United States District Court,
N.D. California.

FUNAI ELECTRIC COMPANY, LTD,
Plaintiff.
v.
DAEWOO ELECTRONICS CORPORATION, et al,
Defendants.

No. C 04-01830 CRB

March 1, 2006.

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ORDER RE: CLAIM CONSTRUCTION

CHARLES R. BREYER**, District Judge.**

Plaintiff Funai Electric Co. ("Funai") brought this suit for patent infringement against defendants Daewoo Electronics Corp., Daewoo Electronics Co., Ltd., Daewoo Electronics America, Inc., Daewoo Electronics Corp. of America, Inc. and Daewoo Electric Motor Indus. Ltd. Only Daewoo Electronics Corp. and Daewoo Electronics America, Inc. (collectively "Daewoo") remain in this action. Now before the Court is the task of interpreting certain terms in the claims of the patents at issue.

BACKGROUND

This suit involves the alleged infringement of six patents owned by Funai. Those patents are United States Patent Nos. 6,021,018 (filed Jan. 16, 1998) ("'018 patent"), 6,064,538 (filed Feb. 17, 1998) ("'538 patent"), RE37,332 (originally filed June 1, 1995, reissue filed June 18, 1998) ("'332 patent"), 6,421,210 (filed April 28, 2000) (" '210 patent"), 5,815,218 (filed Jan. 4, 1996) ("'218 patent"), and 5,987,209 (filed April 3, 1995) ("'209 patent").

These patents pertain to various electrical and mechanical components used in video cassette players and recorders ("VCRs"). VCRs convert the information stored on video cassette tapes into an image displayed on a television. The patents-in-suit are primarily aimed at lowering costs while maintaining product quality.

Lowering cost is especially important in the "mature" VCR industry because much of the continued viability of VCR manufacturers depends on the ability to reduce costs while maintaining or even increasing quality.

One component of VCRs is a mechanical sub-system that receives a video cassette and supports it during operation. This mechanical sub-system is located on the interior of the casing of the VCR. To load a video cassette into the VCR the user inserts it through a door in the casing into this mechanical sub-system. To unload, or eject, the video cassettes, a drive mechanism opens the door and moves the mechanical sub-system to eject the cassette through the door opening. One of the patents-in-suit, the '018 patent, pertains to the relative locations of the door and mechanical sub-system. This patent allows the door and mechanical sub-system to be located closer together than prior art VCRs, which reduces the overall size of the VCR. This reduction in size lowers materials, shipping, and storage costs and translates to a lower cost product for consumers.

VCRs also include an electrical component called a video head that functions to read, record, and erase video information stored on the video cassette tape. Prior art video heads use electrical coils to read information on the video cassette tape and also transmit a signal that erases information on these video cassette tapes. One of the patents-in-suit, the '538 patent, reduces the complexity and thus the cost of VCRs by using the electrical coils for the additional purpose of generating the signal that erases information on the video cassette tapes.

Another component of VCRs is a power supply that converts the electrical power from a wall outlet into a voltage and frequency that is compatible with the components in VCRs. These power supplies contain a transformer, which generates a magnetic field that can interfere with the operation of other components in the VCR, particularly the video head. One of the patents-in-suit, the '332 patent, addresses the problem of magnetic field produced by the transformer interfering with the video head. The '332 patent teaches an orientation between the transformer and video head that reduces the interference caused by the magnetic field. This reduces or substantially eliminates the need for magnetic shielding protecting the video head.

VCRs also contain motors that drive the various mechanical components. A video cassette tape is primarily comprised of a tape containing the video information and a mechanical housing. VCRs use capstan motors to draw the tape past the video head so that the VCR can convert the information stored on the tape into an image displayed on a television. Prior art motors controlled the speed of the motor by controlling the amplitude of power applied to the motor. Pulse width modulation ("PWM") motors control the speed by controlling the duration that power is applied to the motor. These motors are less expensive, but produce higher electrical noise than prior art methods. This electrical noise can travel from the motor through the motor mount and into the video processing circuit. This noise can degrade the video quality produced by the VCR. One of the patents-in-suit, the '210 patent, describes a structure that reduces the noise originating in the capstan motor that reaches the video processing circuit, thereby maintaining video quality.

VCRs also contain electronic components to receive, process, and transmit television ("TV") signals. To record TV signals onto a video cassette, VCRs include a tuner that can receive and process TV signals broadcast over the airwaves and convert these signals into video signals that can be recorded on a video cassette. A VCR can also communicate video information to a TV. To do so it must provide a signal compatible with the TV's video processor. For this purpose, a VCR also includes a video signal processor circuit which includes a radio frequency ("RF") modulator that can convert a video signal recorded on a video cassette to a TV signal associated with a particular channel (usually channel 3 or 4). Funai's '218 patent reduces the costs of the video signal processor circuit by replacing some of the components in VCR

video signal processor circuits with less expensive alternatives. Funai's '209 patent also reduces the cost of the video signal processor in a VCR by using an expensive component called the crystal oscillator to perform two functions: (1) to process color information in the TV signal and (2) to generate RF signals for the TV antenna input. This departs from the prior art which formerly required a crystal oscillator to perform each function.

LEGAL STANDARD

Patent infringement analysis involves two steps: the proper construction of the asserted claim and a determination as to whether the accused method or product infringes the asserted claim as properly construed. *See* Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). The interpretation of patent claims is a matter of law determined by the court. *See* id. at 979.

Because "it is a bedrock principle of patent law that the claims of a patent define the invention," the first step in claim construction is to look at the claims themselves. Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed.Cir.2005). Because the patentee is required to precisely define an invention, the words of a claim "are generally given their ordinary and customary meaning." *Id*. The ordinary and customary meaning is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention" in light of the patent as a whole. *Id*.

In some cases, judges need to look little further than the widely accepted meaning of a term. Where "the ordinary meaning of claim language as understood by a person of skill in the art [is] readily apparent even to lay judges" then "claim construction ... involves little more than the application of the widely accepted meaning of commonly understood words." *Id*. In such cases, dictionaries may be especially helpful. *Id*. at 1314.

Where the meaning of the claim is not immediately apparent, or the patentee has used the claim term idiosyncratically, a court looks to public sources that show what a person of ordinary skill in the art would have understood the claim language to mean. *Id*. In such cases the court looks to "the words of the claim themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art ." *Id*.

The claims themselves "provide substantial guidance as to the meaning of particular terms." *Id*. The context of the disputed term within the claim can be highly instructive. Further, the context of the disputed claim relative to other claims may also provide guidance. *Id*. Because the court assumes that the same language is to be given the same meaning throughout the patent, the use of a term in one claim can illustrate its meaning in another claim. *Id*.

Because the claims must be "read or interpreted in light of its specification," *id*. at 1315, the specification may often prove instructive. The Federal Circuit regards the specification as "the single best guide to the meaning of the disputed term." *Id*. Thus, "in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of language employed in the claims." *Id*. Further, the court should review the specification "to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning." Vitrionics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). The patentee may act as their own lexicographer and provide a special definition to a claim term in the specification. Phillips, 415 F.3d at

1315. Also, the specification may include an intentional disclaimer, or disavowal, of claim scope by the inventor. *Id*.

The prosecution history may also be probative of the true meaning of claim language. *Id*. at 1317. The Federal Circuit cautions, however, that "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id*.

