United States District Court,
N.D. California, San Jose Division.

**CELLNET DATA SYSTEMS, INC,**
Plaintiff.
v.
**ITRON, INC,**
Defendant.

No. C-97-20396 EAI

**Aug. 10, 1998.**

Patent infringement suit was brought. The District Court, United States Magistrate Judge Infante, held that: (1) use of term "circuit means," in patent for module used with energy meters, did not create means-plus-function element limiting scope of claim, and (2) term meant combination of number of electrical devices and conductors that, when connected together to form conducting path, fulfill desired function such as amplification, filtering, or oscillation.

Terms construed.

4,792,677. Cited.

Jack L. Slobodin, John W. Thornburgh, Fish & Richardson P.C., Menlo Park, CA, Sharon Israel, Todd D. Mattingly, Fish & Richardson P.C., Houston, TX, for Plaintiff CellNet Data Systems, Inc.

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**ORDER RE: CONSTRUCTION OF DISPUTED CLAIMS IN** U.S.PATENT NO. 4,783,623

INFANTE**, United States Magistrate Judge.**

## I. INTRODUCTION

This is a patent infringement case. Plaintiff CellNet Data Systems, Inc. ("CellNet"), the assignee of U.S.Patent No. 4,783,623 ("the '623 patent"), entitled "Device For Use With A Utility Meter For Recording Time Of Energy Use," accuses Defendant Itron, Inc. ("Itron") of infringing claims 1, 5, 8-10, and 12-14 of said patent by making, using and selling its various models of meter modules.

After the parties submitted briefs in support of their respective positions, the Court conducted a claim

construction hearing on July 24, 1998. *See* Civil L.R. 16-11. The parties were permitted to make arguments and present evidence in support of their proposed interpretations of the disputed claim terms at the hearing. The Court has now reviewed the parties' written submissions, the documentary evidence, the testimony of inventor Larsh Johnson, and the arguments presented by counsel. By this order, the Court renders its interpretation of the disputed terms and sets forth its analysis.

## II. BACKGROUND

The invention disclosed in the '623 patent relates to utility meters FN1 used by electric companies. The named inventors of the '623 patent are Cree Edwards and Larsh Johnson. Mr. Johnson, who testified at the claim construction hearing, is currently CellNet's Chief Technology Officer. The '623 patent issued on November 8, 1988.

FN1. Electric utility meters generally contain a metal disc that spins faster or slower depending on how much electricity is used. By counting the number of disc revolutions, one can determine the amount of electricity used. The electric meter is usually fitted with a glass or plastic dome-shaped cover which protects the meter mechanism from dust, weather, and tampering.

According to the '623 patent specification, the claimed device allows electric companies to retrofit their existing meters to permit variable billing rates and structures:

The present invention relates generally to utility meters for recording energy consumption, and more particularly to a device readily installed within standard electric meters for recording time of energy use. [para.] Electrical energy is generally sold and metered on the basis of a fixed rate schedule, for example a fixed rate per kilowatt-hour delivered. Electrical energy demand, however, varies considerably during the course of the day. Nonetheless, the fixed rate applies whether the demand for energy is high or low.

'623 patent, 1 *:5-14*. The '623 specification explains that if electric companies can charge different rates based on the time of energy use, then they can encourage their customers to use less energy during peak demand periods. ' 623 patent, 1 *:15-24*. The ability to charge different rates would result in substantial cost savings to the electric companies.

According to Mr. Johnson, he and Mr. Edwards conceived of the idea of manufacturing and marketing a device that would allow advanced meter reading capabilities to be incorporated into existing utility meters in approximately 1985. They formed a company, Domestic Automation Corporation, to develop the product and bring it to the market. The company later became CellNet Data Systems, Inc. On August 29, 1986, Mr. Johnson and Mr. Edwards filed two separate patent applications to claim their invention. CellNet explains that the application resulting in the '623 patent was filed to claim a device capable of being installed under the meter disc in the standard meters in use at the time.FN2 CellNet contends that the separate application, which resulted in the issuance of U.S.Patent No. 4,792,677 ("the '677 patent"), entitled "System For Use with A Utility Meter For Recording Time Of Energy Use," claimed the electronic circuitry to be used with the apparatus disclosed in the '623 patent.FN3 The '677 patent issued on December 20, 1998.

FN2. The record indicates that there were four standard models of electric meters in the period from 1985 to 1996. These models were manufactured by Westinghouse, General Electric, Landis & Gyr, and Sangamo.

FN3. CellNet does not contend that Itron infringes the '677 patent in this case.

## III. LEGAL STANDARDS REGARDING CLAIM CONSTRUCTION

[1] [2] The Supreme Court recently confirmed that patent claim interpretation is a question of law to be decided by the Court. Markman v. Westview Instruments, Inc., 517 U.S. 370, 371-73, 116 S.Ct. 1384, 1387, 134 L.Ed.2d 577 (1996). In determining the meaning of terms used in patent claims, the Court considers the intrinsic evidence which consists of the claim language, the specification, and the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996); and Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1561 (Fed.Cir.1991). If the meaning of the claim language is not ambiguous and can be determined from the intrinsic evidence, the Court may not rely on extrinsic evidence in rendering its claim construction.FN4 Vitronics, 90 F.3d at 1583.

FN4. The Court does not rely on the extrinsic evidence, including the testimony of inventor Larsh Johnson, presented during the claim construction hearing because the meaning of the disputed terms can be derived from the relevant intrinsic evidence. However, the extrinsic evidence substantially assisted the Court in understanding the relevant technology and the state of the art when the alleged invention described in the '623 patent was conceived.

