United States District Court,
D. Oregon.

QSINDUSTRIES, INC., an Oregon Corporation; et al,
Plaintiffs.
v.
MIKE'S TRAIN HOUSE, INC., a Maryland Corporation,
Defendant.

Civil No. 00-1617-JO

Oct. 7, 2002.

Owner of patents for remote control system used with model railroads sued former licensee for infringement. Construing claims, the District Court, Jones, J., held that: (1) "state generator" was limited to structure identified in specification for generating operating state signals; (2) "means ... for generating ... effect control signals" was limited to structures identified in specification for generating such signals; (3) "means in remote object responsive to predetermined ... effect control signals" was limited to structures identified in specification for responding to such signals; and (4) fact issues precluded summary judgment on issue of infringement.

Claims construed.

4,914,431, 5,184,048, 5,394,068, 5,940,005. Construed.

John W. Stephens, Kim T. Buckley, Michael J. Esler, Esler Stephens & Buckley, Portland, OR, for Plaintiffs.

Brian E. Ferguson, Daniel Sean Trainor, Donna M. Tanguay, Gregory Krauss, Jeffrey Alan Woller, Karla L. Palmer, Raphael Lupo, Stephen K. Shahida, McDermott Will & Emery Washington, D.C., Michael E. Farnell, Hagen Hirschy Dilorenzo & Grein, PC, Portland, OR, for Defendant.

OPINION AND ORDER

JONES**, Judge.**

In this patent infringement case, plaintiff QSIndustries, Inc. ("QSI") alleges that defendant Mike's Train House, Inc. ("MTH") infringed four of its patents by selling devices containing Proto-Sound I and by producing Proto-Sound II. QSI initially licensed the patents at issue to MTH so MTH could manufacture and sell Proto-Sound I. When MTH terminated the license agreement, MTH continued to sell the Proto-Sound I devices it had manufactured under the license agreement, and also developed the Proto-Sound II.

The case is now before the court on MTH's three motions for summary judgment (# 78, # 81, # 86). The first motion seeks summary judgment that MTH's Proto-Sound II does not infringe QSI's patent no. 4,914,431 (patent '431). The second motion seeks summary judgment that Proto-Sound II does not infringe QSI's patent nos. 5,184,048, 5,394,068 and 5,940,005 (patents '048, ' 068, '005). The third motion seeks summary judgment that MTH's sale of devices containing Proto-Sound I following termination of the license agreement did not infringe QSI's patents.

After conducting a *Markman* FN1 hearing on September 27, 2002, I denied all three motions and referred to arbitration QSI's claim that MTH's sale of devices containing Proto-Sound I constituted infringement. This opinion provides the claim construction resulting from the *Markman* hearing and my rationale for denying summary judgment.

FN1. *See* Markman v. Westview Instruments, Inc., 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996).

DISCUSSION

I. *MTH's Motion for Summary Judgment Regarding Proto-Sound II.*

The two steps in a patent infringement case are constructing the claim and determining whether the accused device infringes the claim. *See* Markman v. Westview Instruments, Inc., 517 U.S. 370, 384, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). In *Markman,* the Supreme Court held that "the construction of a patent, including terms of art within its claim, is exclusively within the province of the court." 517 U.S. at 372, 116 S.Ct. 1384. The Court reasoned that jurors "unburdened by training in exegesis" are less suited to find the meanings of patents than judges. *See* Markman, 517 U.S. at 388, 116 S.Ct. 1384. The Court anticipated that claim construction by judges would increase uniformity in the treatment of patents.

1. *Claim Construction.*

[1] [2] The claims are those parts of the patent defining the limits, or the "metes and bounds," of the patent owner's exclusive rights during the life of the patent. *See* Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257 (Fed.Cir.1989). To be valid, the claims must "particularly point[ ] out and distinctly claim[ ] the subject matter which the applicant regards as his invention." 35 U.S.C. s. 112, para. 2. Although the Supreme Court placed no limits on the evidence a district court may consider during claim construction, the Federal Circuit has instructed courts to look "first to the intrinsic evidence of record, *i.e.,* the patent itself, including the claims, the specification and, if in evidence, the prosecution history...." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). Dictionaries and technical treatises may be considered along with the intrinsic evidence to determine the ordinary meaning of terms. *See* Vitronics Corp., 90 F.3d at 1584 n. 6. Other extrinsic evidence should be consulted only when ambiguity remains after examining the intrinsic evidence.

