to simply solve the problem for my life, and I was going to just take a list of the 49ers schedule, put it on the screen, keep it as simple as possible. I didn't want to complicate her -- she has trouble with following the steps of programming. I didn't want to make this any more difficult. Show on the screen, cursoring to the game, click on it, and the entire thing will be done.

Q What do you mean by "cursoring to the game"?

A So she [Young's wife] can select the particular games that she wanted to record.

Q Did there come a time when you considered expanding this idea beyond just football games?

A Right. Very quickly, I realized that if this is going to have any commercial success, it would have to be far more than just games, and I went through that maybe I can record all the sport games, list the sport games, maybe perhaps prime time movies, things of this sort. But in the end, I realized that I could not make that -- make those choices and decided to do an entire full-blown TV guide.

Q What do you mean by a "full-blown TV guide"?

A That would be a program that is like a weekly guide, seven-day listing on all the channels, basically that point, yeah.

Q When did this additional idea occur to you relative to the initial idea?

A It happened within the same hour.

Q At this time you were living in the San Francisco area; is that correct?

A Yes.

Q How many programs per week approximately were shown in San Francisco in that period of time?

A I estimate between -- per week -- about 5000 to 10,000.

Q If you were to try to display all of those programs on the TV screen, about how many screens would that information fill?

A Roughly it would probably be like 500 to maybe 1000 pages.

Q If that's all, for instance, your wife had to work with, how would she go about finding a program for recording?

A Obviously, if I just were to create a guide that is equivalent of thumbing through like a newspaper, she would have to page through all these pages which would basically defeat the entire idea of a simple tool for programming the VCR.

Q Did you see this as a problem or a limitation?

A It was -- I saw it as now a real challenge to somehow make a guide with five to 10,000 listings something for someone like my wife who is not technical, that she can master.

Q Did you address this challenge?

A Yes, I did. I began to think of ways of getting in a standard or a weekly guide, ways of, for example, putting in some kind of theme selection, and within a few selection strokes, I will be able to get that onto football.

Q Approximately when did you have this idea of creating themes?

A This is all that same very short time frame.

Q End of December 1984, early January 1985?

A Right. When I first started, I would say within that date or two, I was thinking of actually how to implement this.

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Q What type of television broadcast technology did you envision using this approach with?

A Right; okay. The thing I didn't want to do is to have obviously manual interest of this 49ers schedule or even that was too prohibitive. So the technology I had in mind is a thing called FM si[sic SCA] band.

Q And is this a way that you came up with to implement this idea?

A No. It was in the beginning of how to do this.

About -- the previous company, two previous companies, I was working on a concept. I developed a wristwatch pager, and the wristwatch pager is a pager that operates off of this FM superior technology.

Q What was the name of that previous company?

A The company is called AT&E.

Q And what was the conclusion between this pager that you were working on at AT&E and this idea you had regarding television?

A Okay. It seems like it was the ideal technology.

It is a si [sic SCA] channel of the FM. It's underutilized. The only thing that I know that was utilizing it at that time to any degree was music, audio. The FM si [sic SCA] band can also carry digital information.

Q How would that technology -- how did you envision at this time using that technology in connection with your television idea?

A Right; okay. Now that I have a way of getting of raw TV schedule data into some kind of a box, then what I will need now is obviously some intelligence to collect that information, some intelligence on how to search through that information. The information eventually will be displayed on the screen. So I will need some kind of video generator, and the most important thing is will need an external programming tuner that will actually select the program.

I think this came about -- the VCR I had at the time I bought in '79. It did not have wires control features. You couldn't program it using an external programmable tuner. It was sort of a clunker. So this was the reason why I had an external programmable tuner in response to perform that function.

Q Can you identify the principal subcomponents of the system that you envisioned in this January 1985 time frame for implementing this idea that you had had?

A Right. I would need, in addition to the programmer tuner, obviously some very -- what I want right at the top is software, very intuitive software for searching, because the target user for my product is someone like my wife who is not technical.

The other piece I need now is to -- I have this -- well, I also need a generator. Once I have this thing listed on the screen, I will need now some kind of remote device to point to it, and once I point to it, I click it. Then I need to somehow control my VCR, and at that time I had an old-fashioned VCR. It didn't have a wires control. So in my original thinking, it was going to be a wire, direct wire to the pause control on the VCR. So that's pretty much that very initial idea.

Q How would -- can you explain how the wire leading to the VCR would control the VCR?

A Yes. It's somewhat of an awkward scheme. It will need to put my VCR into a record mode, and the machines, the very early machines at that time had -- it comes with like a 20-foot wire with a button on it, and then you use that to turn the recording off and on.

* * *

Q Did you consider searching to be an aspect of your idea at that point in time?

A Absolutely. If I did not have -- I call these tools for searching navigational tools, and if I didn't come up with a good idea for doing that, it won't fit the need of my wife and will not fit the need of what I think will be the

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market for this product.
Q Why was that?
A I think a lot of products, for example VCR programs, that exist at that time was extremely awkward. I estimated that maybe the majority of housewives can't program VCR.

