IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

JACK BROWN,

Plaintiff,

S

VS.

CIVIL ACTION NO. H-08-0372

S

BAYLOR HEALTHCARE SYSTEM,

et al.,

Defendants.

CLAIM CONSTRUCTION MEMORANDUM AND ORDER

In this patent infringement suit, the parties seek construction of several terms contained in the asserted claim of U.S. Patent No. 4,857,713 (the "'713 Patent"). This court held a hearing on January 20, 2009, during which the parties presented argument in support of their proposed constructions of these disputed terms. This court now construes the disputed claim terms as a matter of law under *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996) and sets a status conference for May 7, 2009, at 4:30 p.m., in Courtroom 11-B.

I. Background

The '713 Patent is directed to reducing errors in delivering medications, goods, services, or procedures to patients. The system includes a patient wrist identification band with a preprinted barcode, a "portable computer means" equipped with a "portable barcode reading means," a "host computer means," and a "communication link means" between the

host computer and the portable computer. Under the system, when a health care worker gives a patient medications, goods, services, or procedures, the worker uses a portable barcode reader to scan a barcode on the item and a barcode on the patient's hospital identification band. The system compares the two barcodes and uses the information contained in a "patient history file" and a "physician instruction file" to verify that the patient is receiving the correct medicine, service, good, or procedure, in the correct dose and at the correct time. The system issues a warning if there is an error. If the medication or other treatment is given, the system updates the patient history file to show what was administered and when.

The plaintiff, Jack Brown, applied for the '713 Patent in February 1986; it issued in August 1989. The '713 Patent's single claim is as follows:

A hospital error limiting system employing bar codes for identifying patients, medications, goods, services and procedures comprising:

host computer means for maintaining a patient history file, which indicates when particular medications, goods, services or procedures were delivered to a particular patient in the past, and a physician instruction file, which indicate[s] what particular medications, goods, services or procedures are to be given to a particular patient at a particular time interval.

communication link means to link said host computer means to a portable computer means for transferring said patient history file and said physician instruction file between said host computer means and said portable computer means. wherein said **portable computer means** comprises a **portable memory means** for storing said patient history file and said physician instruction file,

portable bar code reading means for identifying a patient by reading a bar code provided to said patient, and for identifying medications, goods, services or procedures proposed to be delivered to said patient, by reading a bar code provided on said medications, goods, services or procedures,

portable processing means for processing the bar codes read by said portable bar code reading means so as to determine if said identified medications, goods, services or procedures are permitted to be delivered to said identified patient, according to said patient history file and said physician instruction file in said portable memory means, and for updating said patient history file in said portable memory means if said identified medications, goods, services or procedures are permitted to be delivered to said identified patient,

wherein said determination requires that said identified medications, goods, services or procedures are related to said identified patient in said physician instruction file in the portable memory means and that said identified medications, goods, services or procedures would be delivered to said identified patient at an appropriate time according to when identified medications, goods, services or procedures were last[] delivered to the identified patient in the past as indicated in the patient history file in the portable memory means and according to the time interval in said physician instruction file in said portable memory means to grant permission to deliver said identified medications, goods, services or procedures, and portable display means for indicating the determination of said portable processing means,

Wherein said patient history file in said host computer means is updated periodically by transferring said updated patient history file in said **portable computer means** to said host computer means via said communication link means.

(Docket Entry No. 132, Ex. A, col. 4 ll. 5-62) (emphasis added to disputed terms).

The parties have agreed on the construction of the following claims:

Claim Term	Construction
"host computer means" for maintaining a patient history file, which indicates when particular medications, goods, services or procedures were delivered to a particular patient in the past, and a physician instruction file, which indicate[s] what particular medications, goods, services or procedures are to be given to a particular patient at a particular time interval,	Function: maintaining a patient history file and a physician instruction file Structure: host computer (FIG. 1)
"portable bar code reading means" for identifying a patient by reading a bar code provided to said patient, and for identifying medications, good[s], services or procedures proposed to be delivered to said patient, by reading a bar code provided on said medications, goods, services or procedures,	Function: identifying a patient by reading a bar code and identifying medications, goods, services or procedures by reading a bar code Structure: a bar code reader (FIG. 2; col. 2 ll. 23–25; col. 4 ll. 1–3)
"communication link means"	Function: linking said host computer means to a portable computer means for transferring said patient history file and said physician instruction file between said host computer means and said portable computer means Structure: direct wire, phone modem, radio or infrared link and equivalents thereof (col. 3 ll. 57–60)

Claim Term	Construction
"storing" said patient history file and said physician file	entering the files into a device where the files are retained from some period of time and from which they can be retrieved at a later time
"reading" a bar code	scanning the machine readable bar code
"file"	an identified collection of information stored on a computer in a manner that enables the computer to distinguish that collection from other information on the computer
"between"	at least one file is transferred from the host computer means to the portable computer means, and at least one file is transferred from the portable computer means to the host computer means

The disputed terms are "portable computer means," "portable processing means," "portable memory means," "portable display means," and "processing." The parties dispute whether the terms "portable computer means," "portable processing means," "portable memory means" and "portable display means" must be construed as means-plus-function terms under 35 U.S.C. § 112(6). The parties also dispute whether and how the term "processing" should be construed.

II. The Legal Standards

A. Claim Construction

To determine the correct claim construction, a court must first follow the patent claim terms. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). The claims define the

invention that the patentee owns. The court may neither add words to nor subtract words from the claims in the process of construing them. Claim terms "are generally given their ordinary and customary meaning." *Id.* "The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation." *Id.* at 1313. "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.*; *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) ("We cannot look at the ordinary meaning of the term . . . in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.").

