United States District Court,
D. Minnesota.

ITRON, INC,
Plaintiff.
v.
Ralph BENGHIAT,
Defendant.

No. CIV 99-501 JRT/FLN

March 31, 2001.

Alleged infringer brought declaratory judgment action against patentee of hand-held meter reading device, seeking declaration that alleged infringer's device did not infringe on patent, and patentee asserted counterclaim for infringement. Alleged infringer moved for summary judgment. The District Court, Tunheim, J., held that: (1) genuine issue of material fact existed as to whether differences in number of keystrokes required to activate requisite functions were substantial, precluding summary judgment; (2) genuine issue of material fact existed as to whether alleged infringer's device infringed on patentee's means responsive limitations, precluding summary judgment; (3) genuine issue of material fact existed as to whether patentee had requisite knowledge of alleged infringer's activity, and whether patentee's delay in taking action to protect his patent was reasonable, precluding summary judgment; (4) genuine issue of material fact as to whether alleged infringer was a direct or contributory infringer precluded summary judgment; and (5) genuine issue of material fact existed as to whether patentee's counterclaims of bad faith were sufficient to warrant enhanced damages and attorney fees, precluding summary judgment.

Motion denied.

4,757,456. Construed.

Randall T. Skaar, James H. Patterson, and Eric H. Chadwick, Patterson, Thuente, Skaar & Christensen, P.A., Minneapolis, MN, for plaintiff.

Edward M. Laine and Cyrus A. Morton, Oppenheimer Wolff & Donnelly, LLP., Minneapolis, MN, for defendant.

MEMORANDUM OPINION AND ORDER

TUNHEIM**, District Judge.**

Plaintiff Itron Inc. ("Itron") brings this declaratory judgment action against defendant Ralph Benghiat ("Benghiat") seeking a declaration that Itron's hand-held meter reading devices do not infringe Benghiat's

patent. Benghiat, the owner of U.S. Patent No. 4,757,456 ("the '456 patent") has asserted a compulsory counterclaim for infringement against Itron.

Itron has filed an unprecedented number of summary judgment motions in this matter. Specifically, Itron moves for: 1) Summary Judgment of Noninfringement; 2) Summary Judgment that the '456 patent is Invalid; 3) Partial Summary Judgment Regarding the Date when Potential Damages Began to Accrue; 4) Partial Summary Judgment Regarding Defendant's Claim for Enhanced Damages Based on Bad Faith; 5) Summary Judgment that the '456 Patent is Not Infringed; and 6) Summary Judgment that the '456 Patent is Invalid.

BACKGROUND

A. The Invention

The '456 patent, entitled "Device and Method for Utility Meter Reading," relates to a hand-held computerized apparatus that utility company employees use to read utility meters. When Benghiat designed his device in the early 1980s, he was not the first person to develop an electronic meter reading device. FN1 Benghiat's patent claims an improved meter reading device with, among other things, capabilities for randomly accessing accounts for data entryand display, searching for missed accounts, locating a desired account in the record and storing new account data.

FN1. Such devices generally include memory to store data, a keyboard to select specific data for display and to store new data, a display, an interface to receive or transmit data to a computer and/or to print a hard copy. Col. 1, ll. 16-20. Prior to electronic devices, meter readers used manual logbooks that required a meter reader to thumb through pages or cards containing individual accounts on a meter reader's route.

In developing his device, Benghiat sought to improve over what he considered weaknesses in other hand-held devices in the meter reading industry. One of the most problematic features in prior art devices was the use of "fixed sequential systems of data in memory, whereby key activation can only step into the next file or account in the sequence." Col. 2, ll. 46-49. According to Benghiat, such "fixed sequential systems" were limiting because there was no ability to randomly locate a different account in the program. Instead, the meter reader was forced to step forward manually until reaching the new location. Benghiat thus set out to develop a device that fully capitalized on the benefits of computerized meter reading while retaining the flexibility of the old manual logbooks.

Benghiat also realized that none of the prior art had provisions for "locating alternate streets or buildings," "checking for skipped or missed meter readings" or "storing readings of new account information." Col. 2, ll. 56-68; Col. 3, ll. 1-12. Benghiat thus introduced meter reader input capabilities in his device to perform these functions.

Benghiat also sought to overcome deficiencies caused by limited memory capacity common to all solid state hand-held collection devices at that time. *See* col. 3, ll. 58-63. To optimize the use of memory and thereby compress more data for a given memory capacity, Benghiat disclosed a novel file format structure for organizing data:

Yet another feature of my invention is the method the various files are organized with optimal duplicate fields in order to minimize memory usage. The objective is to transfer fields containing common data in

various files to a higher level file so that the common data field can be shared by all lower level files within that structure.

Col. 6, ll. 61-66. FN2

FN2. The abstract section of the '456 patent further discloses Benghiat's unique file structure and data compression method for conserving memory space:
The method provides for data compression for efficient utilization of solid state memory in the apparatus and allows for the data describing the multiple accounts to be in variable numbers of fields and field lengths.

B. Procedural History

After being accused by letter of infringing Benghiat's patent, Itron brought this suit for declaratory judgment of noninfringement. Benghiat asserted his compulsory counterclaim that Itron infringes the '456 patent. Among other motions, Itron moves for summary judgment of noninfringement of the '456 patent.

ANALYSIS

I. Standard of Review

Rule 56(c) of the Federal Rules of Civil Procedure provides that summary judgment "shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed.R.Civ.P. 56. Only disputes over facts that might affect the outcome of the suit under the governing substantive law will properly preclude the entry of summary judgment. *See* Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986). Summary judgment is not appropriate if the dispute about a material fact is genuine, that is, if the evidence is such that a reasonable jury could return a verdict for the nonmoving party. *See id*. Summary judgment is to be granted only where the evidence is such that no reasonable jury could return a verdict for the nonmoving party. *See id*.

The moving party bears the burden of bringing forward sufficient evidence to establish that there are no genuine issues of material fact and that the movant is entitled to judgment as a matter of law. *See* Celotex Corp. v. Catrett, 477 U.S. 317, 322, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986). The nonmoving party is entitled to the benefit of all reasonable inferences to be drawn from the underlying facts in the record. *See* Vette Co. v. Aetna Casualty & Surety Co., 612 F.2d 1076 (8th Cir.1980). However, the nonmoving party may not merely rest upon allegations or denials in its pleadings, but it must set forth specific facts by affidavits or otherwise showing that there is a genuine issue for trial. *See* Burst v. Adolph Coors Co., 650 F.2d 930, 932 (8th Cir.1981).

II. Motion for Summary Judgment of Noninfringement

[1] Infringement analysis involves a two-step process. The first step is determining the meaning and scope of the patent claims alleged to be infringed. Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996) (*Markman I*). The

second step is comparing the properly construed claims to the device accused of infringing. *Id.*

A. Step 1: Claim Construction

1. General Principles

[2] [3] The construction of patent claims is a legal determination, exclusively within the province of the court. Markman v. Westview Instruments, Inc., 517 U.S. 370, 391, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996) (*Markman II*). It requires looking first to the intrinsic evidence of record, which includes: 1) the patent itself, including the claims themselves; 2) the specification; and 3) the prosecution history. Burke Inc. v. Bruno Indep. Living Aids, Inc., 183 F.3d 1334, 1339 (Fed.Cir.1999). "A court may refer to extrinsic evidence to educate itself about the invention and relevant technology, but the court may not use extrinsic evidence to arrive at a claim construction that is clearly at odds with the construction mandated by the intrinsic evidence." Karlin Tech. Inc. v. Surgical Dynamics, Inc., 177 F.3d 968, 971 (Fed.Cir.1999).

