United States District Court,
D. Minnesota.

DIAGNOSTIC GROUP, LLC,
Plaintiff.
v.
BENSON MEDICAL INSTRUMENTS COMPANY,
Defendant.

No. Civ.02-777 JNE/JGL, Civ.02-3466 JNE/JGL

March 28, 2005.

David R. Fairbairn, Michael J. Pape, and Dina M. Khaled, Kinney & Lange, appeared on behalf of Diagnostic Group, LLC.

Randall T. Skaar, and Aaron W. Davis, Patterson Thuente Skaar & Christensen P.A., appeared on behalf of Benson Medical Instruments Company.

ORDER

ERICKSEN**, J.**

Diagnostic Group, LLC (Diagnostic) brought this action against Benson Medical Instruments Company (Benson) alleging claims of patent infringement. The case is before the Court on the parties' motions for construction of disputed claim terms pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed.Cir.1995), *aff'd,* 517 U.S. 370 (1996).

I. BACKGROUND

Diagnostic owns the patent rights to U.S. Patent No. 5,811,681 ('681 Patent) and U.S. Patent No. 6,416,482 ('482 Patent). Both the '681 and '482 Patents involve audiometers, which are devices used to test an individual's hearing. A typical audiometer presents a test tone, generally through headphones, to a test subject who acknowledges that a test tone was heard by pressing a hand switch. The audiometer then evaluates the response from the hand switch to determine whether a specific test tone was heard by the test subject.

During the testing process, a test subject might make an error. For example, a test subject might press the hand switch more than once after hearing only one tone, fail to release the hand switch, or press the hand switch when no tone has been presented. Diagnostic contends that at the time of the filing of the '681 Patent, a conventional audiometer required a human test administrator to determine when such an error occurred and which instruction was necessary to respond to the error, to interrupt the test process to instruct the test subject, and then restart or resume the test. ('681 Patent, col. 6, ll. 30-67.)

The '681 and '482 Patents are directed to an audiometer device used for automated testing, or testing that does not require human intervention to automatically identify an error made by the test subject and to provide a corrective instruction to the test subject before it automatically resumes or restarts the test. The '681 Patent specifically instructs that the claimed invention "relates to a multimedia interface of a diagnostic test instrument and, more particularly, to automated testing, including multimedia-derived instructions, test monitoring, and error response, by an audiometer or other medical device or diagnostic test instrument." ('681 Patent, col. 1, ll. 5-9.) Diagnostic claims that the '681 and '482 Patents were a substantial departure from the prior art because the patented audiometer is "smarter" than the prior art audiometers. This is so because the audiometer itself, rather than a human test administrator, can determine when it is appropriate to switch from presenting test tones to presenting sound signals to instruct the test subject. In addition, Diagnostic claims that the patented audiometer system determines whether an error has occurred, provides appropriate corrective instructions and resumes or restarts the test. Diagnostic also claims that the claimed inventions' automatic error instructions clarify the test procedure, increase test consistency and reduce administration time.

II. DISCUSSION

A. Prior art and prosecution history

The '681 Patent was filed on April 29, 1996, as U.S. Patent Application No. 08/639,694 ('694 application). The '482 Patent was filed on August 25, 1998, as U.S. Patent Application No. 09/139,858 ('858 application) and is a continuation of the '694 application, which matured into the '681 Patent. In examining the '694 application, the United States Patent Office identified three pertinent pieces of prior art: U.S. Patent No. 4,847,763 (the Moser Patent); U.S. Patent No. 3,809,811 (the Deslisle Patent); and U.S. Patent No. 4,489,610 (the Slavin Patent).

1. Prior art

The Moser Patent teaches interactive audiometric test systems adapted to selectively generate audiologic hearing test signals made up of a computer that controls a disc player. The disc player delivers selected, pre-stored signals in response to a human administrator's manual commands or in accordance with a predetermined program. The disc player does not control the succession of signals played. Moser explains that an advantage of its audiometer is that "[t]he testing procedure can be easily conducted enabling the examiner to put his full attention to the examinee due to the easy operation of the new audiometer system allowing for quick and exact selection of any one of a nmber [sic] of available test signals recorded on the disc." (Moser Patent, col. 3, ll. 25-30.) A human test administrator monitors the responses received from the test subject. (Moser Patent, col. 7, ll. 41-68; col. 8, ll. 1-3.)

The Deslisle Patent describes an "apparatus for automatically conducting a basic audiometric test on a subject." (Delisle Patent, col. 1, ll. 4-5.) The Deslisle Patent utilizes a tape player that is operated under the control of a computer to instruct the test subject and to provide some testing sounds. The tape player itself does not perform any logical testing procedure. The Deslisle audiometer also utilizes a pre-recorded tape of voice instructions and series of words, also under the control of the computer, which instructs the test subject how to take the test. FN1

FN1. Benson argues that the Delisle Patent contained error control and described an automated hearing test, but acknowledged at oral argument that the Deslisle audiometer could not pass on specific instructions to the

test subject in response to an error made by the test subject.

Finally, the Slavin Patent discloses a "computerized audiometer for testing the hearing of one person or variable numbers of people at the same time, and for generating programming for a programmable hearing aid." (Slavin Patent, col. 1, ll. 7-10.) The Slavin audiometer includes a tone generator, an audible instruction generator, and a computer. The tone generator provides tones as directed by the computer to test a subject's hearing. The audible instruction generator provides instructions, which are stored in a predetermined sequence and which must be synchronized with the tone generator. The instructions are dictated by the computer and include pauses between the instructions to allow for the presentation of test tones. (Slavin Patent, col. 2, ll. 34-43.) A human administrator must supervise the administration of the test to ensure proper responses. (Slavin Patent, col. 3, ll. 48-63.)

2. Prosecution history estoppel

Arguments and amendments made during the prosecution of a patent are properly examined to determine the meaning of terms in the claims. *See* Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed.Cir.1995). "Although the prosecution history can and should be used to understand the language used in the claims, it cannot 'enlarge, diminish, or vary' the limitations in the claims." *Markman,* 53 F.3d at 980 (quoting Goodyear Dental Vulcanite Co. v. Davis, 102 U.S. 222, 227 (1880)). The prosecution history, however, does limit the interpretation of claim terms when there has been a clear disavowal or disclaimer during the prosecution in order to obtain allowance. *See* 3M Innovative Props. Co. v. Avery Denison, Corp., 350 F.3d 1365, 1371 (Fed.Cir.2003); *but see* Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1324 (Fed. Cir.2003 (noting that the doctrine of prosecution disclaimer does not apply when alleged disavowal of scope is ambiguous). When "remarks made to distinguish prior are broader than necessary to distinguish the prior art, the full breadth of the remark is not a clear and unambiguous disavowal of claim scope." 3M, 350 F.3d at 1373.