"[T]he claims themselves provide substantial guidance as to the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314. "In some cases, the ordinary meaning of claim language as readily understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Id.* The claims must, however, "be read in view of the specification, of which they are a part." *Id.* (quoting *Markman*, 52 F.3d at 979). The specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Id.* "However, it is improper to import limitations from the specification into the claims where there is no indication that the specific examples in the specification are

intended to be strictly coextensive with the claim." *Kinetic Concepts, Inc. v. Blue Sky Med. Group, Inc.*, 554 F.3d 1010, 1027 (Fed. Cir. 2009) (citing *Phillips*, 415 F.3d at 1323).

Courts may also look to extrinsic evidence in construing claims, although this evidence is "less significant than the intrinsic record in determining the legally operative meaning of claim language." Netcraft Corp. v. eBay, Inc., 549 F.3d 1394, 1397 (Fed. Cir. 2008) (quoting Phillips, 415 F.3d at 1317); TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc., 529 F.3d 1364, 1372 (Fed. Cir. 2008). Extrinsic evidence is "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Phillips*, 415 F.3d at 1317 (quoting *Markman*, 52 F.3d at 980). "Within the class of extrinsic evidence, the court has observed that dictionaries and treatises can be useful in claim construction." *Id.* at 1318. "Because dictionaries, and especially technical dictionaries, endeavor to collect the accepted meanings of terms used in various fields of science and technology, those resources have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology to those of skill in the art of the invention." *Id.* Courts may "rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents." Boston Scientific Scimed, Inc. v. Cordis Corp., 554 F.3d 982, 987 (Fed. Cir. 2009) (quoting Phillips, 415 F.3d at 1322–23).

B. Means-Plus-Function Claims

Section 112, ¶ 6 provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112(6). A means-plus-function claim format allows a patentee to "describe an element of his invention by the result accomplished or the function served, rather than describing the item or element to be used." *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 27 (1997). In exchange for this "drafting convenience," a patentee's claim is limited to the structures disclosed in the patent specification that accomplish the claimed function and equivalents of those structures. *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1099 (Fed. Cir. 2008); *Applied Med. Resources Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 (Fed. Cir. 2006).

Whether claim language is subject to section 112, ¶ 6 is a question of law. Welker Bearing, 550 F.3d at 1096. A patentee's use of the word "means" in a claim element that recites a function creates a presumption that the element is drafted in means-plus-function format. Id.; TriMed, Inc. v. Stryker Corp., 514 F.3d 1256, 1259 (Fed. Cir. 2008). This presumption can be rebutted if the claim itself recites sufficient structure to accomplish the functions identified in the claim. Welker Bearing, 550 F.3d at 1096; TriMed, 514 F.3d at 1259; Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.2d 1354, 1360 (Fed. Cir. 2004). "[T]he presumption imposes a burden on the party opposing the effect of the presumption to present evidence to rebut the presumption." Maurice Mitchell Innovations,

L.P. v. Intel Corp., No. 2:04-0450, 2006 WL 1751779, at *4 (E.D. Tex. June 21, 2006) (citing Apex Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1372 (Fed. Cir. 2003)). This burden must be met by a preponderance of the evidence. *Id*.

"Sufficient structure exists when the claim language specifies the exact structure that performs the functions in question without need to resort to other portions of the specification or extrinsic evidence for an adequate understanding of the structure." *TriMed*, 514 F.3d at 1259–1260. A claim may recite sufficiently definite structure if it has "an understood meaning in the art" that connotes enough structure to fall outside section 112, ¶ 6 or if it is "used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures." *Aspex Eyewear, Inc. v. Altair Eyewear, Inc.*, 288 F. App'x 697, 703 (Fed. Cir. 2008) (quoting *Lighting World*, 382 F.3d at 1359–60)).

If means-plus-function analysis applies, a court must first determine what the claimed function is and then determine the corresponding structures disclosed in the specification that perform that function. *Welker Bearing*, 550 F.3d at 1097; *Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1377 (Fed. Cir. 2008); *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1208 (Fed. Cir. 2002).

III. Analysis

A. Construction of the "Means" Terms

The '713 Patent claims a "host computer means" for maintaining a patient history file and a physician instruction file. The patient history file includes information about what

medications, goods, services, or procedures were delivered to a particular patient and when. The physician instruction file includes information about what medications, goods, services or procedures are to be given to a particular patient and at what time intervals. "communication link means" links the "host computer means to a portable computer means for transferring said patient history file and said physician instruction file between said host computer means and said portable computer means." (Docket Entry No. 132, Ex. A, col. 4 ll. 16–20). The "portable computer means" is comprised of "a portable memory means for storing said patient history file and said physician instruction file"; a "portable bar code reading means for identifying a patient by reading a bar code" on the patient's wristband and for identifying medications, goods, services, or procedures proposed to be delivered to that patient by reading a bar code on those items; a "portable processing means for processing the bar codes read by the portable bar code reading means so as to determine if said identified medications, goods, services or procedures are permitted to be delivered to said identified patient," based on the patient history file and the physician instruction file in the portable memory means, and to update the patient history in the portable memory means if the patient receives the medications, goods, services, or procedures. The "portable computer means" also includes a "portable display means for indicating the determination of said portable processing means." (*Id.*, Ex. A, col. 4 ll. 21–57).

Brown contends that the claim terms "portable computer means," "portable processing means," "portable memory means," and "portable display means" are not subject to the means-plus-function analysis. The defendants contend that each is a means-plus-function

term and that the presumption that section 112, ¶ 6 applies has not been rebutted. Neither party has presented evidence from the prosecution history of the '713 Patent.

1. "Portable Computer Means"

Brown argues that "portable computer" is itself a "structural term" that "has an accepted meaning to those skilled in the art and is used in the common parlance." (Docket Entry No. 132 at 13). Brown contends that the term "portable computer" would be understood by one skilled in the art to mean an "easily movable electronic device for storing and processing data," which he argues connotes sufficient structure to perform the claimed functions.

