United States District Court,
D. Maryland.

Henry S. KERNIUS, et al,
Plaintiffs.
v.
INTERNATIONAL ELECTRONICS, INC., et al,
Defendants.

March 30, 2007.

Joseph J. Zito, Zito TLP, Washington, DC, for Plaintiffs.

Dan Friedman, Jason M. St. John, Saul Ewing LLP, Baltimore, MD, David L. Nocilly, Bond Schoeneck and King PLLC, Syracuse, NY, Alec W. Farr, Bryan Cave LLP, Washington, DC, J. Robert Chambers, P. Andrew Blatt, Theodore R. Remaklus, Wood Herron and Evans LLP, Cincinnati, OH, for Defendants.

MEMORANDUM OPINION

RICHARD D. BENNETT**, United States District Judge.**

Plaintiffs Henry S. Kernius and Ray J. Frise ("Plaintiffs") filed this patent infringement action against Defendants International Electronics, Inc. ("IEI"), Radio Shack Corporation ("RadioShack"), Best Buy Company, Inc. ("Best Buy"), Target Corporation ("Target"), and Wal-Mart Stores, Inc. ("Wal-Mart") (collectively, "Defendants"). Plaintiffs allege that Defendants have infringed U.S. Patent No. 6,628,771 (the " '771 Patent"). Currently pending is Defendants' request that this Court construe certain claim language from the ' 771 Patent pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370 (1996). The issues have been fully briefed and this Court held a *Markman* hearing on March 23, 2007. This Memorandum Opinion sets forth this Court's construction of the claim language discussed during that hearing.

BACKGROUND

The '771 Patent relates to a "a device which allows a person to use his or her call waiting feature when he or she is using the same telephone line to connect to the internet." (Pl.'s Cl. Constr. Br. p. 1.) As the '771 Patent explains:

The device ... will alert by audible and visual means. When a subscriber answers the third party's call a switching circuit is activated that disconnects any local modem or FAX interfaced to the device and signals a switch-hook flash. This allows a call waiting party to commence in conversation or a data-signal to be received. The device also incorporates a switch to select automatic answer mode to allow a subscriber to share an engaged telephone line with in-coming calls to a FAX machine. Upon completion of these in-coming calls the device will automatically switch back to the previously engaged telephonic device.

'771 Patent, Abstract; *see also* id. at Col. 1-2 (describing background art and objects of invention).

Eleven disputed claim phrases were identified by the parties' Joint Claim Construction Statement. Only six of those phrases, however, were still in dispute when the *Markman* hearing commenced. Those phrases are addressed in this Memorandum Opinion. They include: (1) "call progress detector circuitry for detecting a call waiting signal," (2) "microcontroller set of instructions signals received from the call progress detector circuitry," (3) "circuitry to recognize a first signal with a duty cycle or cadence coupled with frequency and level indication of a call waiting SAS signal or a distinctive call waiting SAS signal," (4) "configured to operate in either the presence or absence of a bandwidth encompassing modem signal," (5) "circuitry for performing a mute ... and transferring," and (6) "alerting the subscriber for a set period visually or until an acknowledge button is depressed before the set period expires."

STANDARD OF REVIEW

Claim construction is a question of law. Markman, 52 F.3d at 977-78. In interpreting a claim, a court should look first to the intrinsic evidence, *i.e.*, the patent itself, including the claims and the rest of the specification, and, if in evidence, the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996) (citation omitted). Although it is within the sound discretion of a court to use extrinsic evidence as an aid in construing a claim, extrinsic evidence is "unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." Phillips v.. AWH Corp., 415 F.3d 1303, 1319 (Fed.Cir.2005) (en banc). FN1

FN1. Although Plaintiff discussed the accused devices at various points during the *Markman* hearing, this Court did not rely on any such information in construing the claims of the '771 Patent. This Court notes, moreover, that it is "appropriate for a court to consider the accused device when determining what aspect of the claim should be construed." Exigent Tech., Inc. v. Atrana Solutions, Inc., 442 F.3d 1301, 1310 n. 10 (Fed.Cir.2006) (citations omitted). By focusing on those aspects of the claim whose relation to the accused device is in dispute, courts avoid wasting time on claim construction matters that are irrelevant to the litigation.