[3] [4] [5] The Court begins its analysis by reviewing the claims themselves, both asserted and nonasserted, to define the scope of the patented invention. Id. at 1582. The claim terms are to be given their common and ordinary meaning unless the intrinsic evidence indicates that the patentee intended a special meaning. Id.; Wolverine World Wide, Inc. v. Nike, Inc., 38 F.3d 1192, 1196 (Fed.Cir.1994). In such a case, the special meaning of the claim terms will be derived from the claim specification which serves as the patentee's "dictionary." Vitronics, 90 F.3d at 1582; and Hoechst Celanese Corp. v. BP Chemicals, Ltd., 78 F.3d 1575, 1578 (Fed.Cir.1996) ("A technical term used in a patent document is interpreted as having the meaning that it would be given by persons experienced in the field of the invention, unless it is apparent from the patent and the prosecution history that the inventor used the term with a different meaning.") (citations omitted). The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution. Alpex Computer Corp. v. Nintendo Co., Ltd., 102 F.3d 1214, 1220 (Fed.Cir.1996); and Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed.Cir.1995).

[6] [7] [8] Although the Court may use the specification to ascertain the meaning of claim terms, it is improper to limit the scope of the claim to the examples and embodiments disclosed in the specification. An exception to this general rule exists, however, in the form of means-plus-function claims allowed under 35 U.S.C. s. 112, para. 6. *See* Valmont Industries, Inc. v. Reinke Manufacturing Co., 983 F.2d 1039, 1042 (Fed.Cir.1993). Under a means-plus-function analysis, if the specification mentions specific alternative structures, those structures are included in the scope of the patent. Serrano v. Telular Corp., 111 F.3d 1578, 1583 (Fed.Cir.1997). A specification that merely mentions the possibility of alternative structures without specifically identifying them is not sufficient to expand the scope of the claim beyond the example used. Fonar Corp. v. General Elec. Co., 107 F.3d 1543, 1551 (Fed.Cir.), *cert. denied,* 522 U.S. 908, 118 S.Ct. 266, 139 L.Ed.2d 192 (1997).

## IV. DISCUSSION

The parties have met and conferred regarding the construction of terms used in the asserted claims of the '623 patent and have reached agreements regarding the meanings of all terms except the following: (1) "any standard meter" or "any standard electric meter"; (2) "circuit means for recording energy use"; (3) "circuit means for recording time of energy use"; (4) "below the disc" or "beneath the disc"; (5) "housing"; (6) "mounting hole"; (7) "set of openings"; (8) "about" and (9) "near." Pursuant to Civil L.R. 16-11(d), the parties submitted briefs supporting their interpretations of these claim terms. The following is the Court's construction of these terms and a discussion of the relevant considerations.

**A. "*Any Standard Meter*" *Or* "*Any Standard Electric Meter*"**

In independent claim 1 of the '623 patent, the patentees state that their claimed device has a housing with mounting holes arranged such that said housing may be mounted in "any standard electric meter." FN5 Itron contends that, in the context of the '623 patent, the terms "any standard meter" and "any standard electric meter" require that CellNet's claimed device be mountable on all "standard electric meters" as that term is defined in the specification. CellNet's position is that claim 1 should not be read to require the device to have mounting holes which permit it to be mounted on all of the standard electric meters. Rather, CellNet argues that "claim 1 refers to a housing amenable to use with *various* electric meters" because its counsel stated during the prosecution of the patent that the device could be mounted within "various" electric meters. CellNet further opines that "it is clear that CellNet simply intended to refer to the ability of their [sic] device to fit more than one of the standard meters." Thus, CellNet contends that it merely claimed a device that could be installed on more than one of the standard electric meters.

FN5. The parties agree that the terms "standard meter" and "standard electric meter" have the same meaning in the '623 patent.

**1. "*Standard Meter*" *And* "*Standard Electric Meter*" *Are Expressly Defined***

The parties' dispute focuses on the meaning of the word "any" since they appear to agree that the terms "standard meter" and "standard electric meter" are specifically defined in the patent specification:

The device of the present invention is configured to be mounted within the following Class 200 watthour meters as well as other meters having a similar internal structure: the D5S meter type manufactured by the Westinghouse Corporation, Raleigh, N.H.; the I-70-S meter type manufactured by the General Electric Corporation, Somersworth, N.H.; the MS meter type manufactured by Landis & Gyr (Duncan), Lafayette, Ind.; and the J4 meter type manufactured by Sangamo, Atlanta, Ga. *Meters of the type just identified, including meters having a similar internal structure, will be hereinafter referred to as standard watthour meters or standard electric meters.*

'623 patent, 3 *:40-52 (emphasis added).*

[9] The definition given to a disputed claim term in the specification is to be accorded substantial deference when construing the term. The Federal Circuit has declared that courts should generally begin their claim construction analysis with the patent specification because it is usually "dispositive." Vitronics, 90 F.3d at 1582. The *Vitronics* court described the patent specification as "the single best guide to the meaning of a disputed claim." *Id.* In this case, the patentees clearly and precisely defined the terms "standard meter" and "standard electric meter" in the patent specification. Since the patentees' express definition is consistent with the remainder of the intrinsic evidence, the Court hereby construes the terms as they are defined in the

specification. '623 patent, 3 *:40-52*.