The defendants counter that "one of ordinary skill in the art would [not] understand the term 'portable computer' *by itself* to connote structure sufficient to perform the specific functions recited in the claim." (Docket Entry No. 138 at 10–11) (emphasis in original). The defendants emphasize that there are a number of parts and corresponding functions included within "portable computer means" in the '713 Patent. The parts include: a portable bar code reading means, a portable processing means, a portable memory means, and a portable display means. The recited functions include: storing the patient history file and the physician instruction file on that patient; identifying the patient and the medications, goods, services, or procedures proposed to be delivered to that patient by reading the bar codes on the patient's wrist identification band and on the medications, goods, services, or procedures; processing the bar codes read by the bar code reader to determine by comparing the patient history file and the physician instruction file to calculate whether the identified medications.

goods, services, or procedures may be given to that patient at that time; and indicating the determination on a portable display. The defendants argue that there is no evidence that one of ordinary skill in the art in the 1980s would have understood the term "portable computer" to connote a structure capable of performing these functions, including the function of reading a bar code. (*Id.*).

The record contains no evidence that a person of ordinary skill in the art would have understood the term "portable computer" by itself to connote sufficiently definite structure to perform the specific functions that the claim recites. The case law does not support Brown's argument that in the '713 Patent, the term "portable computer means" is sufficient to overcome the means-plus-function presumption.

In *Catch Curve, Inc. v. Venali, Inc.*, No. CV 05-4820, 2007 WL 3308101, at *10 (C.D. Cal. May 11, 2007), for example, the court examined a patent for a fax communications system that was designed to improve security and save redial efforts by a "store and forward facility." If a receiving fax machine was busy or unavailable, the claimed facility would receive faxes transmitted by an originating machine, store them, and forward or retransmit them to their intended destinations when the receiving machine became available. *Id.* at *4. A "computer means" was claimed as a means for controlling the store and forward facility. The plaintiff argued that "computer means" should not be construed according to section 112, ¶ 6, because the word "computer" meant a sufficiently definite structure to rebut the presumption. *Id.* at *10. The court rejected this argument because the word "computer" did not connote sufficient structure to perform the claimed function of operating the store and

forward facility. The function of receiving facsimiles transmitted by an originating fax machine, storing them, and forwarding or retransmitting the facsimiles to their intended destinations once the receiving machine was available, was not common to all computers but instead would require special programming. The court observed that "[w]hile every computer may have a defined structure, it does not follow that every computer has structure sufficient to control the operation of a store and forward facility [for facsimiles]." *Id.* at *11. The court concluded that "computer means" was a means-plus-function phrase. *Id.*

The court reached a similar conclusion in *Verizon California, Inc. v. Ronald A. Katz Tech. Licensing, L.P.*, 326 F. Supp. 2d 1060, 1101–02 (C.D. Cal. 2003). In that case, "computer means" performed the functions of connecting incoming customer calls to an operator terminal and visually displaying data about the customer. The court accepted the argument that "computer" connoted a structure but held that the structure was not "sufficient to perform the recited functions" in the claim. *Id.* at 1102 n.13. The court concluded that "computer," as understood by one of ordinary skill in the art, would not connote sufficient structure to perform the function of connecting incoming calls to an operator terminal. The corresponding required structure – a computerized transmission line between the computer and the interface terminal – was not included in the word "computer." *Id.* at 1102. The claimed term "computer means" was subject to section 112, ¶ 6.

*T-Netix, Inc. v. Global Tel*Link Corp.*, 2:01-cv-189, 2003 WL 25782759, at *9 (E.D. Tex. Aug. 15, 2003), provides another example. The "computer means" in the claim at issue performed the function of "enabl[ing] the use of an on-site telephone to make calls by

another party at a location remote from the site, without the intervention of a human operator." *Id.* The court accepted the argument that "computer" had "sufficient structure by itself to describe the physical object" but concluded that the term did not connote sufficient structure to overcome the means-plus-function presumption. "[T]he word computer, by itself, does not tell us anything except that it is capable of computing something or controlling some process." *Id.* The function that "computer means" was required to perform in the patent at issue would require special programming or software, not common to all computers, which left "the entire clause up for construction." *Id.*

These cases support the conclusion that the term "portable computer means" in the '713 Patent is subject to means-plus-function analysis. As in *Catch-Curve*, *Verizon*, and *T-Netix*, a general-purpose computer is not a sufficient description of the structure necessary to perform the claimed functions. In the '713 Patent, the functions assigned to "portable computer means" would require special structure and special programming, including reading barcodes. Brown has presented no evidence that "portable computer" by itself connotes sufficient structure to perform this function. The "portable computer means" must also be specially programmed to perform the function of determining that the identified medications, goods, services, or procedures are the right ones to give to the particular patient at the particular time. Brown has presented no evidence that "computer means" would, by itself, connote sufficient structure to perform this function. "Computer means" as used in the '713 Patent does not overcome the means-plus-function presumption.

Brown cites the Federal Circuit's unpublished decision in *Optimal Recreation Solutions, LLP v. Leading Edge Techs., Inc.*, 6 F. App'x 873, 878 (Fed. Cir. 2001), in arguing that the specification supports the conclusion that "computer means" is reasonably well understood in the art and overcomes the presumption that section 112, ¶ 6 applies. In *Optimal*, the court concluded that the terms "global positioning receiver means," "memory means," and "display means" provided "sufficient structure for accomplishing the functions recited in the pertinent claim limitations," as evidenced by the fact that the specification repeatedly referred to these terms without defining them. *Id.* The court treated the specification as evidence that the disputed claim terms had "well understood meanings as the names for [the] structure." *Id.*

The *Optimal* case does not support Brown's argument that "computer means" in the '713 Patent connotes sufficient structure to overcome the means-plus-function presumption. The court in *Optimal* emphasized that "it is important to bear in mind the context of the invention and the relevant arts involved." *Id.* The invention claimed in that case involved a GPS receiver. The specification repeatedly referred to GPS receivers. The court concluded that the relevant arts were GPS receivers and computer programming and considered what a person with ordinary skill in those arts would understand by the terms "global positioning receiver," a "memory," and a "display" as the names for structure. The court concluded that those terms "have reasonably well understood meanings in those arts and are sufficient structure for accomplishing the functions recited in the pertinent claim limitations." *Id.* The specification did not "redefine" these terms. In the present case, by contrast, to one skilled

in the relevant arts at the relevant time, "computer" in the context of the invention does not connote a sufficiently specific structure to perform the recited functions, including the function of reading barcodes. And in the present case, in contrast to *Optimal*, the specification in the '713 Patent does "redefine" the term "computer." The specification defines the term by describing it and giving specific examples:

The portable computer means should be small in size and equipped with a barcode reader. A hand held portable computer means such as Model PTC-701 manufactured by Texlon Corporation, or the Advanced Pocket Computer manufactured by Hand Held Products, is able to read the barcode on the patients' information band and a variety of other standard barcode formats.