[4] [5] Claim construction begins with the language of the claim itself. Claims are construed as one of ordinary skill would have understood them at the time of the invention. Markman I, 52 F.3d at 986. Where a claim term has an ordinary and customary meaning in the art, that meaning generally controls the construction of the claim, unless the inventor intended that the terms be construed otherwise. Johnson Worldwide Assocs. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999).

[6] [7] [8] A patentee may elect to be his own lexicographer, however, if he does so, he must clearly set forth an explicit definition for a claim term in the patent specification or file history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). As a general rule, the patent specification is "the single best guide to the meaning of a disputed claim term." *Id.* The prosecution history should be considered in interpreting claims, and "is often of critical significance in determining the meaning of the claims." *Id.*

[9] [10] [11] Reliance on extrinsic evidence to interpret claims is permitted in only limited situations. *Id.* at 1583 (cautioning against excessive reliance on extrinsic evidence). For instance, a court may consider extrinsic evidence only where the claim language remains genuinely ambiguous after consideration of the intrinsic evidence. Bell & Howell Doc. Mgmt. Prods. Co v. Altek Sys., 132 F.3d 701, 706 (Fed.Cir.1997). Otherwise, if the intrinsic evidence is unambiguous, it is improper for a court to rely on extrinsic evidence such as expert testimony for purposes of claim construction. Id. at 705. A court may also consider extrinsic evidence, such as dictionaries or expert testimony, to ensure that a technical term is construed in a manner consistent with its ordinary meaning to those skilled in the art. Pitney Bowes Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1308-09 (Fed.Cir.1999).

[12] Finally, where a broader and a narrower construction of a claim are equally plausible, the notice function of the claim is best served by adopting the narrower interpretation. Athletic Alternatives, Inc. v. Prince Mfg. Inc., 73 F.3d 1573, 1581 (Fed.Cir.1996).

2. Means-Plus-Function Claims

[13] [14] The parties agree that the disputed claim limitations are written in "means-plus-function" format pursuant to 35 U.S.C. s. 112, para. 6, which provides:

An element in a claim for a combination may be expressed as a means or step in 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 or equivalents thereof.

The "means" term in a means-plus-function limitation "is essentially a generic reference for the corresponding structure disclosed in the specification." Chiuminatta Concrete Concepts v. Cardinal Indus., 145 F.3d 1303, 1308 (Fed.Cir.1998). According to s. 112, para. 6, the structure disclosed in the specification is considered to be a "corresponding structure," under that provision "only if the specification links or associates that structure to the function recited in the claims." B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1424 (Fed.Cir.1997).

[15] Choosing to write a patent claim in means-plus-function language comes at a cost because "[s]uch a claim does not cover every means for performing a specified function, but is limited to the 'corresponding structure described in the specification and equivalents thereof.' " Bradley D. Baugh, WMS Gaming Inc. v. International Game Technology, 15 Berkeley Tech L.J. 109, 110 (2000). Thus, s. 112, para. 6 " 'operates to cut back on the type of means which could literally satisfy the claim language.' " CIVIX-DDI, LLC v. Microsoft Corp., 84 F.Supp.2d 1132, 1145 (D.Colo.2000) (quoting Johnston v. IVAC Corp., 885 F.2d 1574, 1580 (Fed.Cir.1989)).

3. Input Means

[16] [17] The parties dispute both the "input means" and the "means responsive" limitations contained in each of claims 1, 20 and 22 of the '456 patent. FN3 The Court begins its claim construction analysis with the input means. Claim 1 provides, in relevant part:

FN3. Claim 3 is also challenged in this lawsuit, however, as a dependent claim, it incorporates the limitations recited in claim 1.

... said apparatus including display means and operator input means ... said **operator input means** including **means for** selectively generating basic entry and retrieval signals for storing in and retrieving data from said account files in said data memory means, **means for** selectively generating forward and reverse direction account file accessing signals for requesting access to the next account in a multiple account building or a particular street involved listed in said account files in said data memory means, and **means for** generating a search missed account signal for requesting the scanning of the account files for accounts in said multiple account building or said street involved missed by the operator ...
Col. 35, ll. 24-35 (emphasis added). Determining the claimed function and the corresponding structure for a claim limitation written in means-plus-function format are both matters of claim construction. WMS Gaming Inc. v. International Game Tech., 184 F.3d 1339, 1347 (Fed.Cir.1999). Construing claims in the '456 patent is rendered particularly onerous given the extensive use of means-plus-function language throughout the claims.
Before construing the individual "means for" clauses disclosed in claim 1, the Court first construes the term "operator input means." In its opening brief, Itron argues that a person of ordinary skill in the art would understand the "operator input means" to be the specialized keyboard structure disclosed in Figure 9 of the '456 patent, including all of the keys shown in Figure 9. Benghiat claims that the overall structure of input means disclosed in the '456 patent is the keyboard 101 and keyboard encoder 100 shown in Figure 7. Benghiat further explains that the overall structure is limited only to the structure and specific functions later recited in the individual means clauses in the claim.

The Court rejects Itron's construction because it attempts to incorporate more structure than necessary into the "operator input means" disclosed in claim 1. It is well-established that only the structure that corresponds to the claimed function is part of the claim. *See* Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1268 (Fed.Cir.1999); Chiuminatta Concrete Concepts v. Cardinal Indus., 145 F.3d 1303, 1308-09 (Fed.Cir.1998) (stating that "additional structural aspects are not what the statute contemplates as structure corresponding to the recited function"). Itron's proposed construction of the operator input means includes as structure every specific detail of the keyboard disclosed in Figure 9, including the keyboard's layout, design and color-coded key sections.

For instance, although the specification discloses in its preferred embodiment "a keyboard that consists of thirty-eight control and data keys, three shift keys and one display key," Itron fails to demonstrate how these structural features bear any relation to the specific functions named in the claim. Col. 13, ll. 62-65. Itron similarly fails to demonstrate how the keyboard's covering with a mylar sheet for weatherproofing and color-coded key sections correspond to the claimed functions recited in claim 1. As such, these structural aspects of the keyboard disclosed in the specification will not be read as limiting the scope of the input means in the claim. The Court is thus more persuaded by Benghiat's construction that the means for operator input, as disclosed in claim 1, is a keyboard which must, at a minimum, include the structural and functional features further described in claim 1.

[18] The parties disagree on construction of the multiple means clauses disclosed in each of the claims. The first means clause provides: "means for selectively generating basic entry and retrieval signals for storing in and retrieving data from said account files in said data memory means." Both the claimed function and structure of this first means clause are in dispute.

While the parties generally agree that the central function of the input means recited in claim 1 is to generate signals, they disagree on the kind of signal the input means generates. Itron claims that the function of the first input means clause is to send signals to store data and retrieve data from account files. In other words, Itron believes the claimed function is "selectively generating basic entry and retrieval signals for storing in and retrieving data from said account files."

Based on this construction of the claimed function, Itron then argues that the corresponding structure is all the keys on the keyboard disclosed in Figure 9 which generate basic entry and retrieval signals for storing and retrieving account file data. According to Itron, they are: Key 11 (KEY NO Enter); Key 15 (LIST); Key 16 (STATUS ACC NO Display); Key 18 (KEY NO Display); Key 19 (DATE RDR # REP Display); Key 30 (METER NO CONST Enter); Key 31 (METER READ Enter); Key 32 (LOC & HAZ Enter); Key 33 (FIELD REP Enter); Key 35 (METER NO CONST Display); Key 36 (METER READ Display); Key 38 (LOC & HAZ Display); Key 39 (FIELD REP Display) and the associated logic circuitry in Figures 2-8. *See* Itron's Claim Construction Brief.