During its prosecution, the Patent Office issued an Office Action rejecting all twenty-two claims of the '694 application. On February 25, 1998, the patentees filed an Amendment (the Amendment). In the Amendment, the patentees distinguished the invention from the Moser, Deslise and Slavin patents. Benson argues that to secure allowance of the '681 Patent, the patentees made arguments that limited the scope of their invention to a specific physical configuration. FN2 For example, with respect to the Moser Patent, the patentees stated:

FN2. Because Benson's prosecution history estoppel argument relates to several of the terms to be construed, the Court will address this argument prior to construing the individual terms. The Court will revisit Benson's estoppel argument where appropriate.

Applicants' claimed invention, on the other hand, comprises a computer and a conventional audiometer. The conventional audiometer is, in effect, the Moser device, i.e., a sound source and a computer. The audiometer includes stored sound sequences that are selected by a processor of the audiometer to be output in a select succession or predetermined program according to a logical procedure responsive to a test subject's input. The audiometer, thus includes the stored sound sequence function of the CD player ... and the test sequencing function of the computer (albeit an internal processor or logic circuitry, rather than a stand alone external computer). In addition to this conventional audiometer analogous to the Moser device, Applicant's

[sic] claimed invention includes another computer with its own processor, memory and peripherals. This additional computer allows multimedia functions to be added to the conventional audiometer.
In addition, with respect to the Deslisle Patent, the patentees stated:
The amendments to Applicants' claims particularly illustrate the distinction that a conventional audiometer performing a select logical testing procedure (not merely providing detectable output) is controlled by a computer that adds multimedia features to the testing.

Further, with respect to the Slavin Patent, the patentees stated:
Slavin includes a tone generator and an audible instruction generator, and a computer that switches between the two. The tone generator merely provides tones as directed by the computer, and does not include any logical operations. The audible instruction generator provides instructions dictated by the computer, but likewise does not itself perform any logical operations.

Applicants' claimed invention differs in that the audiometer that provides the test signals has certain logical capabilities to conduct the test responsive to the test subject's inputs. The logical capabilities of the audiometer are enhanced by the computer which controls the audiometer and, thus, the particular logical operations of the audiometer. The computer adds logical possibilities for the testing procedure and provides multimedia features to the testing environment.

....

Slavin merely provides computerized switching between test tones and sound signals. The test tones and sound signals are not generated through any select logical testing procedures of the tone generator or the audible instruction generator.

Applicants' claimed invention includes the audiometer that performs a select logical testing procedure and the computer that controls the audiometer and adds multimedia.

Based on the above statements, Benson argues that the patentees differentiated their invention with the prior art so as to require *all* claims of the '681 and '482 Patents to include a conventional audiometer, which includes pre-programmed logic, and a physically separate computer with multimedia functions. Benson further argues that the inventive contribution of the '681 Patent was not adding an error control mechanism, but rather the addition of a physically separate computer.
Diagnostic does not dispute that the claimed invention was distinguished from the prior art references, but argues that Benson misstates the inventive contribution of the '681 Patent by suggesting that it is a specific structural configuration of the claimed audiometer that is inventive. Diagnostic acknowledges that during the prosecution history, the patentees highlighted a novel feature of the invention; namely, the addition of multimedia functions via an additional computer to automate a hearing test. Diagnostic argues, however, that the fundamental invention of the '681 Patent is the ability to eliminate the human test administrator by automatically identifying errors, determining when to respond to an error, and providing corrective instructions or responses to the test subject. Diagnostic asserts there is nothing in the prosecution history that requires the functionality associated with the conventional audiometer to be physically separate from that of the computer that provides the multimedia.

Here, the prosecution history does not clearly establish that the patentees unambiguously disavowed the scope so as to require all of the claims of the '681 and '482 Patents to include both a conventional audiometer, which includes pre-programmed logic, and a separate computer with multimedia functions.

Instead, in the Amendment, the patentees distinguished the claimed invention from the Moser, Delisle and Slavin Patents, none of which teaches a method for automatically identifying an error or automatically providing a corrective response, and explained that these prior art references taught only devices comparable in function to a conventional audiometer. The patentees emphasized that the claimed invention included multimedia capabilities that enabled an automatic testing environment-capabilities that the prior art references lack. (Amend. at 8-12.) Specifically the patentees stated:

This is an [sic] essence and [sic] tremendous advantage of Applicants' claimed invention. Applicants can use a conventional audiometer, add a computer with multimedia operations, and achieve an entirely or substantially automated audiometric testing environment. The conventional audiometer has certain, but limited, logical functions during the testing procedure. Those logical functions provide certain pre-programmed responses dictated by the test subject's inputs. In the event of certain errors or other occurrences in testing operation of the conventional audiometer, the audiometer has limited or no logical response and testing can be undesireably halted. (In such instances in testing with conventional audiometers, operator intervention is required at this point to correct the problems) [sic] and re-initiate the test. By addition of the computer, in conjunction with the audiometer, for testing, the computer can, through desired programming, provide logical results for virtually every error or occurrence. This speeds testing, allows multiple testing, and limits requirements of operator involvement or intervention, and furthermore is a low-cost solution to this automation of audiometric testing because conventional audiometers are employed and enhanced.

(Amend. at 9.) The patentees did not assert that the distinguishing feature of the claimed invention was either the combination of the sound source (compact disc or tape player) and the computer of the prior art into one element or the simple addition of a separate computer to a conventional audiometer.

The specification language further supports the conclusion that the claims do not require the specific physical configuration of the components and related functions proposed by Benson. For example, the patent specification teaches that "there are variations and alternatives in the configuration" of the computer and the basic audiometer. ('681 Patent, col. 12, ll. 53-67; col. 13, ll. 1-17.) To the extent that the patentees distinguished the prior art in a way that suggests a specific physical configuration, the Court finds that these distinctions were broader than necessary and do not constitute a clear disavowal of claim scope. *See,* 3M, 350 F.3d at 1373. Accordingly, the Court rejects Benson's prosecution estoppel argument insofar as it seeks to limit *all* claims of both the '681 and '482 Patents to include a conventional audiometer, which includes pre-programmed logic, and a physically separate computer with multimedia functions.

B. Claim construction

Patent claim construction is a matter of law for the Court. Markman, 52 F.3d at 979. Proper claim construction requires an examination of the intrinsic evidence of the record, including the claims of the patent language, the specification, and the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F .3d 1576, 1582-83 (Fed.Cir.1996). The Court begins with the language of the claims. Id. at 1582. The claims are given their ordinary meaning as understood by one of ordinary skill in the art, unless the inventor intended the terms to be construed otherwise. Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc., 222 F.3d 951, 955 (Fed.Cir.2000). There is a heavy presumption in favor of the ordinary meaning of claim language. Johnson Worldwide Assocs. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999). Dictionaries are a useful resource for the Court in determining the ordinary meaning of a disputed claim term, although the Court must examine the intrinsic record to ensure that the dictionary definition is consistent with the

patentee's use of the words in the context of the patent. *See* Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202-03 (Fed.Cir.2002).