(Docket Entry No. 132, Ex. A, col. 2 ll. 22–29). The definition in the specification confirms that the functions a "portable computer means" must perform require a structure beyond that which a person of ordinary skill in the art would understand by the term standing alone.

Brown also cites two pre-*Phillips* cases holding that terms such as "baffle" and "perforation" were sufficiently specific to overcome the means-plus-function limitation. In the first case, *Envirco Corp. v. Clestra Cleanroom*, 209 F.3d 1360, 1365 (Fed. Cir. 2000), the court used the dictionary definition of "baffle" – "a surface which deflects air" – to hold that the "second baffle means" element in the claim imparted sufficient structure to rebut the means-plus-function presumption. In the second case, *Shelley K. Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 530–31 (Fed. Cir. 1996), the court looked to the dictionary definition of "perforation" as "for tearing," and held that the term "perforation means" recited sufficient structure to perform the recited function and overcome the presumption. In these cases, the

terms "baffle" and "perforation" themselves supplied a general structure that could perform the claimed general functions. These cases do not support the argument that a person of ordinary skill in the art would have understood the words "portable computer" to supply a sufficiently specific structure to perform the functions claimed in the '713 Patent, including reading a bar code.

The means-plus-function presumption applies. The first step is to identify the functions of the "portable computer means." They are:

housing components including a "portable bar code reading means," "portable memory means," "portable display means," and "portable processing means"; performing the functions enabled by these components; connecting to a "host computer means" by a "communication link means"

The second step is to determine the corresponding structure disclosed in the specification and equivalents thereof. The structure disclosed in the specification that corresponds to these functions is:

a portable computer small in size and equipped with a barcode reader, such as Telxon Corporation Model PTC-701 or Advanced Pocket Computer by Hand Held Products or their equivalents.

(Docket Entry No. 132, Ex. A, FIG. 1; col. 2 ll. 22–29).

2. "Portable Processing Means"

The '713 Patent states that a "portable computer means comprises," in part:

portable processing means for processing the bar codes read by said portable bar code reading means so as to determine if said identified medications, goods, services or procedures are permitted to be delivered to said identified patient, according to said patient history file and said physician instruction file in said portable memory means, and for updating said patient history file in said portable memory means if said identified medications, goods, services, or procedures are permitted to be delivered to said identified patient,

wherein said determination requires that said identified medications, goods, services or procedures are related to said identified patient in said physician instruction file in the portable memory means and that said identified medications, goods, services or procedures would be delivered to said identified patient at an appropriate time according to when identified medications, goods, services or procedures were last delivered to the identified patient in the past as indicated in the patient history file in the portable memory means and according to the time interval in said physician instruction file in said portable memory means to grant permission to deliver said identified medications, goods, services or procedures, and portable display means for indicating the determination of said portable processing means,

(Docket Entry No. 132, Ex. A, col. 4 ll. 30–57). Brown argues that "portable processing means" overcomes the means-plus-function presumption because "[i]t is clear to one skilled in the art of computer programming that 'processing' takes place in a computer." (*Id.* at 16). The defendants counter that the case law supports their position that "the recitation of 'processing means' is insufficient to rebut the presumption that § 112(6) applies." (Docket Entry No. 138 at 17).

The case law shows that "portable processing means" as used in the '713 Patent is subject to means-plus-function analysis. In *Centillion Data Systems, LLC v. Convergys Corp.*, 529 F. Supp. 2d 982, 984–85 (S.D. Ind. 2008), the court concluded that the term "data processing means" in a patent claiming the function of "generating and organizing"

"summary reports" in a credit-card billing system did not overcome the means-plus-function presumption. The term "data processing means" merely "identifie[d] a computer with corresponding operating system software. In other words, a general purpose computer." *Id.* at 997. The claim at issue "require[d] that the data processing means perform specific functions, which, according to the specification, require a computer to be programmed to carry out certain steps, or to perform a certain algorithm." *Id.* at 997–98. The court concluded that "data processing means" did not connote sufficient structure to describe the particular program required and that the means-plus-function presumption was not rebutted. *Id.* at 998.

The court reached a similar conclusion in *Cummins-Allison Corp. v. Glory, Ltd.*, No. 02-cv-7008, 2005 WL 711991, at *11 (N.D. Ill. Mar. 28, 2005). The patent in that case was directed to currency counting. One of the claim terms was a "signal processing means" to perform the functions of receiving signal samples and "(1) determining the denomination of each scanned bill by comparing said stored signal samples with said output signal samples produced by the scanning of each bill with said scanning head, (2) counting the number of scanned bills of each denomination, and (3) accumulating the cumulative value of the scanned bills of each denomination." *Id.* at *2. The court stated that "one skilled in the art would generally equate 'signal processing means' with a CPU," and that those skilled in the art would be aware of specific algorithms with which the "signal processing means" could be programmed to perform the denomination function. *Id.* at *11. The court emphasized that this was a separate inquiry from whether the term "signal processing means" connoted

sufficient structure by itself to perform the denomination-determination function. The court concluded that "signal processing means" did not connote such structure and that section 112, ¶ 6 applied. *Id.* at *12.