[3] The language of the claim should be considered first when determining the scope of the patent. *See* Vitronics Corp., 90 F.3d at 1582. The terms within the claims are to be given their ordinary and accustomed meaning as understood by one of ordinary skill in the field of the invention. *See* Hockerson-Halberstadt v. Avia Group Intern., 222 F.3d 951, 955 (Fed.Cir.2000). However, the "heavy presumption" that terms should receive their ordinary meaning can be overcome where the patentee acts as his own lexicographer or where a term is unclear such that there are "no means by which the scope of the claim may be ascertained from the language used." Johnson Worldwide Associates, Inc. v. Zebco Corp., 175 F.3d 985, 989-90 (Fed.Cir.1999).

[4] Next, the specification should be examined because "claims must be read in view of the specification, of which they are a part." Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed.Cir.1995) ("*Markman I*") *aff'd* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). "The specification contains a written description of the invention that must enable one of ordinary skill in the art to make and use the invention." Markman I, 52 F.3d at 979. Aside from the language of the claims, the specification "is the single best guide to the meaning of a disputed term." Vitronics Corp., 90 F.3d at 1582. The specification does not, however, control or provide additional limitations on the claim.

[5] The prosecution history is the third piece of intrinsic evidence and constitutes the record of all proceedings before the Patent and Trademark Office ("PTO"), including representations about the scope of the claims. For claim construction purposes, the prosecution history "determine[s] whether the patentee has relinquished a potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference." *See* Bell Atlantic Network Serv. v. Covad Communications, 262 F.3d 1258, 1268 (Fed.Cir.2001). In *Markman I,* the Federal Circuit stated the prosecution history is of "primary significance" and should be consulted to "ascertain the true meaning of language used in the patent claims...." 52 F.3d at 980. Still, the prosecution history, like the specification, serves only to interpret the claims, not enlarge, diminish or vary the limitation.

Finally, regarding extrinsic evidence, the Federal Circuit has stated that "when the intrinsic evidence is unambiguous, it is improper for a court to rely on extrinsic evidence such as expert testimony when construing disputed claim limitations." CAE Screenplates v. Heinrich Fiedler GmbH, 224 F.3d 1308, 1318 (Fed.Cir.2000). However, "it is entirely appropriate, perhaps even preferable, for a court to consult trustworthy extrinsic evidence to ensure that the claim construction it is tending to from the patent file is not inconsistent with clearly expressed, plainly apposite, and widely held understanding in the pertinent technical field." Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1309 (Fed.Cir.1999). In the "rare circumstance" where intrinsic evidence does not resolve the ambiguity within a claim, extrinsic evidence such as expert testimony, articles and inventor testimony may be consulted. *See* Bell Atlantic, 262 F.3d at 1269. But when this occurs, the extrinsic evidence cannot vary or contradict the terms of the claims. Markman I, 52 F.3d at 981. The Federal Circuit made clear in *Markman I* that a plaintiff has no right to present extrinsic evidence, rather a district court, in its discretion, may choose to receive extrinsic evidence. *See* 52 F.3d at 980. Typically, the accused infringer proffers the extrinsic evidence because it would be ironic for the patentee to argue the intrinsic evidence to his or her own patent is ambiguous and insufficient. *See* Sextant Avionique, S.A. v. Analog Devices, Inc., 172 F.3d 817, 825 (Fed.Cir.1999).

Under 35 U.S.C. s. 112, para. 6, a claim may express a means for performing a function without specifying the structure or material of the means, called a "means-plus-function" ("MPF") claim. FN2 In Warner-Jenkinson Co. v. Hilton Davis Chemical, 520 U.S. 17, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997), the Court explained that under s. 112, para. 6 "an applicant can describe an element of his invention by the result accomplished or the function served, rather than describing the item or element to be used (e.g., 'a means of connecting Part A to Part B,' rather than 'a two-penny nail')." 520 U.S. at 27, 117 S.Ct. 1040.

FN2. 35 U.S.C. s. 112, para. 6 provides:
An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

[6] As a preliminary matter, the court must first satisfy itself as a matter of law that a claim limitation is in MPF form and must, therefore, be construed in accordance with s. 112, para. 6. *See* Kemco Sales, Inc. v. Control Papers Co., Inc., 208 F.3d 1352, 1361 (Fed.Cir.2000). Use of the term "means" in a claim raises a presumption that s. 112, para. 6 applies, but the presumption can be rebutted if the court finds the claim limitation sets forth a sufficiently definite structure to perform the claimed function. *See* Kemco Sales, 208 F.3d at 1361. Conversely, lack of the term "means" raises the presumption that s. 112, para. 6 does not apply, but that presumption can be rebutted if the claimed limitation does not render a sufficiently definite structure.