A claim term should be construed to mean "what one of ordinary skill in the art at the time of the invention would have understood the term to mean." Markman, 52 F.3d at 986. However, "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Phillips, 415 F.3d at 1313. Thus, the specification is usually " 'dispositive; it is the single best guide to the meaning of a disputed term.' " Id. at 1315 (quoting Vitronics, 90 F.3d at 1582). In other words, a claim term can be given its correct construction only within the context of "what the inventors actually invented and intended to envelop with the claim." Phillips, 415 F.3d at 1316.

DISCUSSION

I. Representative Claim Language

The language of independent claims 1, 9, and 14 is representative of the disputed phrases. Claim 1 provides:

1. An apparatus for alerting a subscriber of a call waiting or a distinctive call waiting condition without the

subscriber having to aurally monitor the subscriber's telephone receiver for call waiting SAS tones or distinctive call waiting SAS tones comprising;

call progress detector circuitry for detecting either a call waiting SAS signal or a distinctive call waiting SAS signal;

microcontroller set of instructions signals received from the call progress detector circuitry;

circuitry to recognize a first signal with a duty cycle or cadence coupled with frequency and level indication of a call waiting SAS signal or a distinctive call waiting SAS signal; *wherein the apparatus is configured to operate in either the presence or absence of a bandwidth encompassing modem signal;*

alert circuitry to alert the subscriber visually when the microcontroller set of instructions, stored in program memory, executing logic determines either a call waiting or a distinctive call waiting condition.

'771 Patent, Col. 14, ll. 13-32 (emphasis added). Claim 9 provides:

9. An apparatus for altering a subscriber and manually managing a call waiting or distinctive call waiting condition comprising;

call progress detector circuitry for detecting either a call waiting SAS signal or a distinctive call waiting SAS signal;

circuitry to recognize a first signal with a duty cycle or cadence coupled with frequency and level indication of a call waiting SAS signal or a distinctive call waiting SAS signal; wherein the apparatus is configured to operate in either the presence or absence of a bandwidth encompassing modem signal; first microcontroller set of instructions, stored in program memory, executing logic for processing a call progress signals received from the call progress detector circuitry;

alert circuitry to alert the subscriber visually when the first microcontroller set of instructions, stored in program memory, executing logic determines either a call waiting or a distinctive call waiting condition;

second microcontroller set of instructions, stored in program memory, executing logic for determining whether the subscriber's telephone line is in an off-hook condition;

third microcontroller set of instructions, stored in program memory, executing logic to control the line seizure circuitry;

first line seizure circuitry for performing the flash operation, *muting the telephonic device connected to the data port and transferring from the data port to the voice/Fax port;*

fourth microcontroller set of instructions, stored in program memory, executing logic for determining whether the telephonic device connected to the voice/FAX port goes from an off-hook to an on-hook condition;

second line seizure circuitry for performing a un-mute and transfer of the data port.

Id. at Col. 15, ll. 29-67 (emphasis added). Claim 14 provides:

14. A method to alert a subscriber of a call waiting or a distinctive call waiting condition without the subscriber having to aurally monitor the subscriber's telephone receiver for call waiting SAS tones or distinctive call waiting SAS tones comprising the steps of;

detecting either a call waiting SAS signal or a distinctive call waiting SAS signal; wherein said detecting is carried out on a first signal of a call waiting SAS signal or a distinctive call waiting SAS signal by detecting duty cycle or cadence coupled with frequency and level indication of a call waiting SAS signal or a distinctive call waiting SAS signal; if SAS detected, *altering the subscriber for a set period visually or until an acknowledge button is depressed before the set period expires;* if SAS is not detected continue to monitor for that condition.

Id. at Col. 16, ll. 23-40 (emphasis added).