Similarly, in *Roche Diagnostics Corp. v. Apex Biotechnology Corp.*, 455 F. Supp. 2d 840, 849–850 (S.D. Ind. 2005), the court examined the term "processor means" in a patent for a "biosensing meter with a pluggable memory module." The court concluded that the "processor" used in the claim was "not a generic one, but one that runs a particular algorithm" to perform the claimed function. *Id.* at 863. The court concluded that although "there [wa]s no dispute" that "'processor' has a well-known meaning in the art," that was not sufficient to rebut the presumption if the structure necessary to perform the disclosed function was not a "general purpose" processor but a special purpose processor programmed to perform the disclosed algorithm. *Id.* The court in *Digital Technology Licensing, LLC v. Cingular Wireless, LLC*, No. 2:06-cv-0156, 2007 WL 2300792, at *8 (E.D. Tex. Aug. 7, 2007), reached a similar result, concluding that "[n]either the verb 'processing' nor the gerund 'processor' recite[d] sufficient structure, material, or acts" to encompass a function that involved "modify[ing] sequences of groups of digital bits." *Id.*

The Federal Circuit's opinion in *WMS Gaming Inc. v. International Game Technology*, 184 F.3d 1339, 1348 (Fed. Cir. 1999), is instructive. The plaintiff in that case agreed that section 112, ¶ 6 applied but contended that the general-purpose microprocessor disclosed in the specification provided sufficient structure for "means for assigning" numbers in the programming of an electronic slot machine to decrease the user's probability of

winning. The Federal Circuit rejected the plaintiff's argument. The court stated that in a means-plus-function claim, "[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 for program software." *Id.* (citations and quotation omitted). The necessary structure is therefore "not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm." *Id.* at 1349.

The court in Data General Corp. v. International Business Machines Corp., 93 F. Supp. 2d 89, 96 (D. Mass. 2000), found that the term "processor means" was not subject to means-plus-function analysis because the claimed function was generic and could be performed by a general-purpose "processor." The patent claimed a method for a computer to resolve unresolved "pointers," data items used in a computer system to "point" to a location in a computer's memory where information to be used is stored. One of the claims recited a "processor means connected to said memory means for providing said memory commands and providing and receiving said data items in response to sequences of instructions of said data items executed by said processor means." *Id.* The court found that the claimed functions, including "1) providing memory commands, 2) providing and receiving data items which are sequences of instructions and 3) executing those sequences of instructions," were all general-purpose functions. *Id.* at 97. The court concluded that one skilled in the art would understand a "processor" to encompass a general-purpose structure that could perform all of the general-purpose functions described in the claim. *Id.*

The "processing means" in the '713 Patent describes a "special purpose computer programmed to perform" more specialized functions than the general functions involved in *Data General*. The functions recited in the '713 Patent claim for "processing means" include processing barcodes on patient wristbands and on labels for medications, goods, services, or procedures; reading patient history and physician instruction files; determining, based on these files, whether medications, goods, services, or procedures identified by the barcodes are permitted to be delivered to the particular patient identified by the wristband barcode; and determining the time for delivery of medications, goods, services, or procedures to a particular patient according to the time of last delivery as listed in the patient history file and according to the time interval prescribed in the physician instruction file. Brown has presented no evidence that these functions may be accomplished by the general-purpose structure that "processing" or "processor" would connote to a person of ordinary skill in the art. "Portable processing means" is subject to means-plus-function analysis.

Applying the means-plus-function analysis first requires identifying the functions claimed for the disputed term. "Portable processing means" performs the functions of:

processing the barcodes read by the "barcode reading means"; determining, by referencing the patient history file and the physician instruction file in the "portable memory means," whether the medications, goods, services or procedures identified by barcode are permitted to be delivered to the patient identified by barcode; reaching this determination by calculating the time elapsed since last delivery by referencing the patient history file and comparing this time to the prescribed time interval in the physician instruction file; displaying this determination through the "portable display means"; and

updating the patient history file if the identified goods, services or procedures were delivered to the identified patient

The defendants assert, and Brown does not dispute, that the specification does not identify a structure associated with "portable processing means." The specification contains a description of the functions that the "portable computer means" is to perform but discloses no particular program or algorithm to perform these functions. The specification states:

The invention will permit a portable computer means to automatically record the time, date, patient identification code, and medications, goods, services or procedures delivered.

. . .

[When a barcode is scanned,] [t]he portable computer means will check its internal file of physician's instructions to verify that the identified medication, goods, service or procedure has been prescribed for the identified patient. If the medication and dosage, goods, service or procedure is correct the portable computer means will check the transaction file to [sic] for the last recorded delivery of the medication, goods, service or procedure. The portable computer means will calculate the time interval since the last recorded delivery of the medication, goods, service or procedure with the time interval prescribed in the physician instruction file. If the interval is correct the portable computer means will display the message "verified." If an error occurs in this process, an appropriate error message will be displayed by the portable computer means.

(Docket Entry No. 132, col. 2 ll. 65–68, col. 3 ll. 13–36).

In *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1340–41 (Fed. Cir. 2008), *cert. denied*, --- U.S. ---, 129 S.Ct. 754 (2008), the Federal Circuit recently reaffirmed that language in the specification that describes the function for a program or algorithm recited in the claim does not disclose sufficient structure for that program or algorithm. The claim at issue involved "an information database" and "database editing means, coupled to said one

or more computer memory devices, for generating a hierarchically arranged set of indices for referencing data in said information database, including distinct indices for referencing distinct portions thereof, and for embedding said indices in said information database." *Id.* at 1340. The patent specification described the "database editing means" as "software . . . (executed by CPU . . .) [that] generates a hierarchical set of indices referencing all the data in the information database . . . and embeds those indices in the information database." *Id.* The specification also described an alternate embodiment in which "a block of packet ID values are assigned to an off-line information provider, which then organizes them into a database." Id. The Federal Circuit affirmed the district court's conclusion that these descriptions in the specification provided "nothing more than a restatement of the function, as recited in the claim" and did not provide an "algorithm or description of structure corresponding to the claimed function." *Id.* The Federal Circuit concluded that although a patentee may express an algorithm "in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure," the descriptions in the specification did "not even meet the minimal disclosure necessary" to supply a structure for "database editing means." *Id.* (internal citation omitted).