**2. *The Court Construes "Any" To Mean "Every" Or "All"***

[10] Itron argues that claim 1 discloses a device which may be mounted on all four of the specifically-identified meters, including the Westinghouse, General Electric, Landis & Gyr, and Sangamo electric meters, and all other meters having similar internal structures. CellNet claims that the term "any" should be construed to mean "more than one." For the reasons given below, Itron's definition of "any" comports with the specification and prosecution history of the '623 patent application.

The patent specification contains several statements which contradict CellNet's argument that "any standard meter" and "any standard electric meter" merely mean "more than one standard electric meter." For example, the patentees explain that "[t]he [mounting] holes are arranged so that the device may be mounted in any standard watthour meter." '623 patent, 2 *:63-65*. The inventors also describe in detail the manner in which the mounting holes of the claimed device are arranged so that the mounting posts on *each* of the identified standard electric meters (including the Westinghouse, General Electric, Landis & Gyr and Sangamo meters) can be accommodated. '623 patent, 3 *:56-4* :19 *and* 5 *:40-6* :29. Moreover, in their introductory statement, the patentees state that their invention relates "to a device readily installed within standard electric meters for recording time of energy use." '623 patent, 1 *:5-8*. Finally, the patentees leave little doubt that the disclosed device is designed to fit all four of the standard electric meters with these comments:

Excellent, highly-standardized, electromechanical meters for metering power consumption at fixed rates are currently in place at literally millions of locations throughout the United States. These meters are readily available and relatively inexpensive. *Thus, the most practical and inexpensive way to provide for a multiple rate structure is to provide a device for recording time of energy use that is readily utilized with such standard electric meters*. [para.] Examples of such standard meters include: the D5S meter type manufactured by the Westinghouse Corporation, Raleigh, N.H.; the I-70-S meter type manufactured by the General Electric Corporation, Somersworth, N.H.; the MS meter type manufactured by Landis & Gyr (Duncan), Lafayette,Ind.; and the J4 meter type manufactured by Sangamo, Atlanta, Ga ... [para.] *Accordingly, a general object of the present invention is to provide a relatively inexpensive device readily installed on standard meters for recording time of energy use*.

'623 patent, 2 *:21-43 (emphasis added)*. Thus, the specification clearly provides that the device disclosed in claim 1 was designed to permit ready installation on all four of the specified standard electric meters. FN6

FN6. CellNet does not argue that its construction is supported by the patent specification. CellNet's interpretation is based on the isolated comment of its patent counsel in reply to the November 23, 1987 Office Action and Mr. Johnson's testimony during the claim construction hearing.

The prosecution history also supports Itron's interpretation of "any standard meter" and "any standard electric meter." Although CellNet's patent counsel, William J. Egan III, stated in the Remarks section of the patentees' Response to the Office Action of November 23, 1987 that the claimed device can be mounted on "various" electric meters, Mr. Egan also made statements contradicting CellNet's position. For instance, Mr. Egan argued to the examiner that the disclosed device was distinguishable over the identified prior art because it "may be mounted in any standard electric meter." *Response to Office Action, 6:2-4*. Mr. Egan

also explained later that the device "may be mounted in standard electric meters." Such an unqualified statement clearly suggests that the inventors claimed a device which could be installed in all standard electric meters. The Court also notes that the examiner clearly understood the patentees to be claiming a universally adaptable meter module and the patentees never advised the examiner that they did not intend to assert such a claim. *Office Action,* para. 2.

Finally, Itron's definition of the disputed terms is supported by reference to the dictionary definition of the word "any." FN7 According to the dictionary, the word "any" can mean: 1) every; 2) all; 3) one, some, or all indiscriminately of whatever quantity; 4) one or another taken at random; and 5) one or more-used to indicate an undetermined number or amount. *Webster's Collegiate Dictionary* (10th Ed.1993). While the dictionary definition indicates that "any" can be construed to mean every, all, or an indeterminate number, it does not commonly mean "more than one." Thus, if the patentees intended to claim such a special definition of the word "any," their intent to do so must be reflected in the specification. In this case, no such intent is expressed in the specification of the '623 patent.

FN7. Both CellNet and Itron contend that their respective definitions of the word "any" is supported by the dictionary. They each submitted the relevant portions of dictionary at the July 24, 1998 hearing.

Accordingly, the Court construes the terms "any standard meter" and "any standard electric meter" to mean the D5S meter type manufactured by the Westinghouse Corporation, the I-70-S meter type manufactured by the General Electric Corporation, the MS meter type manufactured by Landis & Gyr, the J4 meter type manufactured by Sangamo, and all electric utility meters having similar internal structures.

**B. "*Circuit Means For Recording Energy Use*"**

Independent claim 1 of the '623 patent discloses a device for use with an electric meter which has a housing containing "circuit means for recording energy use." According to CellNet, the term "circuit means for recording energy use" means any circuit involved with recording energy use. Itron contends that the term is a means-plus-function element and that it means "a circuit having a sensor for detecting the black mark on the [meter] disc, a microprocessor for receiving this information and storing it in memory."

**1. "*Circuit Means*" *Is Not A Means-Plus-Function Limitation***

The parties vigorously dispute whether the above element of claim 1 is a means-plus-function limitation. CellNet argues that the element is not in means-plus-function format despite the fact that the patentees used the words "means for" because there is no corresponding structure in the '623 specification. CellNet also contends that those skilled in the art would understand the term "circuit means" as a structural limitation. Itron, on the other hand, argues that the specific circuitry disclosed in CellNet's separate patent application, which led to the issuance of the '677 patent, may be consulted to understand the structure of the "circuit means" because the patents are related and the "elements and circuitry" disclosed in the separate application were incorporated by reference by the patentees in the '623 patent specification. '623 patent, 4 *:63-5* :4.