Finally, the extrinsic evidence may be useful for determining the true meaning of claim language. *Id*. at 1317-18. Extrinsic evidence contains "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Id*. at 1317. Although the Federal Circuit approves of the use of extrinsic evidence, it has strongly cautioned against indiscriminate use. *Id*. at 1318. First, the extrinsic evidence is less useful than intrinsic evidence because it was not created at the time of the patent for the purpose of explaining the patent. *Id*. Second, "extrinsic publications may not be written for skilled artisans and therefore may not reflect the understanding of a skilled artisan in the field of the patent." *Id*. Third, "extrinsic evidence consisting of expert reports and testimony is generated at the time of and for the purpose of litigation" and can therefore be subject to bias. Fourth, there is a "virtually unbounded universe" of potential extrinsic evidence leaving the court with the difficult task of "filtering the useful extrinsic evidence from the fluff." *Id*. Finally, overuse of extrinsic evidence may lead to claim interpretations inconsistent with the intrinsic record, "thereby undermining the public notice function of patents." *Id*. at 1319.

DISCUSSION

The parties dispute the meaning of certain terms in the patents at issue and the scope of certain "means-plus-function" claims. The Court restricted this claim construction to eight terms discussed below.

I. '018 PATENT**: "OPENED"**

The parties dispute the meaning of the term "opened" appearing in claims 1 and 2 of the '018 patent. Claim 1 reads, in pertinent part, "said door is *opened* before said cassette holder is moved to said initial position." '018 patent col. 8:28-56. Claim 2 is directed to "[t]he loading mechanism set forth in claim 1 wherein said slide arm includes a cam mechanism for driving said door arm between an open position at which said door is *opened* and a closed position at which said door is closed and ... said cam mechanism driving said door arm from said closed position toward said *opened* position while said slide arm slides from said second position toward said third position." '018 patent col. 8:57-65.

Funai contends that "opened" should be construed to mean "to move from a closed position." First, Funai argues that because the term "opened" is used in the claims and the term "fully opened" is used in one disclosed embodiment, "opened" cannot mean "fully opened." Second, the stated objective of the patent does not require "opened" to mean fully opened. Third, the claims should not be limited to the preferred embodiment. Finally, the claim term "opened" should be interpreted to have the dictionary meaning.

Daewoo, however, contends that "opened" means "fully opened." First, Daewoo argues because claim 1 states "the door is opened *before* said cassette holder is moved" the movement of the door must be fully complete before the cassette holder is moved. Second, the stated objective of the invention supports a construction where "opened" means "fully opened." Third, Funai's response to the PTO to circumvent an examiner rejection imposes an operational timing that requires "opened" to mean "fully opened." Finally, the

construction of "opened" should be limited to the '018 patent's preferred embodiment that only discusses the case where the door is fully opened.

Neither party is entirely correct. Daewoo's proposed meaning is overly narrow while Funai's proposed meaning is overly broad. The Court thereby construes "opened" to mean "moved from a closed position such that the door has cleared the cassette so that ejecting the cassette will not interfere with the door." This is supported by the ordinary meaning of "opened" viewed in light of the specification.

The Court finds that the plain and ordinary meaning of the claim term "opened" when viewed in light of the specification must be broader than "to move from a closed position." Funai asserts, and Daewoo does not dispute, the dictionary definition of "opened" is "to move from a closed position." Funai asserts this dictionary definition is the plain and ordinary meaning of "opened." Dictionary definitions, however, are not the end of the inquiry. Phillips, 415 F.3d at 1320-21. What *Phillips* now counsels is that "it is improper to read [a] term to encompass a broad[ ] definition simply because it may be found in a dictionary, treatise, or other extrinsic source." Nystrom v. TREX Co., Inc., 424 F.3d 1136, 1145 (Fed.Cir.2005). Thus, as per *Phillips,* the Court looks to the entire patent to determine the plain and ordinary meaning. Viewed in light of the entire patent, the claim term "opened" cannot be construed as broadly as Funai asserts.

The claim term "opened" as used in the specification viewed by one of ordinary skill in the art is inconsistent with the meaning "to move from a closed position." Although the claim term "opened" is never expressly defined in claims, specification, or prosecution history, it is discussed throughout the '018 patent. In the background of the invention section of the '018 patent, the inventors discuss prior art VCR loading mechanisms. '018 patent col. 1:41-55. The '018 patent describes the prior art loading mechanisms as requiring a separation distance between the cassette holder from the door of at least the height of the door so that the door and the cassette holder do not interfere with each other during the unloading operation. '018 patent col. 1:49-51. One object of the invention described in the '018 patent, however, was to reduce this separation distance. '018 patent col. 1:66-2:3. To solve the problem of the cassette interfering with the door during the ejection sequence the patent teaches an operational timing whereby the door is opened before the cassette begins to move. '018 patent col. 7:53-57. Thus, by this invention, "even if the door is made close to the running location, there is no fear that the operation of opening the door and the operation of returning the video cassette tape from the running location to the initial location interfere with each other." '018 patent col. 7:57-61.

If "opened" is construed as broadly as Funai asserts, however, then nothing prevents a situation where the video cassette tape could interfere with the door during the ejection sequence. For example, the door could move from a closed position only by a minor amount. According to Funai's asserted claim construction, however, the door would thus be opened. Thereafter, the cassette tape could move to be ejected. During ejection, however, because the door was moved only a minor amount the cassette could interfere with the door. Thus, at the very least, "opened" must be construed to include a limitation that the door "has cleared the cassette so that ejecting the cassette will not interfere with the door."

Although "opened" must include a limitation that the door "has cleared the cassette so that ejecting the cassette will not interfere with the door," nothing in the claims, specification, or prosecution history requires the claim term "opened" to mean "fully opened." Daewoo appears to confuse "opened" with "moved ." That the door is "opened before said cassette holder is moved" does not require that the door stops "moving" after the cassette first moves. The claims do not expressly preclude the door from additional movement after the door is "opened." Nor does the specification discuss "opened" in a manner inconsistent with the door

moving after the door is opened. To the contrary, an interpretation of "opened" that is distinct from "moved" is fully consistent with the claims, specification, and statements in the prosecution history.

The one instance in the specification that appears to discuss "opened" in a manner inconsistent with further movement of the door after the door is "opened" does not limit the meaning of opened. In the preferred embodiment the inventors describe the door as "fully opened" before the cassette holder begins to move. '018 patent col. 6:66-7:7. Daewoo asserts that "the specification, including the 'preferred embodiment' has no context suggesting that what is described is one of many possibilities" and so it operates as a limitation on the claims. Daewoo reply brief, 8. This argument is flawed.