Claim language must also be construed in light of the specifications and prosecution history. Vitronics, 90 F.3d at 1582. However, only after the Court determines the disputed terms ordinary meaning does it turn to the intrinsic record to determine if this meaning was rebutted. *See* Texas Digital, 308 F.3d at 1204 (noting that consulting the patent's written description before attempting to discern the "ordinary and customary" meaning of the term, "invites a violation of [Federal Circuit] precedent counseling against importing limitations into the claims"). The ordinary meaning will be rebutted where the patentee, acting as his or her own lexicographer, clearly sets forth an explicit definition different from the ordinary meaning. *See* Texas Digital, 308 F.3d at 1204. Further, the presumption will be rebutted "if the inventor has disavowed or disclaimed scope of coverage, by using words or expressions of manifest exclusion or restriction, representing a clear disavowal of a claim scope." *Id*. Absent an express intent to impart a novel meaning in the specification or prosecution history, "terms in a claim are to be given their ordinary and accustomed meaning." Reinshaw PLC v. Marposs Societa Per Azioni, 158 F.3d 1243, 1249 (Fed.Cir.1998).

In most situations, intrinsic evidence will resolve any ambiguity in a disputed term, and it is improper to rely on extrinsic evidence when intrinsic evidence serves to resolve such ambiguity. Vitronics, 90 F.3d at 1583. Extrinsic evidence may be consulted, however, to ensure that the claim construction is not inconsistent with widely held understandings in the pertinent field. *See* Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1308 (Fed.Cir.1999). In considering extrinsic evidence, however, the Court may not use it to arrive at a claim construction that is clearly at odds with the construction mandated by the intrinsic evidence. *See* Karlin Tech., Inc. v. Surgical Dynamics, Inc., 177 F.3d 968, 971 (Fed.Cir.1999). FN3

FN3. Dictionaries, encyclopedias and treatises are always available to a court during claim construction. *See* Texas Digital, 308 F.3d at 1203 (noting it is entirely proper to consult dictionaries at any stage of litigation and explaining that categorizing dictionaries as "extrinsic evidence" is misplaced).

C. Disputed claim terms FN4

FN4. Defendant originally identified the following claim terms as disputed and in need of construction by the Court: "selectively causes;" "selectively switch;" "switching;" "the computer controls the switch;" "first switching" and "multimedia audiometer." Defendant has since withdrawn its request to construe these terms. Because these claims have been withdrawn, and because after reviewing the claim language and specifications, the Court believes that these terms and phrases are self-explanatory as used in their respective claims, construction is not necessary. *See* Lucent Techs., Inc. v. Newbridge Networks Corp., 168 F.Supp.2d 181, 191 n. 3 (D.Del.2001) (explaining no additional construction needed where phrases were self-explanatory); *Goldtouch Techs. Inc. v. Microsoft Corp.*, No. A99CA336SS, 2000 WL 855555, at (W.D.Tex. January 14, 2000) (same).

The '681 Patent is entitled "Multimedia Feature for Diagnostic Instrumentation." It includes twenty-five claims. The disputed terms appear in independent claims 4 and 6 of the '681 Patent, which are reproduced in their entirety below:

Claim 4:

A multimedia audiometer, including a conventional audiometer and a computer, comprising:

means for outputting sound signals generated from digital information of the computer;

means for outputting test signals generated by the conventional audiometer according to pre-programmed logic of the conventional audiometer;

means for switching between the means for outputting sound signals and the means for outputting test signals, the means for switching being communicatingly connected with the means for outputting sound signals and the means for outputting test signals; and

means for controlling the means for switching, the means for controlling being communicatingly connected with the means for switching.

Claim 6:

An audiometer testing device, comprising:

a processor;

a memory, communicatingly connected with the processor, for storing digital data;

a sound wave generator, for generating analog sound signals in respect of digital data electrically connected with the processor;

a test signal generator; and

a logic circuit connected with the test signal generator and the processor;

wherein the logic circuit and the sound wave generator are controlled by the processor to selectively cause either the sound wave generator or the test signal generator to output discernable signals.

The '482 Patent is entitled "Multimedia Feature for Diagnostic Instrumentation." It includes fourteen claims. The disputed terms appear in claims 1, 4 and 9 of the '482 Patent. Those claims, stated in their entirety, read as follows:

Claim 1:

A method for automatedly administering an audiometric test, comprising the steps of:

controlling an audiometer to selectively switch the audiometer output between test tones generated by the audiometer and sound signals generated from digital information;

first switching the audiometer output to sound signals when the step of controlling indicates a particular condition;

outputting sound representative of sound signals after the step of switching;

second switching the audiometer output to test tones after the step of outputting; and

outputting test tones until the next step of first switching.

Claim 4:

A multimedia audiometer, comprising:

a multimedia computer;

a tone generator;

a switch connected with the computer and the tone generator;

wherein the switch selectively causes either the tone generator or the computer to output sound waves and the computer controls the switch.

Claim 9:

A method of performing a diagnostic test protocol, comprising the steps of:

outputting audible sound;

generating a test tone;

storing a digital data;

generating an analog sound derived from the digital data;

switching the audible sound from the step of outputting between the test tone and the analog signal;

processing the digital data; and

controlling the steps of outputting, generating the test tone, storing, generating the analog sound, and switching.

1. Audiometer

The term "audiometer" appears in claim 6 of the '681 Patent and claim 1 of the '482 Patent. FN5 Diagnostic asserts that "audiometer" should be construed as "an instrument for measuring hearing." Benson proposes that the term "audiometer" be construed as a "a computer and a conventional audiometer."

FN5. Because the parties each propose the same construction for this term as used in both Patents and because the Court's construction is supported by both Patents' specifications, the Court construes the term "audiometer" consistently.

The dictionary definition of "audiometer" is "[a]n instrument for measuring hearing activity for pure tones of normally audible frequencies." *The American Heritage Dictionary of the English Language* 121 (3d ed.1996). Next, the Court turns to the intrinsic evidence to determine whether the ordinary meaning has been rebutted. In examining the written description of both the '681 and '482 Patents, the Court concludes that "audiometer" is referred to as "an electrically activated generator of test tones for evaluation of hearing." ('681 Patent, col. 1, ll. 13-14; '482 Patent, col. 1, ll. 16-17.) This use is consistent with the term's ordinary meaning.

Benson argues, however, that Diagnostic is limited to its proposed construction because of arguments made by the patentees during the prosecution of the '681 Patent. Specifically, Benson argues that the patentees narrowed the meaning of their invention by representing that it included a conventional audiometer and a separate computer. Diagnostic, on the other hand, denies that the patentees ever defined the term "audiometer" as a conventional audiometer and a separate computer, or that it ever disavowed claim scope outside of a conventional audiometer and a separate computer.

As discussed previously, the Court rejects Benson's attempt to import structural limitations into individual claim terms based on its prosecution history estoppel argument. With respect to this term in particular, the fact that the patentees specified that its multimedia audiometer in claim 4 included a conventional audiometer and a computer does not constitute a clear and unambiguous surrender of subject matter so as to define "audiometer" in claim 6 as a conventional audiometer and a separate computer. *See* Middleton, Inc. v. Minn. Mining & Mfg. Co., 311 F.3d 1384, 1388 (Fed.Cir.2002) (explaining that the disavowal of claim scope requires a clear and unambiguous surrender of subject matter). Therefore, the Court adopts the term's ordinary meaning and construes "audiometer" as "an instrument for measuring hearing."