II. Construction of Disputed Claim Phrases

1. Construction of "*Call Progress Detector Circuitry for Detecting a Call Waiting Signal*"

Plaintiffs contend that the claim language "call progress detector circuitry for detecting a call waiting signal" needs no construction. Defendants contend that this limitation should be construed as "[a] collection of electrical hardware components configured to detect a conventional call waiting system." (Def.'s Handout p. 17. FN2)

FN2. At the hearing, Defendants submitted copies of a summary of its proposed claim constructions to this Court. (*See* Defendant IEI's Proposed Claim Construction, Claim Construction Hearing, Friday, March 23, 2007 ("Def.'s Handout").) Although the constructions proposed in this handout differ from the constructions proposed in its claim construction brief, Defendants confirmed that the constructions set forth in the handout constitute its final proposed constructions. (*Compare* Def.'s Handout p. 17 (providing that "call progress detector circuitry for detecting a call waiting signal" should be construed as "[a] collection of electrical hardware components configured to detect a conventional call waiting system" *with* Def.'s Cl. Constr. Br. p. 6 (providing that this claim language should be construed as requiring "electronic circuitry (*i.e.*, a collection of hardware components) that is configured to detect a conventional call waiting signal and then output a corresponding signal.").)

The parties' dispute hinges on whether the claim term "circuitry" excludes "software based implementations, such as firmware or a microcontroller that may be programmed with software for accomplishing a particular task." (Def.'s Cl. Constr. Br. p. 7.) Plaintiffs contend that "circuitry" does not exclude so-called "software based implementations" whereas Defendants maintain that such implementations are excluded.

In constructing their argument, Defendants rely on Linear Tech. Corp. v. Impala Linear Corp., 379 F.3d 1311 (Fed.Cir.2004) and Massachusetts Instit. of Tech. v. Abacus Software, 462 F.3d 1344 (Fed.Cir.2006). FN3 In the *Linear Tech*. decision, the United States Court of Appeals for the Federal Circuit considered whether certain claim limitations involving the term "circuit" or "circuitry" are means-plus-functions limitations subject to 35 U.S .C. s. 112 para. 6. FN4 The Federal Circuit concluded that, because none of the disputed limitations included the word "means," the rebuttable presumption that s. 112 para. 6 does *not* apply was triggered:

FN3. At the hearing, Plaintiffs did not dispute Defendants claim that the *Linear Tech*. and *Abacus Software* decisions "apply [the] understanding of those of skill in the electrical engineering field around the date of the invention of the '771 Patent." (Def .'s Handout p. 19.)

FN4. 35 U.S.C. s. 112 para. 6 provides that "[a]n 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."

[W]hen the structure-connoting term "circuit" is coupled with a description of the circuit's operation, sufficient structural meaning generally will be conveyed to persons of ordinary skill in the art, and s. 112 para. 6 presumptively will not apply. *See* Apex Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1373 (Fed.Cir.2003) ("[T]he term 'circuit' with an appropriate identifier such as 'interface,' 'programming' and 'logic,' certainly identifies some structural meaning to one of ordinary skill in the art.").
Linear Tech., 379 F.3d at 1320.
The Federal Circuit faced a similar situation in *Abacus Software*. In that case, the parties disputed whether the term "aesthetic correction circuitry" connoted sufficient structure to avoid s. 112 para. 6 treatment. Abacus Software, 462 F.3d at 1355. After citing its prior decisions in *Linear Tech*. and *Apex Inc* ., the Federal Circuit noted that:

The claim language here too does not merely describe a circuit; it adds further structure by describing the operation of the circuit. The circuit's input is "appearance signals" produced by the scanner; its objective is to "interactively introduce[ ] aesthetically desired alterations into said appearance signals"; and its output is "modified appearance signals." This description of the operation of the circuit is sufficient to avoid 112 para. 6.

Id. at 1356 (citation omitted). The Federal Circuit also rejected the plaintiff's argument that "aesthetic correction circuitry" includes both hardware *and software*. "Although the specification suggests that certain computation performed by the [Color Translation Module] can be accomplished with either hardware *or software* ... [w]e conclude that the term 'circuitry' in claim 1 is limited to hardware." *Id*. at 1356-57 (emphasis in original).