Another recent Federal Circuit case, *Aristocrat Technologies Australia PTY Ltd. v. International Game Technology*, 521 F.3d 1328 (Fed. Cir. 2008), *cert. denied*, --- U.S. ---, 129 S.Ct. 754 (2008), reached a similar result. The claim in *Aristocrat* recited a "control means" for determining winning combinations in an electronic slot machine. The specification stated that the "control means" could be implemented "on any standard"

microprocessor base gaming machine by means of appropriate programming," provided an equation that expressed the mathematical result of performing the "control means" function, and presented figures and tables describing possible outcomes of the "control means" function. *Id.* at 1334–35. The Federal Circuit concluded that these examples "disclosed, at most, pictorial and mathematical ways of describing the claimed function of the game control means," which did not supply sufficient structure to rebut the presumption that a means-plusfunction analysis applied. *Id.* at 1335. The court stressed that it was not sufficient for section 112, ¶ 6 purposes that the examples in the specification "might enable one of ordinary skill to make and use the invention." Id. at 1336. The relevant inquiry was "whether one of skill in the art would understand the specification itself to disclose a structure, not simply whether that person would be capable of implementing that structure." *Id.* at 1337; see also Med. Instr. & Diagnostics Corp. v. Elekta AB, 344 F.3d 1205, 1212 (Fed. Cir. 2003) ("The correct inquiry is to look at the disclosure of the patent and determine if one of skill in the art would have understood that *disclosure* to encompass software" with sufficient structure to perform the recited function, "not simply whether one of skill in the art would have been able to write such a software program.").

In the '713 Patent, the specification describes the same functions for "processing means" recited in the claim but does not disclose the structure of any specific program or algorithm that would perform these functions. Although a person of skill in the art of "processing means" in possession of the specification might be able to write a program that would enable the "processing means" to perform the functions recited, this is not the relevant

inquiry. The specification does not disclose the programming structure that would allow the "processing means" to perform the recited functions. "[A] person of ordinary skill in the art would not recognize the patent as disclosing any algorithm at all." *Aristocrat*, 521 F.3d at 1337–38. Brown has not argued that the specification provides such structure. The '713 Patent does not disclose a structure for "portable processing means."

3. "Portable Memory Means" and "Portable Display Means"

The '713 Patent claim describes, as part of the "portable computer means," a "portable memory means for storing said patient history file and said physician instruction file." The "portable processing means" checks these files in determining if the medications, goods, services, or procedures proposed to be delivered are correct for that patient at that time. If the medication, good, service, or procedure is delivered, the "portable processing means" updates the patient history file in said "portable memory means" to show that the medication, good, service, or procedure was delivered to the particular patient at the particular time. The claim also describes a "portable display means for indicating the determination of said portable processing means."

Brown contends that the terms "memory" and "display" "impart structure sufficient to rebut the presumption that § 112, ¶ 6 applies." (Docket Entry No. 132 at 15). Citing the Federal Circuit's opinion in *Optimal*, Brown contends that "[t]he term 'memory' has an accepted meaning to those skilled in the art and is defined as a 'storage capacity of a computer." (*Id.* (quoting *Optimal*, 6 F. App'x at 878)). Brown also argues that "[d]isplay'...has an accepted meaning to those skilled in the art and is defined as 'visually

representing information." (*Id.* (quoting *Optimal*, 6 F. App'x at 878)). The defendants cite cases that have construed "memory means" and "display means" as means-plus-function terms and contend that Brown has failed to meet his burden of overcoming the means-plus-function presumption.

As with "computer means" and "processing means," the case law shows that whether the terms "memory means" and "display means" overcome the means-plus-function presumption turns on whether these terms connote sufficient structure to perform the claimed functions. If those functions go beyond those included within the generic structure connoted by these terms, the means-plus-function presumption is not rebutted.

In *Data General Corp.*, 93 F. Supp. 2d at 95, for example, one of the disputed claims was for "memory means" for "storing and providing data items in response to memory commands, each said memory command including an address specifying a location in said memory means." *Id.* at 91. The claim did not make clear whether the term "address" referred to "logical address" or "physical address." The court rejected the plaintiff's contention that "memory means" overcame the means-plus-function presumption, explaining that "[a]lthough the memory of a general purpose computer system is a sufficiently described structure to perform the function of 'storing and providing data," the term "memory" did not connote sufficient structure to determine whether the memory was capable of "storing and providing data" in the form of "logical addresses." *Id.* at 95. To store and process "logical addresses," the memory would have to be "logical memory" or "physical memory [with] a mechanism to convert logical addresses into physical addresses." *Id.* The court concluded

that the term "memory," without more, did not connote sufficient structure to perform the required function for storing and providing data in the form of logical addresses. The court concluded that reference to the specification was required and that "memory means" as used in the claim was a means-plus-function term. *Id*.

The defendants also cite to several cases that conclude, without significant analysis, that "memory means" and "display means" are means-plus-function terms. See Genlyte Thomas Group LLP v. Lutron Elecs. Co., No. 3:02-cv-0602, 2004 WL 690847, at *11 (N.D. Tex. Mar. 31, 2004) (concluding that section 112, ¶ 6 applied to "memory means" because the claim itself did not include structural details but the specification provided "a detailed description of the structure used to carry out the function"; the court did not state the function that "memory means" was to perform); PCTEL, Inc. v. Agere Sys., Inc., No. C 03-2474, 2005 WL 2206683, at *5 (N.D. Cal. Sept. 8, 2005) (citing *Lutron* and several cases in which the parties stipulated that "memory means" was a means-plus-function term and concluding that "memory means" was subject to section 112, ¶ 6; the court did not state the function that "memory means" was to perform); Khyber Tech. Corp. v. Casio, Inc., No. Civ. A. 99-12468, 2004 WL 1790173, at *8 (D. Mass. Aug. 11, 2004) (construing, without discussion, "display means" for "displaying written messages" as a means-plus-function term; there was no evidence that either party disputed the construction).