2. Conventional audiometer

The term "conventional audiometer" appears in claim 4 of the '681 Patent. Diagnostic proposes that "conventional audiometer" be construed as "[a] device having both microprocessor and audio circuitry for administering a hearing test." Benson agrees that the construction of "conventional audiometer" must include microprocessor and audio circuitry, but unlike Diagnostic, asserts that pre-programmed test logic must also be contained in the "conventional audiometer." Benson argues that the patentees have acted as their own lexicographers and claims that the prosecution history reveals that the patentees previously argued that the "conventional audiometer" performed logical testing procedures dictated by pre-programmed logic. Benson further argues that the claim language itself demonstrates that the pre-programmed testing logic must be located in the conventional audiometer. ('681 Patent, claim 4 (providing that "test signals generated by the conventional audiometer according to pre-programmed logic of the conventional audiometer")).

The Court begins by ascertaining the ordinary meaning to one skilled in the art of "conventional audiometer." First, the Court has already construed the term "audiometer" as "an instrument for measuring hearing." Second, "conventional" is an adjective commonly defined as: "Based on or in accordance with general agreement, use, or practice; customary." *American Heritage Dictionary* 411. Therefore, the ordinary meaning of "conventional audiometer" is an instrument for measuring hearing that was customary, or in accordance with general agreement, use or practice, at the time of the filing of the '681 Patent. At that time, a "conventional audiometer," like those of the Moser, Slavin and Deslisle Patents, consisted of a sound source and computer. Thus, the Court presumes that the term "conventional audiometer" carries this

ordinary meaning unless otherwise rebutted or altered by intrinsic evidence.

To determine how the term "conventional audiometer" is used in the '681 Patent, the Court next consults the specification, which explains that the "conventional audiometer is generally comprised of three parts: microprocessor circuitry, audio circuitry and certain optional elements." ('681 Patent, col. 4, ll. 37-39.) This definition is consistent with the ordinary meaning. Moreover, as explained above, during the prosecution of the '681 Patent, the patentees distinguished the claimed invention from the devices taught by Moser, Slavin and Delisle, noting that these devices were analogous to the "conventional audiometer" of the '681 Patent; namely, a computer and a sound source. Therefore, the prosecution history reinforces that, at the time of filing of the '681 Patent, the "conventional audiometer" was a device for measuring hearing activity that contained microprocessor circuitry and audio circuitry. Finally, contrary to Benson's proposed construction, the language of claim 4 itself informs that pre-programmed logic resides in the conventional audiometer. Thus, any definition of "conventional audiometer" that specifically includes "pre-programmed logic" would be redundant in the context of the claim language as a whole.

The Court concludes that the intrinsic evidence is consistent with the term's ordinary meaning and that Benson's proposed construction requiring that "pre-programmed logic" be imported into the construction of "conventional audiometer" is improper. Therefore, the Court concludes that the proper construction of "conventional audiometer" is "a device having both microprocessor and audio circuitry for administering a hearing test."

3. Computer

The term "computer" appears in claim 4 of the '681 Patent. Diagnostic asserts that "computer" should be construed as "a personal computer, another type of computer, or some other processing and storage device having multimedia capabilities." Benson asserts that the term "computer" should be construed as a "computer with multimedia functions."

The relevant dictionary meaning of "computer" is "[a] device that computes, especially a programmable electronic machine that performs highspeed mathematical or logical operations or that assembles, stores, correlates, or otherwise processes information." *American Heritage Dictionary* 389. The specification of the '681 Patent explains that a "computer" includes "a personal computer, another type of computer, or some other processing and storage device" having "multimedia capabilities." ('681 Patent, col. 7, ll. 15-25.) The parties do not dispute that the term "computer," as used in this claim, must be limited to having multimedia functions or capabilities. The Court agrees and, therefore, construes the term "computer" to mean "a personal computer, another type of computer, or some other processing and storage device having multimedia capabilities." At oral argument, Benson indicated that it did not object to this construction, with the understanding that the phrase "having multimedia capabilities" modified the entire definition.

4. Pre-programmed logic

The term "pre-programmed logic" appears in claim 4 of the '681 Patent. Diagnostic asserts that "pre-programmed logic" should be construed as "software and/or hardware that provides preset responses dictated by the test subject's inputs." Benson asserts that the term "pre-programmed logic" must include the logical testing procedure and proposes that it be construed as a "pre-programmed logic for the hearing test." Benson also claims that while it does not necessarily disagree with Diagnostic's proposal, its proposed construction is more straightforward.

The definition of "preprogram" is "[t]o program in advance." *American Heritage Dictionary* 1431. The definition of "logic" in the field of computer science is "a. The nonarithmetic operations performed by a computer, such as sorting, comparing, and matching, that involve yes-no decisions. b. Computer circuitry. c. Graphic representation of computer circuitry." Id. at 1057. Using these definitions, the ordinary meaning of "pre-programmed logic" is computer source code (software) programmed into a device and/or computer circuitry (hardware) for performing a specified function.

The Court next examines the intrinsic evidence and determines that the ordinary meaning has not been rebutted. However, remarks made by the patentees in the Amendment clarify the meaning of "pre-programmed logic" in the context of the invention. Specifically, the patentees stated that: "[t]he conventional audiometer has certain, but limited, logical functions during the testing procedure. These logical functions provide certain pre-programmed responses dictated by the test subject's inputs." (Amend. at 9.) These remarks demonstrate that "providing preset responses dictated by the test subject's inputs" is the "specified function" of the software or hardware. On the other hand, there is nothing in the intrinsic evidence that persuades the Court to import Benson's proposed "for the hearing test" limitation into the construction. Therefore, the term "pre-programmed logic" is properly construed as "software and/or hardware that provides preset responses dictated by the test subject's inputs."

5. Sound wave generator

The term "sound wave generator" appears in claim 6 of the '681 Patent. Diagnostic asserts that "sound wave generator" should be construed as "a device for generating longitudinal pressure waves of audible or inaudible sound, including analog signals representative of voice instructions and/or messages." Benson proposes that "sound wave generator" be construed as a "sound wave generator in the computer."

The relevant definition of "sound wave" is "[a] longitudinal pressure wave of audible or inaudible sound." *American Heritage Dictionary* 1722. The ordinary meaning of a "sound wave generator" is therefore "a device for generating longitudinal pressure waves of audible or inaudible sound." Diagnostic proposes that the Court add the phrase "including analog signals representative of voice instructions and/or messages" to the term's meaning and argues that the claim language instructs that the "sound waves" must include analog sound signals. Benson, on the other hand, argues that it would be improper to limit the construction of the claim to the sound of a human voice and argues that Diagnostic's proposed construction is complicated and confusing. In addition, Benson proposes that the Court construe the term so as to locate the "sound wave generator" within the computer portion of the audiometer.