The *Linear Tech*. and *Abacus Software* decisions, however, are not concerned with the precise issue upon which Defendants seek a ruling, *i.e.,* whether the term "circuitry" includes hardware but does *not* extend to so-called "software based implementations," *e.g.,* programmable microcontrollers. In *Linear Tech.,* for example, the Federal Circuit did not discuss whether "circuitry" includes just hardware, software, or software based implementations. In *Abacus Software,* the Federal Circuit concluded that "circuitry" excludes software, see 462 F.3d at 1357, but did not consider whether that term also excludes "software based implementations." FN5 Accordingly, this Court cannot accept Defendants' argument that limitations involving the term "circuitry" necessarily exclude "software based implementations, such as firmware or a microcontroller that may be programmed with software for accomplishing a particular task." (Def.'s Cl. Constr. Br. p. 7.)

FN5. Instead, the Federal Circuit appeared concerned with a less fine-grained distinction. *See* Abacus

Software, 462 F.3d at 1357 n. 7 (defining "hardware" as "the mechanical, magnetic, electronic, and electrical devices comprising a computer system" and "software" as "the programs used to direct the operation of a computer"). Against this backdrop, the Federal Circuit held that claim limitations involving the term "circuitry" could not be interpreted to include software. Id. at 1356-57 ("Although the specification suggests that certain computations performed by the [Color Translation Module] can be accomplished with either hardware or software, this reference does not alter the specification's repeated description of the circuit itself as *involving hardware*.") (emphasis added).

In addition, there is no reasonable dispute that the specification and prosecution history of the '771 Patent use the term "circuitry" to refer to programmable microcontroller 412. Specifically, claim 1 references "*circuitry* to recognize a first signal with a duty cycle or cadence coupled with frequency and level indication of a call waiting SAS signal or a distinctive call waiting SAS signal ..." '771 Patent, Col. 14, ll. 23-26 (emphasis added). The specification explains that, in the preferred embodiment, this limitation is satisfied by microcontroller 412. Id. at Col. 10, ll. 47-50 ("[T]he principal function of [microcontroller 412] is to receive call progress signals, specifically for the preferred embodiment of the present invention, it is the call progress signal (SAS) alerting signals for CW and DCW ."). Finally, the specification points out that microcontroller 412 is programmed. Id. at Col. 10, ll. 60-63 ("The microcontroller 412 is *programmed* with timing algorithms, which provide the flexibility for recognition of CW and a plurality of DCW signals.") (emphasis added). The prosecution history also uses the term "circuitry" to refer to microcontroller 412. (*See* Pl.'s Cl. Constr. Br. Ex. C (the "Dec. 12, 2002 Amendment").)

As a result, even if Defendants were correct that one of ordinary skill in the art would understand the claim term "circuitry" to exclude software based implementations, the written description and prosecution history use that term "in a manner clearly inconsistent with the ordinary meaning." *See* Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1204 (Fed.Cir.2002) (stating that if the specification uses the words in a manner clearly inconsistent with the ordinary meaning of a dictionary definition, the inconsistent dictionary definition must be rejected); *see also* Irdeto Access, Inc. v. Echostar Satellite Corp., 383 F.3d 1295, 1300 (Fed.Cir.2004) ("It is well-established that the patentee can act as his own lexicographer, so long as he clearly states any special definitions of the claim terms in the patent specification or file history.") (citation omitted). Moreover, to the extent that Defendants seek a construction of "circuitry" that excludes software based implementations such as programmable microcontrollers,FN6 it follows that such a construction would exclude the preferred embodiment that incorporates microcontroller 412. A claim construction that excludes a preferred embodiment, however, "is rarely, if ever, correct and would require highly persuasive evidentiary support...." Vitronics, 90 F.3d at 1583 (citations omitted). In this case, of course, no extrinsic evidence of any kind was submitted in connection with the meaning of the claim term "circuitry."

FN6. At the hearing, Defendants suggested that their proposed construction of the claim term "circuitry" applies to every use of that term in the claims of the '771 Patent. In addition, this Court notes that it is not clear whether Defendants' proposed construction would, if adopted, exclude so-called "software based implementations." As noted above, Defendants contend that "call progress detector circuitry for detecting a call waiting signal" should be construed as "a collection of electrical hardware components configured to detect a conventional call waiting system." One could reasonably view this proposed construction, however, as exchanging one term ("circuitry") that is arguably ambiguous with respect to software based implementations for a set of terms ("electrical hardware components" that have been "configured") that are equally ambiguous with respect to software based implementations.