Benghiat, on the other hand, claims that the function recited in the first means clause is simply "generating basic entry and retrieval signals" which is carried out by depressing any key. To support this construction, Benghiat points to the specification which provides that "the microprocessor receives a control signal and data from the keyboard as any key is actuated." Col. 9, ll. 64-5. According to Benghiat, one of ordinary skill in the art would understand a control signal to be a basic entry and retrieval signal. Benghiat thus argues that the disclosed structure for generating basic entry and retrieval signals is "any key and a keyboard encoder." FN4

FN4. The input means necessarily encompasses the associated logic circuitry that connects the key closure to the keyboard encoder. The Court agrees with Benghiat that the key itself does not, standing alone, generate the particular signal in question. Rather, it is the key, in combination with the logic circuitry and keyboard encoder which generates the desired signal to trigger the appropriate software routine. Col. 13, ll. 66-68; col. 14, ll.1-4 with reference to Figure 7 is particularly instructive:
The keyboard encoder 100, pulses each of the 5 lines in succession until a signal is detected on one of the four X lines as a result of a key closure. Scanning stops and the address of the key actuated is derived from the X and Y positions and stored in the C register as a binary coded number, C0 to C4.

The Court adopts Itron's construction of the claimed function in the first means clause of claim 1. The presence of the additional functional language, "for storing in and retrieving data from said account files in said data memory means," suggests that the corresponding structure does not simply generate any basic entry and retrieval signal. Rather, it generates a very specific kind of signal, that is, a signal which activates the storing and retrieving functions eventually performed by the means responsive. Benghiat's construction ignores this additional portion of the functional language.

The prosecution history is revealing on this point. Originally, the claim language simply said "means for selectively generating basic entry and retrieval signals." However, in one of the amendments, Benghiat added the language that now appears in claim 1. *See* Supp. Amend. June 11, 1987 (amending "basic entry and retrieval signals" to "basic entry and retrieval signal for storing in or retrieving data from said account files in said data memory means"). The Court thus concludes that the claimed function is "generating basic entry and retrieval signals for storing in and retrieving data from said data memory means."

[19] Construction of the corresponding structure to the claimed function is more challenging than the other means clauses in claim 1 because the specification discloses very little structure which corresponds to the function of generating signals for storing and retrieving data from the account files. The preferred embodiment of the specification, however, discloses multiple keys for performing the functions recited above:

The top red section is labeled ENTER and contains preferably six keys. These keys are used by the Meter Reader to store new data pertaining to a selected account.

The middle Blue section, is labeled DISPLAY and contains preferably eight keys. These keys provide display, upon request, of data pertaining to a selected account.

Col 15, ll. 17-24. These keys are then illustrated in Figure 9. The six enter keys are enclosed within a box in the upper right corner of the keyboard while the eight display keys are also enclosed within a lined box in the middle of the keyboard. Although Figure 9 and other portions of the specification disclose additional structural features to these keys, the Court declines to limit the structure beyond what is necessary to perform the function.FN5

FN5. For instance, the particular labels on the keys (e.g. HAZ & LOC), the location of the keys on the keyboard, or the type of data that is eventually stored or retrieved in the accounts is unrelated to the recited function of generating basic entry and retrieval signals for storing and retrieving data from said account

files. *See* Chiuminatta Concrete Concepts v. Cardinal Indus., Inc., 145 F.3d 1303, 1308 (Fed.Cir.1998) (refusing to limit the scope of a "skid plate" to additional features discussed in the patent because such additional structural aspects were unrelated to the recited function).

Thus, the structure of the first means clause of claim 1 is "keys on a keyboard, its associated logic circuitry and an encoder that generate basic entry and retrieval signals for storing and retrieving account file data, and its equivalent structures."

[20] The next means clause provides "means for selectively generating forward and reverse direction account file accessing signals for requesting access to the next account in a multiple account building or a particular street involved." The claimed function recited in this clause is "selectively generating forward and reverse direction account file accessing signals for requesting access to the next account in a multiple account building or a particular street involved." Itron argues that the corresponding structure is the NEXT ACC key 37, the PRE ACC key 40, and SEARCH MISS key 34 disclosed in Figure 9 of the patent and Col. 18, ll. 30-65 of the specification.

Benghiat acknowledges that the specification discloses a NEXT ACC key and PRE ACC key which performs the forward and reverse signals, however, Benghiat urges the Court to define the corresponding structure as "a key on a keyboard and an encoder that generates a signal to the software to access the next account; a key on a keyboard and an encoder that generates a signal to the software to access the previous account, and its equivalent structures."

The Court's review of the specification indicates that the forward and reverse signals are carried out by the NEXT ACC, PRE ACC, and SEARCH MISS keys. For instance, Col. 18, ll. 30-43 provides:

When the meter reader presses NEXT ACC key 37 or PRE ACC key 40 or SEARCH MISS key 34 to step to the next account and the program finds a new street file in the route record sequence, it retains the device positions at the last account and displays END OF STREET. The meter reader now has the option of continuing to the next street, with a NEXT or PRE or SEARCH MISS actuation, or while he is still in that street, to check for missed readings. In the latter case, he first reverses his direction with either NEXT key 37 or PRE key 40 then presses SEARCH MISS key 34 ... Reversing again the direction with the NEXT or PRE key and pressing SEARCH MISS will position the device at the first service of the first account in the next street ...

Because the Court does not believe the label of the key on Figure 9 relates or is necessary to the particular function recited in claim 1, the Court adopts Benghiat's construction and finds that the corresponding structure is "a key on a keyboard, the associated logic circuitry and an encoder that generates a signal to the software to access the next account; and a key on a keyboard, its associated logic circuitry and an encoder that generates a signal to the software to access the previous account."

[21] The final input means clause provides "means for generating a search missed account signal for requesting the scanning of the account files for accounts in said multiple account building or said street involved missed by the operator." The function is "generating a search missed account signal." Because this function was one of the features of novelty to Benghiat's patent, the specification and file history are replete with references to a single key that performs this function. The abstract of the specification explains how "[t]he apparatus keyboard ... provides for search missed accounts." The Summary of the Invention section

provides:

Yet another feature of my invention is the provision in the device for search missed accounts in a street. As the meter reader completes reading an apartment or multiple building, he can request the device **by key actuation**, to search for any missed meters in that building and display the missed account prior to leaving the building.

Col. 7, ll. 7-13 (emphasis added). The prosecution history further confirms that the function is carried out by a SEARCH MISS keyswitch:

An indication that a meter or an account has been skipped is required while the meter reader is still in the immediate vicinity of the account. This was applicant's objective in including in his device a SEARCH MISS keyswitch which operates in multimode form as described herein. When the SEARCH MISS keyswitch is pressed by the meter reader, the device checks all the meters pertaining to the current account for missed readings.

File History, p. 25. The search miss key is then disclosed on Figure 9 as key 34. Based on this evidence, the Court concludes that the corresponding structure is "a key on a keyboard and an encoder that generates a signal to the software to perform the function recited above, and its equivalent structures." FN6

FN6. Again, the Court declines to limit the structure to the SEARCH MISS key as Itron proposes because the Court does not believe that the label on the key is related or necessary to perform the recited function of generating the search miss signal.