Looking first to the claim language itself, the text of the entire claim reads "a sound wave generator, for generating analog sound signals in respect of digital data electrically connected with the processor." Reviewing that language as a whole, the Court concludes that it would be redundant to include the phrase "including analog signals" in the definition of "sound wave generator." In addition, the patent specification does not support limiting the term "analog sound signals" to signals "representative of voice instructions and/or messages." Accordingly, the intrinsic record does not support a departure from the term's ordinary meaning.

Further, the Court rejects Benson's argument that language found in the patent's specification stating that the computer "should have multimedia capabilities, that is the computer should be capable of producing sound waves and/or manipulated within or by the computer" limits the claim's construction. ('681 Patent, col. 7, ll. 24-28.) This language refers to a preferred embodiment. In light of the fact that the claim language itself

does not limit sound wave generation to the computer, the Court refuses to import any such limitation into the claim itself. *See* Texas Instruments, Inc. v. United States Int'l Trade Comm'n, 805 F.2d 1558, 1563 (Fed.Cir.1986) (cautioning against limiting the claimed invention to preferred embodiments). Accordingly, the term "sound wave generator" is properly construed as "a device for generating longitudinal pressure waves of audible or inaudible sound."

6. Test signal generator

The term "test signal generator" appears in claim 6 of the '681 Patent. Diagnostic asserts that "test signal generator" should be construed as "a device for generating test tones." Benson argues that signals and tones are not the same and therefore it would be improper to import the word tone into the claim. Benson also asks the Court to locate the "test signal generator" in the conventional audiometer based on its prosecution history estoppel argument. Specifically, Benson argues that in order to argue around the Moser Patent, the patentees asserted that their "invention differs in that the audiometer that provides the test signals has certain logical capabilities to conduct the test responsive to the test subject's inputs."

The Court finds that the intrinsic record does not support a departure from this claim term's ordinary meaning. Specifically, the patent specification does not explicitly set forth that test signals are identical to test tones. Further, as discussed previously, the Court rejects Benson's attempt to import structural limitations into the term. The Court, instead, concludes that the term is sufficiently clear and does not require construction. *See* Lucent Techs., Inc. v. Newbridge Networks Corp., 168 F.Supp.2d 181, 191 n. 3 (D.Del.2001); *Goldtouch Techs. Inc. v. Microsoft Corp.,* No. A99CA336SS, 2000 WL 855555, at (W.D.Tex. January 14, 2000).

7. Logic Circuit

The phrase "a logic circuit connected with the test signal generator and the processor" appears in claim 6 of the '681 Patent. Diagnostic initially asserted that "logic circuit" should be construed as "hardware and/or software for alternatively enabling either the sound wave generator or the test signal generator to output discernible signals." Benson proposes that the entire phrase be construed as a "a logic circuit to run the hearing test in the conventional audiometer connected with the test signal generator and processor." In its rebuttal, Diagnostic modified its proposed construction of "logic circuit" to "the software and/or hardware that provides pre-programmed, or preset, responses dictated by the test subject's inputs."

The Court begins by ascertaining the ordinary meaning of "logic circuit" to one skilled in the art. The relevant definition of "logic" in the field of computer science is "a. The nonarithmetic operations performed by a computer, such as sorting, comparing, and matching, that involve yes-no decisions. b. Computer circuitry. c. Graphic representation of computer circuitry." *American Heritage Dictionary* 1057. Moreover, the definition of "circuit" in the field of electronics is "(a) a closed path followed or capable of being followed by an electric current; (b) a configuration of electrically or electromagnetically connected components or devices." Id. at 346. Using these definitions, the ordinary meaning of "logic circuit" is "the software and/or hardware used for performing a specified function."

The Court next turns to the intrinsic evidence to determine whether the ordinary meaning has been rebutted or altered. Diagnostic argues that its proposed construction is supported by the intrinsic record, specifically the Amendment, wherein the patentees argued that the "logic circuit" added intelligence to the test signal generator, such that they could provide certain pre-programmed responses dictated by the test subject's inputs. Benson, on the other hand, reiterates its prosecution history estoppel argument, asserting that the

logic circuit for the hearing test must be located in the conventional audiometer. In particular, Benson argues that the patentees argued that the logic circuitry was located in the conventional audiometer and that a second computer with multimedia functions added other multimedia operations.

As discussed previously, the Court rejects Benson's argument that the claimed invention covers only a specific physical configuration. Benson has not pointed to any specific language in the intrinsic record indicating that the "logic circuit" is for running a hearing test or that the "logic circuit" must reside in the conventional audiometer. In addition, the Court finds that remarks made by the patentees in the Amendment clarify the meaning of "logic circuit" in the context of the invention. Specifically, the Amendment added the "logic circuit" and indicated that logic circuit functions to "provide certain pre-programmed responses dictated by the test subject's inputs" that did not exist in the prior art. (Amend. at 9.) These remarks demonstrate that "providing preset responses dictated by the test subject's inputs" is the specified function of the software or hardware of the circuit. Therefore, the Court concludes that the proper construction of "logic circuit" is "the software and/or hardware that provides pre-programmed, or preset, responses dictated by the test subject's inputs."

8. Wherein the logic circuit and the sound wave generator are controlled by the processor to selectively cause either the sound wave generator or the test signal generator to output discernable signals

This "wherein phrase" appears in claim 6 of the '681 Patent. Diagnostic asserts that this phrase should be construed to require "the processor to intelligently and automatically direct either the logic circuit to cause the test signal generator to deliver test tones or, following the occurrence of a test subject error, the sound wave generator to output computer-generated corrective instructions." Benson again attempts to limit the phrase to require a specific structural configuration, proposing that this phrase be construed as "wherein the logic circuit of the conventional audiometer and the sound wave generator of the computer with multimedia functions are controlled by the processor to selectively cause either the sound wave generator of the computer with multimedia functions or the test signal generator in the conventional audiometer to output discernable signals." In effect, Benson requests that the Court rewrite the claims.

"Sound wave generator" was previously construed as "a device for generating longitudinal pressure waves of audible or inaudible sound" and "logic circuit" was construed as "the software and/or hardware that provides pre-programmed, or preset, responses dictated by the test subject's inputs." FN6 In addition, the Court has already determined that the term "test signal generator" does not require construction by the Court. As discussed previously, the Court rejects Benson's attempt to import structural limitations not supported by the intrinsic evidence. Finally, the Court finds that there is nothing ambiguous or linguistically obscure about this phrase and that it is, therefore, sufficiently clear such that no further construction is necessary. Accordingly, the Court declines to construe this claim. *See* Lucent Techs., 168 F.Supp.2d at 191 n. 3; Goldtouch Techs., 2000 WL 855555, at *4.

FN6. The Court notes that neither party's proposed construction of this claim language incorporates definitions of "sound wave generator" or "logic circuit."

