United States District Court,
D. Delaware.

ENERGY TRANSPORTATION GROUP, INC,
Plaintiff.
v.
SONIC INNOVATIONS, INC., et al,
Defendants.

C.A. No. 05-422 GMS

Jan. 4, 2008.

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Mary B. Graham, James Walter Parrett, Jr., Donald E. Reid, Morris, Nichols, Arsht & Tunnell LLP, Wilmington, DE, Gregory C. Gramenopoulos, John M. Romary, Pro Hac Vice, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Brian K. Shelton, Carl J. Pellegrini, David Cushing, J.W. Lytle, William Mandir, Pro Hac Vice, Sughrue Mion PLLC, Washington, D.C., for Defendants.

AMENDED ORDER CONSTRUING THE TERMS OF U.S. PATENT NOS. 4,731,850 ***AND*** 4,879,749

GREGORY M. SLEET**, Chief Judge.**

After having considered the submissions of the parties and hearing oral argument on the matter, IT IS HEREBY ORDERED, ADJUDGED, and DECREED that, as used in the asserted claims of U.S. Patent Nos. 4,731,850 (the "'850 patent") and 4,879,749 (the "'749 patent"):

A. The '850 Patent

1. The term "programmable delay line filter" is construed to mean "a filter that operates on time-delayed samples of an input by multiplying each sample by a corresponding weighting coefficient and summing the weighted samples." Further, "the value of at least one weighting coefficient can be programmed." FN1

FN1. The defendants' construction invites the court to add a limitation to the claim that is not supported by the specification, specifically, the term "non-recursive." See '850 Patent 2:61-3:2 (discussing the use of recursive filtering). Additionally, the court finds that the patentee's discussion of the use of recursive filtering in the ' 850 patent is not, as the defendants suggest, a clear unequivocal disavowal or disclaimer of recursive filters. *See* Omega Engineering Inc. v. Raytek Corp., 334 F.3d 1314, 1323-25 (Fed.Cir.2003) (explaining the disclaimer doctrine). Further, the defendants' construction of the term "programmable"

invites the court to import a limitation from the specification into the claims, which is contrary to Federal Circuit precedent. *See* Comarck Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1186 (Fed.Cir.1998) (" '[w]hile ... claims are to be interpreted in light of the specification and with a view to ascertaining the invention, it does not follow that limitations from the specification may be read into the claims.' ").

2. The term "feedback path" is construed to mean "a path in which a signal travels from the output to the input." FN2

FN2. "In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." Phillips v. AWH Corp., 415 F.3d 1303, 1314 (Fed.Cir.2005) (citing Brown v. 3M, 265 F.3d 1349, 1352 (Fed.Cir.2001)). In defining "feedback path" as it does, the court rejects the defendant's construction, which would require the signal to travel toward the "microphone."

3. The term "programmable signal limiter means" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "to limit the signal from exceeding a certain level." The corresponding structure is "programmable limiter 67, attendant signal lines," and all equivalents thereof. FN3

FN3. In arguing that the "signal limiter means" includes a "programmable compression amplifier," the plaintiff fails to link its proposed structure of this means plus function claim term to the function recited in the claim, contrary to Federal Circuit law. *See* Default Proof Credit Card Sys., Inc. v. Home Depot, Inc., 412 F.3d 1291, 1298 (Fed.Cir.2005) ("A structure disclosed in the specification qualifies as "corresponding" structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.... This duty to link or associate structure to function is the *quid pro quo* for the convenience of employing s. 112, para. 6.") (citations omitted).

4. The term "programmed" is construed to mean "provided with one or more values so as to produce a response." FN4

FN4. The defendants' construction of the term "programmed" invites the court to import a limitation from the specification into the claims, which is contrary to Federal Circuit precedent. *See* Comarck Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1186 (Fed.Cir.1998) (" '[w]hile ... claims are to be interpreted in light of the specification and with a view to ascertaining the invention, it does not follow that limitations from the specification may be read into the claims.' ").

5. The term "said filter being programmed to impart to the hearing aid at least one response characteristic effective to compensate for impaired hearing of the wearer of the aid" is construed to have its plain and ordinary meaning. FN5

FN5. See footnote 2.