Phillips clearly rejects the bare contention that if a patent describes only a single embodiment then the claims of the patent must be construed as limited to that embodiment. Phillips, 415 F.3d at 1323. *Phillips,* however, also sets out an exception to this rule where it is "clear whether the patentee is setting out specific examples of the invention ... or whether the patentee instead intends for the claims and the embodiments in the specification to be strictly coextensive." *Id*. To support this proposition, the *Phillips* court relied on SciMed Life Sys., 242 F.3d 1337, 1341 (Fed.Cir.2001). A careful reading of *SciMed,* however, illustrates the inapplicability of the exception here. In *SciMed,* and in the cases it discusses, the specifications of the patents at issue did more than merely fail to explain that the preferred embodiment was one of many possibilities. *See id*. at 1341-42. Rather, the patents affirmatively limited the claims at issue to the preferred embodiment. *See id*. In those cases the specifications explicitly discuss aspects of "the" invention or aspects "important" to the invention. *Id*. In only one case cited in *SciMed* did a court find that the invention was limited to a preferred embodiment for a reason other than an explicit reference to "the invention." *See id*. There, the court found the invention was limited to a preferred embodiment not because the patentee failed to mention the possibility of other embodiments of the invention but because an alternate embodiment was not enabled. *Id*. at 1341. But here, Daewoo makes no enablement argument. The inventors of the '018 patent did not make any explicit references to "the invention" such as to require "opened" to mean "fully opened." Rather, the only time the inventors even mention "fully opened" was in the context of the preferred embodiment. Thus, it is not at all clear whether the patentee intended for the claims and the embodiments in the specification to be strictly coextensive. Accordingly, that "opened" is illustrated in only one preferred embodiment does not limit that claim term to the preferred embodiment.

Furthermore, the particular language used by the patentee does not support construing "opened" to mean "fully opened." The specification uses the term "fully opened" in the preferred embodiment but the claims at issue use the term "opened." '018 patent cols. 6:66, 8:54, 8:60, 8:63. The normal rule is to "constru[e] seemingly identical terms in the same manner." Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1311 (Fed.Cir.1999); *see also* Phillips, 415 F.3d at 1314. Consequently, "opened" normally will not be interpreted to mean "fully opened" where the term "fully" modifies "opened" in another part of the patent. *See* Phillips, 415 F.3d at 1314. Here, there is nothing in the written description to indicate that "opened" as used in the phrase "fully opened" was used in an inconsistent manner as "opened" in the claims. Thus, the Court follows the general rule and finds that "opened" cannot mean "fully opened."

Based on the ordinary meaning of the claim term "opened" viewed in light of the specification, the Court construes it to mean "moved from a closed position such that the door has cleared the cassette so that ejecting the cassette will not interfere with the door."

II. '538 PATENT**: "CONNECTED"**

The term "connected" appears throughout asserted claims 1, 5, and 6 of the ' 538 patent. Both claim 1 and claim 5 disclose "an oscillating capacitor connected in parallel with said series circuit," "a transistor ... having an emitter connected to said series junction point," and "a direct current blocking capacitor connected between one end of said series circuit and said base." '538 patent cols. 6:24-29, 6:51-56. Claim 6 uses substantially identical language and discloses "a transistor ... having an emitter connected to a series junction point ...." '538 patent col. 7:1-5, 8:1-2.

Funai asserts that the term "connected" means "joined to or forming part of an electrical path between two points." Furnai argues that their construction is based on the ordinary meaning of connected and that nothing in the specification is inconsistent with the ordinary meaning. Daewoo asserts, however, that "connected" means "having a direct electrical connection without intervening electronic components other than resistors." Daewoo argues that Funai's construction exceeds all possible bounds and that the specification provides no examples where "connected" is used in any context other than with no intervening components, an intervening resistor, or an intervening capacitor.

There is no basis in the claims, specification, or prosecution history to limit the term "connected" to mean "having a direct electrical connection without intervening electronic components other than resistors." At no point does the '538 patent expressly or implicitly limit "connected" to only where there is a direct electrical connection without intervening electrical components other than resistors. Further, at numerous times the specification discusses two components being connected through an intervening component, such as a resistor or capacitor. *See* '538 patent col. 2:59-60, 3:61-63, 5:19-20. Although the specification does not describe other situations besides a single intervening resistor or capacitor, this does not, in and of itself, limit the construction of "connected" to where the only intervening components are resistors or capacitors. *See* Phillips, 415 F.3d at 1323. Thus, the Court finds that limiting the construction of "connected" to require "no intervening electronic components other than resistors" to be unjustified.

The Court further finds that the ordinary meaning of the claim term "connected" follows closely to that offered by Funai. The claim term "connected" is never expressly defined in claims, specification, or prosecution history of the '538 patent. Funai provides two dictionary definitions for connected. They cite "connected" from *Webster's New Twentieth Century Dictionary of The English Language Unabridged* as meaning "joined together; fastened." Jean Mckechnie, *Webster's New Twentieth Century Dictionary of The English Language Unabridged* 386 (Simon and Schuster 2d ed.1983). Further, they cite "connect" from *The Illustrated Dictionary of Electronics* as "[t]o provide an electrical path between two points." Stan Gibilisco, *Illustrated Dictionary of Electronics* 135 (TAB Books 6th ed.1994). When viewed in light of the specification, however, the dictionary definitions are somewhat ambiguous and require some clarification. Because the patent discusses the term "connected" in the context of forming an electrical circuit, it cannot merely mean "joined to." Rather, "connected" must mean "joined to" in such a way as to form part of an electrical circuit. Thus, based on the ordinary meaning of the term "connected" viewed in light of the entire patent the Court construes "connected" to mean "physically connected to provide an electrical path between two points, either directly or through intervening electronic components."

III. '538 PATENT**: "BIASING MEANS PROVIDING A BIAS VOLTAGE TO SAID BASE"**

The parties agree that the phrase "biasing means providing a bias voltage to said base" recited in claims 5 and 6 of the '538 patent is a means-plus-function claim. The interpretation of a means-plus-function claim is limited to those structures disclosed in the patent that correspond to the claimed function and their equivalents. 35 U.S.C. s. 112, para. 6. The Court must construe the claimed function and identify the

corresponding structure. IMS Technology, Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1430 (Fed.Cir.2000). The parties do not dispute that the claimed function is "providing a voltage to said base." The parties, however, dispute whether the patent provides any corresponding structure.

Funai asserts that the phrase "a bias resistor for given an bias voltage to the base" describes the structure corresponding to the function recited in claims 5 and 6. They assert that based on Hoffer v. Microsoft Corp., 405 F.3d 1326, 1331 (Fed.Cir.2005), the words "given an" in this phrase should be corrected by the Court to read "giving a." If corrected, then the sentence explicitly recites the required structure. Further, Funai argues that the structure recited in claim 1 also serves as the structure required by claims 5 and 6. Daewoo responds by asserting that based on Group One Ltd. v. Hallmark Cards, Inc., 407 F.3d 1297, 1303 (Fed.Cir.2005), the Court may not correct the word "given an" to read "giving a." Daewoo does not present an alternative argument.