9. Controlling an audiometer to selectively switch the audiometer output

The phrase "controlling an audiometer to selectively switch the audiometer output" appears in claim 1 of the '482 Patent. Diagnostic proposes that this phrase be construed as "intelligently and automatically directing the audiometer to exchange the audiometer output between test tones generated by the audiometer and voice

instructions and/or messages generated from digital information." The Court notes that Diagnostic's proposed construction would improperly import limitations into the claim language and, therefore, rejects this proposed construction. For example, there is nothing in the intrinsic evidence that explicitly sets forth a definition of this phrase so as to incorporate the word "intelligently." The Court further finds that this phrase is sufficiently clear and does not require construction. *See* Lucent Techs., 168 F.Supp.2d at 191 n. 3; Goldtouch Techs., 2000 WL 855555, at *4.

10. Sound signals generated from digital information

The phrase "sound signals generated from digital information" appears in claim 1 of the '482 Patent. Diagnostic asserts that "sound signals generated from digital information" should be construed as "analog signals representative of voice instructions and/or messages." Benson does not propose a definition, but asserts that that the "digital information" must be stored in the computer, arguing that this phrase should be construed as a "sound signals generated from digital information in the computer."

"Sound" is defined as a "sensation perceived by the sense of hearing." *Webster's Third New Int'l Dictionary of The English Language Unabridged* 2176 (2002). A "signal" is "a detectable physical quantity or impulse (such as voltage, current, or magnetic field strength) by which messages or information can be transmitted." *Webster's* 2115. Therefore, the ordinary meaning of "sound signal" is "a detectable physical quantity or impulse that can be perceived by the sense of hearing and by which messages or information can be transmitted."

Next, the Court turns to the intrinsic evidence to determine whether the ordinary meaning has been rebutted. Both parties refer to the Description of the Preferred Embodiments to support their proposed constructions. Diagnostic argues the '482 Patent specification explains that "sound signals from digital information" are analog signals representative of voice instructions and/or messages. ('482 Patent, col. 10, ll. 28-35; col. 11, ll. 13-21; col. 12, ll. 56-69.) Benson, on the other hand, argues that it would be improper to rewrite the limitation that, in the end, makes the claim language more complicated. Benson also argues that the specification language requires that the digital information be in the computer because the description of a preferred embodiment provides that "[t]he test subject may ... receive the following instructions generated from the digital data stored by [the] computer." ('482 Patent, col. 11, ll. 37-39.)

While the Court acknowledges that "sound signals generated from digital information" certainly can be representative of voice instructions and/or messages, the specification does not explicitly set forth a definition different than the claim language. The '482 Patent specification also indicates that "the particular signals could be representative of virtually any type of information which is subject to derivation from digital data ... for example, visual graphics and images and others." ('482 Patent, col. 10, ll. 35-40.) Even though the claim itself specifically limits its scope to sound signals, it does not specifically limit it to sounds representative of the human voice.

The Court finds that there is nothing in the patent specification that rebuts the presumption giving "sound signals generated from digital information" its plain and ordinary meaning and therefore refuses to import the limitations proposed by Diagnostic into the claim. In addition, as previously discussed, the Court rejects Benson's attempt to import structural limitations into claim 1. The Court therefore construes the term as "detectable physical quantities or impulses, generated from digital information, that can be perceived by the sense of hearing by which messages or information can be transmitted."

11. First switching the audiometer output to sound signals when the step of controlling indicates a particular condition

The phrase "first switching the audiometer output to sound signals when the step of controlling indicates a particular condition" appears in claim 1 of the '482 Patent. However, the Court finds that there is nothing ambiguous or linguistically obscure about this phrase and that it is sufficiently clear such that no further construction is necessary. The Court, therefore, declines to construe this claim language. *See* Lucent Techs., 168 F.Supp.2d at 191 n. 3; Goldtouch Techs., 2000 WL 855555, at *4.

12. Tone generator

The term "tone generator" appears in claim 4 of the '482 Patent. Diagnostic asserts that "tone generator" should be construed as "a device for generating sounds of distinct pitch, quality, and duration; i.e., tones." Benson does not propose a definition, but asserts that that the "tone generator" must be located in the conventional audiometer.

The dictionary definition of "tone" is "[a] sound of distinct pitch, quality, and duration; a note." *American Heritage Dictionary* 1886. Therefore, the plain and ordinary meaning of "tone generator" is "a device for generating sounds of distinct pitch, quality, and duration." Next, the Court must examine the intrinsic evidence to determine whether that ordinary meaning has been rebutted or altered. Diagnostic argues that nothing in the specification or prosecution history assigns a different meaning to "tone generator." Based on its prosecution history estoppel argument, Benson argues that the Court must construe the term "tone generator" so as to require that it be located in the conventional audiometer. Finding nothing in the prosecution history that clearly limits the claim so as to require it to reside in the conventional audiometer, the Court assigns the term its plain and ordinary meaning. The Court therefore construes the term as "a device for generating a tone, or a sound of distinct pitch, quality, and duration."

13. The switch selectively causes either the tone generator or the computer to output sound waves and the computer controls the switch

The phrase "the switch selectively causes either the tone generator or the computer to output sound waves and the computer controls the switch" appears in claim 4 of the '482 Patent. The Court finds that there is nothing ambiguous or linguistically obscure about this phrase and that it is sufficiently clear such that no further construction is necessary. The Court, therefore, declines to construe this claim language. *See* Lucent Techs., 168 F.Supp.2d at 191 n. 3; Goldtouch Techs., 2000 WL 855555, at *4.

14. Generating a test tone

The phrase "generating a test tone" appears in claim 9 of the '482 Patent. Diagnostic asserts that this phrase should be construed as "generating a tone, or a sound of distinct pitch, quality and duration." Benson does not propose a definition, but asserts that all tones must be generated in the conventional audiometer.

The Court has already determined that a tone is "a sound of distinct pitch, quality, and duration." In addition, in the context of claim 9 and the specification, a "test tone" is a tone generated as part of a test protocol. In order for a tone to be utilized in a hearing test, it must be capable of being measured so that one can ascertain the extent of the test subject's hearing abilities. The Court concludes, therefore, that the ordinary meaning of "generating a test tone" is "generating a tone, or a sound of distinct pitch, quality, and duration, as part of a test protocol."

Next, the Court must examine the intrinsic evidence to determine whether that ordinary meaning has been rebutted. Diagnostic argues that nothing in the specification or prosecution history assigns a different meaning to this term. Benson, on the other hand, argues that based on its assertion of prosecution history estoppel, tones must be generated in the conventional audiometer.

As discussed previously, the Court rejects Benson's attempt to import structural limitations not supported by the intrinsic evidence. Specifically, nothing in the intrinsic evidence requires tones to be generated in the conventional audiometer. Moreover, claim 9 is a method claim that does not require a conventional audiometer. The Court, therefore, adopts the ordinary meaning and construes the phrase "generating a test tone" as "generating a tone, or a sound of distinct pitch, quality, and duration, as part of a test protocol."

15. Controlling the steps of outputting, generating the test tone, storing, generating the analog sound, and switching

The phrase "controlling the steps of outputting, generating the test tone, storing, generating the analog sound, and switching" appears in claim 9 of the '482 Patent. The Court finds that there is nothing ambiguous or linguistically obscure about this phrase and that it is sufficiently clear such that no further construction is necessary. Therefore, the Court declines to construe this claim language. *See* Lucent Techs., 168 F.Supp.2d at 191 n. 3; Goldtouch Techs., 2000 WL 855555, at *4.