[22] The Court turns next to construction of the input means in claim 20, which recites:

... said **meter reader input means** FN7 including **means for selectively generatingbasic entry and retrieval signals** for storing and retrieving data from said account files and service files in said data memory means, **alphanumeric data input signals** and **locate account request signals** identifying a distinct account parameter through which a selected account from said account files is to be located, such as a building number, account number, and meter number and accompanying distinct account parameter identifying data as identified by said alphanumeric data input signals ....

FN7. The parties appear to agree that "meter reader input means" referred to in claims 20 and 22 is equivalent to "operator input means" disclosed in claim 1. Thus, as in claim 1, the overall structure disclosed in the '456 patent is "a keyboard."

Col. 41, ll. 45-55 (emphasis added). The corresponding structure to the first recited function, "selectively generating basic entry and retrieval signals for storing and retrieving data from said account files and service files in said data memory means," is the same as in claim 1. The Court accordingly adopts the same construction it adopted above.

[23] The second function disclosed in the single means clause in claim 20 is "generating alphanumeric data signals." The specification discloses the following structure for performing that function:

In the preferred physical embodiment ... the keyboard ... contains ... multicolored keys on the lower part of the keyboard [which] form an alphanumeric set for data entry.

Col 15. ll. 13, 28-30. In Figure 9, these keys are disclosed as keys 42-50 and key 28.

The file history also contains reference to these alphanumeric keys as part of Benghiat's keyboard. Benghiat believed the addition of an alphanumeric keyboard was a marked improvement over the prior art which restricted itself to numbers only. *See* Col. 3, ll. 18-22 ("Reed, Etter, Azur rely on restricted numerical codes to describe an item to be reported. Since the number of reporting problems is large, this method is inadequate because it cannot encompass the range of problems encountered"). In the file history, Benghiat notes that "an alpha-numeric keyboard [ ] enable[s] [the meter reader] to write in English text." File History at 23 (Feb. 9, 1987 response to Office Action dated August 7, 1986). The corresponding structure to the function of generating alphanumeric data signals is thus "a set of alphanumeric keys on a keyboard, its associated logic circuitry, an encoder and equivalent structures."

[24] The final function disclosed in claim 20 is "generating locate account request signals identifying a distinct account parameter through which a selected account from said account files is to be located, such as a building number, account number, and meter number and accompanying distinct account parameter identifying data as identified by said alphanumeric data input signals." As with the SEARCH MISS key disclosed in claim 1, the specification clearly discloses a LOCATE key as the structure for generating the locate account request signal:

An alternate and easier method to locate a building in a street is available using the LOCATE key 14. A meter reader can walk up to a building and request the device to find the building in the record. Pressing LOCATE key 14, the device will prompt him for a building number. He then keys-in the building number and presses EX key.

Col. 19, ll. 57-62. Thus, the LOCATE key, in combination with the set of alphanumeric keys can perform the recited function stated above. Thus, the corresponding structure is a "a key on a keyboard, its associated logic circuitry and an encoder for generating a locate account request signal and equivalent structures."

Finally, claim 22 recites:

... said apparatus including display means and meter reader input means said **meter reader input means** including **means for** selectively generating basic entry and retrieval signals for entering data into a selected account file and for retrieving data from said data memory means and displaying said data on said display means, and **means for** generating forward or reverse direction account file accessing signals, alphanumeric input signals, address account request signals for accessing an identified account file and new account signals for storing new account data not originally included in said account files ...

Col. 42, ll. 63-68; Col. 43, ll. 1-4 (emphasis added). Claim 22 contains two means clauses, the first is comprised of a single function and the second is comprised of four functions. The first three functions are identical to those previously construed and the Court accordingly adopts the same constructions it adopted above.

[25] The fourth function is "generating address account request signals for accessing an identified account file." The specification discloses an ACC ADDRESS key 17 for performing this function:

The meter reader can then verify that the device is positioned in that street, by pressing ACC ADDRESS key 17. The display will indicate the street number and name of the current account.

Col. 20, ll. 1-4. The final function disclosed in claim 22 is "generating new account signals for storing new account data not originally included in said account files." Again, as with the SEARCH MISS and LOCATE keys disclosed in claims 1 and 20 respectively, the specification contains multiple references to a NEW ACCOUNT key for generating the new account signal function:

Yet another feature of my invention is the acceptance by the device via the keyboard of a New Accounts or meters not included in the original record and the preferred ability to position the new entry in the correct place in the record sequence, for later file update.

Col. 5, ll. 32-36. The detailed description of the invention further provides that "[t]o store a new account, [the meter reader] presses NEW ACC key 13 and the device will prompt him for data." *See* Col. 20, ll. 23-38. Finally, key 13 on Figure 9 discloses the NEW ACC key. Thus, the corresponding structure is "a key on a keyboard, its associated logic circuitry and keyboard encoder that generates the function above, and its equivalents thereof."

4. Means Responsive

[26] The parties also dispute the means responsive limitations of each claim. Claim 1 recites:

... said apparatus including **programming means** including **means responsive** to said basic entry and retrieval signals for accessing the desired data storage fields and transaction storage fields associated with said account files as indicated by said signals, entering the data from said operator input means in and retrieving data ... **means responsive** to said forward or reverse direction account file accessing signal for registering said signal in said direction register means ... **means responsive** to said search missed account signal for effecting the scanning of said account files .. **means responsive** to the presence of transaction data in said transaction storage fields for continuing said search in the same direction ... **means responsive** to the absence of such data in said transaction storage fields for terminating said scanning operation, and **means responsive** to such data absence for then indicating on said display means the identity of the missed account so that the operator can then proceed to the missed account and enter transaction data.

Col. 35, ll. 35-66 (emphasis added). Claim 20 recites:

... said apparatus including programming means including **means responsive** to said entry and retrieval signals for accessing a desired data storage field, entering the data in the selected data such as a meter reading in the selected storage field and displaying on said display means the account to be visited ... **means responsive** to said locate account request signals identifying a distinct account parameter and to said distinct account parameter identifying data as indicated by said alphanumeric data input signals, for storing said alphanumeric data input signals in said locate account identifying register means, and **means responsive** to said locate account request signals for scanning each account in said data memory means for the particular field pertaining to said distinct account parameter used for locating the account ... **means responsive** to the inequality of the compared data for continuing the search in said data memory means until comparison is found, and **means** for then terminating such memory scan and for updating all said current account register means and for showing on said display means the located account in the building and street involved and an

indication that it was found, so that the meter reader can then gain access to the associated meter reading data receiving field and enter the meter reading or other data or retrieve data from said account file, and **means** for terminating such search in the event the selected account cannot be found in said account files and for showing on said display means an account not found indication.

Col. 41, ll. 55-68; Col. 42, ll. 1-25. Claim 22 recites:

... said apparatus including **programming means** including **means responsive** to said basic entry and retrieval signals for accessing a desired storage field, entering the data from said meter reader input means in the selected data storage field and displaying on said display means the account to be visited and selected data from said data memory means or said meter reader input means, new accounts register means for addressing said new accounts files, **means responsive** to said new accounts signal and to the generation of subsequent entry of new account and meter reading data from said alphanumeric input signals by the meter reader, for setting said new accounts register means to the address of the next available not previously used field in said new accounts file in said data memory means, then for accessing said new accounts file with said updated new accounts register means and for storing said new account and meter reading data in said accessed field in said new accounts file, and **means** further for storing in an associated field in said new accounts file said next sequence number to indicate the servicing order of the new account for later inclusion in the account files in the proper visiting sequence.