* * *

Q Did your idea at this time, did it address that problem that you just described?
A I felt that was one of the key problems. I don't think anyone ever, to my knowledge, thought about now making this process what we call a cable map, how to map names of cable services like ESPN, HBO, and map it actually to the cable system that you have.
Q Is cable mapping different than navigational tools?
A Completely different, but it's absolutely essential to any automatic navigation. You could not record any program in a cable system properly unless you have a cable map.
Q And can you contrast cable mapping with navigational tools?
A Well, navigational -- you navigate, the way that I perceive navigation, would always be dealing in terms of the cable provider service name. I don't want people to think well, it should be channel 87. That's one of the problems of, I think, the average user. I want them to think oh, this is Bravo, okay, and they look at the chart and see Bravo. I want to make the rest of the operation fully transparent, fully automatic.
Q And what about the idea of sorting by themes?
How does that differ from the concept of navigational tools?
A It's one of the -- it's definitely one of the navigational features. The storybook theme is absolutely essential. For example, my wife, most of the time, is recording 49er games. I've got to get down from a raw listing of this five to 10,000 and in a couple keystroke -- it actually took a little bit more than that -- I wanted to be able to narrow down to the sports, football, pro football, and then bring up that screen.
Q The ideas that you've just been discussing, were these all ideas that you had in the December 1984/January 1985 time frame?
A The navigational came at that time, the cable came maybe a day later.
Q How about the VCR programming?
A First, the VCR programming was the entire initial idea that got me into thinking about this.
Q At some point did you decide that you would try to patent your invention?
A Yes.
(Emphasis added). In contrast to Young's hearing testimony about his conception of the invention of the '121 patent in{* * *}i.e., in a very short time frame, in his deposition on June 12, 2001, Young testified{* * *}

{* * *}
{* * *}
(Emphasis added). Moreover, {* * *} (CX-1398). In this document, Young recites the following sequence of events: {* * *}

{* * *} {* * *} [FN84]

The administrative law judge finds that Young's recitation of events in CX-1398C, contradicts the sequence of events to which Young testified at the hearing regarding the conception of the invention claimed in the '121 Patent. For example the introductory statement in{* * *}contradicts Young's trial testimony about the various ideas he conceived during the hour surrounding Young's alleged revelation

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regarding the recording of football games, which was the hour that Young testified he allegedly conceived of the invention claimed in the '121 patent.

{* * *}
{* * *} {* * *} {* * *}
{* * *}

Young's testimony as to his conversations with Higgins is also conflicting. Thus on direct examination, Young testified (Tr. at 899-00): {* * *}
{* * *}
(Emphasis added). However, just hours later on the same day during cross-examination, Young testified: {* * *}

Furthermore, Young testified on cross-examination as to {* * *} (Tr. at 981- 82): {* * *} (Emphasis added). In contrast to Young's hearing testimony, Young's corporate designee deposition contains the following question and answer with respect to the{* * *}
Do you see where it states in the middle of the paragraph, quote:
{* * *}
{* * *}Also, at the deposition, Young stated with regards to Higgins' description of{* * *}set forth in RX-3812C (JX-60C at 864-65): {* * *}
{* * *}
(Emphasis added)

Even at the hearing on technical details, the administrative law judge found Young's testimony to conflict with his deposition testimony as complainants' corporate designee. For instance, Young testified (Tr. at 981-92):

{* * *}
{* * *} {* * *} {* * *}
(Emphasis added). Another example of conflicting testimony is the following{* * *}
{* * *}
{* * *} {* * *}
(Emphasis added).

Based on the foregoing, the administrative law judge finds that Edward Neil made a contribution to the conception of the claimed invention of the '121 patent that was not insignificant in quality, when that contribution is measured against the dimension of the full invention claimed in the '121 patent. Accordingly, the administrative law judge finds that respondents have established that the '121 patent is unenforceable for failure to name Neil as a coinventor.

XI. VALIDITY (Best Mode '268/'204 Patent)

Respondents, relying primarily on deposition testimony of Roop, argued that the inventors of the '268 and '204 patents failed to disclose the best mode known to the inventor for carrying out the claimed invention. (See, e.g., EPost at 246). Hence, respondents argued that the "hybrid method" (also called the "hybrid cursor") [FN85] had been invented prior of the priority date of the ' 268 and '204 patents; and that the inventors prior to the filing date of the '204 and '268 patents knew of the "hybrid method," and believed it to be superior to the innovative cursor disclosed in the '268 and '204 patents, but failed to disclose it. (EPost at 246-249).

Complainants argued that Roop during his deposition had expressed uncertainty as to when the hybrid method had been developed; that in his testimony during the hearing he had testified that the hybrid method had been developed two years after the filing date of the '204 and '268 patents; and that the hybrid method had been

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developed by David Warden, who is not one of the named inventors of the '268 and '204 patents. (CPost at 342-47).

The staff did not address the issue of the alleged failure to disclose the best mode with respect to the '268 and '204 patents.

The administrative law judge rejects respondents' arguments relating to best mode. Although, Roop's deposition testimony indicates that the inventors of the '268 and '204 patents knew of the hybrid method prior to the filing date of the '204 and '268 patents (See, e.g., JX 48 at 124-25), Roop subsequently and unequivocally recanted at the hearing his prior deposition testimony. (Tr. at 435-37). Thus, Roop testified that the inventor of the hybrid method was David Warden, who is not one of the named inventors of the '121 patent, and that Warden invented the hybrid method in 1992. (Tr. at 303). Such contradictory testimony is not to be automatically ascribed to bad faith on the part of Roop. The deposition occurred approximately 10 years after the filing date of the '204 and '268 patents and the conception of the hybrid cursor, and Roop had testified that his memory was refreshed during trial preparation after the deposition and immediately before the hearing. Respondents claimed that{* * *} (RFF 5156). However, CX-3816 is dated April 10, 1991 (Tr. at 288, 292-93; CX-3816), which is after the filing date of the '204 and '268 patents. Moreover, {* * *} (Tr. at 288-93; CX-3816 at 20-22, 85-86).

Based on the foregoing, the administrative law judge finds that respondents have not met their burden of proving that the inventors of the '268 and '204 patents withheld the best mode.