[11] Paragraph 6 of 35 U.S.C. s. 112, which authorizes patentees to claim structural limitations without an express structural description in the claim itself, provides that:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be

construed to cover the corresponding structure, material or acts described in the specification and equivalents thereof.

If the Court determines that a claim element is set forth in means-plus-function format, then the "court must consult the specification to define the structure, material or acts corresponding to this claimed function." Sage Products, Inc. v. Devon Industries, Inc., 126 F.3d 1420, 1428 (Fed.Cir.1997).

[12] Although there is a presumption that a claim element expressed using the words "means for" is a means-plus-function limitation, the Court must nevertheless make its determination "on an element-by-element basis, based upon the patent and its prosecution history." Cole v. Kimberly-Clark Corp., 102 F.3d 524, 531 (Fed.Cir.1996). "[The] mere incantation of the word 'means' in a clause reciting predominantly structure cannot evoke section 112, para. 6." York Products, Inc. v. Central Tractor Farm & Family Center, 99 F.3d 1568, 1574 (Fed.Cir.1996). The cases explain that claim elements are not expressed in means-plus-function format if there is an insufficient disclosure of the function to which the purported means corresponds or if "a claim recites a function, but then goes on to elaborate sufficient structure, material, or acts within the claim itself to perform entirely the recited function," S age, 126 F.3d at 1427-28; and Waterloo Furniture Components, Ltd. v. Haworth, Inc., 798 F.Supp. 489, 494-95 (N.D.Ill.1992).

[13] In this case, the Court finds that those skilled in the art would understand the term "circuit means" as a structural rather than a means-plus-function element. Moreover, those skilled in the art would construe the term "circuit means" to mean:

The combination of a number of electrical devices and conductors that, when connected together to form a conducting path, fulfill a desired function such as amplification, filtering, or oscillation.

*Penguin Dictionary of Electronics* (2nd Ed.1988). In addition, the fact that the location of the "circuit means" is specified in claim 1 suggests that the patentees intended to recite a structural element. *See* Cole, 102 F.3d at 531 (claim language held not to be in means-plus-function format because the word "perforation" provides a sufficient description of structure and because the location of the "perforation means" is specified in the claims).

Furthermore, the absence of a corresponding disclosure of the necessary circuitry in the '623 patent specification indicates that "circuit means" is not a means-plus-function element. Itron contends that the structural details of CellNet's "circuit means" can be imported from the '677 patent.FN8 However, Itron has not cited any authority, and the Court has not found any, for the proposition that the structural limitations for a means-plus-function claim element can be imported from a pending patent application. Indeed, the relevant case law disapproves of the importation of substantive claim limitations by reference to other documents. Modine Manufacturing Co. v. United States International Trade Commission, 75 F.3d 1545, 1553 (Fed.Cir.1996). In *Modine,* the patentee argued that the term "relatively small" in the '580 patent should be construed to include a diameter up to 0.07 inch because it was defined as such in the specification of the related '311 patent. *Id*. The specification of the '580 patent incorporated by reference the related '311 patent. *Id*. The *Modine* court rejected the patentee's argument that a claim limitation could be imported from a related patent, reasoning that "incorporation by reference does not convert the invention of the incorporated patent into the invention of the host patent." *Id*.

FN8. Itron's proposed definition of the disputed term is based on the circuitry disclosed in the '677 patent.

Moreover, the description of the circuit structure in the co-pending '677 patent was clearly considered "nonessential" by the examiner in this case. FN9 This fact also weighs against a finding that "circuit means" is a means-plus-function element. Section 608.01(p) of the Manual on Patent Examining Procedure ("MPEP") instructs examiners to require the patentee to amend the specification to include essential material previously incorporated by reference before allowing a patent to issue:

FN9. As discussed earlier, the patentees filed a separate patent application ("the '677 application") to claim the circuit structure of their meter modules.

Prior to allowance of an application that incorporates essential material by reference to a pending U.S. application, the examiner shall determine if the referenced application has issued as a patent. If the referenced application has issued as a patent, the examiner shall enter the U.S.Patent No. of the referenced application in the specification of the referencing application (see MPEP s. 1302.04). *If the referenced application has not issued as a patent, applicant will be required to amend the disclosure of the referencing application to include the material incorporated by reference*. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating the amendatory material consists of the same material incorporated by reference in the referencing application. MPEP s. 608.01(p) (emphasis added). The MPEP defines essential material as "that which is necessary to (1) describe the claimed invention, (2) provide an enabling disclosure of the claimed invention, or (3) describe the best mode (35 U.S.C. s. 112)."
If the patentees were asserting a means-plus-function claim, a disclosure of the circuit structure described in the '677 application corresponding to the purported means-plus-function limitation would certainly have been considered essential material because it would have been necessary to describe the invention and to provide an enabling disclosure of the "circuit means." The record indicates, however, that the examiner of the '623 application did not even raise the issue of incorporating the material incorporated by reference.

Finally, the prosecution history can be helpful in the determination of whether the patentees intended to assert a means-plus-function claim. Cole, 102 F.3d 524, 531; and Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1584 (Fed.Cir.1996). The prosecution history of the '623 patent does not contain any evidence that suggests the patentees intended to assert a means-plus-function limitation in claim 1.