After deciding that a MPF limitation is at issue, the Federal Circuit requires two steps for constructing the claims. First, the court must determine the function as explicitly set forth in the claims. *See* Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc., 296 F.3d 1106, 1113 (Fed.Cir.2002). To do this, the court must construe the exact function by considering only the claimed limitations, not equivalent limitations. The court must not narrow the scope of the function beyond the claimed limitations or broaden the scope to encompass a greater function. Ordinary principles of claim construction govern interpretations of the claimed limitation that define the function. *See* Cardiac Pacemakers, 296 F.3d at 1113.

Second, the court must determine what structure, if any, is set forth in the specificationas a means of performing the function, and if that structure corresponds to the means for performing the function. *See* Cardiac Pacemakers, 296 F.3d at 1113. In Chiuminatta Concrete Concepts v. Cardinal Industries, 145 F.3d 1303 (Fed.Cir.1998), the Federal Circuit stated:

[T]he "means" term in a means-plus-function limitation is essentially a generic reference for the corresponding structure disclosed in the specification. Accordingly, a determination of corresponding structure is a determination of the meaning of the "means" term in the claim and is thus also a matter of claim construction.

145 F.3d at 1308. For a structure to be deemed a "corresponding structure," the structure must perform the claimed function and the specification "must clearly associate the structure with performance of the function." Cardiac Pacemakers, 296 F.3d at 1113. If no embodiment contains a structure sufficient to be a "corresponding structure," the claim is invalid for failure to satisfy the definiteness requirement under s. 112, para. 2. *See* Cardiac Pacemakers, 296 F.3d at 1114.

2. ***Claim Construction of Claim 1 in*** Patent '431.

Before discussing the merits, two matters must be addressed. First, QSI alleges that MTH's Proto-Sound II infringes the following claims in patent ' 431: 1-10, 12-14, 19-23, and 25. Of those claims, numbers 1, 12, 19, and 20 are independent claims. MTH argues that the independent claims contain virtually identical language, the only variation being that claims 19 and 20 express the "state generator" in terms of "means ... for generating ... state control signals" rather than a "state generator" for generating control signals. As such, MTH argues all the independent claims should be construed consistent with claim 1. And because dependent claims cannot be infringed if their guiding independent claims are not infringed, MTH argues that if claim 1 is not infringed then no other claim in '431 is infringed. QSI does not contest MTH's reasoning on this point.

Second, throughout their memoranda, both parties suggest that patent '431 controls the disposition of the remaining three patents. MTH nevertheless filed a motion for summary judgment regarding patent '431 and a separate motion for summary judgment regarding patents '048, '068 and '005. MTH states that the reason for bifurcation was for the sake of clarity, although in its memorandum regarding the latter three patents, MTH states that "all four patents share the same specification, and thus, citations to the patent specifications are limited to that of the '431 patent in order to avoid redundancy." MTH also states that "[w]ith a minor exception of no relevance to this action, all four asserted patents share the same specification (e.g. all the figures and descriptions thereof are the same)." QSI appears to agree with MTH's characterization. Because claim construction "is not an obligatory exercise in redundancy," the *Markman* hearing focused only on the terms in dispute, which are the second, third and fourth elements of claim 1 in patent '431. *See* U.S. Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed.Cir.1997) ("[c]laim construction is a matter of resolution of disputed meanings and technical scope").

I now turn to construction of claim 1.

a. Element 2: " ***a state generator in the remote object for generating a plurality, n, of operating state signals*** **wherein one operating state signal at a time is generated in response to said state control signals to select one of a predetermined number of effects groups"**

[7] The parties agree that element 2 is in MPF format despite absence of the term "means," which would create the presumption that s. 112, para. 6 applies. Because the element recites the function of generating operating state signals, the remaining question is whether the element contains a sufficiently definite structure to bring it outside s. 112, para. 6. *See* Sage Products v. Devon Industries, Inc., 126 F.3d 1420, 1427-28 (Fed.Cir.1997) (where a claim recites a function "but then goes on to elaborate sufficient structure, material, or acts within the claim itself to perform entirely the recited function, the claim is not in means-plus-function format"). The parties explained at the *Markman* hearing that the term "state generator" does not connote a structure, but rather a "model-type concept" that could be implemented in different ways. Furthermore, the remainder of the element describes what takes place inside the state generator-"one operating state signal at a time is generated in response to said state control signals to select one of a predetermined number of effects groups"-but does not set forth any structure, materials or acts for performing that function. *See* Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1214 (Fed.Cir.1998) (holding that s. 112, para. 6 applied because the limitation did not provide any structure and the limitation was drafted as a function to be performed rather than a definite structure or materials). For these reasons, I agree with the parties that this element is written in MPF form.