XII. VALIDITY (Indefiniteness - '121 Patent)

S-A argued that independent claims 18, 36, and 66 and dependent claims 19, 20, 22, 24, 26, 27 and 31 [FN86], which recite the step of supplying "user program selection criteria comprising a plurality of independent user chosen program selection criteria and at least one program choice" to the data processor and the step in which the data processor combines "said user selection criteria," are indefinite, and hence invalid under 35 U.S.C. § 112, ¶ 2 because it is unclear as to which antecedent - "user program selection criteria" or "independent user chosen program selection criteria" - "said user selection criteria" refers. (S-A Post at 187-88).

In light of the administrative law judge's finding, supra, that "said user selection criteria" refers to "independent user chosen program selection criteria," the administrative law judge rejects S-A's argument that the antecedent to "said user program selection criteria." is unclear. Accordingly he finds that S-A has not met its burden of proving that independent claims 18, 36 and 66 and dependent claims 19, 20, 22, 24, 26, 27 and 31 are indefinite under 35 U.S.C. § 112, ¶ 2.

XIII. VALIDITY (Indefiniteness - '268/'204 Patents)

Each of EchoStar and Pioneer argued that claims 1 and 3 of the '268 patent and claims 14-17 of the '204 patent are indefinite under 35 U.S.C. § 112, ¶ 2 in light of 35 U.S.C. § 112, ¶ 6. Thus, it was argued that those claims are written in "means plus function" language and are therefore subject to 35 U.S.C. § 112, ¶ 6; that applicants were required to set forth in the specification an adequate description of the means required to perform the recited function; and that the specifications of the two patents fail to disclose and describe software that Gemstar's expert witness identified as being "required" to perform the recited function of the claims. It was also argued that respondents' expert witnesses, Myers and Rhyne, both testified that software is required to perform various

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functions described in the asserted claims of the '268 patent and in claims 14-176 of the '204 patent (RFF 5419-5426); and that Myers testified that the specification of both the '268 and '204 patents fails to disclose any algorithm relevant to any of the means plus function elements of claims 1 and 3 of the '268 patent and claims 14-17 of the '204 patent. (RFF 5428-5429). [FN87] Accordingly, Pioneer and Echostar argued that the claims in issue are indefinite and invalid under 35 U.S.C. § 112, ¶ 2. (PPost at 236-37, EPost at 274-76).

Complainants argued that the actual legal test for indefiniteness is whether those skilled in the art would understand the scope of the invention; that the only evidence in the record that shows that persons skilled in the art would understand the scope of the invention (CRRFF 5428.3); that respondents' own expert conceded that the patents do describe the software required to perform the claimed function (CRRFF 5428.1, CRRFF 5428.2); and that even for means plus function claims, actual software source code need not be disclosed in order to meet the definiteness requirement. Complainants further argued that there was no testimony by any of respondents' experts, or anyone else, that they did not understand the scope of the claimed inventions (CRRFF 5428.4) and that not only was complainants' expert witness, Faillace, able to construe the claimed limitations and apply them to the accused products, but respondents' expert witness, Rhyne, was able to do the same. (CRPost at 347-49).

The administrative law judge finds that respondents have not met their burden of proving that the claims in issue are indefinite. Although the claims and specifications do not recite the exact computer code needed to implement the claims, such specificity is not required. The Federal Circuit in In re Dossel, 115 F.3d 942, 946 (1997), found the claims in issue to be sufficiently definite even though no computer code was recited and the specific algorithms used were undisclosed. Thus it stated:

> [n]either the written description nor the claims uses the magic word "computer," nor do they quote computer code that may be used in the invention. Nevertheless, when the written description is combined with claims 8 and 9, the disclosure satisfies the requirements of § 112 ¶ 2. As the written description discloses, the clauses in question claim a device that receives digital data words from a memory and data input from a user. The device then computes, from the received data, the current distribution by mathematical operations including a matrix inversion or pseudo inversion, an then outputs the result to a display. While the written description does not disclose exactly what mathematical algorithm will be used to compute the end result, it does state that "known algorithms" can be used to solve standard equations which are known in the art.

(Emphasis added).

With respect to the claims at issue, the specifications of the '268 and '204 patents do contain descriptions of the software used in the respective inventions. For instance, respondents' own expert witness, Rhyne, testified that:

> Q What structure have you identified as corresponding to the structure?
>
> A It's identified in Exhibit 4748.25, CPU, the memory, and including both the video display generator 224 and the video switcher 226, as well as the software that follows the flow charts of figures 8, 11, 18 and 19, to produce the screen shots of figures 1 through 3, 5 and 6.
>
> Q Why have you included software?
>
> A This is a programmable element, that CPU. And when you have a programmable element of this type, it's my practice to always include the software and then I don't find that you have a well defined structure until you link the two together, so that you not only know what general programmable device but you also know the software that it's going to execute when it performs the function.

(Tr. at 3668 (Emphasis added); see also RX 4748.25). Rhyne's testimony that the

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flow charts depicted in figures 8, 11, 18 and 19 describes the software used by the inventions disclosed in the '268 and '204 patents, is mirrored by complainants' expert witness, Faillace:

Q Will you agree with me and shorten up this examination, that the corresponding structure, the corresponding software which you found is not explicitly described anywhere in the patent?

A There's nowhere in the patent that says software does this, software does that. But there are flow charts and there are descriptions.

Q Is the software that you found to be corresponding to this means, is that illustrated or described in the patent?

A I think the wording of the claim element, the description in the patent, excuse me, flow charts, are all descriptive of software.

