United States District Court,
E.D. Texas, Marshall Division.

KAMATANI,
v.
BENQ CORPORATION.

Civil Action No. 2:03-CV-437

June 29, 2005.

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MEMORANDUM OPINION AND ORDER

T. JOHN WARD**, District Judge.**

This court issues this claim construction order to resolve the parties' various disputes over the meaning of the terms used in the asserted claim of the patent in suit.

1. Introduction.

This case involves optical disk technology. In general, an optical disk is a storage medium, such as a Compact Disk ("CD") or a Digital Versatile Disk ("DVD"). Data is stored on an optical disk in a series of pits and lands. A "pit" is a microscopic indentation or hole in the surface of the disk. A "land" is the area between pits. The series of pits and lands are arranged in a spiral around the surface of the disk.

In the operation of an optical disk drive, the disk is placed on a spindle and rotates. The drive uses a laser beam and light reflection to read the pits and lands on the disk. A variance in width between the pit and the laser beam causes a partial diffraction of the beam, producing an optical signal. The optical disk drive processes this signal and converts the data to usable form.

The recording densities of CDs and DVDs are different. A CD can store approximately 650 megabytes of data. DVDs can store much more, depending on the number of data layers on the disk. The increased recording density of a DVD is achieved in two ways. First, the pits on a DVD are smaller; therefore, the spiral tracks are more condensed. Second, many DVDs have two layers of data written on them.

The differences in disk density requires different reading mechanisms. The smaller pit size of a DVD necessitates a more tightly concentrated laser beam width. The variance in the levels on the surface of the disk at which data is recorded requires the player to have circuitry which controls focus depth.

Most modern DVD drives are capable of reading either DVDs or CDs. In general, the part of the DVD player which reads the data contained on the disk is referred to as an Optical Pickup Unit or ("OPU"). To perform the various functions required of it, the OPU in a DVD drive may have two lasers (one for DVDs and one for CDs), focusing optics, a photodetector, and associated circuitry. The OPU operates according to what type of disk is inserted into the drive.

In the present case, the patent addresses an invention which enables the drive to discriminate between DVDs and CDs. United States Patent No. 5,587,981 (the "981patent") describes a method for reading and/or processing certain information from an optical disk to determine the pit configuration and number of data layers on the medium. The patent explains that CDs and DVDs have a portion of information on them called Total of Contents, or TOC information. When a user inserts a disk into the drive, the device reads this TOC information. The TOC information contains, for example, the total amount of information stored on the disk, the total playing time of the disk, or similar information.

In the Summary of the Invention, the patent states that information regarding pit density, data capacity, and reproducing speed can also be encoded as TOC data. '981 patent, col. 1, ll. 61-64. This would enable the DVD player to identify quickly whether a CD or DVD has been inserted and adjust the reproduction mode more efficiently. Alternatively, the patent describes the situation in which the standard of the optical disk is not included in the TOC information. Under this latter circumstance, the patent states that the TOC or other disk data can be processed to tell the device whether it is reading a DVD or CD optical disk. '981 patent, col. 2, ll 2-6. This data is "collated" with data stored in a memory which corresponds to certain standards. The collation of the data yields the type of pit configuration and the total number of data layers on the disk. '981 patent, col. 2, ll. 64-65. This tells the device what type of disk has been inserted. Once the type of the optical disk is determined by the device, the circuitry modulates the operation of a focusing lens servo, a tracking servo, and a spindle servo to read the appropriate type of disk.

2. Law Governing Claim Construction.

"A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention." Burke, Inc. v. Bruno Indep. Living Aids, Inc., 183 F.3d 1334, 1340 (Fed.Cir.1999). Claim construction is an issue of law for the court to decide. Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996).

To ascertain the meaning of claims, the court looks to three primary sources: the claims, the specification, and the prosecution history. Markman, 52 F.3d at 979. Under the patent law, the specification must contain a written description of the invention that enables one of ordinary skill in the art to make and use the invention. A patent's claims must be read in view of the specification, of which they are a part. *Id*. For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. *Id*. "One purpose for examining the specification is to determine if the patentee has limited the scope of the claims." Watts v. XL Sys., Inc., 232 F.3d 877, 882 (Fed.Cir.2000).