Other cases have concluded that "memory means" and "display means" connoted sufficient structure to overcome the means-plus-function presumption. For example, in *Optimal Recreation Solutions, LLP v. Leading Edge Technologies, Inc.*, 6 F. App'x at 878,

the Federal Circuit, analyzing a patent for a global positioning system for determining the distance to holes on golf courses, concluded that the terms "memory means" and "display means" overcame the means-plus-function presumption. The claim recited a "memory means for storing the position of the golf cup" and a "display means for displaying the distance [between the GPS receiver and the golf cup]." *Id.* at 875. The court concluded that "memory" and "display" had "reasonably well understood meanings in those arts and [were] sufficient structure for accomplishing the functions recited in the pertinent claim limitations." *Id.* at 878. Several district courts have reached similar results. *Western Union Co. v. Moneygram Int'l, Inc.*, No. 07-0372, 2008 WL 5731946, at *12 (W.D. Tex. Nov. 6, 2008), involved patents for a system for performing money transfer transactions. One of the claims described "memory means in the cash register for storing the transaction data received from

The terms "memory" and "display" do not describe devices; these terms simply describe functions. One of ordinary skill in the GPS field would not equate "display" [or "memory"] to any specific, definite structure.... [The means-plus-function presumption] is not rebutted by the claim language itself because these limitations do not recite sufficient structure to perform the "memory" and "display" functions. The majority's references to the use of the terms "memory" and "display" in the specification of the ... patent is inappropriate.

Id. at 880 (Gajarsa, J., dissenting).

In the present case, referring to the specification does not help in construing the terms "memory means" or "display means." The specification does contain two references to "display" as a verb. Neither reference defines "display." The specification states: "If the interval is correct the portable computer means will display the message 'verified.' If an error occurs in this process, an appropriate error message will be displayed by the portable computer means." (Docket Entry No. 132, col. 3 ll. 32–36).

¹ The *Optimal* court bolstered its conclusion by looking to the specification and noting that the terms "memory" and "display" were used repeatedly without definition. The court concluded that the use of the terms in the specification was further evidence that the terms had structural, understood meanings to those skilled in the art. 6 F. App'x at 878. The dissent argued that these terms did not convey sufficient structure and that the majority erred in looking to the specification:

the money order dispenser." Id. The court noted a dictionary definition of "memory" as "a unit of a computer that preserves data for retrieval; capacity for storing information." *Id.* The court concluded that the "plain and ordinary meaning" of "memory" recited sufficient structure to overcome the means-plus-function presumption. *Id.* Similarly, in *St. Clair* Intellectual Property Consultants, Inc. v. Canon Inc., No. Civ. A. 03-241, 2004 WL 1941340, at *14 (D. Del. Aug. 31, 2004), the court considered a claim for "removably mounted memory means for storing digitized image data" as part of a patent for an electronic still camera. The court concluded that the claim recited sufficient structure to overcome the means-plus-function presumption: "As the surrounding claim language indicates, that 'memory means' is removably mounted in a camera body and must store digitized image data. In this context, 'memory means' . . . would be understood by one skilled in the art as a definite structure. This recited structure is capable of performing the described function, and therefore 'memory means' is not a means-plus-function term." Id. at *15. In Nonin Medical, Inc. v. BCI, Inc., No. 02-0668, 2004 WL 442894, at *6 (D. Minn. Mar. 8, 2004), the court construed the term "display means" in a patent for a device to measure blood oxygen levels. The claim at issue recited a "display means for displaying the sensed and determined blood oxygen saturation level." *Id.* at *2. The court concluded that the claim recited sufficient structure to overcome the means-plus-function presumption, noting that the Oxford English Dictionary "include[d] a noun definition of 'display' as 'a visual presentation of data from a computer." *Id.* at *6. The court adopted the plaintiff's proposed construction

of the term as "a visual presentation of the sensed and determined blood oxygen saturation level." *Id*.

"Memory means" in the '713 Patent performs the function of storing the patient history file and the physician instruction file. "Display means" in the '713 Patent performs the function of indicating the determination of the portable processing means. Even assuming that these functions are within the "plain meaning" of these terms, *see Optimal*, 6 F. App'x at 878 ("storage capacity of a computer"), *Western Union*, 2008 WL 5731946, at *12 ("a unit of a computer that preserves data for retrieval; capacity for storing information."); *Nonin*, 2004 WL 442894, at *6 ("a visual presentation of data from a computer"), both are components of the "portable computer means," itself a means-plusfunction term. The structure associated with "portable computer means" is "a portable computer small in size and equipped with a barcode reader, such as Telxon Corp. Model PTC-701 or Advanced Pocket Computer by Handheld Products or their equivalents." As component parts, the structure of "portable memory means" and "portable display means" must be compatible with the structure of the "portable computer means."

The facts of *Khyber Technologies Corp. v. Casio, Inc.*, No. Civ. A 99-12468, 2003 WL 21696354, at *4 (D. Mass. Mar. 31, 2003), are similar. The patent at issue involved a personal organizer and messaging device that could be carried "substantially within a shirt pocket." *Id.* at *3. The parties disputed the construction of "memory means" in the claim. Because "the memory means must be contained within the handheld housing of the device," the term was limited to certain formats, to the exclusion of others. *Id.* at *4. For example,

"memory means" could not include "writable optical disks that are independent of the device" because this would not operate within the battery-powered device, would not operate reliably unless placed on a stable, flat surface, and would not have been available at the time the patent was developed and granted. *Id.* The means-plus-function analysis applied. A subsequent decision in the *Khyber* case determined that "display means" was also subject to the section 112, ¶ 6 analysis because it was a component part of the handheld device. The court noted that the structure of the handheld device constrained the graphics display to be "relatively high resolution (so it can easily be read, especially considering the relatively small size (handheld, shirt-pocket size) of the device), and (2) low power consumption (so the device can be made small)." *Khyber*, 2004 WL 1790173, at *8.