Finally, this Court notes that there is no confusion about the meaning of the claim language "call progress detector circuitry for detecting a call waiting signal" other than the dispute regarding "circuitry." The parties acknowledge that the limitation at issue calls for circuitry for performing the task of detecting a call waiting signal. (*See* Pl.'s Cl. Constr. Br. p. 11; Def.'s Handout p. 18.) Defendants do not argue, and did not submit expert testimony to suggest, that one of ordinary skill in the art would have a difficult time understanding the meaning or scope of this limitation. There is no suggestion, moreover, that the relevant claim language is governed by 35 U.S.C. s. 112 para. 6. Finally, the parties recognize that the "call progress detector" of the preferred embodiment is the commercially available Teletone M-981 tone detector. (*See* Pl.'s Cl. Constr. Br. p. 11; Def.'s Handout p. 21); *see also* '771 Patent, Col. 10, ll. 6-10 ("Isolation and protection circuitry 430 output is connected to a commercial call progress tone detector circuit 413, such as a Teletone M-981, comprising of, but not limited to, a differential amplifier, reference generator, bandpass filter, and a level sensor.").

In sum, the sole dispute with respect to the claim language "call progress detector circuitry for detecting a call waiting signal" involves the claim term "circuitry." (*See* Def.'s Handout p. 18.) For reasons explained above, this Court rejects Defendants' argument that claim limitations involving the term "circuitry" necessarily exclude so-called "software based implementations." FN7 Therefore, this Court concludes that no further construction of the claim language "call progress detector circuitry for detecting a call waiting signal" is necessary. This language is found in claims 1, 6 and 9 of the ' 771 Patent.

FN7. This Court notes that the specification of the '771 Patent contains language suggesting that the claim term "circuitry" encompasses software based implementations. *See* '771 Patent, Col. 14, ll. 1-6 ("[W]hile the disclosed embodiments of the present invention utilize programmed processors, and special-purpose integrated circuits, and digital processors these devices can be implemented using discrete devices, or any analog or hybrid counterpart of any of these devices."); *cf.* Abacus Software, 462 F.3d at 1357 (interpreting similar language as suggesting that certain computations can be accomplished by software based implementations that involve hardware).

2. Construction of "*Microcontroller Set of Instructions Signals Received from the Call Progress Detector Circuitry*"

For reasons stated on the record during the *Markman* hearing, this Court construes "microcontroller set of instructions signals received from the call progress detector circuitry" to mean "the call progress detector circuitry outputs a signal corresponding to the call waiting signal to recognition circuitry." This phrase is found in claim 1 of the '771 Patent.

3. Construction of "*Circuitry to Recognize a First Signal with a Duty Cycle or Cadence Coupled with Frequency and Level Indication of a Call Waiting SAS Signal or a Distinctive Call Waiting SAS Signal*"

For reasons stated on the record during the *Markman* hearing, this Court construes "circuitry to recognize a first signal with a duty cycle or cadence coupled with frequency and level indication of a call waiting SAS signal or a distinctive call waiting SAS signal" to mean "circuitry specifically adapted for 'recognizing' the call waiting tone based on its duty cycle or cadence, frequency, and level." This phrase is found in claims 1, 6 and 9, and comparable language is found in claims 14 and 17, of the '771 Patent.

4. Construction of "*Configured to Operate in either the Presence or Absence of a Bandwidth*

Encompassing Modem Signal"

Plaintiffs contend that the claim language "configured to operate in either the presence or absence of a bandwidth encompassing modem signal" needs no construction. Defendants contend that this claim language should be construed as requiring that the claimed invention "[be] capable of working both with and without a modem attached." FN8 (Def.'s Handout p. 40.)

FN8. This proposed construction differs from the one set forth in Defendant's claim construction brief. (*See* Def.'s Cl. Constr. Br. p. 19 (providing that this claim language should be construed as "limit[ing] the claimed invention to a device that is capable of working both in the presence of a modem signal and in the absence of a modem signal, *i.e.*, the device must be able to work without a modem attached just as well as when a modem is attached and is in use.").)