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of the patentee's

claims. Otherwise, there would be no need for claims. SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 1121 (Fed.Cir.1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. Intellicall, Inc. v. Phonometrics, 952 F.2d 1384, 1388 (Fed.Cir.1992). And, although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc., 34 F.3d 1048, 1054 (Fed.Cir.1994).

To assess the ordinary meaning of terms used in a patent claim, a court may properly rely on dictionary definitions. The Federal Circuit has noted that "[i]t has long been recognized in the precedent of our predecessor court, the Court of Customs and Patent Appeals, that dictionaries, encyclopedias and treatises are particularly useful resources to assist the court in determining the ordinary and customary meaning of claim terms." *Texas Digital Sys,. Inc. v. Telegenix, Inc.,* 308 F.3 d 1193, 1202 (Fed.Cir.2002). The court reasoned that such sources are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art. *Id.* at 1202-03. According to the court, dictionaries, encyclopedias, and treatises "constitute unbiased reflections of common understanding not influenced by expert testimony or events subsequent to the fixing of the intrinsic record by the grant of the patent, not colored by the motives of the parties, and not inspired by litigation." *Id.* at 1203.

3. Discussion.

The patent sets forth three claims, all of them independent. Only claim 3 is at issue in this case. Claim 3 provides:

An optical disk reading method comprising the steps of:

processing an optical signal reflected from encoded pits on an optical disk until total number of data layers and pit configuration standard of the optical disk is identified;

collating the processed optical signal with an optical disk standard data which is stored in a memory; and

settling modulation of servomechanism means dependent upon the optical disk standard data which corresponds with the processed optical signal;

(c) [as in original] the servomechanism means including:

a focusing lens servo to modulate positioning of a focusing lens; and

a tracking servo to modulate movement of a pickup.

Reading claim 3 in light of the intrinsic record and the applicable canons of claim construction, the court now addresses the parties' claim construction disputes.

A. The "spinning" limitation.

The first area of disagreement is whether a drive performing the claimed method must actually spin the disk to perform the method. The defendants point to the preamble and note that the preamble states an "*optical*

disk reading method." According to the defendants, optical disks are read by spinning or rotating them.

In claim 3, the language "optical disk reading method" appears in only the preamble. The defendants argue that the preamble language acts as a limitation on the claim and requires that an optical disk be "read," i.e. spun, as a claim limitation. The defendants concede that the preamble language is not a claim limitation unless the language "breathes life and meaning into the claim." The defendants contend that by construing the term "optical disk" as a "disk-shaped data storage device that is read by laser, or other form of light" and by construing the term "reading" in the context of optical disk technology to mean "rotating the disk," the preamble of claim 3 requires the steps of the method to occur only by rotating an optical disk.

Despite the defendants arguments to the contrary, the preamble is not a claim limitation in this case. The body of the claim sets forth an entire invention, and the language of the preamble is not necessary to breathe life and meaning into the claim. The limitations do not rely on the preamble for antecedent support, and the balance of the claims in the patent counsel against this construction. The express language of claims 1 and 2 use the same language in the preamble; however, the first limitation in each of those two claims requires "*reading* a total of contents data in a read-in region of an optical disk...." The first limitation of claim 3, on the other hand, refers to "*processing* an optical signal reflected from encoded pits on an optical disk...." It therefore appears that when the patentee wanted to use the term "reading" as an explicit limitation, he did so. The court therefore rejects the defendants' argument on this issue. The preamble is not a claim limitation, and the claimed method does not implicitly require the disk to spin or rotate.

B. Processing.

Turning to the specific limitations in the claim, the first one requires "processing an optical signal reflected from encoded pits on an optical disk...." The parties have two disputes over the meaning of this term. First, they dispute the meaning of the term "processing." Second, they dispute where the encoded pits must be located on the optical disk. Bound up in the second dispute is the meaning of a statement made by the patentee to the examiner during prosecution.