Col. 43, ll. 4-14; Col. 44, ll. 1-13 (emphasis added). Each claim discloses a "programming means" which comprises several "means responsive." The parties generally agree that the "means responsives" disclosed in the claim relate to the software routines programmed within the microprocessor to carry out the specific functions listed above. In WMS Gaming Inc. v. International Game Tech., 184 F.3d 1339 (Fed.Cir.1999), the seminal case on interpreting means plus function software claims, the Federal Circuit explained that such claims are to be construed as "a microprocessor programmed to perform the disclosed algorithm." Id. at 1349. Thus, the dispute centers on what is the disclosed algorithm that corresponds to the various functions claimed in the patent.

Relying on *WMS Gaming*' *s* teachings that software claims are limited to the algorithm disclosed in the specification, Itron claims that the disclosed software or algorithm for performing the recited functions in the claim are contained in the patent's program flow charts. *See* Figures 10A-10U; *see also* Col. 9, ll. 7 (explaining that "FIGS. 10A-10U are the program flow charts"). According to Itron, one of ordinary skill would construe the "means responsive" to be the corresponding flowchart for performing the specific functions disclosed in each claim.

Itron argues further that the novel file format structure Benghiat created to compress data and conserve the limited memory space common to all data collection devices at that time form an integral part of the software programs disclosed in Figures 10A-10U. According to Itron, the algorithms disclosed in the program flowcharts depend upon the file organization structures to perform the software routines and are thus incorporated as limitations of the claims.

Benghiat maintains that *WMS Gaming* requires the Court to construe the disclosed structure as a microprocessor programmed to carry out the algorithm recited in each of the claims. According to Benghiat, the disclosed algorithm in claim 1 is:

Compare each character keyed in by the operator to a list of associated routines or function codes.

If the character is the search miss request code, activate the search miss routine as follows:

a) Start the search miss routine at the current meter;

b) Search each meter record sequentially in the direction specified for missed reading (e.g. no current reading data); and

c) Stop searching and display the first missed meter encountered.FN8

FN8. Benghiat's proposed claim construction advanced in opposition to Itron's motion for summary judgment for noninfringment differs markedly from his construction advanced during discovery. *See* Answers to Supplement Interrogatories No. 34.

Benghiat contests Itron's reliance on the program flow charts. According to Benghiat, Figures 10A-10U are not structure. Moreover, Benghiat claims that the intricate file format structures disclosed in the program flowcharts form no part of the claims because the patent examiner forced Benghiat to remove claims 1-9 relating to Benghiat's memory saving technique during patent prosecution.

As an initial matter, the Court rejects Benghiat's claim that the file organization structure forms no part of the '456 patent. During patent prosecution, the patent examiner made a combination-subcombination restriction. Claims 1-9 of Benghiat's original application related solely to the efficient file storage and retrieval technique while claims 10-26 related to Benghiat's data retrieval and collection device. The examiner considered claims 10-26, or Invention II, a "combination" invention which, according to 806.05(a) of the Manual of Patent Examining Procedure (MPEP), is an organization of which a subcombination or element is a part. Thus, although Benghiat abandoned the subcombination claims 1-9 relating solely to the file storage and retrieval technique, he continued to pursue patenting of claims 10-26, the combination invention, which included aspects of both the data retrieval and collection device and the file storage device and retrieval technique.

In order to properly construe the means responsive limitations in the '456 patent, a careful review of *WMS Gaming* is required. *WMS Gaming* involved the Telneas patent, which discloses an electronically-controlled slot machine that decreases the probability of winning while maintaining the external appearance of a standard slot machine. 184 F.3d at 1343. One of the disputed claim limitations was a software-related claim written in means plus function format. It provided:

... means for assigning a plurality of numbers representing said angular positions of said reel, said plurality of numbers exceeding said predetermined number of radial positions such that some rotational positions are represented by a plurality of numbers ...

Id. at 1346. The district court interpreted the "means for assigning" limitation to cover "any table, formula or algorithm." *Id*. at 1348. On appeal, the Federal Circuit concluded that this construction was overly broad, concluding that "the [district] court erred by failing to limit the claim to the algorithm disclosed in the specification." *Id*. Notably, the court stated:

[T]he structure of a microprocessor programmed to carry out an algorithm is limited by the disclosed

algorithm. A general purpose computer, or microprocessor, programmed to carry out an algorithm creates 'a new machine,' because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.

Id. (citing In re Bernhart, 57 C.C.P.A. 737, 417 F.2d 1395, 1399-1400 (CCPA 1969) ("[I]f a machine is programmed in a certain new and unobvious way, it is physically different from the machine without that program; its memory elements are differently arranged")). The court went on to construe the structure as the algorithm disclosed in Figure 6 of the patent and articulated a 4-step algorithm as the corresponding structure. *Id*. at 1349.

Benghiat claims that its proposed algorithms of the SEARCH MISS function in claim 1, the LOCATE function in claim 20, and the NEW ACCOUNT function in claim 22 follows the methodology applied in *WMS Gaming* and should thus accordingly be adopted by the Court as the corresponding structure.FN9 Benghiat emphasizes that the Federal Circuit's disclosed algorithm of the "means for assigning" limitation in *WMS Gaming* was essentially a restatement of the functions stated in the claim language. Thus, the same construction should apply here.

FN9. Benghiat's proposed claim construction is somewhat incomplete in that it focuses only on the final means responsive limitation in each of the claims and fails to construe the other means responsive recited in the claims.

Upon review of *WMS Gaming* and recent Federal Circuit caselaw, the Court believes that the more appropriate construction is to construe the disclosed structure relating to the various means responsive limitations to be the particular flowcharts disclosed in the patent. The Court finds *WMS Gaming* distinguishable from the case at bar. In *WMS Gaming,* the Federal Circuit struggled to find any disclosure of the corresponding structure in the specification as required by the mandates of s. 112, para. 6. *See* WMS Gaming, 184 F.3d at 1348 ("The written description of the Telnaes patent is almost completely devoid of any structure to support this limitation of the claim."). Given this lack of disclosed structure, the FederalCircuit essentially had no other option but to restate the functions recited in the claims as the disclosed algorithm.

The '456 patent does not suffer from the same lack of disclosed structure in the specification as the Telneas patent. Indeed, the algorithms for performing the various functions described in each of the claims are explicitly disclosed in the patent's flow charts. *See* David Bender, Computer Law s. 3.02(3) (2000) (explaining that the "logic" or "algorithm" of a computer program may involve the use of a flowchart "wherein the logic of the program is depicted graphically by a sequence of oddly shaped boxes connected by lines and arrows, means to show the various processing steps and flow of data").

Thus, in light of Benghiat's explicit disclosure of the algorithms for performing the various functions in the patent claims, the Court finds that the claims are limited to the flowcharts which correspond to the particular functions recited in the claims. *See* WMS Gaming, 184 F.3d at 1348 ("emphasizing that the structure of a microprocessor programmed to carry out an algorithm is limited by the **disclosed algorithm**" (emphasis added)).

The Court's construction of the means responsive limitations in claims 1, 20, and 22 to the particular algorithms disclosed in the program flowcharts is also influenced by cases such as Signtech USA, Ltd. v.