A. District Court Correction of Mistakes in the Patent

The exact requirements for a district court to correct an error in a patent is somewhat uncertain. In *Group One,* the Federal Circuit stated that "district court[s] can correct a patent only if: (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification, and (2) the prosecution history does not suggest a different interpretation." Group One, 407 F.3d at 1303. (citing Novo Indus., L.P. v. Micro Molds Corp., 350 F.3d 1348, 1357 (Fed.Cir.2003)). Further, the Federal Circuit noted that "the district court can correct an error only if the error is evident from the face of the patent." *Id.*

Hoffer, however, which was decided shortly after *Group One,* outlines a more lax standard. *See* Hoffer, 405 F.3d at 1331. Without reference to the *Group One/Novo* standard, the Federal Circuit held that the lower court should have interpreted a reference to "claim 38" as referencing "claim 21." *Id.* There, the original application contained independent claim 38 and dependant claim 39 that referenced claim 38. *Id.* The examiner rejected several claims and renumbered the claims in preparation for printing. *Id.* The examiner changed claims 38 and 39 to 21 and 22 respectively but failed to change the claim numbers in the corresponding text. *Id.* The court noted the error was apparent on the face of the patent, the correction was apparent from the prosecution history, and there was no evidence of culpability or intent to deceive by delaying formal correction. *Id.* Thus, based on the context of the prosecution history the Federal Circuit interpreted the reference to "claim 38" as referencing "claim 21." *See id.*

The *Hoffer* standard is inconsistent with the *Group One/Nova* standard for district court correction of a patent. Although the error itself was apparent on the face of the patent, the correction was not. *Id.* Indeed, the Federal Circuit looked to the prosecution history rather than the face of the patent to determine the correction. *Id.* With no mention of the *Group One/Nova* standard, the Federal Circuit in *Hoffer* merely stated that "[w]hen a harmless error in a patent is not subject to reasonable debate, it can be corrected by the court." *Id.*

In determining the correct standard we look to the actual holding of Federal Circuit decisions concerning district court correction of errors. The parties point to no case law, and the Court can find none, where the Federal Circuit has held based on the *Group One/Novo* standard that a district court may not correct a term in a patent where (1) the error was apparent on the face of the patent, (2) the correction was not apparent on the face of the patent, but (3) the correction was apparent from the prosecution history. The requirement that the correction be apparent on the face of the patent, rather than the prosecution history, has seemingly only been tested in *Hoffer.*

Therefore, without a clear definition in the Federal Circuit, the Court finds that the requirements for correction are that (1) the error is clear on the face of the patent; (2) the correction is not subject to reasonable debate based on consideration of the claim language, the specification, and prosecution history; (3) the prosecution history does not suggest a different interpretation; and (4) there was no evidence of culpability or intent to deceive by delaying formal correction.

Here, the error is apparent on the face of the patent, the correction to the error is apparent from the prosecution history, the prosecution does not suggest a different interpretation, and there is no assertion of culpability or intent to deceive by delaying formal correction. The phrase "a bias resistor for given an bias voltage," does not make sense. Thus, the error is apparent on the face of the patent. Further, the correction to the error is apparent from the prosecution history. Claim 1 as originally submitted contained the language of "a bias resistor for given an bias voltage to the base." '538 Patent, Application, 11. This claim was rejected as being indefinite. '538 Patent, 10/6/99 Office Action, 2. In response to this rejection the applicant amended this language to "a bias resistor for giving a bias voltage to the base." ' 538 Patent, Response to 10/6/99 Office Action, 4. Because the identical language in claim 1 was shown to be a mistake and corrected in the prosecution history, this correction would be equally relevant to the specification, as well. Finally, the prosecution does not suggest a different interpretation and there is no indication of culpability or intent to deceive by delaying formal correction. As a result, the Court finds that it may correct "a bias resistor for given an bias voltage" in the specification to read "a bias resistor for giving a bias voltage" for the purpose of establishing the required structure of the means-plus-function claims 5 and 6.

With this correction, the specification clearly establishes the required structure of the means-plus-function claims. With the correction, the phrase uses near identical language to means-plus-function language included in claims 5 and 6. The only difference between the phrase in the specification and the claims is the replacement of "means for" with "a bias resistor for" and the replacement of "providing" with "giving." '538 patent col. 2:51-52, 6:57. With the correction, both the phrase in the specification and the means-plus-function claims recite nearly identical language corresponding to the claim function. Thus, the specification, as corrected, provides sufficient structure-a resistor-corresponding to the claimed function.

B. The Use of Other Claims to Establish Structure

Funai also asserts, and Daewoo does not dispute, that to provide the structure necessary for a mean-plus-function claim a patentee may look to other claims. Here, both claim 5 and 6 state "bias means providing a bias voltage to said base." Claim 5 is nearly identical to claim 1. There are only minor differences in the text of the two claims. First, claim 5 only requires "a series circuit connecting in series through a series junction point said entire-width erasing head and said linear record erasing head" rather than "a series circuit connecting in series through a series junction point at least between said linear record erasing head and one of the entire-width erasing head and an inductive element" as required by claim 1. This difference, however, pertains to a different part of the disclosed circuit and does not affect providing a bias voltage to the base of the disclosed transistor. The other difference directly pertains to providing a bias voltage to the base of the disclosed transistor. Claim 1 states "a bias resistor for providing a bias voltage to said base." Claim 5, on the other hand, states "biasing means providing a bias voltage to said base." Thus, claim 5 merely replaces "a bias resistor for" with "biasing means." Accordingly, claim 1 provides sufficient structure for the function disclosed in the means-plus-function claim 5. Claim 6 is similarly indistinguishable from claim 1 and thus claim 1 also provides sufficient structure for the function disclosed in the means-plus-function claim 6.

C. Corresponding Structure

Based on the specification and claims, the Court finds that the phrase "biasing means providing a bias voltage to said base" in claims 5 and 6 is construed to have the function of "providing a bias voltage to said base" and corresponds to the structure "a resistor" and its equivalents.

IV. '538 PATENT**: "SERIES JUNCTION POINT"**

The parties dispute the meaning of the claim language "series junction point at least between said linear record erasing head and one of the entire-width erasing head and an inductive element" appearing in claim 1 of the '538 patent. Funai asserts that the phrase means "a point on said series circuit between (1) the linear record erasing head and the entire-width erasing head, (2) the linear record erasing head and an inductance element, or (3) the linear record erasing head and both the entire-width erasing head and an inductance element." Daewoo, however, asserts that the phrase is indefinite and meaningless as applied to the case where the series junction point is between said linear record erasing head and both the entire-width erasing head and an inductance element.

The Court finds it instructive to simplify the claims. Essentially, the claim reads as "D at least between A and one of B and C." Funai asserts that this should be interpreted to read "D between A and at least one of B and C," whereas Daewoo asserts that this should be interpreted to read as "D between A and one of B and C."

As an initial matter, the law does not support Daewoo's bare assertion that the '538 patent cannot be construed as Funai suggests because the '538 patent did not provide an embodiment illustrating that case. A patent may claim material broader than the disclosed embodiments. CCS Fitness, Inc., v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002).

The main issue is what meaning, if any, does the qualifier "at least" have in the disputed claim as published in light of the specification and the prosecution history. Looking at the words of the claim themselves, it is immediately apparent that the wording is, at the very least, awkward. The placement of "at least" in the claim suggests something additional is allowed. Yet that same placement renders uncertain exactly what is allowed, especially in connection with the placement of "one of." Although not immediately clear, one of ordinary skill in the art would interpret the use of "at least" in claim 1 as modifying "one of." Otherwise, "at least" would have no meaning all.