With respect to the first dispute, the plaintiffs contend that "processing" means "converting information." The defendants contend that "processing" means "converting and manipulating a message conveyed by visible light from one form into another by use of at least a decoder." The rub of the first dispute is whether processing must include both converting *and* manipulating or whether the limitation could be met by either converting *or* manipulating the optical signal into a usable form. After carefully considering the briefs and the arguments of counsel, the court concludes that the plaintiffs are correct. One of skill in the art would recognize that processing an optical signal means "converting or manipulating an optical signal from one format into another." FN1

FN1. The court also rejects the argument that the "processing limitation" requires the use of at least a decoder.

The second dispute arises from a statement made during the prosecution of the '981 patent. In the file history, the patentee responded to a rejection of his claims with the following description of claim 3:

This optical disk reading method is to provide an optical disk reading system which is capable to detect the total number of data layers and pit configuration standard of the optical disk by processing an optical signal

reflected from encoded pits on an optical disk without reading the TOC data. The total number of the optical disk can be detected by refrectorometry [sic] means or interferometry means. The pit configuration standard can be detected by detecting the bit rate of the readout signal. The prior art have not fairly or clearly disclose any device which process the readout signal to *identify total number of data layers*.

(emphasis in original). The defendants argue that this passage means that the method of claim 3 cannot involve processing an optical signal reflected from pits located in the "read-in" portion of the disk.FN2 The court rejects this argument. What the patentee disclaimed from the scope of claim 3 is the reading of TOC data which itself tells the device the pit configuration standard and the number of data layers on the disk. He did not disclaim the processing of an optical signal reflected from pits located in the read-in area which represent other encoded TOC data.

FN2. An optical disk contains, in general terms, a read-in region, a program area, and a read-out region. The read-in area is an area of the disk reserved for storing table of contents data and other information. The actual data program is stored on an optical disk in the program area of the disk. The read-out (or lead-out) area follows the program area.

To illustrate the difference, one might observe an object, such as a chair, and conclude by looking at it that the object is in fact a chair. That same person might also read a sign on the object that says "this is a chair" and conclude that the object is a chair by virtue of the information communicated by the sign. It is the former situation that is analogous to the processing step described in claim 3. It is the latter situation that is more akin to the reading limitation imposed by claims 1 and 2. The optical signal reflected from the pits might reveal, as the prosecution history suggests, the bit rate, which, in turn, would reveal the pit configuration standard. The total number of data layers might also be revealed by the dimensions of the tracks and the pits. That those pits might represent other types of TOC data, as, for instance, playback time, does not mean that their characteristics could not aid in a determination of the type of disk in the drive. There is nothing in the file history that suggests that the encoded pits from which the beam is reflected cannot be located in the read-in area of the disk.

Although the prosecution history does not impose the limitation sought by the defendants, the defendants also urge that the language of the claims mandates this result. Claims 1 and 2 require that the TOC data be read from the read-in portion of the disk. Claim 3 requires that the optical signal be reflected from "*encoded* pits" on the optical disk (emphasis added). Data is encoded before it is stored on an optical disk. For instance, a video file must be compressed before it is stored on a disk. The defendants argue that the patentee's use of the term "encoded pits" suggests that the patentee was referring to the pits which store the actual data on the disk and those pits are located in the program area of the disk, outside of the read-in region. A review of the specification, however, reveals that the patentee used the term "encoded" to refer to both the pits that represent TOC data as well as pits that reflect the program data stored on the disk. *See* '981 patent, col. 1, ll. 51-54 ("In an optical disk such as a compact disk (CD), a Mini-Disk (MD) and a digital video disk (DVD), a TOC data is *encoded* in the read-in region of the disk"); col. 3, ll. 48-52 ("In case that the TOC data is not *encoded* on the optical disk in step 2(S2) and the case that type of the optical disk is not identified in step 5(S5), the system controller operates the pickup to read any data on the optical disk by modulating the servo control circuit, tracking servo circuit, and the focusing servo circuit (S6)). These passages suggest that the patentee used the term "encoded pits" more broadly than the defendants suggest. Those pits may be located in either the read-in region as well as elsewhere on the optical disk, such as the program area.