[8] Next, I must identify and construe the function. The parties agree that the function is "generating operating state signals." The specification states that operating state signals can select an effects group, and can select and operate groups of state dependant effects. Therefore, I conclude that "operating state signals" are those signals generated by the state generator in response to the state control signals that serve the purposes of (1) combining with the remote control signals to provide remote controlled effects and (2) selecting and operating the predetermined state dependent effects.

The parties dispute what structures correspond to the function. MTH claims that the specification identifies only figure 5 as a structure that embodies the function of generating operating state signals. I agree with MTH because the specification states that "[t]he on-board electronic state generator that we used is shown in FIG. 5." Patent '431, Col. 8, line 21. At the *Markman* hearing, QSI argued that figures 5 and 12 demonstrate that the state of the motor control unit, also referred to as the electronic reverse unit, is a part of the state

generator. After examining the patent, I reject QSI's argument because no language in the specification clearly states that the state of the motor control unit is a part of the state generator. Instead, in many places the specification refers to the state generator and the state of motor control unit as separate structures. *See, e.g.,* Patent '431 Col. 7, line 49 ("Our on-board electronic state generator will correspond in part to the state of the motor control unit."); Col. 8, line 39 ("This way, no matter what motor control unit state is selected to come up in reset, there will only be one state corresponding to reset in the on-board electronic state generator."); Claim 5 ("[W]herein said means for generating predetermined state control signals comprise: a motor control unit with a plurality of predetermined motor control unit signals."). Furthermore, in the "Brief Description of the Drawings" section of the patent, figure 5 is described as a "block diagram of the on-board state generator and electronic motor control unit...." Patent '431, Col. 4, line 15. Thus, I construe figure 5, and therefore figure 12, to be a diagram of the state machine and the state generator. My construction does not foreclose the possibility that the state generatoruses signals from the motor control unit as an input.

In sum, I construe the corresponding structure to the "state generator in the remote object" as follows:

The corresponding structure to a state generator is the circuitry shown in Figure 5 of the patent consisting of the shown combination of AND gate/flip-flop/clock that produces 5 operating state signals: reset; forward; neutral before reverse; reverse; and neutral before forward.

Operating state signals are those signals that (1) combine with the remote control signals to provide remote controlled effects and (2) trigger the predetermined state dependent effects.

b. Element 3: " ***means in the remote object for generating a plurality, m, of effect control signals*** **"**

[9] Element 3 is written using the "means" term, which gives rise to a presumption that s. 112, para. 6 applies. The presumption is not rebutted because the element describes a function and does not contain a sufficiently definite structure.

[10] The parties agree that the function is "generating a plurality, m, of effect control signals." The specification states that the purposes of "m effect control signals are to either select each of the 'm' effects in a group or they can both select and operate each of the 'm' effects." Patent '431, Col. 5, line 19. The difference between the purposes is that where the "m" effect control signals simply select the different effects, then "q" signals are provided for operating the selected effects. At the *Markman* hearing, QSI expressed concern about the court's proposed construction of effect control signals being "those signals that either select groups of effects or select and operate effects." After further consideration, I construe effect control signals to be those signals that (1) select each of the "m" effects in a group or (2) select and operate each of the "m" effects. *See* Patent '431, Col. 5, line 19.

The parties disagree about the structures that generate "m" effect control signals. MTH argues that box 110 in figure 1, the "select state generator," is the sole structure disclosed for generating "m" effect control signals and should be the sole corresponding structure. As support, MTH offers the deposition testimony of Patrick Quinn in which he states that the means for generating "m" effect control signals is box 110. QSI argues that in addition to the select state generator in box 110, three other structures generate "m" effect control signals: (1) where no select state generator is used, the signal detector receives +DC and -DC signals to generate decode logic; (2) in figure 13, a structure is shown generating "m" effect signals; and (3) in the description of the invention, figure 1 shows a means for generating "m" effect control signals.

