United States District Court,
N.D. Illinois, Eastern Division.

ANOTO AB,
Plaintiff.
v.
Oral F. SEKENDUR,
Defendant.

May 5, 2004.

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MEMORANDUM OPINION AND ORDER

HOLDERMAN**, J.**

On July 8, 2003, plaintiff Anoto AB ("Anoto") filed a four-count complaint against defendant Oral F. Sekendur ("Sekendur"), alleging tortious interference with existing and prospective business relationships in Count I and Lanham Act violations in Count II. Count III requested a declaratory judgment that neither Anoto nor its licensed manufacturer have either directly, contributorily, by inducement, or otherwise, infringed on Sekendur's U.S. Patent No. 5,852,434 (" '434 patent") and that the '434 patent is invalid for failure to comply with one or more federal laws or regulations. Finally, Count IV requested a declaratory judgment that the '434 patent was invalid based on Sekendur's misuse of the patent. Anoto's complaint also alleged that Sekendur's U.S. Patent No. 5,677,012 (" '012 patent") had already expired by law. Sekendur, proceeding pro se in all aspects of this litigation, responded by filing counterclaims and amended counterclaims against Anoto, the most recent of which was filed on February 2, 2004. FN1

FN1. Sekendur has also attempted to sue a number of other defendants, but that portion of the litigation is not relevant here.

Before this court is Anoto's proposed claim construction of the '434 patent. Generally, the '434 patent is a "digitizer and absolute position determination device for indicating the instantaneous position and movement

of a stylus on a surface[,]" ('434 patent, Abstract) "such as might be used for determining the position and/or movement of a pen/pencil on paper" ('434 patent, col. 1, 11-13). A third patent relevant to construing the claims of the '434 patent is U.S. Patent No. 5,051,736 ("Bennett et al."). FN2 After reviewing the memoranda submitted by both parties, and having determined that a hearing is not necessary, this court now rules on the issue of interpreting the disputed claim terms of the '434 patent.

FN2. This patent was granted to Bennett et al. and Sekendur repeatedly distinguished his invention from it in order to obtain patent allowance. The parties in this case refer to it as "Bennett et al." Therefore, the court will do the same.

ANALYSIS

Claim construction is a matter of law for the court to determine. Allen Eng'g Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 1344 (Fed.Cir.2002) (citing Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed.Cir.1995) (en banc), *aff'd* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996)). The first step in construing a claim is to look to the intrinsic evidence concerning the patent, which includes the patent specification and prosecution history, if in evidence. *Id*. It is improper to rely on extrinsic evidence when evaluation of the intrinsic evidence resolves the dispute regarding the construction of a claim. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed.Cir.1996). "The words of the claims themselves define the scope of the invention, and are given their ordinary and customary meaning." *Id*. (citations omitted). Generally speaking, there is a heavy presumption that a claim term carries its ordinary and customary meaning. CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002).

The heavy presumption of plain meaning is rebutted, and a court may limit the ordinary meaning of a claim, where: (1) the patentee acting as his own lexicographer clearly established a definition of the term different from its customary meaning in either the specification or prosecution history, Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996); (2) "the term 'chosen by the patentee so deprive[s] the claim of clarity' as to require resort to other intrinsic evidence for a definite meaning, CCS Fitness, 288 F.3d at 1366 (citations omitted); (3) the doctrine of prosecution disclaimer applies; and (4) the patentee phrases the claim in means-plus-function format. *See* 35 U.S.C. s. 112 para. 6; Allen Eng'g, 299 F.3d at 1347-48.

These last two points require further explanation. First, "where the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender." Omega Eng'g v. Raytek Corp., 334 F.3d 1314, 1323 (7th Cir.2003). *See also* Spectrum Int'l, Inc. v. Sterlite Corp., 164 F.3d 1372, 1378 (Fed.Cir.1998) ("[E]xplicit statements made by a patent applicant during prosecution to distinguish a claimed invention over prior art may serve to narrow the scope of the claim."); Southwall Tech., Inc. v. Cardinal IG, Co., 54 F.3d 1570, 1576 (Fed.Cir.1995) ("The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution") Standard Oil Co. v. Am. Cyanamid Co., 774 F.2d 448, 452 (Fed.Cir.1985) ("[T]he prosecution history ... limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance."). The doctrine of prosecution disclaimer is not applied where the "alleged disavowal of claim scope is ambiguous." Omega Eng'g, 334 F.3d at 1324-25.