In this case, the original 25 claims of the application which resulted in the issuance of the '623 patent did not contain any reference to the circuitry used in the device. The patentees filed a separate patent application to claim the circuitry. The specification of the '623 patent application does have a very general discussion of the various capabilities of the circuitry in the disclosed device, but there is no specific description of the elements or structure of the circuitry. '623 patent, *4:20-53*. The '623 patent specification, however, does contain a reference to the patentees' separate application which resulted in the issuance of the '677 patent:

The elements and circuitry for generating information, such as time of energy use, and thereafter transferring that information to a system for calculating billing rates, for example an electronic meter reader, are described in greater detail in our co-pending application entitled "A System For Use With A Utility Meter For Recording Time of Energy Use," and assigned to the assignee of this application, and which co-pending application is hereby incorporated by reference.

'623 patent, 4 *:63-5* :4. The "circuit means" limitation was added by the patentees in their Response to the November 23, 1987 Office Action. The amended claims were allowed by the examiner without the need for further action or response by the patentees.FN10 The examiner's silence regarding the absence of an adequate disclosure of the structure of the "circuit means" added in the patentees' response is relevant to the issue of whether "circuit means for recording energy use" is a means-plus-function element. The fact that the examiner did not request an amendment to the '623 patent specification indicates that he did not believe a means-plus-function limitation was added to claim 1. *See* MPEP s. 608.01(p).

FN10. In the comments made by the patentees' counsel to the examiner, it appears that the "circuit means" limitation was not added to distinguish prior art cited by the examiner in the Office Action. The Keller reference, U.S.Patent No. 4,638,314, discloses the use of circuitry contained on "a flexible, double-sided printed circuit board." The patentees were apparently arguing that Keller was distinguishable because its circuitry was not contained in housing that could be mounted below the meter disc.

Accordingly, the Court concludes that the term "circuit means" is not a means-plus-function element under 35 U.S.C. s. 112, para. 6, despite the fact that the patentees used the words "means for," because (1) the word circuit discloses a definite structure; (2) the claims specify where the "circuit means" is located; (3) the '623 patent specification contains no disclosure of the necessary corresponding structure; (4) the corresponding structure cannot be imported from the '677 patent; and (5) the prosecution history indicates that "circuit means" is not a means-plus-function limitation.

**2. *The Court's Interpretation Of "Circuit Means For Recording Energy Use"***

[14] [15] Since the term "circuit means for recording energy use" is not a means-plus-function element, the Court construes the term to mean "a circuit for use with standard electric meters capable of recording information regarding the amount of energy used or consumed." Furthermore, the Court construes the term "circuit means" to mean:

The combination of a number of electrical devices and conductors that, when connected together to form a conducting path, fulfill a desired function such as amplification, filtering, or oscillation.

*Penguin Dictionary of Electronics* (2nd Ed.1988).FN11 The Court's claim interpretation is based primarily on the disclosures made in the specification. In the specification, the patentees state that their device is designed to be used in standard electric meters in conjunction with a sensor means which is not a part of claim 1.FN12 There is no suggestion that the devices can also be used in utility meters other than standard meters. Moreover, the relevant portion of the specification pertaining to the circuitry reads as follows:

FN11. The Court believes that those of ordinary skill in the art covered by the '623 patent, electrical or mechanical engineers, would have a technical understanding of the word "circuit." Therefore, the Court declines to adopt the general definition of the word, "the path of an electric current," proposed by CellNet. *See Webster's Collegiate Dictionary* (10th Ed.1993).

FN12. An embodiment of the claimed device with the referenced sensor means is described in dependent claim 4 which is not being asserted herein. The sensor means limitation of dependent claim 4 cannot be read into independent claim 1. *See* Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1054-55 (Fed.Cir.1988)

("Where some claims are broad and others narrow, the narrow claim limitations cannot be read into the broad whether to avoid invalidity or to escape infringement.") (citation and internal quotations omitted).

The device of the present invention is capable of recording time of energy use, peak demand for energy, and energy load profile data. It is usable with and mountable to standard watthour meters. [para.] The device measures time of energy use by detecting the rate of rotation of the meter's disc. A black mark (not illustrated) is located on the lower surface of the disc. Sensor means are mounted within a housing 30 of device 10 to detect the black mark as it rotates past an optical port 32 in the top surface 33 of housing 30 ... [para.] The rotating black mark interrupts reflection of infrared light to the sensor means, once each evolution. The phototransistor generates a different signal in response to that interruption. *The signals are processed and stored by appropriate circuitry in device 10.*
'623 patent, 4 *:20-37 (emphasis added)*. Thus, the function of the "circuit means" is not to detect or count the rotations of the meter disc, as Itron contends, but to simply record the signals transmitted by the discussed sensor means.

**C. "*Circuit Means For Recording Time Of Energy Use*"**

[16] Independent claims 5 and 10 disclose a device for recording *time* of energy use for use with electric meters having a rotatable disc which has a housing containing "circuit means for recording time of energy use." FN13 The focus of the parties' dispute with respect to this term concerns the meaning of the phrase "recording time of energy use." Itron contends that the term "must include the ability to determine and record the time that energy is used." *Itron's Memorandum, 18:20-21*. CellNet asserts that the term is broader than Itron's interpretation:

FN13. The parties dispute whether the subject term is a means-plus-function limitation. Since the Court has already explained the reasons supporting its conclusion that the term "circuit means" is a structural rather than a means-plus-function element, that discussion will not be reiterated here.

