United States District Court,
N.D. California.

SANDISK CORPORATION,
Plaintiff.
v.
LEXAR MEDIA, INC,
Defendant.

No. C 98-01115 CRB

March 4, 1999.

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MEMORANDUM AND ORDER

BREYER**, District J.**

Before the Court are the parties' motions for claims construction on the disputed language and means elements of United States Patent No. 5,602,987 (the '987). The '987 discloses a non-volatile memory system for use in a host computer system. Having carefully considered the papers in this matter and having had the benefit of oral argument on February 22, 1999 at the *Markman* hearing, the Court provides the following claims construction.

I. *Legal Standard*

Patent infringement analysis involves two steps: the proper construction of the asserted claim and a determination as to whether the accused method or product infringes the asserted claim as properly construed. *See* Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed.Cir.1995) (en banc), *aff'd* 517 U.S. 370, (1996). Interpretation and construction of patent claims is a matter of law for determination exclusively by the court. *See* id. at 979.

"In interpreting an asserted claim, the court should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). In examining the intrinsic evidence, the court should first look at the words of the claims themselves to define the scope of the patented invention. *See id*. While "words in a claim are generally given their ordinary and customary meaning," a patentee may alter the meaning of any words as long as the special definition is clearly stated in the patent specification or file history." *Id*.

Second, the court should always review the patent specification "to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning." *Id*. The specification is a written description of the invention which is designed to be clear and complete enough so that a person of ordinary skill in the art could make and use the invention. Drawings included in the patent application have the same impact on and effect on claim language as other portions of the specifications. *See* Autogiro Co. of America v. United States, 384 F.2d 391, 398 (Ct.Cl.1967). "The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." Vitronics, 90 F.3d at 1582. The Federal Circuit teaches that, "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*.

The third type of intrinsic evidence that the Court may consider is the prosecution history of the patent, if it is in evidence. The prosecution history, also known as the "file wrapper," contains the entire record of the prosecution of the patent claim before the patent office, including any representations about the scope of the claim made by the applicant.

In most cases, analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed term. "In those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper." Vitronics, 90 F.3d at 1583. The rationale behind this type of claim construction is clear:

The claims, specification, and file history constitute the public record of the patentee's claim, a record on which the public is entitled to rely. In other words, competitors are entitled to review the public record, apply the established rules of claim construction, ascertain the scope of the patentee's claimed invention and, thus, design around the claimed invention.

Vitronics, 90 F.3d at 1583 (citing Markman, 52 F.3d at 978-79). If extrinsic evidence was looked to in the first instance, the right and ability of a competitor to read and construe the claim from the public record and then design around the invention would be meaningless. For these reasons, "[o]nly if there [is] still some genuine ambiguity in the claims, after consideration of all available intrinsic evidence, should the trial court [ ] resort[ ] to extrinsic evidence." Vitronics, 90 F.3d at 1584. In fact, in those cases in which intrinsic evidence unambiguously describes the scope of the patent and defines the claim language, it is error to rely on extrinsic evidence such as expert testimony, inventor testimony, dictionaries, technical treatises or articles. *See* Bell & Howard Document Mgmt Co. Products v. Altek Systems, 132 F.3d 701, 705-6 (Fed.Cir.1997).

When construing the claims of a patent, a court may also consider the doctrine claim differentiation. Under that doctrine, "[w]here 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." United States v. Telectronics Inc., 857 F.2d 778, 783 (Fed.Cir.1988). In other words, the doctrine presumes there is a difference in scope

among the claims of a patent. *See* Tandon Corp. v. United States Int'l Trade Comm'n, 831 F.2d 1017, 1023 (Fed.Cir.1987). Nonetheless, the doctrine "can not broaden claims beyond their correct scope, determined in light of the specification and the prosecution history and any relevant extrinsic evidence.... [C]laims that are written in different words may ultimately cover substantially the same subject matter." Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1479 (Fed.Cir.1998).

II. *Claim Construction.*

The parties dispute the meaning of certain terms used in independent claims 1, 10, 17, 23 and 35. They also dispute what are the corresponding structures with respect to the means-plus-function elements in claims 17 and 23. The parties' proposed orders cover significantly more terms and issues than were addressed by the parties in their memoranda. The Court's order, however, will be limited to those terms and issued discussed by both parties in their memoranda and at the claim construction hearing. The Court has determined that the disputed claims can be construed without resort to extrinsic evidence, and the Court has not relied on extrinsic evidence in construing the claims as explained below.

A. *Disputed Terms.*

1. Sector (Claims 1, 10, 17, 23 & 35)

A "non-volatile memory sector" is the basic unit of erase for the non-volatile memory. It is not limited to 512 bytes of user data and 64 bytes of overhead data.

2. Partitioned (Claims 1, 10, 17, 23 & 35)

"Partitioned" refers to either logically dividing or physically dividing the memory into a plurality of sectors. When the patent refers to the memory array being "partitioned" into sectors it is not necessarily referring to the physical division of the memory into sectors such that each sector must be physically separated from the adjoining sectors.

3. User data and overhead data portions (Claims 1 & 10)

Each non-volatile memory sector must have at least one user data portion *and* one overhead data portion, but is not limited to only one data user portion and only one overhead data portion.