Second, claims may be written in means-plus-function form according to 35 U.S.C. s. 112, para. 6, which

reads as follows:

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. s. 112, para. 6. "The use of the word 'means' 'triggers a presumption that the inventor used this term advisedly to invoke the statutory mandate for means-plus-function clauses." Allen Eng'g 299 F.3d at 1347 (citation omitted). This presumption may be overcome when the claim language either recites no function corresponding to the means or describes sufficient structure or material for performing the structure. *Id*.

"In construing a means-plus-function limitation, a court must identify both the claimed function and the corresponding structure in the written description for performing that function." Northrop Grumman Corp. v. Intel Corp., 325 F.3d 1346, 1350 (Fed.Cir.2003) (citation omitted). When identifying the claimed function, "[i]t is improper to 'import functional limitations that are not recited in the claim, or structural limitations from the written description that are unnecessary to perform the claimed function." ' Donald S. Chisum, Chisum on Patents, s. 18.03[d][d] (quoting Wenger Mf'g, Inc. v. Coating Machinery Systems, Inc., 239 F.3d 1225, 1233 (Fed.Cir.2001)). "It is equally improper to broaden the scope of the claimed function by ignoring clear limitations in the claim language." Cardiac Pacemakers, Inc. v. St. Judge Medical, Inc., 296 F.3d 1106, 1113 (Fed.Cir.2002) (citation omitted). Furthermore, a court must take care to identify the proper structure disclosed in the specification as "corresponding structure:"

[S]tructure disclosed in the specification is 'corresponding' structure 'only if the specification or the prosecution history clearly links or associates that structure to the function recited in the claim.' A court may not import into the claim features that are unnecessary to perform the claimed function. Features that do not perform the recited function do not constitute corresponding structure and thus do not serve as claim limitations.

Northrop Grumman, 352 F.3d at 1352 (citations omitted).

As a preliminary matter, this court must consider whether the prosecution history of the '012 patent may be used to construe the claims of the '434 patent. The Joint Submission of Prosecution Histories ("Joint Submission") was submitted to this court on December 15, 2003. FN3 It was entered on the docket as docket entry 30 ("Dkt.# 30") and it contains both the '012 and the '434 patents' prosecution histories, which this court will cite throughout this opinion. FN4

FN3. On March 19, 2004, Sekendur submitted, with this court's permission, a disclosure document which purports to have been filed with Commissioner of Patents and Trademarks on 4/9/90. This document is paginated from PH1-PH79. The court considered this document in ruling on this matter.

FN4. Because this court cites both the '012 and the '434 prosecution histories throughout this opinion, a brief description of the organization of The Joint Submission (Dkt.# 30) is necessary. The '012 patent prosecution constitutes the first portion of the Joint Submission. It is designated with page numbers beginning with the letter "A," and is paginated from A0001 to A0210. The '434 patent prosecution history

follows the '012 prosecution history, and is designated with page numbers beginning with the letter "B," and is paginated from B0001 to B0133. Citations in this opinion to the prosecution histories of the '012 and '434 patents will be to the specific page of the history preceded by the appropriate letter.

Sekendur admits that the case law clearly allows a patent to be limited by disclaimers made in the prosecution history of related patent applications when the same terms are at issue. (Sekendur's Resp. at 9, 11.) *See also* Elkay Mfg. Co. v. EBCO Mfg. Co., 192 F.3d 973, 980 (Fed.Cir.1999) ("When multiple patents derive from the same initial application, the prosecution history regarding a claim limitation in any patent that has issued applies with equal force to subsequently issued patents that contain the same claim limitation."); Jonsson v. The Stanley Works, 903 F.2d 812, 817-18 (Fed.Cir.1990) (holding that when two patents issued from continuation in part applications from an original patent, the prosecution histories of any of the patents and disclaimers therein are relevant for purposes of construing claims shared by the patents). Sekendur also admits in his counterclaim that the '434 patent is a continuation of the '012 patent: "The '434 patent is a continuation-in-part of [the] expired ['012] patent...." (Sekendur's Amended Counterclaim entitled "Counterclaim And Jury Demand" filed on November 3, 2003, Dkt. # 26, para. 16.) Sekendur's application for the '434 patent also makes clear that it is a continuation in part of the '012 patent. (B0006, B0007.) And "it is settled that prosecution disclaimer attaches to progeny continuation in part applications where the same claim limitation is at issue." Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1335 (Fed.Cir.2003). Nevertheless, Sekendur objects to the manner in which Anoto uses the prosecution history of the '012 patent, arguing that in his "opinion," Anoto should only be allowed to use the prosecution history of the '012 patent if the prosecution of the '434 patent "didn't clarify the term." (Sekendur's Resp. at 11.) Sekendur cites no law for this assertion, nor does Sekendur explain why Anoto's use of the '012 prosecution history is inconsistent with the prevailing law. Furthermore, Sekendur extensively cites to the prosecution history of both patents in his memoranda before this court. This court rules that it is proper to look to the prosecution histories of both the '012 and the '434 patents where the same claim terms are at issue. FN5

FN5. In all instances but two that are noted, the court relies on prosecution history excerpts that appear in nearly identical fashion in both prosecution histories.