The ordinary meaning of the words circuit means for recording energy use is much broader than a circuit with an *internal* clock that tracks time in years, weeks, hours, minutes, *and* seconds. Ordinary usage would permit tracking energy use with other types of time-keeping circuitry and recording time of use other than by year, day, or hour. For example, time could be measured in terms of usage during high-rate and low-rate time periods.
*CellNet's Opening Brief, 20:1-5*. During the claim construction hearing, CellNet explained that the term "recording time of energy use" simply refers to the ability to record the number of revolutions over a period of time. CellNet's proposed definition is also set forth in the June 12, 1998 expert report of inventor Larsh Johnson. In the expert report, Mr. Johnson represents that "recording time of energy use means recording energy use over time." *Johnson Expert Disclosure, 3:15-17*. In short, CellNet argues that the disputed term has nothing to do with recording the time of day, week or year when energy is used.
CellNet contends that the term "time of energy use" is a special term that was used for the first time in the '623 patent. CellNet also contends that the term is to be distinguished from the term "time of use" which was well known in the electric utility meter field at the time the purported invention was conceived. According to CellNet, the term "time of use" refers to the ability to record the amount of energy used at certain times of the day, week or year. Itron argues that the terms "time of use" and "time of energy use" are equivalent phrases and have the same meaning. Itron points out the term "time of use," as it is commonly understood by those skilled in the art, clearly refers to the use of energy. Finally, Itron argues that there is no indication

or suggestion in the '623 specification that the patentees intended a give "time of energy use" a special meaning.

The Court has reviewed the intrinsic evidence and found no indication or suggestion that the patentees intended to use the phrase "time of energy use" in a special way. In particular, the Court notes that the phrases "time of use" and "time of energy use" are used interchangeably in the patent specification with no disclosure to the public that they have different meanings. '623 patent, 1 :8*; 1:50; 2:42-43; 2:46; 2:49; 2:58-59; 4:21; 4:24; 4:64*. The Court also notes that CellNet specifically indicated in its supplemental claim chart and proposed claim construction statement that the first clause of claims 5 and 10, where the phrase "time of energy use" appears, should be given its ordinary meaning. Since the patentees did not expressly or impliedly indicate a special definition, the Court must adopt the common and ordinary definition of the phrase "time of energy use." *See* Vitronics, 90 F.3d at 1582; and Wolverine, 38 F.3d at 1196.

The Court construes the disputed term "circuit means for recording time of energy use" to mean a circuit for use with standard electric meters capable of recording information regarding the amount of energy used or consumed and the time of day, week or year when the energy was used or consumed. Furthermore, the Court construes the term "circuit means" to mean:

The combination of a number of electrical devices and conductors that, when connected together to form a conducting path, fulfill a desired function such as amplification, filtering, or oscillation.

*Penguin Dictionary of Electronics* (2nd Ed.1988).

The Court's interpretation comports with the plain meaning of the disputed language and the disclosures made in the specification. Although CellNet contends that the specification mentions the possibility of "recording time of use other than by year, day, or hour," the plain language of the term and the specification contradict this broad reading of the claim element. First, the specification clearly states that the disclosed invention is intended to address the inefficiencies resulting from the different demand levels for electricity during different times of the day:

Since there are peak and slow periods occurring at different times of the day, electrical distribution and generations systems are overloaded at certain times and underutilized at other times. This results in substantial inefficiencies as a much larger generation and distribution system than is economically desirable is required to meet the peak demands. Additionally, the low demand consumer is in effect subsidizing the high demand consumer as they are both charged the same rate for power consumption.

'623 patent, 1 *:15-24*. The patentees then discuss other methods previously employed to attempt to "spread the demand for energy over greater portions of the day." '623 patent, 1 *:25-27*. In each example discussed, the purpose of the method was to equalize electricity demand over different times of the day. '623 patent, 1 *:25-2* :6.

The second reason for rejecting CellNet's proposed construction as overly broad is that the cited portion of the specification does not indicate or suggest the recording of energy use in intervals other than by time of day:

Time-of-day meters measure and record power consumption on a demand meter register during demand intervals of predetermined lengths. The demand register is capable of being engaged at the start of a demand

interval, as determined by a program in the meter, and disengaged to terminate the demand interval as determined by an interval counter. *The demand intervals occur at fixed times throughout the day*.

'623 patent, 2 *:7-16 (emphasis added)*. Finally, the specification indicates that the disclosed circuitry is also capable of recording information concerning the time of week or year when the energy is used. '623 patent, 4 *:38-43*. Itron agrees that the circuit means disclosed in the '623 patent allows the user to track energy use by time of day, week and year.

Next, the Court concludes that the proposed definition advanced by CellNet finds no support in the evidence or in reason. As discussed above, the patentees made no effort to distinguish the term "time of energy use" from the equivalent term "time of use" in the patent specification or during the prosecution of the patent. Thus, they have waived their right to claim a special meaning for the term. Furthermore, the Court discerns no meaningful difference between the recording of the amount of energy use over a period of time and the recording of the time of day, week or year of energy use. The very definition of the period of time, in other words, must be performed by reference to a time when the period begins and the time when the period terminates. Otherwise, if the entire function of defining the time of use is left to another device with the required circuitry, which is a possibility suggested by CellNet during the claim construction hearing, then the claimed device is indistinguishable from the prior art.FN14

FN14. CellNet's strained interpretation of "time of energy use" would cover a substantial portion of the prior art. Under CellNet's construction, electric utilities have arguably had the capability of recording energy use over time for decades since their meter readers defined the period (usually the billing month) when energy was consumed.