16. Analog sound derived from digital data* and *analog signal

The terms "analog sound derived from digital data" and "analog signal" appear in claim 9 of the '482 Patent. Diagnostic asserts that these two terms are synonymous and both should be construed as an "analog signal representative of a voice instruction and/or message." Benson, on the other hand, asserts that using plain and ordinary meaning of the terms require that "analog sound" be construed as "continuously variable, measurable, physical quantities perceived by the sense of hearing" and that "analog signal" be construed as "a continuously variable, measurable, physical quantity or impulse (as a voltage, current, or magnetic field strength) by which messages or information can be transmitted."

The definition of analog is "[o]f relating to, or being a device in which data are represented by continuously variable, measurable, physical quantities, such as length, width, voltage, or pressure." *American Heritage Dictionary* 64 (4th ed.2000). "Signal" is defined as "a detectable physical quantity or impulse (as a voltage, current, or magnetic field strength) by which messages or information can be transmitted." *Webster's* 2115. Therefore, the ordinary meaning of "analog signal" is "a continuously variable, measurable, physical quantity or impulse (as a voltage, current, or magnetic field strength) by which messages or information can be transmitted."

The Court now turns to the intrinsic record. While the claimed invention is a device and a method for implementing a hearing test in which the sounds heard by the test subject switch between test tones and signals that may be voice instructions and/or messages, the Court notes that the specification indicates that "the particular signals could be representative of virtually any type of information which is subject to derivation from digital data ... for example, visual graphics and images and others." ('482 Patent, col. 10, ll. 35-40.) Therefore, the Court finds that the specification does not rebut the presumption that the ordinary meaning of the term applies and construes the term "analog signal" as a "continuously variable, measurable, physical quantity or impulse by which messages or information can be transmitted."

Diagnostic argues that in the text of claim 9, the term "analog signal" and "analog sound" are used interchangeably. Specifically, claim 9 specifies, in part:

generating an analog sound derived from the digital data;

switching the audible sound from the step of outputting between the test tone and the analog signal.

Diagnostic argues that because the phrase "analog sound" is followed in the next line with "the analog signal," the term is being used interchangeably. Benson argues that because the two different terms both appear in the same claim, they must have different meanings. The Court finds that the terms are used interchangeably and therefore, "analog sound" is properly construed as a "continuously variable, measurable, physical quantity or impulse by which messages or information can be transmitted."

17. Means for outputting sound signals

A patentee may express an element in a claim "as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specifications and equivalents thereof." 35 U.S.C. s. 112, para. 6 (2000). Use of the term "means" creates a presumption that the inventor used the term to trigger s. 112, para. 6. Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1427 (Fed.Cir.1997); Micro Chem, Inc. v. Great Plains Chem. Co., 194 F.3d 1250, 1257 (Fed.Cir.1999). This presumption may be rebutted, however, when the claim recites structure sufficient for performing the function. *See* Sage Prods., 126 F.3d at 1427-28. Under the means-plus-function analysis, the Court begins by identifying the recited function of the limitation. *See* Micro-Chem ., 194 F.3d at 1258. After the Court identifies the claimed function, the Court must identify the corresponding structure in the written description necessary to perform that function. *See* id., 194 F.3d at 1258.

The first element of claim 4 of the '681 Patent reads "means for outputting sound signals generated from digital information of the computer." Because the claim element fails to recite sufficient structure, material, or acts for performing the function, the presumption is not rebutted. *See* Sage Prods., 126 F.3d at 1428. The Court begins by determining the claimed function. Diagnostic argues that the function is properly construed as "outputting analog signals representative of voice instructions and/or messages." Benson does not offer an alternative construction of the claimed function, but instead asserts that the "means for outputting sound signals" phrase does not need construction.

The Court construes the term "sound signals generated from digital information" with respect to the '482 Patent as "detectable physical quantities or impulses, generated from digital information, that can be perceived by the sense of hearing by which messages or information can be transmitted." FN7 In addition, the Court finds that the word "outputting" is self-explanatory and does not require construction. Finally, the Court refuses to import the limitations proposed by Diagnostic into the recited function. *See* Micro-Chem., 194 F.3d at 1258; Generation II Orthotics, Inc. v. Med. Tech. Inc., 263 F.3d 1356, 1364-65 (Fed.Cir.2001) ("When construing the functional statement in a means-plus-function limitation, we must take great care not to impermissibly limit the function by adopting a function different from that explicitly recited in the claim."). The Court thus identifies the function as "outputting detectable physical quantities or impulses, generated from digital information, that can be perceived by the sense of hearing by which messages or information can be transmitted."

FN7. It appears that Diagnostic proposes that "sound signals generated from digital information of the computer" be construed consistently in both Patents. Because this construction is supported by the '681 Patent's specification, the Court incorporates it into the recited function of this claim element.

Next, the Court consults the '681 Patent's written description to identify the structure corresponding to the function. *See* Micro Chem., 194 F.3d at 1258. Diagnostic claims that the patent lists several alternative structures for performing the function of "outputting sound signals;" specifically, 1) a computer; 2) a sound wave generator; 3) a multimedia converter; 4) a multimedia output port of computer (102), multimedia input interface (110), multimedia talk over card (118b), and earphone jack (48); or 5) a sound card of computer (102), multimedia input interface (110), multimedia talk over card (118b), and earphone jack (48). Although Benson identifies different corresponding structure necessary to perform the function for "outputting sound signals" in its opening brief, Benson acknowledged during oral argument that it does not object to the structure identified by Diagnostic for this means-plus-function element. Because Diagnostic's proposed construction is supported by the patent's written description, the Court adopts Diagnostic's proposed corresponding structure.

18. Means for outputting test signals

The use of the word "means" in the second element of claim 4 of the '681 Patent invokes a presumption that s. 112, para. 6 applies. Because the claim element fails to recite sufficient structure, material, or acts for performing the function, the presumption is not rebutted. *See* Sage Prods., 126 F.3d at 1428. Again, the Court begins with a determination of the specified function. As stated in the means clause, the function of this element is for "outputting test signals generated by the conventional audiometer according to pre-programmed logic of the conventional audiometer." The Court has determined that the word "outputting" need not be construed and has previously construed "conventional audiometer" and "pre-programmed logic."

Diagnostic argues that because the '681 Patent teaches that a conventional audiometer generates test tones for evaluation of hearing and because the intrinsic evidence makes clear that "test signals" are test tones, the function of this element is properly construed as "outputting test tones." Benson does not offer an alternative construction of the claimed function, but instead asserts that the phrase does not require construction. Although the Court recognizes that the specification language demonstrates that test signals can include test tones, the limiting language proposed by Diagnostic is not found in the claim language itself. Therefore, the Court will not import that limitation into the recited function. *See* Micro Chem., 194 F.3d at 1258. Thus, the Court identifies the function as "outputting test signals generated by the conventional audiometer according to pre-programmed logic of the conventional audiometer."