The Court's interpretation is buttressed by the specification and prosecution history. The summary to the invention section of the '538 patent states "series junction point between at least one of the entire-width erasing head and the linear record erasing head and a inductance element." Simplified, this states "D between at least one of B and A and C." In determining how one of skill in the art would view the disputed claim in the context of this passage, the prosecution history is instructive. Claim 1 as originally submitted mirrored the language in the specification. The examiner rejected the original claim 1 because other terms in claim 1 were indefinite. '558 patent, 10/6/199 office action, 2. The patentee amended claim 1 to address the examiners rejection but also made "other revisions ... to more particularly point out and more distinctly claim the subject matter the applicant regards and the invention." ' 558 patent, Response to 10/6/199 office action, 7. The applicant amended claim 1 as follows: "a series circuit connecting in series through a series junction point [between] at least *between said linear record erasing head and* one of said entire width erasing head [and said linear record erasing head] and [a] *an* inductance element." '558 patent, Response to 10/6/1999 office action, 4 (where brackets refer to deletions from the original claim and underlined portions

refer to additions). Thus, the language in the specification and original claim 1 modify "one of" with "at least." In addition, because the amendment made no mention of limiting the "at least one of" language in the original claim to "one and only one of," a person of ordinary skill in the art would interpret "at least" in claim 1 as modifying "one of" in the published claim.

A final reason why one of skill in the art would interpret "at least" in claim 1 as modifying "one of" is based on the function of the "entire-width erasing head" and "inductive element" in the invention. The entire-width erasing head and the linear record erasing head function as inductors in the series circuit, forming an LC circuit with the oscillating capacitor connected in parallel to the series circuit. The addition of an inductor in series with the entire-width erasing head such that the series junction point is between the linear record erasing head and both the entire-width erasing head and an inductive element will function to change the resonance frequency of the circuit, perhaps improving the function of the circuit. But the same effect could be achieved by modifying the inductance of the entire-width erasing head. Thus one of skill in the art would recognize that changing the resonance frequency could be accomplished by either adding a separate inductor to change the inductance of the series circuit or by altering the inductance of the entire-width erasing head. Thus, one of skill in the art would recognize that "at least" is meant to modify "one of" in claim 1 so that both options are included.

Based on the claims, the specification, and the prosecution history the Court determines that "series junction point at least between said linear record erasing head and one of the entire-width erasing head and an inductance element" as recited in claim 1 of the '538 patent means "a point on said series circuit between (1) the linear record erasing head and the entire-width erasing head, (2) the linear record erasing head and an inductance element, or (3) the linear record erasing head and both the entire-width erasing head and an inductance element."

V. '332 PATENT: "MAGNETIC SHIELDING"

The parties dispute the meaning of the term "magnetic shielding" as appearing in claims 1, 9, and 12. Claim 1 reads, in relevant part, "with substantially no magnetic shielding between the high frequency transformer and the video head cylinder." '332 patent col. 4:5-7. Claims 9 and 12 contain substantially identical language. *See* '332 patent cols. 4:5-7, 6:31-32, and 6:58-60.

Funai asserts that the term "magnetic shielding" should be interpreted to mean "an enclosure made of high-permeability magnetic material separating a source of magnetic flux and a component to be protected in order to prevent the magnetic flux from interacting with the component." Funai argues this is the ordinary meaning based on dictionary definitions. Daewoo, however, asserts that the term "magnetic shielding" should be interpreted to mean "material having magnetic permeability having the effect of blocking or redirecting magnetic flux." Daewoo argues that the wording of the claims and specification is inconsistent with requiring an enclosure and that extrinsic evidence supports including eddy current damping as a mechanism for magnetic shielding.

The term "magnetic shielding" cannot be interpreted to include "eddy current damping." Transformers used in VCRs can be placed into two categories. The first category of transformer operates at or about line voltage frequency, roughly 60 Hz. The second category of transformer operates at a much higher frequency, in the 100 kHz range. Although eddy current damping has commonly been utilized to shield the video head from magnetic field at low frequency transformers, it is not generally used at higher frequency due to reduced effectiveness. The claims of the patent, however, only disclose magnetic shielding of "high

frequency transformers." '332 patent col. 4:3, 5:58, 6:29-30, and 6:57. Because one of ordinary skill in the art would interpret "high frequency transformer" to include transformers in the 100 kHz range where eddy current damping for magnetic shielding is ineffective, the ordinary meaning of "magnetic shielding" to one of skill in the art would not encompass "eddy current damping."

Neither can the claim term "magnetic shielding" be interpreted to require an "enclosure." Nothing in the claims or specification limit the meaning of "magnetic shielding" to an enclosure. In fact, figures 1 and 3 disclose an embodiment where the designated "shield plate" does not constitute an enclosure. See '332 patent figs. 1, 3. The shield plates 7 and 18 in figures 1 and 3 are pictured as plates with downward directed sides. '332 patent figs. 1, 3. The shield plates do not form a complete enclosure because they do not define an internal cavity. Funai argues that shield plates 7 and 18 combine with the casing to form an enclosure. This is not persuasive. The ordinary meaning of casing is not limited to magnetic materials, which are required for magnetic shielding. Further, the specification makes no mention of the materials used for the casing. Finally, even if the casing could combine with the shield plate to form "enclosures," shield plates 7 and 18 cannot form "enclosures" with the casing because figures 1 and 3 picture gaps between the shield plates and the casing.

Even the dictionary definitions of "magnetic shielding" do not support Funai's broad claim construction. FN1 The dictionary definitions speak of shielding magnetic flux from interacting with outside bodies. Where the magnetic shielding must shield multiple bodies, especially where these bodies may be in any position compared to the source of the magnetic flux source, the magnetic shielding must constitute an enclosure. Otherwise, the magnetic flux would be ineffectively shielded. Where, however, as here, the magnetic shielding must only reduce the flux to one body whose position is known with reference to the magnetic flux source, there is no need to use a complete enclosure. Thus, because the only requirement of the magnetic shielding is that it shields the video head, a component with a fixed position relative to the transformer, the term "magnetic shielding" is not limited to structures that form an enclosure.

FN1. Stan Gibilisco, *Illustrated Dictionary of Electronics* 402 (TAB Books 6th ed.1994) ("magnetic shielding: Enclosing a magnetic field to confine its flux, thus preventing interaction with outside bodies."); Neil Sclater, *McGraw-Hill Electronics Dictionary* 276 (McGraw-Hill 6th ed.1997) ("magnetic shield": "An enclosure made from high-permeability magnetic material that protects instruments and electronic assemblies from the effects of stray magnetic fields."); Stan Gibilisco, *Encyclopedia of Electronics* 737 (TAB Books 1st ed. 1985) ("Electromagnetic shielding requires a completely enclosed cage or box made of a conducting material ... Magnetic shielding necessitates the use of a ferromagnetic metal enclosure, such as iron or steel, which will block the lines of flux of a nonfluctuating magnetic field."); Myer Kutz, *Handbook of Materials Section* 1234-35 (2002) ("Enclosures are the cases or boxes that house electronic equipment. Dominant considerations include ... magnetic shielding.").