Although the parties did not request that this Court construe the claim phrase "bandwidth encompassing modem signal," Defendants argued at the *Markman* hearing that the claim language "configured to operate in either the presence or absence of a bandwidth encompassing modem signal" should be construed in part because the meaning of the phrase "bandwidth encompassing modem signal" is uncertain. (*See* Def.'s Handout p. 41.) The Court rejects this argument. First, Defendants did not take this position in their claim construction brief. (*See* Def.'s Cl. Constr. Br. pp. 19-20.) Second, to the extent that Defendants view the phrase "bandwidth encompassing modem signal" as requiring interpretation, this matter should have been raised before the *Markman* hearing. *See* Scheduling Order, s.s. 4-8 (setting forth a comprehensive procedure for identifying and resolving claim construction disputes). Third, the prosecution history of the '771 Patent appears to contain an adequate discussion of modem signals that are bandwidth encompassing. For example, in the context of distinguishing a prior art reference, the applicant noted:

The configuration will not work if modern high speed modems are substituted since the spectrum used by modern high speed modems utilize the complete standard 300 to 3400 Hz bandwidth of a typical telephone channel (bandwidth encompassing) and would randomly trigger the detection even though a 440 Hz SAS signal may or may not be present.

(Dec. 12, 2002 Amendment p. 5.) In the context of explaining the frequency spectrums associated with "modern modems," the applicant provided:

Similarly for the above modem the 387 Hz, 1200 Hz and 2200 Hz frequencies are far enough from 440 Hz that the published configuration would work with this modem but not a modern modem (such as a U.S. Robotics 56K which utilize the total bandwidth of a telephone channel *i.e.* bandwidth encompassing).

(Id. at p. 7.) Finally, in the context of explaining why their invention is novel, the applicant stated:

[B]y qualifying signals (filtering) based on duty cycle or cadence coupled with level and frequency indication to decide what signals have been encountered reliable operation is guaranteed since modern modems utilize all of the standard 300 to 3400 Hz bandwidth of a telephone channel and that includes the 440 Hz SAS frequency.

(Id.); *see also* Irdeto Access, 383 F.3d at 1300 ("It is well-established that the patentee can act as his own lexicographer, so long as he clearly states any special definitions of the claim terms in the patent

specification or file history.") (citation omitted).

Defendants do not adequately address the prosecution history of the '771 Patent when suggesting that the meaning of the claim phrase "bandwidth encompassing modem signal" might be uncertain to one of ordinary skill in the art. (*See* Def.'s Handout p. 44 ("The *specification* is utterly silent about any 'bandwidth encompassing modem signal' ") (emphasis added); *see also* id. at p. 45 (focusing on prosecution history remark that "[n]o modems are required.").) As noted above, the prosecution history provides considerable discussion of the "bandwidth encompassing modem signal ." In addition, when read in context, there is no basis for concluding that the remark that "[n]o modems are required" limits the scope of the claim in the manner suggested by Defendants. (*See* Dec. 12, 2002 Amendment pp. 2-13); *see also* Nystrom v. TREX Co., Inc., 424 F.3d 1136, 1142 (Fed.Cir.2005) ("The person of ordinary skill in the art views the claim term in the light of the *entire* intrinsic record ... the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention ....") (emphasis added) (internal quotation marks and citations omitted).

Defendants also presented the following argument at the *Markman* hearing: (1) it is impossible to have a modem signal without a modem; therefore, (2) the phrase "the presence or absence of a bandwidth encompassing modem signal" means "the presence or absence of a modem." This argument fails for two reasons. First, the argument is based on faulty logic. It does not follow from the fact that, for example, it is impossible to have a modem signal without a related power source, that the phrase "the presence or absence of a bandwidth encompassing modem signal" also requires "the presence or absence of a power source for a modem signal." Second, the argument impermissibly removes the term "signal" from the claim language. The limitation at issue says nothing about operating in the presence or absence of a *modem;* instead, it focuses on operating in the presence or the absence of a particular type of modem *signal*. *See, e.g.,* '771 Patent, Col. 14, ll. 61-63 ("wherein the apparatus is configured to operate in either the presence or absence of a bandwidth encompassing modem *signal")* (emphasis added). There is simply no support in the intrinsic record for deleting "signal" from this claim limitation.