Turning to the claim terms for which definitions are requested:

I. ***Data Surface***

For the following reasons, this court construes the claim term "data surface" in the '434 patent to mean:

The Data Surface comprises a writing surface such as paper or other material upon which the stylus can be used to form marks or to write a message and from which an instant original hard copy can be obtained without first requiring data processing and printing.

Each of the independent claims 1, 10 and 16 recite the term "data surface." Anoto initially argued that the term "data surface" is properly interpreted to mean: "A writing surface containing a detectable, human eye visible indicia." (Anoto's Claim Construction at 2.) However, in its last filing before this court Anoto apparently abandons this definition and it argues for the definition the court adopts above. (Anoto's Reply at 22.) Sekendur argues that no revision should be made to the term "data surface" because it is unambiguous. However, Sekendur also provided this court with a chart reflecting each side's position on the disputed

language where Sekendur defines "data surface" as: "a data surface ... whereby said data surface comprises a writing surface." (Sekendur's Resp. at 6.)

The definition this court adopts is the definition provided by Sekendur to overcome an obviousness objection asserted by the United States Patent and Trademark Office ("PTO"). (B0057.) This definition was also provided in the prosecution history of the '012 patent to overcome a similar objection from the PTO. (A0131.) FN6 Anoto argues that Jack Guttman, Inc. v. Kopykake Enter., Inc., 302 F.3d 1352, 1360-61 (Fed.Cir.2002) stands for the proposition that a "district court err[s] in construing a claim term contrary to the explicit definition provided by the applicant in the prosecution history where nothing in the intrinsic evidence casts doubt on that definition." (Anoto's Reply at 22.) This court agrees with Anoto's conclusion that Sekendur has defined the claim term "data surface," but this case is not as directly on point as Anoto would have this court believe.

FN6. On its face, the definition in the '434 prosecution history relied upon by this court purports to define the term "data space," not "data surface." However, this discrepancy in terms must be due to typographical errors. The '434 patent does not utilize the term "data space," but the '012 patent did. While the claim terminology in the '434 patent utilized "data surface" and not "data space," Sekendur used the term "data space" interchangeably with "data surface" in the section of the prosecution history of the '434 patent where he provided a definition of the term to distinguish his application from prior art. (B00057.) This use of term "data space" during the prosecution of the '434 patent, instead of "data surface", is likely explained by the fact that Sekendur seems to have, during the prosecution of the '434 patent, resubmitted the exact same materials he used in the prosecution of the '012 patent. Therefore, Sekendur defined the term "data surface," during the prosecution of the '434 patent despite the fact that he failed to update his materials. This error does not negate Sekendur's action of defining the term "data surface" in an attempt to distinguish prior art.

In *Jack Guttman,* the Federal Circuit reversed the district court for not giving effect to the definition provided by the patentee in the *specification*. *Id*. at 1360 ("In this case, the definition of photocopy machine provided in the specification does indeed dispose of the claim construction dispute, and it was error for the district court to overlook it."). A definition in the specification, as opposed to Sekendur's alleged definition that is in the prosecution history, may be more "explicit," and therefore provide a stronger basis for holding the patentee to the definition. Nevertheless, case law relied on by the court in *Jack Guttman* explains that "a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996)); *see also* Markman, 52 F.3d at 979 ("For claim construction purposes, the description [in the specification] may act as a sort of dictionary, which explains the invention and may define terms used in the claims.") (citation omitted). And at least one other Federal Circuit opinion has not found it necessary to distinguish between the prosecution history and the specification when considering whether a patentee has provided an explicit definition of a claim term. Mycogen Plant Science v. Monsanto Co., 243 F.3d 1316, 1327 (Fed.Cir.2001) ("[A] patentee is free to be his own lexicographer, so long as the special definition of a term is made explicit in the patent specification or file history."). Therefore, this court rules that a patentee is bound by the definition the patentee provided in the prosecution history.