Based on the ordinary meaning of magnetic shielding when viewed in light of the entire patent the Court construes the term as follows: "Magnetic shielding is a structure that acts to redirect magnetic flux, thereby reducing magnetic flux at an electronic component that is necessary to the component's effective operation."

VI. '210 PATENT: "INSULATING MATERIAL"

The parties dispute the meaning of the term "insulating material" appearing in claims 1, 2, 5, 7, and 9. Claim 1 reads, in relevant part, "wherein said bearing holder is made of an insulating material." '210 patent col.

6:62-63. Claims 2, 5, 7, and 9 contain similar language as claim 1. FN2

FN2. Claim 2 reads, in relevant part, "said direct driving motor is mounted on said deck chassis through an insulating material." '210 patent col. 6:66-67. Claim 5 reads, in relevant part, "bearing holder which is made of an insulating material." '210 patent col. 7:22-23. Claim 7 reads, in relevant part, "said supporting member ... made of an insulating material." '210 patent col. 8:12-14. Claim 9 reads, in relevant part, "an insulating material intervened between said projection and said motor PCB." '210 patent col. 8:22-23.

Funai asserts that "insulating material" must be construed to mean "a material that exhibits sufficiently poor conduction of electricity to suppress switching noise generated by pulse width modulation control of the direct driving motor." Funai argues that this construction is based on both the dictionary definition of "insulator" and the purpose of the invention and that the intrinsic evidence does not support limiting the invention to particular values of resistivity. Daewoo, however, asserts that "insulating material" must be construed to mean "material having a specific resistance (resistivity) of 10^{7} Ohm-cm or greater." Daewoo argues that it is circular and thereby improper to define a claim term by the problem to be solved and that the intrinsic evidence does support limiting the invention to particular values of resistivity.

This is not a case where the Court may simply apply the "widely accepted meaning of commonly understood words." Phillips, 415 F.3d at 1314. Rather, the claim term "insulating material" is a scientific term not commonly understood outside the field of electrical arts. The Court therefore turns to the extrinsic evidence for a better understanding of the meaning of the claim. Id. at 1322.

Funai cites "insulator" from *The McGraw-Hill Electronics Dictionary* as meaning "a material that exhibits poor conduction of electricity and heat." Neil Sclater, *McGraw-Hill Electronics Dictionary* 276 (McGraw-Hill 6th ed.1997). Daewoo, on the other hand, cites numerous technical treatises that indicate that what scientists and engineers generally regard as "insulators" or "insulating materials" have resistivity values greater than 10^{7} Ohm-cm at the low end to greater than 10^{11} Ohm-cm at the high end. These technical treatises, however, also indicate that semiconductors have resistivity values up to about 10^{9} Ohm-cm. Although these cited technical treatises identify conductors and insulators according to their particular resistivity, the evidence in the record indicates that there is no uniform classification for "insulators." Rather, the classification of insulating materials in these treatises invariably depends on the application the treatise addresses. In other words, technical treatises often classify materials as insulators based on the function the application is aimed at accomplishing. The Court therefore finds that there is no uniform classification that can adequately be described as defining the ordinary meaning of "insulating material." The necessary result is that the Court is left with the broader definition for "insulators" as meaning "a material that exhibits poor conduction of electricity and heat."

Although the Court accepts Funai's asserted dictionary definition, the ordinary meaning of "insulating material" when viewed in light of the entire patent is more limited. The claim term "insulating material" is never expressly defined in the claims, specification, or prosecution history of the '210 patent. Looking further at the specification and prosecution history, the only discussion of the term "insulating material" was in connection with the function of suppressing electrical switching noise. '210 patent col. 2:20-24. Because "poor conduction" does not necessarily suppress switching noise, the use of an insulator, or insulating material, in the specification is somewhat inconsistent with the broad dictionary definition.

To guide the Court's interpretation of "insulating materials," which has a limited and somewhat inconsistent description in the specification and a broad dictionary definition, Ekchian v. Home Depot, Inc., 104 F.3d 1299 (Fed.Cir.1997) is informative. There, the patentee claimed a sensor which used a "conductive liquid-like medium" to form a capacitor. Id. at 1301. Although the parties agreed that the term "conductive" ordinarily means the ability to transport electrical charge, id. at 1303, the parties disputed its meaning in the context of the patent. Id. at 1302-03. The accused infringer argued that "conductive" be limited to materials having conductivity equal to or greater than the examples discussed in the specification. Id. at 1302. The court treated this as attempting to import limitations from disclosed embodiments and because there was "nothing in the patent specification that suggests that [the patentee] intended to limit the meaning of [conductive] to a specific range of conductivity," the court refused to so limit the claims. Id. at 1303. However, because the specification and prosecution history both stated that the "conductive liquid-like medium" acts as a capacitor, the court limited the claim to "any material that is sufficiently more conductive than the dielectric so that a capacitor is formed." *Id*.

The specification here does require that the "insulating material" perform the function of suppressing electrical noise emanating from the capstan motor. As in *Ekchian,* the specification states a function for the disputed claim language which limits its meaning. *See* Ekchian, 104 F.3d at 1303. In particular, the patentee limited "insulating material" to require it to perform the function of avoiding the propagation of electrical noise produced by the capstan motor controlled by the PWM method and thus suppressing video screen noise.

Although the meaning of "insulating material" must be limited to include the function of suppressing switching noise, there is no sufficient reason to limit "insulating material" to a particular resistivity range. Insulators, or insulating materials, are defined broadly. However, as with "conductors" or "conductive materials" in *Ekchian,* this is an insufficient reason to limit the meaning to a poorly defined numerical range. Further, nothing in the specification limits the invention to a particular resistivity range. Although the specification lists materials only with resistivity values in the range of 10^{7} to 10^{9} Ohm-cm, the Court may not import limitations from the preferred embodiments without the showing of a clear intent. Bancorp Servs., L.L.C v. Hartford Life Ins. Co., 359 F.3d 1367, 1373 (Fed.Cir.2004).

Thus, based on the ordinary meaning viewed in light of the specification and the stated objective of the invention, the Court construes "insulating material" to mean: "a material with poor electrical conduction that acts to suppress switching noise generated by pulse width modulation control of the direct driving motor, thereby suppressing the video screen and audio noise caused by electrical noise produced by the capstan motor."

8. '218 PATENT: "A CAPACITOR"

The parties dispute the meaning of the term "a capacitor" as appearing in claims 1 and 6 of the '218 patent. Claim 1 reads, in relevant part, "said oscillator circuit comprising a resonance circuit including at least one coil and *a capacitor*." '218 patent col. 6:5-7. Claim 6 reads, in relevant part, "a circuit comprising a resonance circuit including a coil and *a capacitor*." '218 patent col. 6:5-7.

Funai asserts that "a capacitor" should be construed to mean "one or more capacitors." Funai argues that the use of an indefinite article following "comprising" commonly indicates "one or more," that the preferred embodiment for claim 6 discloses the use of more than one capacitor, and that the specification discloses a "lumped capacitor" for claim 1 which generally indicates "one or more capacitors." Daewoo asserts that "a

capacitor" must be construed as one and only one capacitor. Daewoo argues that the use of "at least one" to modify one element indicates that the use of "a" for another element is meant to mean one. *See* Norian Corp. v. Stryker Corp., 432 F.3d 1356 (Fed.Cir.2005). Furthermore, Daewoo asserts that Figure 1 in the specification disclosing the preferred embodiment for claim 1 pictures only one capacitor. Finally, Daewoo contends that the patentee disavowed "a" as meaning "one or more" in the prosecution history.