Q I'm - - is it your testimony that the flow charts in this patent depict the operation of the software which you have found to be part of the structure for this particular means?

A They're descriptive of it, they don't depict it.

Q And they're descriptive in that they describe the software that works here? (Tr. at 2373-74 (Emphasis added)).

Based on the foregoing, the administrative law judge finds that respondents have not satisfied their burden of proving that claims 1 and 3 of the '268 patent, and claims 14, 15, 16, and 17 of the '204 patent are invalid under 35 U.S.C. § 112, ¶ 2 because of indefiniteness.

XIV. VALIDITY (Enablement - '121 Patent)

S-A argued that the claims that recite a "storage means" located "in a data processor" are invalid due to lack of enablement under 35 U.S.C. § 112. (S-A Post at 182-84). Hence, it was argued that complainants' expert witness, Faillace, admitted that the limited amount of storage available in the Little Board/186 microcomputer in 1985 would have been insufficient to store the various buffers that make up the claimed "storage means;" that the '121 patent does not disclose or teach any location for storage of schedule information except in the Little Board/186 microcomputer; and that, therefore, the '121 specification fails to enable one of ordinary skill in the art to make or use the claimed invention to store schedule information in a "storage means" located "in a data processor." Accordingly S-A argued that independent claims 18, 33, 36 and 66 and dependent claims 19, 20, 22, 24, 26, 27 and 31 are invalid for lack of an enabling disclosure.

The staff argued that S-A had not established by clear and convincing evidence that a person of ordinary skill in the art would not be able to practice the claimed invention without undue experimentation and that each of the respondents' expert witnesses were able to testify as to their understanding of the claims and how the claimed invention worked. (SPost at 58- 59).

Complainants agreed with S-A that, if "data processor" were construed to be just a "CPU," the claims in issue are in invalid due to enabling disclosure.

The administrative law judge has already found that the claims that recite a "storage means" located "in a data processor" if the term "data processor" was construed to mean a "CPU," are not invalid because of lack of enablement. See supra. Accordingly, the administrative law judge finds that S-A has not met its burden of proving invalidity of independent claims 18, 33, 36 and 66 and dependent claims 19, 20, 22, 24, 26, 27 and 31 because of lack of an enabling disclosure under 35 U.S.C. § 112.

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XV. INEQUITABLE CONDUCT

Respondents argued that Young and InSight (StarSight's predecessor) engaged in a pervasive pattern of inequitable conduct during the prosecution and re-examination of the '121 patent (1) by purposefully submitting false or misleading statements to the Examiner in a sworn declaration, upon which the Examiner relied to conclude that the '121 patent contained patentable subject matter, [FN88] and (2) by Young's withholding from the Examiner material information regarding Neil's contribution to the invention claimed in the '121 patent, which Young did with the intent to deceive. (S-A at 188). Respondents further argued that Young mischaracterized the VCR Plus + system in his declaration to the PTO. (EBr at 239). Finally, respondents argued that Young failed to disclose to the Examiner that "watch one/record another" functionality was known in the prior art. (EBr at 237).

A patent is unenforceable on grounds of "inequitable conduct" if the patentee withheld material information from the PTO with intent to mislead or deceive the PTO into allowing the claims. LaBounty Manufacturing, Inc. v. U.S. Int'l. Trade Comm., 958 F.2d 1066, 1070, 1074 (Fed. Cir. 1992) (LaBounty). Both materiality and intent must be proven by clear and convincing evidence. LaBounty, 958 F.2d at 1070, 1074; Kingsdown Medical Consultants, Ltd. v. Hollister, Inc., 863 F.2d 867, 872 (Fed. Cir. 1988), cert. denied, 490 U.S. 1067 (1989) (Kingsdown).

According to PTO rule 1.56 (37 C.R.F. § 1.56(a)), the duty to disclose information:

> exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim.

Generally, when withheld information is highly material, a lower showing of deceptive intent will be sufficient to establish inequitable conduct. American Hoist & Derrick Co. v. Sowa & Sons. Inc., 725 F.2d 1350, 1363 (Fed. Cir.), cert. denied, 469 U.S. 821 (1984). Moreover, "[d]irect proof of wrongful intent is rarely available but may be inferred from clear and convincing evidence of the surrounding circumstances." LaBounty, 958 F.2d at 1076; Hewlett-Packard Co. v. Bausch & Lomb, Inc. 746 F.Supp. 1413 (N.D. Col. 1990), aff'd, 925 F.2d 1480 (Fed. Cir.), cert. denied, 111 S.Ct. 2854 (1991). The conduct at issue must be viewed in light of all the evidence, including evidence of good faith. Kingsdown, 863 F.2d at 876. Any "[i]nformation is material where there is a substantial likelihood that a reasonable examiner would consider it important in deciding whether to allow the application to issue as a patent." LaBounty, 958 F.2d at 1074.

One who alleges inequitable conduct arising from a failure to disclose prior art must offer clear and convincing proof of the "materiality of the prior art, knowledge chargeable to the applicant of that prior art and of its materiality, and the applicant's failure to disclose the prior art, coupled with an intent to mislead the PTO." Molins PLC v. Texron, Inc., 48 F.3d 1172, 1178 (Fed. Cir. 1995).