Vutek, Inc., 174 F.3d 1352, (Fed.Cir.1999), and Chiuminatta Concrete Concepts v. Cardinal Indus. Inc., 145 F.3d 1303 (Fed.Cir.1998). Although these cases do not involve construction of software claims, they provide persuasive guidance for construing the claims at issue in this case.

Both cases demonstrate that patentees who write their claims in means-plus-function language can be limited to the preferred embodiment disclosed in their patent. *Signtech* involved a dispute over a claim element disclosing an improved ink jet printer. The court was required to construe the scope of "ink delivery means." 174 F.3d at 1354. Upon review of the specification as well as the preferred embodiment and disclosed illustration, the court limited the "ink delivery means" to an ink sprayhead containing a "second, high pressure air source." Id. at 1357. In limiting the claim to the preferred embodiment disclosed in the patent, the court noted:

Although patentees are not necessarily limited to their preferred embodiment, *see* Serrano v. Telular Corp., 111 F.3d 1578, 1583 (Fed.Cir.1997), interpretation of a means-plus-function element requires this court to consult the structure disclosed in the specification, which often, as in this case, describes little more than the preferred embodiment.

Id. at 1356.

Similarly, in *Chiuminatta,* the district court construed the claim language "means connected to the saw for supporting the surface of the concrete" to include "every conceivable support surface." *Id*. at 1308. The Federal Circuit reversed the district court's construction, concluding that the means limitation should be limited to the disclosed skid plate described in the specification and as pictured in the illustrated embodiment. *Id*.

Thus, for the above stated reasons, the Court finds that the "means responsive" limitations are limited to the particular program flow charts disclosed in figures 10A-10U in the '456 patent. Consistent with the principle that only that structure necessary to perform the function is a limit on the claim, the Court emphasizes that not every portion of the flowcharts are necessarily included to perform the function. Rather, only those specific flowcharts, or portions of flowcharts necessary to perform the various means responsive limitations disclosed in each of the claims are incorporated as limitations on the claims. The Court accordingly adopts Itron's proposed claim construction for each of the means responsive limitations in claims 1, 20 and 22, as provided in their Claim Construction brief [Docket No. 186] and equivalents thereof.

B. Step 2: Infringement Analysis

[27] Once the claims are construed, the Court compares the construed claims against the accused device and determines whether judgment as a matter of law is appropriate. A district court may grant summary judgment only "when it is shown that the infringement issue can be reasonably decided only in favor of the movant, when all reasonable factual inferences are drawn in favor of the non-movant." Voice Techs. Group Inc. v. VMC Sys. Inc., 164 F.3d 605, 612 (Fed.Cir.1999).

1. Literal Infringement under s. 112**, para. 6**

[28] [29] To prove literal infringement of a s. 112, para. 6 limitation, "the patentee must show that the accused device performs the identical function recited in the claim and incorporates the identical or equivalent structure disclosed in the specification and recited in the claim." WMS Gaming Inc. v. International Game Tech., 184 F.3d 1339, 1350 (Fed.Cir.1999); Odetics, Inc. v. Storage Tech. Corp., 185

F.3d 1259, 1266-67 (Fed.Cir.1999); Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc., 145 F.3d 1303, 1308 (Fed.Cir.1998). Thus, "functional identity **and** either structural identity or equivalence are both necessary" for literal infringement under s. 112, para. 6. Odetics, 185 F.3d at 1267 (emphasis added).

[30] [31] [32] [33] Structural equivalence under s. 112, para. 6 claim is met only if any differences between the disclosed structure and the accused structure are insubstantial. Chiuminatta, 145 F.3d at 1308. The test for insubstantial differences under s. 112, para. 6 is similar to the "function, way, result" test under the doctrine of equivalents. *Al-* Site Corp. v. VSI Int'l, 174 F.3d 1308, 1321 (Fed.Cir.1999). However, whereas the doctrine of equivalents requires that the accused device perform the same function as the claimed device in substantially the same way to achieve substantially the same result, s. 112, para. 6 equivalence is narrower and requires that the accused device perform **the identical function** recited in the claims in substantially the same way to achieve substantially the same result as the disclosed structure. *Al-* Site, 174 F.3d at 1320 (emphasis added); Chiuminatta, 145 F.3d at 1308. Thus, "[t]he content of the test for insubstantial differences under s. 112, para. 6 reduces to 'way' and 'result.' " Odetics, 185 F.3d at 1267. Structural equivalence under s. 112, para. 6 is therefore "an application of the doctrine of equivalents in a restrictive role." Warner-Jenkinson Co., Inc. v. Hilton Davis Chem., 520 U.S. 17, 28, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997).

2. Doctrine of Equivalents

[34] An accused device may infringe under the doctrine of equivalents even if it is not equivalent within the meaning of s. 112, para. 6. *See* Chiuminatta, 145 F.3d at 1311; Odetics, 185 F.3d at 1267. Unlike s. 112, para. 6, the doctrine of equivalents "extends enforcement of claim terms beyond their literal reach in the event 'there is equivalence between the elements of the accused product or process and the claimed elements of the patented invention.' " *Al-* Site, 174 F.3d at 1320 (quoting Warner-Jenkinson, 520 U.S. at 17, 117 S.Ct. 1040).

[35] [36] [37] The doctrine of equivalents differs from s. 112, para. 6 in a way other than whether the accused structure performs the identical or substantially equivalent function of the patentee's device. Under s. 112, para. 6, "a structural equivalent under s. 112 must have been available at the time of the issuance of the claim." *Al-* Site, 174 F.3d at 1320; Chiuminatta, 145 F.3d at 1310. Therefore, if the structure of the accused device incorporates technology developed after the patent was issued, it is, by definition, not a s. 112, para. 6 structural equivalent and does not literally infringe. *Al* Site, 174 F.3d at 1320. However, such "after-arising" technology may still infringe under the Doctrine of Equivalents. *Id.; see also* Ishida Co. Ltd. v. Taylor, 221 F.3d 1310, 1317 (Fed.Cir.2000) ("The doctrine of equivalents might come into play to determine infringement of a means-plus-function claim element if the accused device features technology that has arisen since the time of patent issuance."). In *Chiuminatta,* the Federal Circuit explained the significance of the doctrine of equivalents in cases involving "after arising" technology:

The doctrine of equivalents is necessary because one cannot predict the future. Due to technological advances, a variant of an invention may be developed after the patent is granted, and that variant may constitute so insubstantial a change from what is claimed in the patent that it should be held to be an infringement. Such a variant, based on after-developed technology, could not have been disclosed in the patent. Even if such an element is found not to be a s. 112, para. 6 equivalent because it is not equivalent to the structure disclosed in the patent, this analysis should not foreclose it from being an equivalent under the doctrine of equivalents.

145 F.3d at 1310.

3. Analysis

[38] Itron maintains that summary judgment is appropriate because its devices do not infringe, either literally or by any standard of equivalents, the input means or means responsive limitations in any of claims 1, 20 or 22 of the '456 patent. First, Itron claims its devices do not literally infringe the input means in each of the claims because its devices lack the specialized keys and keyboard structure present in the '456 patent. Further, because some of Itron's devices require multiple keystrokes to generate the desired signals as opposed to the single key activation present in the '456 patent, the "way" in which its devices operate is substantially different. Hence, Itron's devices are not equivalent under either a s. 112, para. 6 or a doctrine of equivalents analysis.

Itron also claims its devices do not infringe the means responsive limitations because, among other things, the particular software algorithms which all depend on the special, memory-conserving file structure are not found literally or by any standard of equivalents in any of Itron's devices. Iron emphasizes that because of differences in memory saving capabilities at the time Benghiat developed his device and when Itron developed its devices, the file structures in the '456 patent and Itron's devices are substantially different.