Jack Guttman is also distinguishable because in that case the patentee's attempt to define a word was much more explicit than what Anoto alleges is Sekendur's attempt to define the term "data surface." In *Jack Guttman,* the patentee explicitly signaled the use of a definition by attaching to that definition the words "as

that term is used herein." Jack Guttman, 302 F.3d at 1360. Sekendur utilizes no similar language in the portion of the prosecution history Anoto alleges provides a definition of the term "data surface." Nevertheless, the prosecution history makes clear that Sekendur was defining the term in order to distinguish prior art, despite the absence of words clearly signaling a definition such as "as that term is used herein." Scimed Life Systems v. Advanced Cardiovascular, 242 F.3d 1337, 1343 (Fed.Cir.2001) (explaining that it is not necessary to use a "definitional format" to define a claim term). Accordingly, this court rules that Sekendur has defined the claim term "data surface."

II. *Coding Means*

For the following reasons, this court construes the claim term "coding means" in the '434 patent to mean:

One of the three patterns disclosed in Figs. 1-5 of the '434 patent, and structural equivalents thereof. Structural equivalents must 1) not have any portion of a code defining an X-Y coordinate used to define any other X-Y coordinate; 2) be large enough so that stylus tilt is not a factor in determining coordinates; 3) be large enough to permit a sampling rate significantly less than the rate of Bennett et al.; 4) be large enough to allow for much less processing power than that of Bennet et al.; and 5) be arranged so that the data making up each coordinate code is unique from the data making up each other coordinate code.

In patent '434, independent claims 1, 10 and 16 recite the term "coding means" as follows:

claim 1-"at least one coding means for designating coordinates of at least one point on said data surface"

claim 10-"at least one coding means for designating two dimensional coordinates of at least one point on said data surface"

claim 16-"a position-related coding means for indicating X-Y coordinates"

A. Means-Plus-Function Limitation

Each of these claims recites the word "means," thereby triggering the presumption that they invoke the statutory mandate for means-plus-function clauses. Allen Eng'g Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 1347 (Fed.Cir.2002). Sekendur makes no attempt to rebut this conclusion, nor could he rebut this conclusion. These claims recite a function and do not attempt to describe any structure for performing that function.

The function of the claim terms shall be interpreted in the same manner despite the use of the term "designating," in claims 1 and 10 and "indicating," in claim 16. The specification describes a "position-related coding means for indicating X-Y coordinates." ('434 patent, col. 5, 3-4.) The terms "designating" and "indicating" share a common meaning. Webster's II New Riverside Univ. Dictionary 367 (defining "designate" as "[t]o indicate"). FN7 Furthermore, the prosecution history quoted by Sekendur in his materials before this court does not contradict this conclusion, and in fact lends support to it. (Sekendur's Resp. at 14) (citing B0017) ("the position-related coding means comprises any means for indicating coordinates").

FN7. "Dictionaries ..., which are extrinsic evidence, hold a 'special place' and may sometimes be considered along with intrinsic evidence when determining the ordinary meaning of claim terms." Bell Atlantic Serv., Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1267 (Fed.Cir.2001) (citation omitted).

Furthermore, this court is aware of the Federal Circuit's admonishments regarding general purpose dictionaries. *Id*. ("[W]e have previously against the use of non-scientific dictionaries 'lest dictionary definitions ... be controverted into technical terms of art having legal, not linguistic significance.") (citation omitted); AFG Indus., Inc. v. Cardinal IG Co., 239 F.3d 1239, 1247-48 (Fed.Cir.2001) ("This court has repeatedly cautioned against using non-scientific dictionaries for defining technical words.") (citation omitted). Here, as with the other instance in this opinion where a court relies upon a dictionary, the terms being interpreted are not truly technical, and the specification supports construing the terms in a similar manner.

As explained, the claims of the '434 patent described above fall within the ambit of 35 U.S.C. s. 112, para. 6.FN8 Therefore, this court must determine the function identified by the claim. Anoto asserts that the function performed by the "coding means" is that of indicating X-Y coordinates. (Anoto's Reply at 14.) In support Anoto quotes a portion of the '434 patent's specification, which states: "Accordingly, the present invention proposes the use of a data surface or more particularly a writing surface such as paper, formatted with a position-related coding means for indicating X-Y coordinates." ('434 patent, col. 5, 1-5). Based upon the claim language and the descriptions in the specification, this court agrees with Anoto that the function performed by the "coding means" is that of indicating X-Y coordinates.

FN8. Sekendur argues that Anoto, presumably by invoking 35 U.S.C. s. 112, para. 6, improperly "attempts to restrict the '434 patent to the particular embodiment of the coding means described in the patent" (Sekendur's Sur Reply at 4-5) and also argues several times that in his invention "any coding means" can be used. While construing claims, this court's concern is the extent to which Sekendur may use the term "coding means" to exclude. The law restricts the term "coding means" to the particular structures described in the patent and equivalents thereof. Sekendur cannot claim any "coding means" and then attempt to exclude use of any coding means. He can only claim a "coding means" (and its equivalents) and then attempt to exclude use of that "coding means" to the extent he describes structure in the specification. 35 U.S.C. s. 112, para. 6.