During the claim construction hearing, CellNet's counsel argued that the following portion of the '623 patent specification also supports its position:

*The device measures time of energy use by detecting the rate of rotation of the meter's disc*. A black mark (not illustrated) is located on the lower surface of the disc. Sensor means are mounted within a housing of device 10 to detect the black mark as it rotates past an optical port 32 in the top surface 33 of housing 30. The sensor means may comprise an infrared light-emitting diode and a phototransistor that generate a signal in response to the passage of the disc past optical port 32.[para.] The rotating black mark interrupts reflection of infrared light to the sensor means, once each revolution. The phototransistor generates a different signal in response to that interruption. *The signals are processed and stored by appropriate circuitry in device 10*.

'623 patent, 4 *:24-37 (emphasis added)*. According to CellNet, the above passage of the specification proves that recording "time of energy use" merely means recording energy use over time since there is no clock or calendar mechanism disclosed. The Court cannot agree. In the above passage, the patentees were simply describing how the claimed device determines the amount of energy used. This is done through the disclosed sensor means which is not incorporated in claim 5 or claim 10. The discussed circuit means has no role whatsoever in the detection of the rate of disc rotation. Thus, there is no suggestion or indication in the above portion of the specification to support CellNet's contention that "recording time of energy use" has a definition other than simply recording the time of day, week or year when energy is used.

**D. "*Below The Disc*" *And* "*Beneath The Disc*"**

In independent claim 1, the patentees state that the disclosed device includes "a housing configured to fit within the meter below the disc." In independent claims 5 and 10, the patentees indicate that the device includes "a housing configured to fit within a meter beneath the disc." Although the parties disagree about the precise meaning of the phrases, they concur that the terms "below the disc" and "beneath the disc" are equivalent and should be given the same interpretation. CellNet contends that the terms should be construed to mean "substantially below the horizontal plane formed by the disc and beneath the disc," whereas Itron argues that they should be construed to require the disclosed housing to be "entirely below the plane formed by the disc and beneath the disc."

[17] The Court construes the terms "below the disc" and "beneath the disc" as requiring the disclosed housing to be completely below the horizontal plane formed by the disc of the standard electric meter. This construction is consistent with both the ordinary meaning of the words "below" FN15 and "beneath" and the intrinsic evidence. For example, the patentees state in the specification that their device includes a "housing 30 configured to fit within the structure of standard watthour meters below the discs thereof." '623 patent, 5 *:5-7*. Moreover, the drawings showing the physical relationship between the housing and the meter disc (Figures 1 and 2) both indicate that the housing is positioned completely below the horizontal plane of the meter disc. Furthermore, statements made by the patentees' counsel during prosecution supports Itron's narrower interpretation of the terms:

FN15. The dictionary definition of "below" is "in or to a lower place than: Under." *Webster's Collegiate Dictionary* (9th Ed.1984). The dictionary definition of "beneath" is "in or to a lower position: Below." *Webster's Collegiate Dictionary* (9th Ed.1984).

In Keller, the circuit elements are mounted on printed circuit boards which, at least partially, slide over the meter structure to be concentrically arranged therearound. The circuit elements are not contained within a housing that fits beneath the meter disk [sic].
*Response to Office Action, p. 6.*
There is no indication or suggestion in the intrinsic evidence that the patentees intended to claim a device whose housing is located "substantially below or beneath the horizontal plane of the meter disc." The terms "below" and "beneath" are unqualified in the '623 patent and in the prosecution history. In view of these considerations, the Court believes that a person with ordinary skill in the art would conclude that the disclosed housing of the claimed device must be located completely or entirely below the horizontal plane of the meter disc. Finally, the Court should adopt Itron's narrower interpretationof the disputed language because the parties' respective interpretations are at least equally plausible. *See* Athletic Alternatives, Inc. v. Prince Mfg., Inc., 73 F.3d 1573, 1581 (Fed.Cir.1996) ( "Where there is an equal choice between a broader and a narrower meaning of a claim, and there is an enabling disclosure that indicates that the applicant is at least entitled to a claim having a narrower meaning ... the notice function of the claim ... [is] best served by adopting the narrower meaning.").

**E. "*Housing*"**

[18] Itron contends that the term "housing" as used in each of the asserted claims means "an enclosure that protects the circuitry for recording time of energy use or the circuitry for recording energy use, mountable beneath the rotatable disc in the meter." In CellNet's proposed claim construction order, which was presented to the Court for the first time during the July 24, 1998 hearing, it takes the position that the term means simply a support.

In the patent specification, the patentees disclose that the housing depicted in the various drawings have both a front face and a rear face. '623 patent, 5 *:13-15*. Thus, it is at least partially enclosed on two sides. Then, during patent prosecution, CellNet's patent counsel argued to the examiner that the disclosed device is distinguishable from the Keller patent, which disclosed a two-sided flexible circuit board with no housing or enclosure, because "[t]he circuit elements [of Keller] are not contained within a housing that fits beneath the meter disk [sic]." *Response to Office Action, p. 6*. Based on the above intrinsic evidence, the Court construes "housing" to mean a case or enclosure.