6. The term "means controllable to impart different response characteristics to said hearing aid" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "imparting different response characteristics to the hearing aid." The corresponding structure is "**programmable filter 64 (structures 63a, 70-75, 77, 78, 78a, 79, and 80) programmed to impart different response characteristics; or 5 bit counter, timing logic, and structures 63a, 77, 80,145-151,**" and all equivalents thereof. FN6

FN6. See footnote 3.

7. The term "controlling means responsive to the level of speech signals in said transmission channel in excess of the level of noise signals in said channel for automatically controlling said controllable means to impart a selected one of said different response characteristics to said hearing aid" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "automatically controlling the controllable means to impart a selected one of the different response characteristics to the hearing aid." The corresponding structure is "speech detector 96, band pass filters 97-100, sample and hold circuits 105-108, rectifiers 109-112, comparators 113-116, latch 118, switches 88, 95," and all equivalents thereof.FN7

FN7. See footnote 3.

8. The term "speech detector means for determining when speech signals are in said transmission channel" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "determining when speech signals are in the transmission channel." The corresponding structure is "speech detector 96," and all equivalents thereof.FN8

FN8. The court rejects the plaintiff's proposed structure for the reasons set forth in footnote 3. However, the plaintiff may argue at trial that the structure of the means plus function term is not limited to only those numbered parts shown in the patent specification and figures.

9. The term "a plurality of bandpass filter means for determining the noise frequency spectrum in said transmission channel" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "determining the noise frequency spectrum in the transmission channel." The corresponding structure is "bandpass filters 97-100, rectifiers 109-112, sample and hold circuits 105-108," and all equivalents thereof.FN9

FN9. See footnote 3.

10. The term "a plurality of comparator means each responsive to said speech detector and to respective bandpass filter means for indicating whether the speech level in each said bandpass filter exceeds the noise level therein and for actuating said controlling means to impart to the hearing aid a response characteristic effective to compensate for impaired hearing of the wearer of the aid at the noise levels obtaining in said channel" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "indicating whether the speech level in each band pass filter exceeds the noise level therein and actuating the controlling means to impart to the hearing aid a response characteristic effective to compensate for impaired hearing of the wearer of the aid at the noise levels obtaining in the channel." The corresponding

structure is "comparators 113-116," and all equivalents thereof. FN10

FN10. See footnote 3.

11. The term forward path is construed to mean "a path in which a signal travels from an input to an output." FN11

FN11. In making its ruling, the court rejects the defendants' construction, which would require the signal to travel from the microphone to the receiver. See footnote 2.

12. The term "programmed to effect substantial reduction of acoustic feedback from said receiver to said microphone" is construed to have its plain and ordinary meaning.FN12

FN12. In making its ruling, the court rejects the defendants' proffered construction of the term. See footnote 2.

13. The term "determining the effect on the amplitude and phase of a signal in said transmission channel as a function of frequency of acoustic feedback between said transducer and microphone" is construed to have its plain and ordinary meaning.FN13

FN13. See footnote 2.

14. The term "a filter therein programmed" is construed to mean "a filter having coefficients where the values of the coefficients are programmed." FN14

FN14. See footnote 4.

15. The term "inserting ... an electrical feedback path having a filter therein programmed" is construed to mean "inserting an electrical feedback path between the input and output of the transmission channel." Further, the steps of "determining" and "inserting" are performed in the order recited in the claim limitation.FN15

FN15. See footnote 2. Further, the court finds that the phrase "said acoustic feedback," which appears later in the claim, dictates that the determining step must be performed before the inserting step. In other words, "the sequential nature of the claim steps is apparent from the plain meaning of the claim language and nothing in the written description suggests otherwise." Mantech Envt'l Corp. v. Hudson Envt'l Servs., Inc., 152 F.3d 1368, 1376 (Fed.Cir.1998).

16. The term "programmable filter" is construed to mean "a filter having coefficients where the values of the coefficients can be programmed." FN16

FN16. See footnote 1.

17. The term "inserting between the input and output of said transmission channel a programmable filter" is construed to mean "inserting a programmable filter between the input and output of the transmission channel." FN17

FN17. See footnotes 2 and 15.