The Court believes the determination of whether Itron's devices infringe any of claims 1, 20, 22 of the '456 patent is best left for the trier of fact. A review of the various Itron keyboard layouts submitted in the record reveals that its devices possess keys for performing the various functions disclosed in the '456 patent. For example, the MVRS keyboard utilizes keys for generating basic entry and retrieval signals for storing or retrieving account information (*see e.g.* MTR INFO key); a key for generating signals to reverse to the previous account (*see* PREV key); a key for generating signal to forward to the next account (*see* NEXT key); and a key for generating a search miss signal (*see* NXT MISS key).FN10 Although multiple keystrokes might be required to activate the requisite functions on Itron's keyboards as opposed to the single keystrokes on Benghiat's keyboard, the Court believes it is for the jury to determine whether such differences are substantial enough to preclude a finding of infringement.

FN10. Itron's devices operate in two modes: alpha and base. These keys operate when the device is set in base mode.

[40] The Court also declines to rule, as a matter of law, that Itron's devices do not infringe the means responsive limitations in each of the claims based on the different file format structures disclosed in the devices. While the file structures utilized in Itron's devices and the '456 patent are not identical,FN11 a jury could find the differences between the structures to be insubstantial and thus equivalent under either a s. 112, para. 6 or doctrine of equivalents analysis.

FN11. For instance, because of the concern for saving memory space, Benghiat packages smaller amounts of information in each file and uses five or six levels of file organization whereas Itron uses only three levels for filing information.

The doctrine of "after arising" technology seems particularly appropriate here. As Itron explains in its

motion papers, memory was expensive and had a limited storage capacity at the time Benghiat filed his patent. Benghiat's file formats were structured in direct response to the limited memory capacity common in all handheld devices at the time. However, because memory limitations were not an issue at the time Itron developed its devices, it was unnecessary for Itron to follow the same approach as Benghiat. Thus, a jury should also consider whether variations in the software and file formats due to such after-developed technology are so insubstantial as to be equivalent under the doctrine of equivalents. *See* Chiuminatta, 145 F.3d at 1310 ("Due to technological advances, a variant of an invention may be developed after the patent is granted, and that variant may constitute so insubstantial a change from what is claimed in the patent that it should be held to be an infringement."); *Al-* Site 174 F.3d at 1320 ("after-arising technology may still infringe under the doctrine of equivalents"). The Court thus denies Itron's motion for summary judgment of noninfringement.FN12

FN12. Itron's second motion for summary judgment that the '456 patent is invalid was dependent on the Court adopting Benghiat's proposed claim construction of the patent claims. In light of the Court's claim construction, particularly the means responsive limitations, Itron's motion is denied as moot.

III. Motion for Partial Summary Judgment Regarding the Date when Potential Damages Began to Accrue

Itron moves to limit the date upon which Benghiat's potential damages begin to accrue in the event Itron is found to have infringed the '456 patent. Itron advances three separate theories in support of its motion: 1) laches; 2) contributory infringement; and 3) improper marking.

1. Laches

[41] [42] [43] [44] [45] [46] Laches is a well-established defense to a patent infringement claim. A.C. Aukerman Co. v. R.L. Chaides Constr. Co., 960 F.2d 1020, 1028 (Fed.Cir.1992). Section 35 U.S.C. s. 282 recognizes the equitable defense of laches to an infringement claim. Nevertheless, the application of the defense is within the sound discretion of the district court. Aukerman, 960 F.2d at 1032. To invoke the laches defense, an accused infringer must show that:

1) the patentee delayed in bringing an action for an unreasonable and inexcusable length of time after the patentee knew or reasonably should have known of the potential infringement; and 2) the delay results in material prejudice or injury to the accused infringer.

Wanlass v. General Elec. Co., 148 F.3d 1334, 1337 (Fed.Cir.1998); Gasser Chair Co. v. Infanti Chair Mfg. Corp., 60 F.3d 770, 773 (Fed.Cir.1995). "Material prejudice" includes either evidentiary or economic prejudice:

Evidentiary or "defense" prejudice, may arise by reason of an [alleged infringer's] inability to present a full and fair defense on the merits due to the loss of records, the death of a witness, or the unreliability of memories of long past events, thereby undermining the court's ability to judge the facts. Economic prejudice may arise where an [alleged infringer] and possibly others will suffer the loss of monetary investments or incur damages which likely would have been prevented by earlier suit.

Wanlass, 148 F.3d at 1337 (quoting Aukerman, 960 F.2d at 1033). A party raising the laches defense in a summary judgment context must establish that there is no genuine issue of material fact regarding the delay

or the prejudice. *Id.*

[47] [48] A rebuttable presumption that a patentee's delay was unreasonable, inexcusable and prejudicial arises where a patentee fails to bring an infringement action more than six years after first acquiring knowledge of the potentially infringing activity. Aukerman, 960 F.2d at 1035-36. If the presumption arises, the burden shifts to the patentee to "produc[e] evidence, which if believed, would show that either the patentee's delay was reasonable or excusable under the circumstances or the defendant suffered neither economic or evidentiary prejudice." Wanlass, 148 F.3d at 1337.

Itron claims it has established both prongs of the laches test. First, Benghiat had knowledge, or through the exercise of reasonable diligence should have known, of Itron's alleged infringing activities well before the '456 patent was issued on July 12, 1988. Relying on Benghiat's deposition testimony that he knew Itron was in the hand-held device business as early as 1980, Itron claims Benghiat was on notice at that time and had a duty to patrol Itron's products for potential infringement.

Had Benghiat made even a cursory inspection of an Itron device, Itron believes Benghiat would have noticed similarities between the two devices to raise his suspicions. Thus, since Benghiat's knowledge or constructive knowledge of Itron's infringing activity began well over six years ago, Itron claims the presumption of laches arises and therefore the court should presume that Benghiat's delay was unreasonable, inexcusable and prejudicial.FN13 Even if the Court declines to apply the presumption, Itron claims it has suffered both economic and evidentiary prejudice as a result of Benghiat's delay.

FN13. Because the law does not allow the laches presumption to arise before a patent is issued, Itron argues that the presumption arose on July 12, 1994, six years after Benghiat's patent was issued (July 12, 1988).

Benghiat claims he could not have known of Itron's alleged infringement until 1998 when Benghiat re-entered the meter reading market after a 16-year absence. Furthermore, he could not have had constructive knowledge of Itron's infringement because he did not have access to Itron devices and, contrary to Itron's claim, Benghiat could not have determined from a cursory examination of an Itron device whether it infringed the '456 patent or not. Rather, a proper examination required access to Itron's source code and user manuals.

Benghiat also claims that the Federal Circuit's decision in Wanlass v. Fedders Corp., 145 F.3d 1461 (Fed.Cir.1998), precludes the laches presumption from arising in this case. In *Fedders,* the Federal Circuit reversed the district court's application of the laches presumption on summary judgment, concluding that the record contained too many factual disputes to find, as a matter of law, that the patentee had actual or constructive knowledge of possible infringement six years prior to filing suit. *Id.* at 1464.

In *Fedders,* which bears characteristics similar to the case at bar, the plaintiff sued for infringement of his patent which claimed a single-phase alternating current electric motor for use in air conditioners. *Id.* at 1462. The Federal Circuit concluded that issues of fact remained regarding the plaintiff's knowledge where the facts demonstrated that plaintiff was not active in the air conditioning industry for some time, he had not attended trade shows, and he could not detect potential infringement without actually testing the product. *Id.* at 1466.