The claim term "a" generally means "one or more." Scanner Technologies Corp. v. ICOS Vision Systems Corp., 365 F.3d 1299, 1304 (Fed.Cir.2004). The Federal Circuit "has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising.' " *Id*. Further, "[u]nless the claim is specific as to the number of elements, the article "a" receives a singular interpretation only in rare circumstances when the patentee evinces a clear intent to so limit the article." *Id*.

The Court finds that "a capacitor" in claim 6 means "one or more capacitors." Claim 6 uses the indefinite article "a" to modify "capacitor" in a claim containing the transitional phrase comprising. Thus, unless the patent clearly indicates an intent to limit "a" to "one," "a capacitor" in claim 6 must be construed as "one or more." *See id*. Here, the specification contemplates the use of more than one capacitor for the circuit disclosed in claim 6. In fact, the specification discusses claim 6 and includes nine capacitors. '218 patent fig. 2. An interpretation of "a capacitor" as used in claim 6 that meant "one capacitor" would thus fail to encompass this preferred embodiment. Such a result is "rarely, if ever, correct and would require highly persuasive evidentiary support." *See* Vitrionics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed.Cir.1996). Because the '218 patent did not clearly express an intent to limit "a" to "one" and because limiting "a" to "one" would exclude the preferred embodiment, the Court finds that "a capacitor" as used in claim 6 means "one or more capacitors."

The Norian rule, however, is not dispositive for the purpose of determining the proper scope of "a capacitor" as used in claim 1. *See* Norian Corp. v. Stryker Corp., 432 F.3d 1356 (Fed.Cir.2005). The claims at issue in *Norian* modify the claim term "sodium phosphate" with "a" while modifying another claim limitation with "at least one." *Id*. at 1357. The claim limitations were preceded, however, by the transitional phrase "consisting of" rather than "comprising" as used in the case now before the Court. *See id*. The court noted:

Although the word "a" generally means "one or more" in open-ended claims containing the transitional phrase "comprising," that general rule does not apply when the specification or the prosecution history shows that the term was used in its singular sense.... In particular, this court has interpreted the word "a" in its singular sense when, as in this case, it has been used in conjunction with the closed transitional phrase "consisting of."

Id. at 1359. Not only did the claims at issue in *Norian* contain the transitional phrase "consisting of" but the patentee's statements in prosecution history clearly evinced an intent to limit "a" to the singular case. *See id*. at 1359-60. Because of rejections, the applicant amended its claims from "comprising" to "consisting essentially of" and finally to "consisting of." Further, the applicant amended "a sodium phosphate solution" to read "a solution consisting of water and a sodium phosphate" and the "the prosecuting attorney advised the examiner that the amendment 'limit[ed] the claimed kit to one in which the solution is made of water and a single solute." *Id*. at 1360. Thus, although "a" in *Norian* was interpreted in the singular sense, *Norian* was a case where the patentee expressed a clear intent to limit "a" to "one."

For the purpose of determining the proper scope of "a capacitor" as used in claim 1, the Court finds *Scanner*

Technologies instructive. There the Federal Circuit found that the district court erred in limiting "an illumination apparatus" to "an apparatus containing only a single illumination source." Scanner Technologies, 365 F.3d at 1304. The claim at issue "call[ed] out other limitations with multiple components, e.g., 'first camera' to take 'a first image' and 'second camera' to take 'a second image,' " but only referred to the illumination source as "an illumination source." *Id*. The court did not agree that "the failure to specifically refer to a 'first illumination apparatus' and a 'second illumination apparatus' evinces a clear intent on the part of the patentee that the term be limited to a single illumination." *Id*. The court noted: "To limit the claim term 'an illumination apparatus' to one illumination source, we require much stronger evidence of the patentee's intent than strained extrapolation from the language employed by the patentees in other claim ... limitations." *Id*. The Federal Circuit then examined the specification, which it found "at best ... inconclusive." *Id*. at 1305. Thus, because the "patentees have not evinced a clear intent to limit the disputed claims to apparatuses or methods with a single illumination source," the court held that "an illumination apparatus" may include multiple illumination sources. *Id*. at 1306.

Here, the claims do not indicate a clear intent to limit "a capacitor" to "one capacitor." Just as in *Scanner Technologies,* one part of the claim expressly uses terminology indicating multiple components while another part of the claim merely uses an indefinite article. As in *Scanner Technologies,* the use of this distinction to limit the indefinite article to mean only one is strained. Thus, the Court finds that the claims do not indicate a clear intent to limit "a capacitor" to mean "one capacitor."

Moreover, the Court finds that neither the specification nor the prosecution history evidences such an intent to narrow the term to the singular. The specification is at best ambiguous. The specification describes the preferred embodiment corresponding to claim 1 as including "a capacitor C1." '218 patent col. 3:10; see also '218 patent fig. 1 (The specification illustrates the preferred embodiment corresponding to claim 1 as including one capacitor labeled as "C1."). The specification, however, refers to the circuit disclosed in claim 1 with "the resonator connected to the RF oscillator of the RF converter for generating a television signal in the VHF band is configured by a resonance circuit of an *LC lumped parameter* circuit." '218 patent col. 4:38-43 (emphasis added). A "lumped parameter" refers to a collection of components that can be treated with a single parameter. Funai argues that the use of "lumped parameter" indicates that the circuit may contain more than one capacitor because a LC lumped parameter circuit can include more than one capacitor. The problem, however, is that "LC lumped parameter" refers to the resonance circuit as a whole. This resonance circuit as a whole does have multiple components as shown by components C1, L1, L2, and SW in Figure 1 of the '218 patent. The patent makes no mention of C1 having a lumped parameter, which might indicate that C1 could be composed of more than one capacitor. Thus, the specification does not contain an explicit reference to claim 1 as being composed of one or more capacitors. The specification, however, does not limit claim 1 to one capacitor either. Accordingly, the part of the specification discussing claim 1 is at best ambiguous.

The reference to claim 6 provides little guidance, at least for construing "a capacitor" in claim 1. Both claim 1 and claim 6 include the "comprising ... a capacitor" language. *See* '218 patent col. 6:5-7, 6:36-37. Because "claim terms are normally used consistently throughout the patent," Phillips, 415 F.3d at 1314, the meaning of "a capacitor" as used in claim 6 is somewhat helpful in determining the meaning of "a capacitor" as used in claim 1. Claim terms, however, are not always used consistently and the Court must look to the context in which the claim term is used. *See* Bancorp, 359 F.3d at 1373. Here, claim 6 differs from claim 1 in that claim 6 does not list elements that are modified by an article that indicates a quantity. Because of this different context, the Court does not find claim 6 particularly useful.