I agree with MTH that the select state generator is a corresponding structure, but also agree with QSI that the signal detector generates effect control signals. The description of invention states the "[select state generator] is used to generate the "m" effect control signals from the "r" detected remote control signals." Patent '431, Col. 5, line 28. The reason I agree with QSI about the signal detector is that where no select state generator is used, the specification states that the "[signal detector] will produce logic signals acceptable to our decode logic that correspond to the positive and negative DC superimposed remote control signals." Patent '431, Col. 8, line 53. In other words, without the select state generator the signal detector translates the DC signals into logic signals that are read by the combination logic block as effect control signals.

At the *Markman* hearing, QSI stated that claim 1 is not limited to particular +DC and -DC effect control signals. QSI is correct that the *claim* is not limited to particular signals, but I have construed the corresponding structures with reference to the +DC and -DC signals. And because the specification states that the signal detector produces logic signals that correspond to the +DC and -DC signals, the corresponding structure is limited to the use of DC signals as disclosed by the specification. Therefore, I construe the means for generating effect control signals as follows:

The two corresponding structures that generate effect control signals are:

(1) the signal detector shown in figure 6 operating to receive +DC and -DC signals and generating decode logic that corresponds to those signals.

(2) the select state generator shown in box 110 and described as a resettable counter plus decode logic which takes the single logic signal ("select") from the signal detector and outputs a number of effect control signals.

Effect control signals are those signals that:

(1) select each of the "m" effects in a group or

(2) select and operate each of the "m" effects.

c. Element 4: " ***means in the remote object responsive to predetermined combinations of said n operating state signals and said m effect control signals,*** **where m and n are both greater than one, for selecting and controlling effects among the selected effects group."**

[11] I agree with the parties that element 4 is in MPF form. The element uses the term "means" which creates the presumption of a MPF limitation. The presumption is not rebutted because the limitation contains a function and does not disclose a sufficiently definite structure.

The parties agree that the function here is selecting and controlling effects among the selected effects group. Nothing suggests that this function should not mean that the corresponding structure chooses and commands the certain effects described in the earlier elements.

A more difficult question is what structures correspond to the means of being responsive to predetermined combinations of "n" operating state signals and "m" effect control signals. Figure 1 and the specification

contain a structure termed the "combination logic block" wherein each state of the on-board electronic state generator enables signal gating in the combination logic block to select or operate "m" remote control options for each of the "n" operating state signals. The result is that the combination logic block can activate one of "n" times "m" effects from a limited number of remote signals. MTH argues that one of ordinary skill in the art would understand a combination logic block to be a circuit solely built from logic gates whose outputs are uniquely defined for every set of inputs. QSI does not refute MTH's proposed construction, but proposes that the specification contains four additional corresponding structures to the combination logic block: (1) logic gates 1210 to 1224 in figure 12 of embodiment one; (2) gates 1401 and 1402 in figure 14 of embodiment two; (3) figure 15 of the preferred embodiment; and (4) figure 1. I agree with the first two of QSI's proposals in addition to MTH's proposal.

First, the specification states that the operating state signals from the state generator connect with the AND gates 1210-1224 where they combine with the +DC and -DC signals to output certain remote functions. Therefore, I have included this as a corresponding structure because AND gates 1210-1224 combine operating state signals and effect control signals to create effects. Second, the specification states that the rear or forward coupling arming latch can be set from AND gates 1401 and 1402 if effect control signals are sent when the state of the locomotive is either neutral before reverse or neutral before forward. Furthermore, figure 14 shows these gates combine signals to activate the couple arming latch. I conclude that this is a corresponding structure to the means of combining operating state signals and effect control signals to produce effects.

Therefore, I construe the structures corresponding to the means in the remote object responsive to predetermined combinations of operating state signals and effect control signals to be as follows:

The corresponding structure to the combination logic block is a discrete set of logic gates that combines:

(1) the output of the state generator in the form of operating state signals; and

(2) the output of the select state generator for generating effect control signals or the output of the signal detector shown in figure 6 operating to receive +DC and -DC signals and generating decode logic if no select state generator exists.

These are embodied as:

(1) the combination logic block in figures 1 and 15;

(2) the AND gates of 1210-1224 in figure 12; and

(3) the AND gates 1401 and 1402 in figure 14 when the state of the locomotive is either neutral before reverse or neutral before forward.

d. The Existence of a Microprocessor or Central Processing Unit ("CPU") in Patent '431.

The parties dispute whether QSI's invention contains a microprocessor. I have construed the claims without reference to a microprocessor or a CPU because there is no support for that construction in the specification.