C. Optical disk.

The plaintiffs propose that the term be defined as "an optical storage medium." The defendants argue that the term should be defined as "a disk shaped storage device that is read by a laser, or other form of light." In the context of this patent, the court is persuaded that one of skill in the art would agree that the defendants' construction is correct. Indeed, the plaintiffs note that the defendants' construction "does not substantively vary from their proposed construction." (Plaintiffs' Brief at 15). "Optical disk" is defined as "a disk shaped storage device that is read by a laser, or other form of light."

D. Pit configuration standard of the optical disk

The plaintiffs note that there is no known definition for the phrase "pit configuration standard." They therefore use dictionary definitions of "standard" and their definitions of optical disk and pit and propose that the term mean "a recognized arrangement of depressions formed in an optical storage medium." The defendants contend that the phrase means, "the set of rules and procedures governing the track pitch, as well as the arrangement, form, figure, and shape of the pits on a particular optical disk." After reviewing the briefs and the arguments of the parties, the court is persuaded that the plaintiffs' construction of this phrase is correct. The court defines "pit configuration standard" to mean "a recognized arrangement of depressions formed in an optical disk."

E. "Collating"

The parties ask the court to construe the term "collating," contained in the second clause of claim 3. The defendants argue that the term "collate" has a well-understood meaning-to compare and to merge two similarly-ordered sets of information into a single set of information. The plaintiffs argue that the inventors used the term "collate" in the context of the patent to refer simply to the act of "comparing" not merging. Although the defendants correctly observe that the term "collate" has a well-understood meaning of "to compare and to merge two similarly-ordered sets of information into a single set of information," the patentee has used the term throughout the specification in a different manner. Throughout the specification, the patentee refers to a device which *compares* the data received from the disk with a table stored in memory to discern what type of disk was being read. It is true that definition by implication is a tough climb, whether suggested by a patentee or an accused infringer. Nevertheless, the court is bound to construe the claim terms in light of the specification. The claim language itself supports this interpretation when, in the third limitation, the modulation of the servomechanism means depends on the optical disk standard data which *corresponds* with the processed signal. Use of the term "corresponds" suggests that the signal has been compared to the standard data stored in memory to determine a match. The plaintiff's proposed construction of this term is correct.

F. Processed optical signal

The issue with respect to this term is whether the claim language imposes a sequencing limitation upon the steps of the method. The first limitation of claim 3 requires the processing of an optical signal. The second limitation of the method requires "collating the processed optical signal with an optical disk standard data which is stored in a memory." The defendants contend that the use of the past tense of the term "processed" suggests that the signal must be processed to the point where both the pit configuration standard and the total number of data layers have been determined before the collating occurs.

The general rule is that a method claim does not require its steps to be performed in any particular sequence unless the claim language, as a matter of grammar or logic, requires a particular sequence. Alitris Inc. v. Symantec Corp., 318 F.3d 1363, 1369-71 (Fed.Cir.2003); Interactive Gift Express, Inc. v. Compuserve, Inc., 256 F.3d 1323, 1342 (Fed.Cir.2001). In this case, the claim language suggests that some processing must occur before the collating step, as the results of the processing must be compared to a value stored in memory. Likewise, the claim language, as a matter of grammar and its use of the past-tense "processed," suggest that a portion of the optical signal must be processed before the collating step can occur. It does not follow, however, that the optical signal must be processed to the point where both the pit configuration standard and the total number of data layers must be determined before the collating step may occur. It is sufficient that either has occurred before the collating step begins. This is the construction suggested by the plaintiffs in their briefing and, in the court's view, is the correct one. The court therefore rejects the limitation proposed by the defendants.

G. Stored in a memory

The second limitation of claim 3 also requires that the optical disk standard data be "stored in a memory." The plaintiffs contend that "stored in a memory" means essentially that the data be recorded in a storage medium or "placed in data storage." The defendants contend that the phrase means "kept in the internal ROM or RAM of the device reading the optical disk." The court adopts the plaintiff's proposed construction and rejects the limitation that the data be stored in the ROM or RAM of the device reading the optical disk.