[49] As in *Fedders,* the Court finds that sufficient issues of material fact remain regarding whether Benghiat

had the requisite knowledge, actual or constructive, of Itron's allegedly infringing activity and whether Benghiat's delay was reasonable. The Court places little weight on Benghiat's deposition testimony that he knew Itron was a competitor in the field as early as 1980. Knowledge of a competitor in the market does not prove knowledge that the competitor is selling infringing products. *See* Fedders, 145 F.3d at 1465 ("the mere fact that single-phase motors are used in room air conditioners is not enough to suggest infringement because not all single-phase motors infringe").

There is also evidence that Benghiat was completely out of the meter-reading industry during the period Itron claims Benghiat should have been patrolling the industry for infringement of his patent. The Court thus denies this portion of Itron's motion.

2. Contributory Infringement

[50] [51] Itron next argues that its devices infringe, if at all, only contributorily under 35 U.S.C. s. 271(c). As a result, Itron claims its damages are limited to sales made after November 6, 1998, the date upon which Itron claims it first became aware of the existence of the '456 patent. FN14 According to 35 U.S.C. s. 271(c), contributory infringement is defined, in relevant part:

FN14. In footnote 2 of his motion in opposition to Itron's third motion to limit damages, Benghiat claims that the evidentiary record is not complete regarding Itron's knowledge of the '456 patent. Benghiat claims it has good reason to believe Itron knew of Benghiat's devices marked "patent pending" in the 1980s and that such information might be obtained from depositions of two former Itron employees, Michael Hirst and Brian Perry. In an effort to obtain this information, Benghiat appeals that portion of Magistrate Judge Franklin L. Noel's September 7, 2000 order granting Itron's motion for a protective order, precluding the depositions of these individuals. The Court has reviewed and considered Benghiat's appeal and affirms the Magistrate Judge's order. Itron presents a compelling argument that Benghiat's appeal was untimely filed pursuant to Local Rule 72.1(b)(2) and that tolling of the 10-day filing period does not apply to Benghiat's motion for reconsideration brought under Local Rule 7.1(g). *Cf.* Stark v. Lambert, 750 F.2d 45, 47 (8th Cir.1984) (motion for reconsideration of denial of motion for new trial does not toll 30-day time period to file notice of appeal pursuant to Rule 4(a)(4) and Rule 59 of the Federal Rules of Civil Procedure). Even if Benghiat's appeal of the Magistrate Judge's order was timely, Benghiat's characterization of the Magistrate Judge's ruling as an order to quash the subpoenas for which the Magistrate Judge lacked jurisdiction is without support in the record. A review of the September 7, 2000 order clearly indicates that the ruling was based on Itron's motion for a protective order. Benghiat's appeal of the Magistrate Judge's order regarding the depositions of Michael Hirst and Brian Perry is thus denied.

Whoever offers to sell or sells within the United States ... **a component of a patented machine ... or apparatus** for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.
(Emphasis added.) Itron maintains that it can, at most, be liable as a contributory infringer because its devices, when made and sold, do not possess the requisite customer and meter route data as required and claimed in the '456 patent. The specific claim language provides in relevant part:
[S]aid system including data memory means containing account files arranged in an order corresponding to the desired sequence the accounts are to be visited, there being associated with each account file data

storage fields **containing the street name and building number and apartment number identifying each account** ....

Col. 35 ll. 13-19 (emphasis added). According to Itron, its devices do not directly infringe Benghiat's patent because its devices, when made or sold, do not "contain" the requisite customer and route data. Rather, that information is downloaded into Itron's devices by the utility companies only after purchasing Itron's devices. Thus, because its devices lack an element of the claim, Itron's devices do not satisfy the all-elements rule for direct infringement. At most, Itron sells a "component of a patented machine ... or apparatus" under 271(c). Even if the Court were to construe the term "containing" as literally as Itron suggests, Benghiat has created a genuine issue of material fact regarding whether Itron satisfies this element of the claim. As Benghiat explains and supports by deposition testimony of an Itron engineer familiar with the Premier Plus4 System, Itron sells its hand-held devices as part of a package that includes software that is loaded onto the utility's main frame computer. FN15 Significantly, the Itron software interacts with the utility's route and customer information by reformatting the data for compatibility with the account files in the hand-helds prior to use of the device. Such evidence sufficiently creates an issue of fact for the jury to determine whether Itron is a direct or contributory infringer. The Court thus denies this portion of Itron's motion.

FN15. The following deposition testimony is revealing:
Q. Does that information come in through the Meter Reading Import File?
A: Yes.
Q: And it comes out of the customer's CPI or-excuse me-CIP-Customer Information?
MR. BLOOMSTEIN: CIS.

BY MR. WINE:

Q: Too many letters. CIS Information System.
A: Typically.
Q: **And is it converted or transferred or manipulated in any way by Premier Plus 4 before it does into the handhelds?**
A: **Yes.**
Q: **What happens to it?**
A: **Well, we put it into our database.**

(Emphasis added.) In its reply memorandum, Itron's excerpt of this deposition testimony stops short of the bolded portion of the above-quoted testimony.

3. Marking Statute

Itron's final argument for limiting its damages is based on the marking statute. 35 U.S.C. s. 287(a). The Court sees no reason to change its earlier ruling on this issue. *See* Order dated January 20, 2000. For all the above-stated reasons, Itron's motion is denied.

IV. Motion for Partial Summary Judgment Regarding Defendant's Claim for Enhanced Damages

Based on Bad Faith

[52] Itron moves the Court to find, as a matter of law, that Benghiat's claims of bad faith conduct on the part of Itron is insufficient to warrant enhanced damages and attorney's fees pursuant to 35 U.S C. s.s. 284-285. Defendant argues that he has sufficient evidence to support a finding of bad faith by Itron. Although some of defendant's claims of bad faith are somewhat suspect, the Court believes these issues are premature and would be more appropriately resolved at the conclusion of this litigation. Accordingly, Itron's motion is denied.

V. Motion for Summary Judgment that the '456 Patent **is Not Infringed and Motion for Summary Judgment that the '456 is Invalid**

The Court finds Itron's fifth and sixth motions duplicative of its first motion for noninfringement and its second motion that the '456 patent is invalid. Accordingly, both motions are denied.

ORDER

Based upon the foregoing, the submissions of the parties, the arguments of counsel and the entire file and proceedings herein, **IT IS HEREBY ORDERED** that:

1. Plaintiff's motion for summary judgment of noninfringement [Docket No. 114] is **DENIED**;

2. Plaintiff's motion for summary judgment (second) [Docket No. 140] is **DENIED as moot**;

3. Plaintiff's motion for partial summary judgment (third) regarding date upon which potential damages began to accrue [Docket No. 162] is **DENIED**;

4. Plaintiff's motion for partial summary judgment (fourth) regarding defendant's claims for enhanced damages based on bad faith [Docket No. 155] is **DENIED**;

5. Plaintiff's motion for summary judgment (fifth) that the '456 patent is not infringed [Docket No. 169] is **DENIED**;

6. Plaintiff's motion for summary judgment (sixth) that the '456 patent is invalid [Docket No. 177] is **DENIED**;

7. Defendant's appeal from the Magistrate Judge Ruling's Order on September 7, 2000 [Docket No. 151] is **DENIED** and the Magistrate Judge's Order [Docket No. 150] is **AFFIRMED**.