QSI argues that the description of the invention suggests the invention implements a microprocessor or other

CPU under the control of software programming. In support, QSI's expert states that because the state generator receives input from "internal programing" shown in figure 1 (box 105), and because the "address and command storage" can be programmed, a microprocessor should be presumed. QSI further relies on its expert's conclusion that a person of ordinary skill in the art would recognize that the invention "can be implemented" using a microprocessor, which would be "the most practical way to perform these functions."

For claim construction purposes, however, QSI's argument that a person of ordinary skill in the art would presume the use of a microprocessor overlooks the Federal Circuit's mandate that the specification clearly link the structure with performance of the function. *See* Cardiac Pacemakers, 296 F.3d at 1113 ("[T]he structure must not only perform the claimed function, but the specification must clearly associate the structure with performance of the function."). The term "microprocessor" does not appear in the specification and no ambiguity exists to justify extrinsic evidence. My conclusion should not be read as foreclosing the possibility that patent '431 could operate in conjunction with a microprocessor or could contain an equivalent structure to a microprocessor.

3. ***Patent Infringement.***

In the second step of a patent infringement case, the trier of fact must decide whether the claims, as interpreted by the court in the *Markman* hearing, cover or "read on" the infringing device. In the realm of MPF claims, an accused device can infringe a claim either through literal infringement or under the doctrine of equivalents. Under s. 112, para. 6, where the accused device contains the exact function, the claims cover the structure set forth in the specification and "equivalents thereof."

When determining "equivalents thereof" under s. 112, para. 6, the context of the invention must be considered because the statute requires equivalent structures, not structural equivalence. *See* IMS Technology, Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1436 (Fed.Cir.2000). In a footnote, the *IMS* Court explained that where a MPF claim stated a means for securing A and B, and the specification disclosed a nail, the use of a screw would be a s. 112, para. 6 equivalent structure although the screw is not the structural equivalent of a nail. An accused device is an equivalent structure to the corresponding structure if the differences are "insubstantial." Chiuminatta, 145 F.3d at 1309.

[12] Two tests exist for determining s. 112, para. 6 equivalency. First, if the accused device performs the identical function, a reduced version of the "tripartite" test asks whether the accused device "performs the function in substantially the same way to achieve substantially the same result." IMS, 206 F.3d at 1435. Second, the "known interchangeability" test asks whether a person with ordinary skill in the art would have known of the interchangeability of the element in the accused device with the corresponding structure. *See* Chiuminatta, 145 F.3d at 1309 ("Almost by definition, two structures that perform the same function may be substituted for one another. The question of known interchangeability is not whether both structures serve the same function, but whether it was known that one structure was an equivalent of another.").

To apply the equitable doctrine of equivalents, courts employ the full tripartite test to determine whether the accused device "performs substantially the same function in substantially the same way to obtain the same result." Graver Tank & Mfg. Co. v. Linde Co., 339 U.S. 605, 608, 70 S.Ct. 854, 94 L.Ed. 1097 (1950). As with literal infringement, the doctrine of equivalents cannot be applied unless every limitation of a claim is satisfied either exactly or by a substantial equivalent, called the "all elements" or "all limitations" rule. *See* Warner-Jenkinson, 520 U.S. at 29, 117 S.Ct. 1040. The requirement that the accused device contain every claim limitation does not require one-to-one correspondence. *See* Eagle Comtronics, Inc. v. Arrow

Communication Laboratories, Inc., 305 F.3d 1303, 1317 (Fed.Cir.2002).

MTH argues that *Chiuminatta* controls the issue of structural equivalence when conducting the s. 112, para. 6 literal infringement analysis. There, the Federal Circuit held that the district court erroneously construed the corresponding structure to be the broader definition of a "support surface," rather than the skid plate that stabilized the saw blade as disclosed in the specification. *See* Chiuminatta, 145 F.3d at 1308-09. The Federal Circuit then reversed the district court's conclusion that two small wheels serving to stabilize the saw blade in the accused device were an equivalent structure to the skid plate. MTH argues that the differences between the devices in *Chiuminatta* are minuscule compared to the differences between MTH's microprocessor and figure 5 in QSI's patent '431. While MTH may be correct, summary judgment is inappropriate because MTH has not rebutted the factual assertions of QSI's expert that the Proto-Sound II, when operated in Conventional mode, is covered by the patent.