Next, the Court consults the specification to identify the corresponding structure described therein for performing the claimed function. *See* id., 194 F.3d at 1258. Diagnostic contends that the corresponding structures are: (1) a conventional audiometer; or (2) a device having both microprocessor and audio circuitry for administering a hearing test. In support, Diagnostic points to the language of the patent, wherein it teaches that the conventional audiometer outputs test tones. ('681 Patent, col. 4, ll. 37-67; col. 5, ll. 1-62.) Benson, on the other hand, argues that, based on explicit disclosures in the specification, the structure required is a tone generator located *in* a conventional audiometer and statutory equivalents thereof.

The specification of the '681 Patent confirms that it is the conventional audiometer that outputs test signals

or tones. ('681 Patent, col. 1, ll. 12-13; col. 5, ll. 13-24; col. 4, ll. 37-67; col. 5. ll. 1-62.) In addition, the "conventional audiometer" has been construed as a "device having both microprocessor circuitry and audio circuitry for administering a hearing test." The Court finds no language in the intrinsic evidence indicating that the structure required is a tone generator specifically located in a conventional audiometer. The Court therefore identifies the structure that corresponds to "outputting test signals" as: (1) a conventional audiometer; or (2) a device having both microprocessor and audio circuitry for administering a hearing test.

19. Means for switching

The use of the word "means" in the third element of claim 4 of the '681 Patent invokes a presumption that s. 112, para. 6 applies. Because the claim element fails to recite sufficient structure, material, or acts for performing the function, the presumption is not rebutted. *See* Sage Prods., 126 F.3d at 1428. As stated in the means clause, the recited function of this element is for "switching between the means for outputting sound signals and the means for outputting test signals." Because the "means for outputting sound signals" and the "means for outputting test signals" have already been construed by the Court, the only language to be construed is "switching between."

Diagnostic argues that the plain and ordinary function of "switching between" is "to alternatively enable either" the means for outputting sound signals or the means for outputting test signals to output and audible sound. Benson contends that this suggested construction is more complicated than the claim itself. The Court agrees. The plain and ordinary meaning of the recited function is for "switching between the means for outputting sound signals and the means for outputting test signals." Diagnostic asserts that the plain language of claim 4 indicates that the "switching occurs between the means for outputting sound signals and the means for outputting test signals." The Court agrees but finds that the language of the element itself clearly articulates that function. Therefore, the Court finds that the recited function is simply for "switching between the means for outputting sound signals and the means for outputting test signals."

The Court next consults the specification to identify the corresponding structure. *See* Micro Chem., 194 F.3d at 1258. Diagnostic contends that the corresponding structures are: (1) multimedia talkover card (118b); or (2) relays (64a and 64b) and switches (66a and 66b). In its Response Claim Construction Brief, Benson noted that it does not object to the structure identified by Diagnostic. Rather, based on its previous estoppel argument, Benson asserts that the structures corresponding to the "means for switching" function must be located in the conventional audiometer.

The Court finds support for Diagnostic's proposed construction and finds that the '681 Patent teaches two structures for "switching between." First, the talkover card (8b) "serves as a switch to divert input to the earphone jack (48) when desired by a human test administrator ..." ('681 Patent, col. 6, ll. 16-23) (emphasis omitted). In addition, the patent explains that the multimedia audiometer of the claimed invention includes a multimedia talkover card (118b), which shares many features that are substantially the same as the features of the talkover card (8b), including the ability to act as a switch. ('681 Patent, col. 7, ll. 51-67; col. 8, ll. 1-22.) Therefore, the multimedia talkover card (118b) is one structure corresponding to the function of "switching between." Second, the '681 Patent teaches the use of relays (64a and 64b) to open and close the switches (66a and 66b) to switch between the two outputs. ('681 Patent, col. 10, ll. 8-19, 35-50.) Finding nothing in the prosecution history that unambiguously requires the structures corresponding with the "means for switching" function to reside in the conventional audiometer, and finding support for Diagnostic's proposed corresponding structure in the specification, the Court adopts Diagnostic's proposed corresponding structure.

20. Means for controlling

The use of the word "means" in the fourth element of claim 4 of the '681 Patent invokes a presumption that s. 112, para. 6 applies. Because the claim element fails to recite sufficient structure, material, or acts for performing the function, the presumption is not rebutted. *See* Sage Prods., 126 F.3d at 1428. The stated function of this element is for "controlling the means for switching." The Court has already determined that the function "means for switching" is not ambiguous.

Diagnostic argues that the function of the "means for controlling the means for switching" element is for "intelligently and automatically directing the means for switching to enable the means for outputting sound signals to output voice instructions and/or messages upon the occurrence of a test subject error." In support, Diagnostic argues that "the crux of the '681 invention is that this switching is directed in an intelligent and automatic fashion." Diagnostic Claim Constr. Mem. for U.S. Patent No. 5,811,681 at 20. Diagnostic cites to portions of the patent specification that generally describe the invention's ability to switch between outputting test tones and sound signals to pass appropriate, corrective instructions on to the test subject after an error has been made.

In response, Benson contends that Diagnostic's suggested function is more complicated than the claim itself and is unsupported by the intrinsic record. The Court agrees. The plain language of the claim states that the function of the element is for "controlling the means for switching." Diagnostic's suggested recited function, which would construe "controlling" as "intelligently and automatically directing," has no basis in the claim language. *See* Micro Chem., 194 F.3d at 1258; Generation II Orthotics, 263 F.3d at 1364-65. Moreover, the intrinsic evidence does not support Diagnostic's proposed importation of the words "intelligently and automatically" into the recited function of this element. Therefore, the Court concludes that the stated function is simply for "controlling the means for switching."

The Court now consults the specification to identify the corresponding structure. *See* Micro Chem., 194 F.3d at 1258. Diagnostic contends that the corresponding structure is computer (102). Benson asserts that the structure is "the computer and triggering relays from the conventional audiometer and statutory equivalents thereof." In its responsive memorandum, Benson also notes that while it prefers its own structure, it does not object to the structure identified as required by Diagnostic for this claim term.

The specification supports Diagnostic's contention that the corresponding structure is computer (102). ('681 Patent, col. 10, ll. 8-19; col. 10, ll. 35-45; col. 10, ll. 56-67; col. 11, ll. 1-3; col. 12, ll. 19-23.) Conversely, the specification also indicates that the relays (64a and 64b) do not control switches, but only respond to the control exerted by computer (102) to trigger switches (66a and 64b). Therefore, these relays do not correspond to the function of "controlling the means for switching." The Court therefore concludes the structure that corresponds to the "means for controlling the means for switching" is computer (102).

III. CONCLUSION

Based on the files, records, and proceedings herein, and for the reasons stated above, IT IS ORDERED THAT:

1. The motions to construe claims of the '681 and '482 Patents [Docket No. 45 in Civ. No. 02-777; Docket No. 32 in Civ. No. 02-3466] are CONSTRUED as indicated above.

D.Minn.,2005.
Diagnostic Group, LLC v. Benson Medical Instruments Co.