The Court also does not find that the patentee limited "a" during prosecution. The patentee never amended the specific phrase "a capacitor." Although the patentee amended the broader phrase "comprising ... a coil and a capacitor" to read "comprising ... at least one coil and a capacitor," the patentee never commented on the meaning of "a capacitor." Finally, although the amendment was designed to overcome an objection by the examiner, the objection was not based on the numerical designation of the term "a capacitor." Rather, it was based on the improper antecedent basis of "a coil." Thus, the patentee did not limit the meaning of "a capacitor" during prosecution.

Because the term "a capacitor" uses an indefinite article in an open claim terms and the patentee did not evidence a clear intent to confine "a" to the singular case, the Court finds that "a capacitor" as used in claim 1 and claim 6 means "one or more capacitors."

VIII. '209 PATENT: "CHROMINANCE SIGNAL CIRCUIT"

The parties dispute the meaning of the term "chrominance signal circuit" appearing in claims 1 and 5. Claim 1 discloses "... a chrominance signal circuit, provided with a single crystal unit, for generating a second reference signal by controlling oscillation of said crystal unit to generate a chrominance signal based on the IF signal from said mixer circuit by using the second reference signal ..." '209 patent col. 14:12-15. Claim 5 is a dependent claim that merely references back to the "chrominance signal circuit" of claim 1. See '209 patent col. 14:32-34.

Funai asserts that "chrominance signal circuit" means "a circuit for generating a signal containing color information." Funai argues that their construction is based on the ordinary dictionary meaning of "chrominance signal circuit" and that the specification is consistent with this construction. Daewoo, on the other hand, asserts that "chrominance signal circuit" means "a circuit for generating three chrominance (color) signals of red, green, and blue from the video signal detected by the video detector circuit." Daewoo argues that the specification is consistent with "chrominance signal circuits" requiring RGB signal outputs, that the specification defined "chrominance signal circuits" to require RGB signal outputs, and that the prosecution history precludes a broader construction.

The Court first finds that the ordinary meaning of "chrominance signal circuit" is a circuit for generating a signal containing color information. Funai cites several dictionaries which provide the definition of chrominance signal as "that part of a TV signal containing the information about the color of the image." FN3 Daewoo does not offer a competing definition for "chrominance signal circuit" but rather argues that the applicant used this term idiosyncratically in the patent specification and prosecution history.

FN3. Stan Gibilisco, *Illustrated Dictionary of Electronics* 111 (TAB Books 6th ed.1994) ("chrominance signal" or "chrominance": "The color signal component in color TV that represents the hues and saturation levels of the colors in the picture."); Neil Slater, *McGraw-Hill Electronics Dictionary* 72 (McGraw-Hill 6th ed.1997) ("chrominance signal": "That part of a TV signal containing the information about the color of the image."); Stan Gibilisco, *Encyclopedia of Electronics* 148 (TAB Professional and Reference Books 1st ed. 1985) ("Chrominance is a measure of color. In color television, the chrominance is technically the difference between a given color and a standard color having the same brightness.").

The Court finds that the patentee did not limit the ordinary meaning of "chrominance signal circuit" to require it to produce a RGB signal by acting as their own lexicographer. The claim term "chrominance

signal circuit" is never expressly defined in the claims or specification of the '209 patent. The specification, however, states "[t]he chrominance signal circuit 76 is a block for generating three chrominance signals 86 of red, green, and blue from the video signal detected by the video detector circuit 75." '209 patent col. 8:26-29. Daewoo points to this statement and asserts that the applicant acted as his own lexicographer to define "chrominance signal circuit." This statement, however, is in the context of the preferred embodiment. Although Daewoo is correct to point out that "the claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term," Daewoo overlooks the general rule that an accused infringer cannot overcome the "heavy presumption" that a claim carries its ordinary meaning "simply by pointing to the preferred embodiment." CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002). Here, there is nothing to indicate that the description of the portion of the circuit corresponding to the "chrominance signal circuit" in preferred embodiment was meant to apply to the claims as well. In fact, the opposite is true. Looking to the claims, the "chrominance signal circuit ... generate[s] a chrominance signal based on the IF signal from said mixer circuit by using the second reference signal." '209 patent col. 14:12-15. Looking back to the preferred embodiment, the "chrominance signal circuit 76 generates a color-difference signal from the resulting chrominance signal based on the second reference signal." '209 patent col. 8: 39-42. Although the chrominance signal further processes the signal into a RGB chrominance signal, this additional step is not recited in the claims. Thus, because the specification does not clearly express an intent that the discussion of "chrominance signal circuit" is to apply outside the context of the preferred embodiment the Court finds that limiting a "chrominance signal circuit" to a circuit producing a RGB chrominance signal would improperly import a limitation from the preferred embodiment.

The Court finds that the patentee did not limit the general ordinary meaning of "chrominance signal circuit" by using the term inconsistent with its ordinary meaning in the specification. When describing prior art, the specification states "[a]t the operation time except reproduction, a video signal processing unit 393 generates *primary-color chrominance signals* of R, G, and B from the video signal received through the recording / reproducing unit 396 from the tuner unit 391." '209 patent col. 1:66-67, 2:1-3. The Court finds this language consistent with the general ordinary meaning of "chrominance signal circuit." The ordinary meaning of chrominance signal includes a broader class of signals than those signals that contain RGB color information. In the phrase "primary-color chrominance signals of R, G, and B," the term "chrominance signals" is modified by the term "primary-color." This modification indicates that a "primary-color chrominance signal" is narrower than the general term "chrominance signals." Thus, the specification does not limit the ordinary meaning of "chrominance signals" to include only RGB signals.

The Court also finds that statements in the prosecution history are not inconsistent with the ordinary meaning of "chrominance signal circuit." During prosecution, the prosecuting attorney responded to a rejection over the prior art reference Metzger. In distinguishing Metzger, the prosecuting attorney explains "[i]n contrast, the invention is an arrangement in which as shown in Fig. 8, the 'second' reference signal generated by the chrominance signal circuit for use as a color difference signal." Amendment and response, August 3, 1995, at 3. Although statements in the prosecution history are relevant to claim construction, "it often lacks the clarity of the specification and thus is less useful for claim construction purposes." Phillips, 415 F.3d at 1317. This is especially true where, as here, the statements in the prosecution history are taken out of context. Metzger described an invention which contained all the elements of the '209 patent, except the use of a single oscillator. Thus, the point of novelty of the '209 patent was the use of a single oscillator to perform two functions rather than one. The above statement, when taken in context, is not limiting "the invention" to that described in "Fig. 8" but rather is merely meant to emphasize that "the invention" uses only one oscillator. This is further illustrated by the very next sentence in the patentee's response which

states "[a]s a result, the PLL does not require its own exclusive oscillator, reducing the cost of the device." *Id*. Thus, the Court finds that the prosecution history does not limit the ordinary meaning of the claim term "chrominance signal circuit."

Based on the ordinary meaning viewed in light of the claims, specification, and prosecution history, the Court finds that "chrominance signal circuit" means "a circuit for generating a signal containing color information."

CONCLUSION

The parties shall proceed under the direction of the Patent Local Rules for their final contentions and disclosures regarding willfulness. See Patent L.R. 3-6, 3-8. The Court will hold a further Case Management Conference on June 9, 2006, at 8:30 am.

IT IS SO ORDERED.

N.D.Cal.,2006.
Funai Elec. Co., Ltd. v. Daewoo Electronics Corp.