**F. "*Mounting Hole*"**

[19] The parties do not disagree about the meaning of the term "mounting hole" used in independent claim 1. CellNet proposes that the term be construed to mean "nonoverlapping and overlapping mounting openings such that the resulting hole may be aligned with the threaded posts of the various watthour meters." Itron says the term encompasses "both a single hole and two overlapping holes that form a single cavity." The Court hereby adopts CellNet's proposed definition because it is more precise in the context of the '623 patent.

**G. "*Set Of Openings*"**

[20] CellNet states that the term "set of openings" should be construed to mean a number of openings which may or may not be overlapping. Itron believes "set of openings" means simply more than one opening. The Court interprets "set of openings" to mean more than one opening which may or may not overlap to create a single oblong opening or cavity.

The proper construction of the term "set of openings" is not apparent to one of ordinary skill in the art from the claims themselves. However, the proper meaning of the term is clear from the specification. The source of the parties' disagreement about the meaning of this term is the imprecise manner in which the patentees used the word "openings". As used in the claims, the word "openings" refers to both a single circular mounting hole or opening FN16 which is alignable with the threaded opening in the mounting posts of standard electric meters and to an irregular or oblong opening or cavity, referred to in the specification as an "offset hole," created by two overlapping mounting holes or openings. In the latter case, the claims also refer to the two overlapping mounting openings or "offset hole" as a set of openings to describe their physical relationship to each other. Thus, the definition of "set of openings" must take into account the fact that the term may represent only one irregular or oblong opening or cavity.

FN16. The words hole and opening are synonymously used in the '623 patent claims.

**H. "*About*"**

[21] Claim 12 of the '623 patent, in which the word "about" appears, reads as follows:

The device of claim 10 wherein a first opening of said first set is located about 1.765 inches from a center line of said housing and a first opening of said second set is located about 1.750 inches from said center line.

The dictionary definition of "about" when the word is used to refer to spatial relationships is "reasonably

close to." *Webster's Collegiate Dictionary* (10th Ed.1995). This is the interpretation advanced by CellNet. Itron, however, says that "about 1.765 inches" should be construed to include the range from 1.7645 to 1.7654 inches and "about 1.750 inches" should include the range from 1.7495 to 1.7504 inches. Itron's argument is based on the holding in Viskase Corp. v. American Nat. Can Co., 947 F.Supp. 1200, 1201 (N.D.Ill.1996).

The problem with Itron's argument, however, is that the cases cited were decided on their particular facts rather than a universal understanding among those in the scientific or engineering community that "numbers defined with two decimal places encompass any three decimal place number within a .005 range of the two decimal place number." In *Viskase,* the court specifically commented that the expert witnesses on both sides agreed that "ordinarily numbers defined with two decimal places encompass any three decimal place number within a .005 range of the two decimal place number." *Id*. In this case, however, Itron has not cited any intrinsic or extrinsic evidence to warrant a departure from the common and ordinary meaning of the term "about." Therefore, the Court construes the term to mean "reasonably close to."

**I. "*Near*"**

[22] Claim 6 of the '623 patent, in which the word "near" appears, reads as follows:

The device of claim 5 further including a third opening formed in said housing near the bottom surface thereof between said first and second sets of openings and substantially along the center line of said housing, said third opening alignable with an opening existing in the structure of a meter for securing said housing therein.

The Court construes the term "near" to mean not far distant in place. *Webster's Collegiate Dictionary* (9th Ed.1984). CellNet's proposed definition of "near" as spacing sufficient so that the mounting holes will work for their intended purpose, which is to "fit various standard watthour meters" is rejected because there is no indication in claim 6, where the term appears, that the term was intended to have a functional correlation. CellNet's definition is also indefinite because the physical dimensions of "standard watthour meters" are not given in claim 6, nor in claim 5 upon which claim 6 depends. Finally, Itron's proposed construction of "near" as "within a .0005 inch range" must be rejected since it clearly does not modify any specific number or dimension in claim 6.

## IV. CONCLUSION AND ORDER

For the reasons set forth above, the Court concludes that the meaning of each of the disputed claim terms may be derived solely from the intrinsic evidence and that they have the following meanings:

1. "Any standard meter" and "any standard electric meter" mean the D5S meter type manufactured by the Westinghouse Corporation, the I-70-S meter type manufactured by the General Electric Corporation, the MS meter type manufactured by Landis & Gyr, the J4 meter type manufactured by Sangamo, and all electric utility meters having similar internal structures.

2. "Circuit means for recording energy use" means a circuit for use with standard electric meters capable of recording information regarding the amount of energy used or consumed. A person of ordinary skill in the art would understand the term "circuit means" to mean the combination of a number of electrical devices and conductors that, when connected together to form a conducting path, fulfill a desired function such as amplification, filtering, or oscillation.

3. "Circuit means for recording time of energy use" means a circuit for use with standard electric meters capable of recording information regarding the amount of energy used or consumed and the time of day, week or year when the energy was used or consumed. A person of ordinary skill in the art would understand the term "circuit means" to mean the combination of a number of electrical devices and conductors that, when connected together to form a conducting path, fulfill a desired function such as amplification, filtering, or oscillation.

4. "Below the disc" and "beneath the disc" mean the housing is located completely below the horizontal plane formed by the disc of standard electric meters.

5. "Housing" means a case or enclosure.

6. "Mounting hole" means nonoverlapping and overlapping mounting openings such that the resulting hole may be aligned with the threaded posts of the various watthour meters.

7. "Set of openings" means more than one opening which may or may not overlap to create a single oblong opening or cavity.

8. "About" means reasonably close to.

9. "Near" means not far distant in place.

IT IS SO ORDERED.

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