An intent to deceive "cannot be inferred solely from the fact that information was not disclosed; there must be a factual basis for a finding of deceptive intent." Upjohn Co. v. Mova Pharmaceutical Corp., 225 F.3d 1306, 1312 (Fed. Cir. 2000) (quoting Herbert v. Lisle Corp., 99 F.3d 1109, 1116 (Fed. Cir. 1996); Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1482 (Fed. Cir. 1998) ("[I]nference without any probative evidence is insufficient to show culpable

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intent."). Inequitable conduct requires proof of the applicant's actual knowledge:

Telsmith seeks to overcome the fatal lack of evidence that the relevant Nordberg employees knew of the Saunders patent's existence by contending that "Federal Circuit precedent does not require proof of actual knowledge of the withheld prior art, but only ... proof that the applicant or its representatives 'should have known of the art or information,"' citing our decisions in Molins PLC, 48 F.3d at 1178, 33 U.S.P.Q.2d at 1826, and FMC Corp. v. Manitowoc Co., 835 F.2d 1411, 1415, 5 U.S.P.Q.2d 1112, 1116 (Fed. Cir. 1987). We long ago rejected this contention [citation omitted], and neither FMC Corp. nor Molins PLC held to the contrary .... Telsmith's contention that the 'failure of disclosure' form of inequitable conduct can be shown with proof that the applicant did not but should have known of a reference's existence runs counter to American Hoist [Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1362 (Fed. Cir. 1984)] and subsequent cases and must therefore be rejected. As we held in American Hoist, the applicant's actual knowledge of the reference's existence must be proved.
(Emphasis added); See also Nordberg, Inc. v. Telsmith, Inc., 82 F.3d 394, 397 (Fed. Cir. 1996), (citing American Hoist) ("Nor does an applicant for patent, who has no duty to conduct a prior art search, have an obligation to disclose any art of which, is the [district] court's words, he 'reasonably should be aware."')).

Contrary to respondents' arguments, Young in his declaration to the Examiner never represented that the '121 invention was the world's first "point-and-select" system for simplifying VCR programming. (RX-3008 at 133-87). Young did compare the '121 invention to VCR Plus +, a system that allows a consumer to key in a code which then causes the VCR to automatically record a selected program. (RX-3008 at 135-36). In comparing the systems, Young declared that "[t]he advantages of the InSight Telecast product ... includ[e] the ability to select the program from a listing which could be arranged by time, channel or theme." (RX-3008 at 135-36). Hence, Young did not try to distinguish the '121 invention merely on its "point and select" capability, but on that capability coupled with the capability of arranging listings by time, channel or theme. Young continued his description of the invention of the '121 patent:

In one embodiment of this invention, programming a VCR has been simplified to a point-and- select method of operation. By merely selecting the title from a readily available "on-line" television schedule the VCR can be programmed. Listings can be stored by both cable source and cable channel number, so that cable channel conversion is automatic. There is no need for the user to convert cable source listings to cable channel numbers. Furthermore, the broadcast schedule listings are always specific to the particular cable network. Also, a program selected for recording can be verified by displaying its title, and not merely time and channel abstractions.
(RX-3008 at 137). Accordingly, although one feature of the embodiment that Young was referring to had the "point-and-select" feature, it also had in combination with this feature, the ability to store listings by both the channel number or cable source and the ability to allow an user to verify a program selected for recording, by title, as well as the time and channel.

Young further represented that "the present invention allows the realization of a point-and-select on-line guide." (RX-3008 at 137). However, this statement is found in the concluding sentence of a paragraph. In the portion of the paragraph immediately preceding this sentence, Young described how the invention of the '121 patent would realize "a point-and-select on-line guide":

The need for an effective "on-line" TV guide" is also well know, due to the shortcomings of printed TV guides. See Exhibit M. With a plethora of cable-TV services, viewers are confused with which channels corresponds to which cable system. For example, in the San Francisco Bay Area the consumer must chose between approximately 14,8000 weekly television programs in their program guide. The

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present invention allows the display of program listings by cable service name, such as HBO, and automatically tunes the television apparatus or VCR to the correct cable channel when that listing is selection. Also, cable channel information corresponding to the local cable system is transmitted to the schedule system. (RX-3008 at 137).

Young also declared that:

The Insight Telecast product will provide easy programming by means of an intuitive point-and-select method that will be available at a comparatively low price. Also, the Insight product will reprogram the VCR for any schedule changes of the selected program. Also, the on-screen schedule will provide accurate and accessible schedule information for the particular cable or network broadcasting region.
(RX-3008 at 139).

Thus, the invention's point and select functionality is only referred to in connection with other features, viz., the ability to reprogram the VCR in the event of any schedule changes of the selected programs and an on-screen schedule that will provide accurate and accessible schedule information for the particular cable or network broadcasting region.

Accordingly, the administrative law judge finds nowhere in the declaration that Young states that the '121 invention was the first to implement the "point-and-select" method of program selection. Rather it is found, he merely declared that the "point and select" functionality was one of a number of features contained in the invention.

The administrative law judge also finds that Young, in fact, had not improperly failed to disclose the prior art "point-and-select" systems at issue to the Examiner. Respondents argued that Young had failed in his declaration to disclose to the Examiner the existence the guide invented by Kruger and used in the West German VPS and VPV systems (S-A at 194) and the Cable Data system. However, there is no evidence that Young knew or should have known that the Cable Data system was a point and select system. To show Young's knowledge of the point and select features of the Cable Data system, respondents relied on a February 16, 2000 letter from Michael Faber, the then CEO of Insight, to Allen Krass (RX-3645), in which Faber wrote:

[Young] also found an interactive home system for cable viewers. A company called Cable Data delivered TV schedules to subscribers with local storage devices for program selection. This system was launched and heavily advertised in 1980 and 1981 until it was ended, we think, in 1985 (attachment 5).
(RX-3645 at GITC-FA-0043558). Attachment 5 consists of photocopies of two one-page advertisements for the Cable Data systems, both of which include pictures of a television screen as well as text. However, the quality of the photocopies are poor, and as a result the writing in the pictures of the screens is illegible. Nothing in the advertisements, either in the pictures or in the text, or the letter itself reveals that Young knew or should have known that the Cable Data system had a point and select functionality. Attachment 5 also has a photocopy of the table of contents of "Inside Cablevision." The administrative law judge finds nothing on this page to indicate that the Cable Data system had a point and select functionality. Moreover, Young made repeated attempts to get more information from Cable Data concerning their system, but was rebuffed. (JX-60 at 588, 728). The only information that Young was able to collect on the Cable Data system were copies of the advertisements reproduced in Attachment A to RX-3645, which the administrative law judge finds did not suggest to Young that the Cable Data system had a point and select functionality. (JX-60 at 561). Accordingly, the administrative law judge finds that Young did not know, and had no reason to know, of Cable Data system's

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point and select functionality, if any, and therefore did not act with the intent to mislead the Examiner in failing to bring the Cable Data system to the Examiner's attention during re-examination.

With respect to the Kruger guide and the West German VPS and VPV systems, the administrative law judge finds that Young did in fact provide those references to the Examiner. In his August 13, 1992 amendment, Young addressed the VPV system under "Newly Cited Art" and, in a September 4, 1992 Information Disclosure Statement, provided the examiner with a translated copy of the reference. (RX-3008 at 215-16, 239-50 ("Videotext Programmiert Videorecorder")). With respect to the Kruger reference, the Examiner already knew of the Kruger patent prior to Young's declaration. (See, e.g., 279-81 (Examiner citing Kruger as a basis for rejecting certain claims); RX-3008 at 29 (Kruger in Request for Reexamination); RX-3008 at 102 (Kruger cited in Order Granting Reexamination); RX-3008 at 121 (Kruger cited in Office Action in Reexamination)).

Based on the foregoing, the administrative law judge finds that Young did not make statements in his declaration with the intent to deceive or mislead the Examiner.

With respect to respondents' inequitable conduct arguments as they relate to the Zenith agreement and the failure to name Neal as a co-inventor, the administrative law judge finds that they have been abandoned in accordance with ground rule 9(e), which states:

> A statement of the issues to be considered at the hearing that sets forth with particularity a party's contentions on each of the proposed issues, including citations to legal authorities in support thereof. Any contentions not set forth in detail as required herein shall be deemed abandoned, or withdrawn, except for contentions of which a party is not aware and could not be aware in the exercise of reasonable diligence at the time of filing the pre-hearing statements. (Emphasis in original).

None of the respondents set forth the Zenith agreement or the failure to name Neal as co-inventor as possible bases for inequitable conduct in its pre-hearing brief (See PPre at 96; EPre at 150-56; S-A Pre at 93-101). Moreover no respondent has attempted to show that it was "not aware and could not have been aware in the exercise of reasonable diligence at the time of filing the prehearing statements" that the Zenith agreement or the failure to name Neal as a co-inventor could be bases for inequitable conduct. Accordingly, the administrative law judge finds that respondents have abandoned or withdrawn any contentions regarding to the Zenith agreement and the failure to name Neal as a co-inventor as they relate to inequitable conduct.

The administrative law judge also rejects respondents' inequitable conduct arguments which are based on the allegation that Young "failed to disclose to the PTO that the VCR Plus+ system embodied claims of the '121 patent." (EBr at 239). Respondents' arguments are based on two letters of August and September, 1990 sent by the patent council of InSight to Gemstar alleging that the VCR Plus+ system infringed the '121 patent. (RX-1612; RX-3591; RX-3625; RX-3636; RX-3641; CX-3375; CX-3401; CX-891, ¶ ¶ 20-32). Gemstar disputed this assertion, and, eventually, InSight abandoned its earlier claim that VCR Plus+ infringed the '121 patent, as is shown by InSight's failure to continue to assert its original infringement opinion and its failure to seek redress through litigation. (Id.). An infringement opinion abandoned two years prior to Young's declaration is not material, especially in light of the fact that the Examiner knew of the actual VCR Plus + system. The administrative law judge finds no reason in the record for believing that Young or anyone at Insight believed that the abandoned opinion of Young and Insight about

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VCR Plus+ was material.

The administrative law judge also rejects respondents' argument that complainant committed inequitable conduct by failing to disclose that "watch one/record another" functionality was known in the prior art. Respondents have provided no evidence to show InSight or Young knew of such prior art and had intended to deceive the Examiner. [FN89] See 12/11/00 op., supra, at 21-23.

XVI. DOMESTIC INDUSTRY ('121, '268 and '204 Patents)

Complainants bear the burden of demonstrating the existence of an industry in the United States that practices the patents-at-issue and meets the requirements of section 337(a)(3). Certain Microsphere Adhesives, Process for making Same, and Products Containing Same, Including Self-Stick Repositionable Notes, Inv. No. 337-TA-366, USITC Pub 2049, Comm'n Op. at 8 (January 1996); Certain Plastic Encapsulated Integrated Circuits, Inv. No. 337-TA-315, USITC Pub. 2574.

In proving the existence of a domestic industry under subparts (A) and (B) of 19 U.S.C. § 1337(a)(3) a complainant must establish that its activities in the United States meet the threshold set forth in the statute (economic prong) and that those activities are devoted to a product or process which is covered by the patent(s) in issue (technical prong) In re Certain Removable Elec. Cards and Elec. Card Reader Devices and Prods. Containing Same, Inv. No. 337-TA-396, 1998 WL 479084, Comm'n Op. (Aug. 13, 1998). Specifically, complainants must establish that an industry in the United States, relating to the articles protected by the patents in issue, exists or is in the process of being established. The definition of domestic industry, as set forth in subsection 337(a)(3), states that "for purposes of subparagraph (2), an industry in the United States, with respect to the articles protected by the patent concerned:

significant investment in plant and equipment;
significant employment of labor or capital; or
substantial investment in its exploitation, including engineering, research and development, or licensing."