In sum, this Court rejects Defendants' argument that the claim language "configured to operate in either the presence or absence of a bandwidth encompassing modem signal" means that the claimed invention must "be capable of working both with and without a modem attached." Therefore, this Court concludes that no further construction of this claim language is necessary. This claim language is found in claims 1, 6, and 9 of the '771 Patent.

5. Construction of "*Circuitry for Performing a Mute ... and Transferring*"

Plaintiffs contend that the claim language "circuitry for performing a mute ... and transferring" needs no construction.FN9 Defendants contend that this claim language should be construed as requiring "circuitry for muting a telephonic device attached a[sic] data port and switching the connection to another port without placing an on-going modem connection on hold." FN10 (Def.'s Handout p. 48.)

FN9. It is difficult to identify the claim language that is disputed. (*Compare* Def.'s Cl. Constr. Br. p. 21 (requesting that this Court construe the claim phrase "line seizure circuitry for ... muting ... and ... transferring") *with* Def.'s Handout p. 48 (requesting that this Court construe the claim phrase "circuitry for performing a mute ... and transferring").) This difference might be meaningful as one phrase occurs in claim 6 while the other is found in claim 9. *Compare* '771 Patent, Col. 16, ll. 56-59 (claiming "first *line seizure circuitry for* performing the flash operation, *muting* the telephonic device connected to the data port *and*

transferring from the data port to the voice/Fax port ....") *with* '771 Patent, Col. 15, ll. 8-11 ("first line seizure *circuitry for performing a mute* and disconnect of the telephonic device connected to the data port *and transferring* from the data port to the voice/Fax port...."). Relying on Defendants' representation that the handout submitted at the *Markman* hearing contains its final proposed claim constructions, this Court assumes that Defendants only seek to construe the language "circuitry for performing a mute ... and transferring" set forth in claim 6 of the ' 771 Patent.

FN10. This proposed construction differs from the one set forth in Defendants' claim construction brief. (*See* Def.'s Cl. Constr. Br. p. 21 (proposing that the relevant claim language be construed as requiring circuitry for "muting a telephonic device attached a[sic] data port and switching the connection from the telephone to another port.").)

The parties' dispute appears to focus on the last portion of Defendants' proposed construction, *i.e.,* whether "circuitry for performing a mute ... and transferring" performs the relevant operations "without placing an on-going modem connection on hold." In support of their proposed construction, Defendants emphasize that the specification "teaches that transferring the line *without putting the modem line on hold* was an important feature of the invention." (Def.'s Handout p. 50 (emphasis in original).) Defendants also take the position that this limitation requires that the claimed invention *disconnect* the modem line instead of placing it on hold. (Id. ("Inventors specifically distinguished systems that placed the modem line on hold rather than simply disconnecting it.").) Plaintiffs respond that the phrase "without placing an ongoing modem connection on hold" inserts a new, unnecessary limitation into the claim that is irrelevant to the disclosed invention.

Defendants proposed construction fails for two reasons. First, it lacks support in the intrinsic record. The written description distinguishes prior art schemes that adapt modems for use with call waiting. *See generally* '771 Patent, Col. 2. The specification notes that one disadvantage of these systems is that they are "not independent" of the modem connected to the internet because they "must pass information or signals to a modem or modem interface." Id. at Col. 2, ll. 31-34. Specifically, they "adapt[ ] a modem interface" for purposes of "maintain[ing] the data session on hold while responding to a third party call." Id. at Col. 2, ll. 27-29. Such systems are contrasted to the claimed invention, which does not require a particular modem or modem interface and is therefore "independent of the type of telephone devices connected to the internet." Id. at Col. 2, ll. 52-53. This context is important because it shows that the additional limitation sought by Defendants-"without placing an on-going modem connection on hold"-is relevant to understanding how the claimed invention differs from prior art schemes, but not the meaning of the claim language itself.