In Overhead Door Corp. v. Chamberlain Group, Inc., 194 F.3d 1261 (Fed.Cir.1999), the court stated that "[a]lthough equivalence is a factual matter normally reserved for a fact-finder, the trial court should grant summary judgment in any case where no reasonable fact-finder could find equivalence." 194 F.3d at 1269. The court clarified, however, that the "lofty standard" had not been met where the record contained considerable evidence, including several reports and declarations by the patentee's expert, that one skilled in the art would find the accused device's use of software-driven memory selection system to be insubstantially different from the hardware switch in claim 1.

[13] Here, each of MTH's contentions about the differences between the Proto-Sound II and the limitations in claim 1 is contested by the declarations and reports of QSI's expert. Regarding the state generator limitation, MTH contends that the signal processor in Proto-Sound II executes whatever instructions it receives from the operator without any reference to the directional state or operating state signals. Without such operating state signals, MTH argues that the operator of a Proto-Sound II does not need to maintain visual contact with the train as is required to operate the '431 patent. QSI responds that certain effects for the MTH train are only available in certain operating states and that at least two effects of the Proto-Sound II require the operator to know the state of the train. QSI also asserts that MTH's device generates operating state signals in response to state control signals to make groups of effects available. As for equivalent structures, QSI's expert states that "the MTH device's on-board engine DSP, controlling software, and related circuitry is an equivalent of the corresponding structure disclosed in the '431 patent."

With respect to element 3, MTH argues that the "effects" generated by its microprocessor are the final outcome, unlike the "effect control signals" in patent '431 that work in combination with state control signals to create a desired effect. In other words, MTH asserts that its microprocessor uses one signal to generate one effect. Even assuming the Proto-Sound II does generate effect control signals, MTH states that the circuitry is not identical or equivalent to that disclosed in the '431 patent. QSI, in turn, relies on its expert's conclusion that the MTH device uses the same +DC and -DC offset voltage signals as the '431 patent. QSI's expert further claims that the Proto-Sound II responds to specified sequences of bell and whistle/horn DC offset signals of predetermined duration to control different effects, which are similar to the effect control signals in patent '431. Finally, QSI's expert's report concludes that the MTH digital signal processor under the control of the associated software is equivalent to the corresponding structure in patent '431.

With respect to element 4, MTH argues that because its processor does not generate operating state signals or effect control signals, it follows that nothing in the Proto-Sound II is responsive to such signals. MTH's expert states that "I believe it would be misleading and wrong to equate such a combination logic block ...

with the digital microprocessor used in the Proto-Sound II...." QSI responds that a person of ordinary skill in the art would understand that a microprocessor programmed by special purpose software could be used as a replacement for the combination logic and driver circuits.

In conclusion, a genuine issue of fact remains as to whether Proto-Sound II literally infringes patent '431.

Turning next to the doctrine of equivalents, MTH argues that QSI cannot rely on the doctrine because the language of the specification, as MTH reads it, disclaims the use of "complicated digital remote control systems" because consumers "tend to resist" them for a "variety of reasons." QSI's expert explains that these statements are "design guidelines" and cites the part of the specification which states "[i]t is not implied that the control signals are exclusively digital, analog or that each is limited to only one function each." I reject MTH's interpretation of the specification because the language, when read as a whole, explains that prior to the invention the "[operators of Lionel trains] tend to resist complicated digital remote control systems for a variety of reasons." The challenge of offering more remote effects without departing from the traditional Lionel remote control appears to be what the patentees attempted to solve with patent '431, and may, in fact, have been what motivated MTH to include Conventional mode on its Proto-Sound II. *See* MTH Memorandum in Support, pp. 13-14 (In Conventional mode, "the operator gets the additional functionality of this digital age without giving up his trusted and familiar transformer.")

Thus, a genuine issue of material fact also remains as to whether the Proto-Sound II infringes patent '431 under the doctrine of equivalents.

II. ***MTH's Motion for Summary Judgment Regarding Proto-Sound I.***

The parties agree on the following facts pertaining to this motion. In February 1996, MTH and QSI entered into a license agreement that granted MTH the exclusive right to use three patents in return for a $250,000 annual royalty payment. MTH relied on these patents in the manufacture and sale of Proto-Sound I. On November 15, 2000, MTH terminated the license agreement retroactive to November 6, 2000. Following termination of the license agreement, MTH stopped manufacturing products containing Proto-Sound I but continued offering for sale those products manufactured before November 6, 2000. MTH's sale of products containing Proto-Sound I after November 6, 2000 is the subject of this summary judgment motion.