H. Settling modulation

The third limitation of the claim requires "settling modulation of servomechanism means dependent upon the optical disk standard data which corresponds with the processed optical signal." The plaintiffs contend that this term means "establishing the operational parameters of an electromechanical device." The defendants contend that the term means "permanently resolving and setting the regulation of an automatic feedback control system for mechanical motion."

Reading the patent as a whole, the court is persuaded that the patentee used the term "settling" to connote the meaning of "establish." The court is not persuaded, however, that the patentee used the term "modulation" in the narrow, and special, manner urged by the plaintiffs. It appears from the specification that after the type of disk has been identified, the regulation of the servomechanism is "settled" depending on the type of disk in the drive. The ordinary meaning of the term "modulate" suggests a "regulation" of the servomechanism, and the court is bound to give that term some effect. Finally, the term "servomechanism" as used in this claim limitation, refers to a device for mechanical motion controlled by some type of feedback system. Sybil P. Parker, *McGraw-Hill Dictionary of Scientific and Technical Terms* 1801 (5th Ed.1994). The court therefore construes the phase "settling modulation of servomechanism means dependent upon the optical disk standard data which corresponds with the processed optical signal" to mean "establishing the regulation of an automatic feedback control system for mechanical motion dependent upon the recognized arrangement of depressions for an optical storage medium which corresponds to the processed optical signal."

I. Focusing lens servo

The servo mechanism means includes a focusing lens servo. *See* '981 patent, claim 3. The parties dispute the meaning of the phrase "focusing lens servo to modulate the position of a focusing lens." The court construes the word "servo" in accordance with its ordinary meaning to mean "the motor part of the servomechanism

controlled by the feedback circuit that produces the final mechanical output." The court defines the term "modulate" to mean "regulate." The court is persuaded that the terms "focusing" and "lens" require no construction.

J. Tracking servo

The servomechanism means also includes a tracking servo. The limitation states "a tracking servo to modulate movement of a pickup." The court has defined "servo" previously. The court defines the term "to modulate movement of a pickup" to mean "to regulate the position of an assembly that reads data from a disk."

K. Search first for TOC data.

Next, the defendants argue that claim 3 requires that an optical disk drive search for a total of contents *before* executing the steps of the method described in claim 3. According to this argument, if there is a TOC on the optical disk, then the disk drive must use the TOC information to discern the number of data layers and pit configuration as claimed in claims 1 and 2 of the patent. The defendants urge that only after determining that there is no total of contents on the optical disk does the optical disk drive execute the method of claim 3.

This argument is derived from the patentee's inclusion of a "(c)," next to the servomechanism means limitation of claim 3. The defendants argue that claim 3 can be infringed only by a device that has first searched for and not found TOC data on a disk. In claims 1 and 2, respectively, the patentee preceded the servomechanism means limitation with the letters "(a)" and "(b)." The defendants argue that the court must consider these letters in conjunction with the claim to denote a sequence of events, and that claim 3 is only infringed when an optical disk drive first searches for a total of contents on the disk and confirms that there is no total of contents on the disk.

Although this limitation is unusually drafted, the defendants cite no authority suggesting the appropriateness of this construction. Each of the claims is drafted as an independent claim. There is no explicit language in the claims which requires the sequence proposed by the defendants. Absent more explicit claim language, the court will not impose this limitation. The performance of all of the steps in the method of claim 3 will infringe the patent, regardless of whether the accused device has first searched for TOC data.

L. Execute method of claim 3 only if no TOC data found on disk .

For essentially the reasons stated in the preceding section, the court rejects the argument that claim 3 of the '981 patent requires the drive to search for TOC data before executing the steps of the method and also determine there is no "total of contents" on the disk before claim 3 is applicable. The court declines to import this limitation into the claims absent a more explicit indication in either the claim language, specification, or the file history.

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