18. The term "means for adjusting the amplitude and phase characteristics of each of said microphone channels is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "adjusting the amplitude and phase characteristics of each of the input microphone channels." The corresponding structure is "amplifiers 157 and 158," and all equivalents thereof.FN18

FN18. See footnotes 3 and 8.

19. The term "means for summing the outputs of said microphone channels" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "summing the outputs of the input microphone channels." The corresponding structure is "summing amplifier 159," and all equivalents thereof.FN19

FN19. See footnotes 3 and 8.

20. The term "response characteristic effective to compensate for impaired hearing of the wearer of the aid" is construed to have its plain and ordinary meaning.FN20

FN20. See footnote 2.

B. The '749 Patent

1. The term "host controller" is construed to mean "a processor for controlling operations of a device." FN21

FN21. See footnote 2. Additionally, the defendants' construction invites the court to import a limitation from the specification into the claims, which is contrary to Federal Circuit precedent. *See* Comarck Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1186 (Fed.Cir.1998) (" '[w]hile ... claims are to be interpreted in light of the specification and with a view to ascertaining the invention, it does not follow that limitations from the specification may be read into the claims.' ").

2. The term "means for receiving signals from the hearing aid and measuring phase and amplitude" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "receiving signals from the hearing aid and measuring phase and amplitude." The corresponding structure is "digital phase shifter 30, connector/terminals 31, 34, 121, programmable gain amplifier 32, latches 33, 42, 43, switches 37,

120, related control and signal lines" and all equivalents thereof.FN22

FN22. See footnotes 3 and 8.

3. The term "means for receiving signals from the hearing aid indicative of the summation of acoustic feedback cancellation signals" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "receiving signals from the hearing aid indicative of the summation of acoustic feedback and acoustic feedback cancellation signals." The corresponding structure is "connector/terminals 34, 121, switches 37, 120, latch 45, programmable amplifier 38, rectifier 39, analog-to-digital converter 40, related control and signal lines," and all equivalents thereof.FN23

FN23. See *id*.

4. The term "means controlled by the computer for adjusting the phase and amplitude necessary to eliminate acoustic feedback and produce a null summation" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "adjusting the phase and amplitude necessary to eliminate acoustic feedback and produce a null summation." The corresponding structure is "latches 33, 42, 43, programmable gain amplifier 32, digital phase shifter 30," and all equivalents thereof.FN24

FN24. See footnotes 3 and 8.

5. The term "means controlled by the computer for transmitting phase shift and amplitude data to program the hearing aid to eliminate acoustic feedback" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "transmitting phase shift and amplitude data to program the hearing aid to eliminate acoustic feedback." The corresponding structure is "programmable gain amplifier 32, latches 33, 42, 43, digital phase shifter 30," and all equivalents thereof.FN25

FN25. See *id*.

6. The term "computer controlled means for adjusting the phase shift and amplitude to produce an acoustic feedback cancellation signal" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "adjusting the phase shift and amplitude to produce an acoustic feedback cancellation signal." The corresponding structure is "programmable gain amplifier 32, **digital phase shifter 30,** latches 33, 42, 43, terminal 144," and all equivalents thereof.FN26

FN26. See *id*.

7. The term "computer controlled means for supplying a logic signal to the hearing aid for programming and a logic signal to the hearing aid to restore it for use by the patient" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "supplying a logic signal to the hearing aid for programming and a logic signal to the hearing aid to restore it for use by the patient." The corresponding structure is "latches 44, 45, lines 125, 128, tri-state buffer 46," and all equivalents thereof. FN27

FN27. See footnotes 3 and 8.

8. The term "output signal" is construed to have its plain and ordinary meaning.FN28

FN28. See footnote 2.

9. The term "adjustable phase shift and amplitude means controlled by the computer for adjusting the phase shift and amplitude necessary to eliminate acoustic feedback and transmitting an acoustical feedback cancellation signal to the hearing aid" is a means plus function term pursuant to 35 U.S.C. s. 112(6). The function of the term is "adjusting the phase shift and amplitude necessary to eliminate acoustic feedback and transmitting an acoustical feedback cancellation signal to the hearing aid." The corresponding structure is "digital phase shifter 30, programmable gain amplifier 32, latches 33, 42, 43, connectors/terminals 31, 144," and all equivalents thereof.FN29

FN29. See footnotes 3 and 8.

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