The domestic industry requirement is satisfied by meeting the criteria of any one of these three factors. Certain Concealed Cabinet Hinges and Mounting Plates, Inv. No. 337-TA-289, Comm'n Op. at 1920 (1990). Complainants bear the burden of establishing that the domestic industry requirement is satisfied. Id. at 22.

The technical prong of the domestic industry requirement requires complainants to demonstrate that they practice the patents at issue.

Although there must be a domestic industry with respect to each asserted patent, there is no requirement that those claims asserted against respondents must correspond with those practiced by the domestic industry. Certain Microsphere Adhesives, Process for Making Same and Products Containing Same Including Self-Stick Repositionable Notes, Inv. No. 337-TA-366, USITC Pub. 2949 (1996). Thus, complainants need only show that their products meet one claim of every patent at issue. Certain Lens Fitted Film Packages, Inv. No. 337-TA-406, Final Initial Determination at 203 (Feb. 24, 1999), reviewed-in-part on other grounds (April 9, 1999); Certain Toothbrushes and Packages Thereof, Inv. No. 337-TA-391, Order 8, Initial Determination (July 7, 1997), Commission's Determination Not to Review (August 6, 1997).

To satisfy the economic prong of the domestic industry requirement, complainants must show that "specified activities in the United States exist with respect to the articles identified by the technical prong." In re EPROM, EEPROM, Flash Memory, And Flash Microcontroller Seminconductor Devices and Prods. Containing Same, Inv. No.

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337-TA-395, 1998 WL 223194, Initial Determination (March 19, 1998).

A. Economic Prong

Complainants argued that they have satisfied the economic prong of domestic industry because (1) they have made a substantial investment in the exploitation of their IPG patents, including the patents in issue, through licensing, (2) they have made a substantial investment in the exploitation of their IPG patents through research and development, including research and development of IPG products and services that practice the IPG patents at issue and (3) complainants have made other forms of substantial investments in the exploitation of their patented IPG technology. {* * *} {* * *}However the staff, in, its reply brief, argued that while complainants have established that they have made investments in research and development activities devoted to certain of their products, it has not been established that those products practice the patents in issue, those investments should not be considered part of a "domestic industry" for purposes of section 337. The staff also argued that, with respect to complainants' licensing activities, complainants have a very large patent portfolio, making it "nearly impossible" to determine whether any of the licensing activities can be said to be devoted to the exploitation of the '121, '268 and '204 patents. The staff concluded, under those circumstances, that complainants have not established the existence of a licensing industry with respect to the three patents in issue. Thus, the staff's position in its reply brief is that complainants have not satisfied the economic prong of the domestic industry requirement. (SRPost at 34).

Respondents and the staff contend that the record is insufficient to establish the economic prong of a domestic industry for complainants' IPG technology, products and services related to the patents-in-issue. However respondents and the staff simultaneously argued, when alleging that complainants have misused the patents-in-issue, that the very same record compels the conclusion that complainants have misused the patents-in-issue in their licensing program. The administrative law judge finds that respondents and the staff in alleging misuse have implicitly acknowledged that complainants licensing activities are attributable to complainants' exploitation of the ' 121, '268 and '204 patents. Therefore, complainants in order to satisfy the economic prong for the domestic industry requirement need only prove that they have made at least substantial investment in exploitation of the patents in issue, including licensing. The administrative law judge finds that complainants have met that burden. Thus complainants license their IPGs, including the patents at issue. For example see Yuen Tr. at 2464-66, CX-0138, CX-0057, CX-1244, CX-0098, CX-0126, CX-0177, CX-0195. Moreover there is testimony from Craig Waggy, the senior vice-president and chief financial officer of TV Guide, which testimony is found credible, that complainants from April 1996 through June 2001, incurred substantial expense associated with their licensing program. (Tr. at 702, CX-1324).

B. Technical Prong ('121 Patent)

Complainants argued that their Nova Guide practices claims 18, 19, 20, 21, 22, 23, 26, 27, 28, 32, 33, 36 and 66 of the '121 patent; that their Guide Plus practices claims 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 31, 33, 36 and 66 of the '121; and that their CESA guide practices claim 18 and 66 of the '121 patent. Accordingly, it was argued that they satisfied the technical prong of the domestic industry requirement. Respondents and the staff argued, inter alia, that complainants only introduced evidence that the products that they were relying on to satisfy the technical prong practiced the '121 patent under complainants' proposed claim constructions, and failed to provide any evidence that the products in question practiced the '121 patent under the respondents' and the staff's

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proposed constructions.