The '713 Patent specification does not disclose a specific structure for "portable memory means" and "portable display means" but does disclose a structure for the "portable computer means" of which these items are a part. This court has already construed that structure to be: "a portable computer small in size and equipped with a barcode reader, such as Telxon Corporation Model PTC-701 or the Advanced Pocket Computer by Hand Held Products or their equivalents." Because "portable memory means" and "portable display means" must be read to exclude types of memory and display that would not be compatible with the disclosed structure for the "portable computer means," the means-plus-function presumption applies.

The function of "portable memory means" is:

storing the patient history file and the physician instruction file

The structure in the specification disclosed for this function is:

a type of memory that is compatible with a portable computer small in size and equipped with a barcode reader, such as Telxon Corporation Model PTC-701 or the Advanced Pocket Computer by Hand Held Products or their equivalents

The function of "portable display means" is:

indicating the determination of the "portable processing means"

The structure in the specification disclosed for this function is:

a type of display that is compatible with a portable computer small in size and equipped with a barcode reader, such as Telxon Corporation Model PTC-701 or the Advanced Pocket Computer by Hand Held Products or their equivalents.

B. Construction of "Processing"

Brown contends that it is not necessary to construe the term "processing," arguing that the term is clear without construction and that "[a]nyone sitting in the jury box would be able to relate 'processing' with a processor of a computer." (Docket Entry Nos. 132 at 20–21; 140 at 8–9). Brown argues in the alternative that "processing" should be construed as "performing a series of comparisons and/or calculations on data that lead toward a particular result." (Docket Entry No. 132 at 21). The defendants argue that "most laypersons do not readily understand the meaning a person of skill in the art of computer systems in 1986 would assign to the term 'processing.'" (Docket Entry No. 138 at 25). They propose that "processing" should be construed as "performing a series of comparisons and calculations on data that lead toward a particular result." (*Id.*).

A court is not always required to construe a term that has a "plain" or "ordinary meaning." *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (citing *Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1349 (Fed. Cir. 2001); *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997)). But "[a] determination that a claim 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or where reliance on a term's 'ordinary' meaning does not resolve the parties' dispute." *Id.* at 1361–62. "When the parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it" because claim construction is not a proper scope of inquiry for a jury. *Id.* at 1362–1363.

Brown argues that the "plain meaning" of "processing" is evident, but that if the term must be construed, the plain meaning of the term and the language of the specification require that "processing" involve the performance of comparisons *and/or* calculations. The defendants argue that "processing" involves comparisons *and* calculations. The parties' arguments about whether and how "processing" should be construed evidence a fundamental dispute about the scope of the term, which this court must resolve as a matter of law. *See O2 Micro*, 521 F.3d at 1361 (the district court was required to construe the term "only if," because although both parties agreed that the term had a plain meaning, the parties disagreed about whether the "only if" limitation allowed for exceptions).

The '713 Patent claim recites a portable processing means for "processing" bar codes "so as to determine" if a particular medication, good, service, or procedure is "permitted to

be delivered" to a particular patient at a particular time. This "determination requires that said identified medications . . . would be delivered to said identified patient at an appropriate time according to when identified medications . . . were last delivered." (Docket Entry No. 132, Ex. A, col. 4 ll. 30–40). This requires the system to calculate the time elapsed since the last delivery, as recorded in the patient instruction file, and compare this with the interval prescribed in the physician instruction file. The plain language of the claim requires "processing" to involve both comparisons and calculations. The specification supports the claim language by explaining that the portable computer means "calculates the time interval since the last recorded delivery" and then compares the calculated interval "with the interval prescribed in the physician instruction file." (*Id.*, Ex. A, col. 3 ll. 27–32). "Processing" is construed as "performing a series of comparisons and calculations on data that lead toward a particular result."

IV. Conclusion

The disputed terms of the '713 Patent are construed as follows:

Claim Term	Construction
"portable computer means"	Function: housing components including a "portable bar code reading means," "portable memory means," "portable display means," and "portable processing means"; performing the functions enabled by these components; connecting to a "host computer means" by a "communication link means"
	Structure: a portable computer small in size and equipped with a barcode reader, such as Telxon Corporation Model PTC-701 or the Advanced Pocket Computer by Hand Held Products or their equivalents

Claim Term	Construction
"portable processing means"	Function: processing the barcodes read by the "barcode reading means"; determining, by referencing the patient history file and the physician instruction file in the "portable memory means," whether the medications, goods, services or procedures identified by barcode are permitted to be delivered to the patient identified by barcode; reaching this determination by calculating the time elapsed since last delivery by referencing the patient history file and comparing this time to the prescribed time interval in the physician instruction file; displaying this determination through the "portable display means"; and updating the patient history file if the identified goods, services or procedures were delivered to the identified patient
	Structure: No structure disclosed
"portable memory means"	Function: storing the patient history file and the physician instruction file
	Structure: a type of memory that is compatible with a portable computer small in size and equipped with a barcode reader, such as Telxon Corporation Model PTC-701 or the Advanced Pocket Computer by Hand Held Products or their equivalents
"portable display means"	Function: indicating the determination of the "portable processing means"
	Structure: a type of display that is compatible with a portable computer small in size and equipped with a barcode reader, such as Telxon Corporation Model PTC-701 or the Advanced Pocket Computer by Hand Held Products or their equivalents
"processing"	performing a series of comparisons and calculations on data that lead toward a particular result

A status conference is set for May 7, 2009, at 4:30 p.m., in Courtroom 11-B.

SIGNED on April 15, 2009, at Houston, Texas.

Lu N. Cosen Than

Lee H. Rosenthal United States District Judge