1. ***Parties' Arguments.***

MTH contends that summary judgment is appropriate "[s]ince all products containing Proto-Sound I were manufactured by MTH during and pursuant to the terms of a valid License Agreement." MTH offers two arguments in support of this position. First, MTH argues that, because the products manufactured before November 6, 2000 were "licensed products," QSI impliedly authorized MTH to sell those products after termination of the license agreement. Second, MTH relies on the "patent exhaustion" or "first-sale" doctrine, which states that any products made or sold under the authority of the patent owner are beyond the scope of the patent. In support, MTH cites Intel Corp. v. ULSI System Technology, Inc., 995 F.2d 1566 (Fed.Cir.1993) for the rule that the first-sale doctrine "applies similarly to a sale of a patented product manufactured by a licensee acting within the scope of its license." 995 F.2d at 1568. Essentially, MTH contends that permitting QSI to recover damages for infringement costs, in addition to royalty payments, allows double recovery for the invention.

QSI, in turn, argues that the language of s. 6.8 of license agreement controls the post-termination sales:

MTH agrees to immediately cease and desist from making, using or selling LICENSED PRODUCTS upon the earliest of final termination, cancellation or expiration of the license granted herein; ...

QSI also argues that the patent exhaustion or first-sale doctrine applies only in the situation where a buyer purchases a patented product from a licensee authorized to sell the patented product or a licensee acting within the scope of the license.

MTH responds to QSI's arguments by raising two new arguments in its reply. First, MTH argues that QSI cannot rely on s. 6.8 of the license agreement because s. 11.2 provides that "any dispute arising between [the parties] with respect to this Agreement shall be resolved by arbitration." Second, MTH argues that s. 6.8 is inconsistent with the license agreement read as a whole and should be ignored.

2. ***Analysis.***

The patent exhaustion or first-sale doctrine is not applicable here. Express conditions making a sale or license conditional are upheld by the Federal Circuit and render the doctrines inapplicable. *See* B. Braun Medical Inc. v. Abbott Laboratories, 124 F.3d 1419, 1426 (Fed.Cir.1997) ("This exhaustion doctrine, however, does not apply to an expressly conditional sale or license."). MTH's reliance on *Intel* is misplaced because it held that an authorized sale from the licensee to a third-party insulates the third-party from patent infringement claims by the patentee.

MTH's argument that s. 6.8 is inconsistent with the remaining provisions of the license agreement fails because other provisions of the license agreement also state that MTH's right to sell licensed products hinges on the payment of royalties. Section 2.1 describes the exclusive license as granting MTH the "sole and exclusive right ... to make, use and sell [licensed products] during the term specified below...." Likewise, s. 4.6.2 provides that should MTH voluntarily cancel the license and provide the required two-year notice, then "MTH may continue manufacturing and selling LICENSED PRODUCTS during the two-year notice period only if said royalties are timely paid in full...." Thus, s. 6.8 is not inconsistent with the license agreement.

Although MTH appears to have breached s. 6.8 of the license agreement, s. 11.2 requires the dispute to be resolved through arbitration: "The parties agree that any dispute arising between them with respect to this Agreement shall be resolved by arbitration." This arbitration provision is binding. *See* 9 U.S.C. s. 2. FN3 Furthermore, under *Simula, Inc. v. Autoliv, Inc.*, " 'any doubts concerning the scope of arbitrable issues should be resolved in favor of arbitration.' " 175 F.3d 716, 719 (9th Cir.1999) (quoting Moses H. Cone Memorial Hosp. v. Mercury Constr., 460 U.S. 1, 24-25, 103 S.Ct. 927, 74 L.Ed.2d 765 (1983)).

FN3. 9 U.S.C. s. 2 provides:
A written provision in ... a contract evidencing a transaction involving commerce to settle by arbitration a controversy thereafter arising out of such contract or transaction, or the refusal to perform the whole or any part thereof ... shall be valid, irrevocable, and enforceable, save upon such grounds as exist at law or in equity for the revocation of any contract.

Following the hearing, I denied MTH's motion for summary judgment because s. 6.8 of the contract specifies that MTH must cease and desist from making, using or selling licensed products upon termination

of the license. In view of s. 11.2 of the license agreement, I refer QSI's claims concerning the Proto-Sound I to arbitration.

CONCLUSION

Claim 1 of patent '431 shall be construed in accordance with this opinion. MTH's motions for summary judgment (# 78, # 81, # 86) are DENIED. QSI's claims with respect to Proto-Sound I are referred to arbitration.

D.Or.,2002.
QSIndustries, Inc. v. Mike's Train House, Inc.