4. An array of non-volatile floating gate memory cells (Claims 1, 10 & 35 Preamble)

The term "floating gate" in the preamble of claims 1, 10 and 35 forms the antecedent basis for the use of the phrase "memory cells" in the body of these claims and their dependent claims. The term is therefore a substantive limitation on the claims.

5. "Designating" and Generating" a memory address (Claims 1, 10 & 35)

The terms "designate" and "generate" refer to the step of identifying the address of the non-volatile memory sector selected by the controller. "Generate" as used in claims 1, 10 & 35 does not mean to cause the controller to execute a computer code to create such an address.

6. Correspond or corresponding (Claims 1, 10, 17 & 35)

A non-volatile memory sector may correspond to one or more magnetic disk sectors.

7. Linking (Claim 1)

"Linking" refers generally to the substitution of the address of a usable non-volatile memory sector for an unusable non-volatile memory sector. Claim 1 does not limit "linking" to storing the address of a substitute sector in the defective sector overhead data portion.

8. Mass Memory Storage Block and Block Address (Claims 23 & 35)

"Mass memory storage block" refers to the basic unit of data (read/write) of the mass memory storage device being emulated by the inventions of the '987 patent. "Mass memory storage block address" is the address for this basic unit of data.

B. *Means-Plus-Function Claims*

Claims 17 and 23 contain elements that are written in a "means-plus-function" format. A means-plus-function element must be "construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. s. 112 para. 6. Section 112, paragraph 6 " 'operates to cut back on the type of means which could literally satisfy the claim language." ' Jonsson v. The Stanley Works, 903 F.2d 812, 819 (Fed.Cir.1990) (citation omitted). To construe such a claim the court must first identify the specified function. Second, the court must "consult the specification to define a structure, material or acts corresponding to this claimed function." Sage Prods., Inc. v.. Devon Indus., Inc., 126 F.3d 1420, 1428 (Fed.Cir.1997). "A structure disclosed in the specification is only deemed to be 'corresponding structure' if the specification clearly links or associates that structure to the function recited in the claim." Kahn v. General Motors Corp., 135 F.3d 1472, 1476 (Fed.Cir.1998).

1. Claim 17.

Claim 17 has four "means" elements. Each is addressed below.

a. "means connectable to said computer system for controlling operation of the [memory] array"

This means element refers to the function performed by a memory system that allows the memory system to be connected to a host computer system and control the operation of an array of non-volatile floating gate memory cells.

The corresponding structure is controller 31. The corresponding structures also include those discussed below, in sections b through d, since claim 17 provides that the "means connectable to said computer system for controlling operation of the array" include the means that follow it in the claim.

b. means responsive to receipt of a magnetic disk sector address from the host computer system for addressing a corresponding non-volatile memory sector

This means element requires that the "means for controlling" as identified above perform the function of relating at least one magnetic disk sector to at least one non-volatile memory sector.

The corresponding structures are controller 31, and included within controller 31 the microprocessor

interface 505, address generator 503, command sequencer 511, multiplexer 513, address register 231, and address decoder 233.

c. means for reading the overhead data stored in the addressed sector prior to reading the user data from, or writing user data to, the addressed sector

This means element performs the function of reading overhead data in the non-volatile memory sector before the controller reads or writes data to the user data portion of the sector.

The corresponding structures are controller 31, microprocessor interface 505, DMA controller 507, command sequencer 511, address generator 503, multiplexer 513, receiver 515, defect pointer memory file/header compare 509, alternative defects data file 517, serial data lines 35 and 37, interface 40, logic and resisters 57, lines 209, serial interface 227, address register 231, address decoder 233, command register 225 and command decoder 229.

d. means responsive to the read overhead data for executing an instruction from the host computer system to perform a designated one or reading user data from, or writing user data to, the addressed sector

The function of this means element is to execute an instruction to read user data from the user data portion or write user data to the user data portion of non-volatile addressed memory sector after reading the overhead data from any overhead data portion.

The corresponding structures are controller 31, including microprocessor interface 505, address generator 503, command sequencer 511, receiver 515, comparator 521, holding register file 509, alternative defects data file 517 and multiplexer 523 (for reading) or multiplexers 513 and 605 (for writing).

2. Claim 23.

Claim 23 includes one additional disputed means element that is not included in claim 17.

1. *means ... for substituting another usable sector*

This means element requires the function of substituting a usable sector of non-volatile memory for an addressed unusable sector of non-volatile memory.

The corresponding structures are controller 31, including receiver 515 and defect pointer memory file/header compare (holding file register) 509.

III. MOTIONS TO STRIKE

Defendant's motions to strike are DENIED. The motions are concerned primarily with plaintiff's submission of extrinsic evidence in support of its claim construction. As is set forth above, the Court did not rely on any of the voluminous extrinsic evidence submitted by both parties in construing the claims. To the extent that the Court relied upon plaintiff's references to the specification and prosecution history that were not identified in the Joint Claim Construction Statement, defendant has not demonstrated that it has been prejudiced by plaintiff's untimely disclosure. The specification and prosecution history were available to defendant long before plaintiff filed its claim construction memorandum and defendant had ample time to

study any additional references to the specification or prosecution history made by plaintiff in its claim construction statement before defendant's responsive brief was due.

CONCLUSION

For the foregoing reasons, the Court construes the disputed terms and elements of the '987 patent as is set forth above and defendant's motions to strike are DENIED.

IT IS SO ORDERED.

N.D.Cal.,1999.
Sandisk Corp. v. Lexar Media, Inc.