Second, Defendants' contention that the limitation "circuitry for performing a mute ... and transferring" requires that the modem line be disconnected is contradicted by the specification:

Another aspect of the present invention is to provide a signal detection, alerting and switching management device of the general character described which permits a single telephone line subscriber utilizing the telephone network for a data transmission, to employ a telephone feature such as distinctive call-waiting to answer a distinctive incoming caller, or the option not to answer, *without terminating the data session*.

'771 Patent, Col. 4, ll. 33-41 (emphasis added). The intrinsic record acknowledges that the device claimed by the '771 Patent *may* terminate the data session by disconnecting the modem line. Id. at Col. 11, ll. 27-28

("[D]isconnect operations are performed by the line seizure and control switch circuitry 416."); (Dec. 12, 2002 Amendment p. 10 ("[T]here is no concern that the connection is lost (we state that it is acceptable to reconnect using a mouse click)."). However, disconnecting the modem line does not appear to be *required* by the claim language at issue. Therefore, this Court concludes that no further construction of the claim language "circuitry for performing a mute ... and transferring" is necessary. This phrase is found in claim 6 of the '771 Patent.

6. Construction of "*Alerting the Subscriber for a Set Period Visually or until an Acknowledge Button is Depressed before the Set Period Expires*"

Plaintiffs contend that the claim language "alerting the subscriber for a set period visually or until an acknowledge button is depressed before the set period expires" needs no construction. Defendants contend that this claim language should be construed as "[a]lerting for a specific period of time unless interrupted by manual intervention." FN11 (Def.'s Handout p. 54.)

FN11. Defendants propose essentially the same construction in their claim construction brief. (*See* Def.'s Cl. Constr. Br. p. 22 (proposing that this claim language should be construed as requiring "a device that has some set period of alerting, rather than a device that alerts at variable speeds. In addition, this phrase also requires that the set time period may be interrupted.").)

The parties dispute the effect of the word "or" in the claim language "alerting the subscriber for a set period visually *or* until an acknowledge button is depressed before the set period expires." Plaintiffs contend that this claim limitation is satisfied if either of its disjuncts are satisfied. In other words, Plaintiffs believe that infringement is established by pointing to a device that merely "alert[s] the subscriber for a set period visually," or, alternatively, by pointing to a device that only contains "an acknowledge button [that could be] depressed before the set period expires." In contrast, Defendants maintain that it is improper to "pull apart" the disjuncts and that, as a result, only a device that alerts the subscriber for a set period unless interrupted by manual intervention would satisfy this claim limitation.

After considering the parties' submissions, this Court finds that Defendants advance a proper construction. First, the phrase "the set period" at the end of the claim language clearly refers to the antecedent phrase "a set period" that is introduced toward the beginning of this claim language. As a result, it makes no sense to argue that the limitation would be satisfied if either of its disjuncts is satisfied. As Defendants point out, a device that is only capable of "alerting a subscriber for *a* set period visually" could never alert "until an acknowledge button is depressed before *the* set period expires." Similarly, a device with only an acknowledge button could never "alert[ ] a subscriber for *a* set period visually." (*See* Def.'s Cl. Constr. Br. p. 23.) Second, Defendants proposed construction is reinforced by the specification. *See* '771 Patent, Col. 7, ll. 9-13 ("The alert condition is latched for a predetermined period, or until either the acknowledge button switch 121, which is incorporated into the device is depressed, or until the telephonic device 100 labeled (CPE) 2 is picked up (off-hook)."). Therefore, this Court construes "alerting the subscriber for a set period visually or until an acknowledge button is depressed before the set period expires" as "alerting for a specific period of time unless interrupted by manual intervention." FN12 This language is found in claim 14 of the ' 771 Patent.

FN12. *See also* '771 Patent, col. 11, ll. 18-22 ("The alert condition is latched for a predetermined period, or until either the acknowledge button switch 121, which is incorporated into the device is depressed, *or until a*

telephonic device, plugged into the voice/FAX port jack 114, is picked up.")* (emphasis added). This matter was not raised by the parties during the *Markman* hearing.

CONCLUSION

An Order consistent with this Memorandum Opinion will be entered setting forth the meaning of the disputed claim language in U.S. Patent No. 6,628,771.

D.Md.,2007.
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