In their rebuttal brief complainants responded to respondents' and the staff's arguments accordingly:

Finally, Respondents complain that Complainants have not demonstrated that their domestic industry products practice the patents-at-issue under Respondents' proposed claim constructions. This is true, but ignores the equally salient fact that Respondents have failed to introduce any evidence to rebut the fact that, under Complainants' claim construction, the products do practice each of the claims-at-issue. (CRRF 5529.1 - CRRFF 5529.11). Therefore, if the Court adopts Complainants' construction for even one claim of each patent, Complainants will have satisfied their burden of demonstrating that they meet the technical prong of the domestic industry requirement with respect to that patent. See Certain Lens Fitted Film Packages, Inv. No. 337-TA-406, Final Initial Determination at 203 (Feb. 24, 1999), reviewed-in-part on other grounds (April 9, 1999) (Complainants need only show that their products meet one of each patent at issue).
(CRBr at 263)(Emphasis in original omitted; emphasis added). Hence complainants have admitted that they have not shown that the products that they relied upon to satisfy the domestic industry requirement meet the claim constructions respondents and the staff proposed. With respect to independent claim 18, dependent claims 19-24, 26-28 and 31 and independent claim 36, the administrative law judge rejected complainants' proposed constructions and found, consistent with respondents' and the staff's proposed constructions: that "data processor" is a CPU; that "storage means" consists of at least the program list, the screen, the prime time, the channel and the theme buffers; that incoming schedule information had to be stored in the CPU itself; that the data processor must be capable of logical "OR" and logical AND" combining; and that the schedule information that was to be stored for each selected program included the program's title. See supra. The administrative law judge finds that there is no evidence that complainants' products in question satisfy the proper construction of claims 18, 19, 20-21, 22, 23, 24, 26, 27, 28, 31 and 36. Accordingly, the administrative law judge finds that complainants have not met their burden of proof regarding said claims of the '121 patent.

With respect to claim 32, the administrative law judge rejected complainants' proposed claim constructions to find, consistent with respondents' and the staff's proposed constructions, that: "data processor" is a CPU and that incoming schedule information had to be stored in the CPU itself. See supra. The administrative law judge finds that there is no evidence that complainants' products in question satisfy the proper construction of claim 32. Accordingly the administrative law judge finds that complainants have not met their burden of proof regarding claim 32 of the ' 121 patent claim.

With respect to claim 33, the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions, that: "data processor" is a CPU; "storage means" consists of at least the program list, the screen, the prime time, the channel and the theme buffers; that incoming schedule information had to be stored in the CPU itself; the data processor must be capable of logical "OR" and logical "AND" combining; and "turning on" a VCR means that the system must cause the VCR to power on. See supra. The administrative law judge finds that there is no evidence that complainants' products in question satisfy the proper construction of claim 33. Accordingly, the administrative law judge finds that complainants have not met their burden of proof regarding claim 33 of the ' 121 patent.

With respect to claim 66, the administrative law judge rejected complainants' proposed constructions to find, consistent with respondents' and the staff's proposed constructions, that: "data processor" is a CPU; "storage means" consists

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of at least the program list, the screen, the prime time, the channel and the theme buffers; that incoming schedule information has to be stored in the CPU itself; and the data processor must be capable of logical "OR" and logical "AND" combining. See supra. The administrative law judge finds that there is no evidence that complainants' products in question satisfy the proper construction of claim 66. Accordingly, the administrative law judge finds that complainants have not met their burden of proof regarding claim 66 of the ' 121 patent.

C. The Technical Prong ('268 Patent)

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D. The Technical Prong ('204 patent)

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XVII. REMEDY

The Commission has broad discretion in selecting the form, scope, and extent of the remedy in section 337 proceedings. Integrated Circuit Telecommunication Chips, Inv. No. 337-TA-337, Comm'n Op. (August 3, 1993), citing Viscofan, S.A. v. U.S. Int'l Trade Comm'n, 787 F.2s 544, 548 (Fed. Cir. 1986). An exclusion order can exclude from importation goods and products that directly or contributorily infringe the patented technology. In the Matter of Certain Hardware Logic Emulation Systems & Compnents Thereof, Inv. No. 337-TA-383, USITC Pub. 3089, Comm'n Op. at 27 (March 1998) (Hardware Logic). Direct infringement does not have to precede importation for an exclusion order to reach components that contribute to the infringement of the patents-in-issue. Hardware Logic, Comm'n Op. at 19-20. In Certain Personal Computers & Components Thereof, Inv. No. 337-TA-140, USITC Pub. No. 1504, 1984 ITC LEXIS 218* at *5 (March 1984), the Commission excluded from entry into the United States personal computers and components thereof "which are less than complete when imported but [which] are designed and intended to be employed by their owner, importer, consignee or agent of either to make a personal computer which directly infringes any of the [patents-in-suit]." The Commission also has the authority to issue cease and desist orders where a respondent has a sufficient inventory of infringing goods in the United States. See Certain Crystalline Cefadroxil Monhydrate, Inv. No. 337-TA-293, Comm'n Op. on Remedy, the Public Interest and Bonding at 37-42 (March 15, 1990); Certain Plastic Encapsulated Integrated Circuits, Inv. No. 337-TA-315, USITC Pub. 2574, Comm'n Op. at 37 (November 1992). A "sufficient inventory" may consist of one infringing product. See e.g., Hardware Logic, Comm'n Op. at 26.

A cease and desist order can issue in lieu of or in addition to an exclusion order to prevent the sale, distribution, or other use of infringing imported products in the United States. The scope of section 337 is broad enough to prevent every type and form of unfair practice, including the transmission of infringing software by electronic means, electronic transmission of software and/or data that induces an infringing use of an imported product, and the servicing of imported products that induce infringement. Hardware Logic, Comm'n Op. at 25-29; Certain Digital Satellite Systems Receivers, Inv. No. 337-TA-392, USITC Pub. 3418, Initial Determination at 239-44 (Oct. 1997), Order No. 53 at 7-11 (June 9, 1997).

Complainants argued that if the Commission determines that a section 337 violation has occurred, it "shall direct that the articles concerned ... be excluded from entry into the United States," unless public interest facts specified within the statue are considered to counsel against it. 19 U.S.C. § 1337(d) and that the evidentiary record and applicable law make it clear that the

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