This court now must determine the structure in the specification that corresponds to the claimed function, while remaining cognizant of the fact that "corresponding structure" must be clearly linked to the function. Northrop Grumman Corp. v. Intel Corp., 325 F.3d 1346, 1350 (Fed.Cir.2003). Five of the '434 patent's drawings are clearly linked to the function performed by the "coding means": Fig. 1, depicted in more detail in Fig. 1a and Fig. 2, and used as an example in Fig. 3; Fig. 4, depicted in more detail in Fig. 4a; and Fig. 5, depicted in more detail in Fig. 5a. All of these figures are described as examples of the "coding means" in the specification section "DESCRIPTION OF DRAWINGS," ('434 patent, col. 4, 27-40). The specification section "DESCRIPTION OF PREFERRED EMBODIMENTS" contains descriptions of each of these figures that link them to the function of indicating X-Y coordinates. (Id., col. 5, 21-50.) These figures, and their descriptions in the specification, are the structure corresponding to the function claimed by the term "coding means."

B. Defining The Contours Of Equivalents And Prosecution Disclaimer

i. Limitations Adopted By This Court

(1) No portion of a code defining an X-Y coordinate used to define any other X-Ycoordinate

This court agrees with Anoto's argument that an additional facet of defining the contours of the corresponding structure and equivalents of the claim term "coding means" includes limiting that structure to instances "where no portion of a code defining an X-Y coordinate is used to define any other X-Y coordinate." (Anoto's Reply at 16.) *See* Smiths Indus. Medical Sys. v. Vital Signs, 183 F.3d 1347, 1358 (Fed.Cir.1999) (citations omitted) ("The determination of the contours of the corresponding structure in a means-plus-function claim, as contrasted with the question of whether an accused structure is equivalent to such a corresponding structure, is a matter of law for courts to decide because it is a question of claim construction."). In support of this limitation, Anoto argues that all of the disclosed structures share a non-overlapping coding system, which, according to Anoto, results in a discrete region of code corresponding to a single X-Y coordinate. Sekendur argues that his disclosed structures are not so limited and points to Fig. 5a as evidence. However, Fig. 5a is an enlarged view of a single portion of the "coding means" disclosed in Fig. 5. As it is described and depicted, Fig. 5a only indicates a single X-Y coordinate and does not define any other X-Y coordinate. Thus, Fig. 5a lends support to Anoto's proposed limitation. This court concludes that the structure corresponding to the claim term "coding means," and any equivalents thereof, are limited to structures where no portion of a code defining an X-Y coordinate is used to define any other X-Y coordinate.

(2) "Coding means" must be large enough so that stylus tilt is not a factor

This court agrees with Anoto, on the basis of disavowals made by Sekendur during prosecution of the '012 and '434 patents, that the "coding means" claimed by Sekendur must be sufficiently large so that stylus tilt is not a factor in determining coordinates. (Anoto's Reply at 17.) In response to the PTO's obviousness rejection, Sekendur distinguished his application from Bennett et al. by stating: "Stylus tilt is a serious problem [in] Bennett et al. The effects of stylus tilt in the present invention are insignificant because of the use of a larger coding means." (B0101); *see also* (B0059); (A0133); (A0161); (Sekendur's Sur-Reply at 15, 17) (explaining that the size of the code compensates for problems associated with stylus tilt). Sekendur argues that the above quoted language should not be considered a disavowal because, according to Sekendur, the statements were made to explain the advantages of a single embodiment of the '434 patent over Bennett et al. This court disagrees. These statements were not "carefully crafted arguments" that were "plainly limited" to specific claims or other specific circumstances. *See* Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 991-92 (Fed.Cir.1999). The record before this court consists of "explicit statement[s] made by [Sekendur] during prosecution to distinguish a claimed invention over prior art[, which] may serve to narrow the scope of the claim." Spectrum Int'l, Inc. v. Sterlite Corp., 164 F.3d 1372, 1378 (Fed.Cir.1998) (citation omitted). Therefore, Sekendur's claims are limited according to his disavowals made during the patent prosecution process.

(3) and (4) "Coding means" must be large enough for a significantly lower sampling rate and much less processing power than Bennett et al.

Because of similarly explicit disclaimers the term "coding means" is limited in that it must be sized large enough so that the '434 patent requires a significantly lower sampling rate and much less processing power than Bennett et al. Sekendur distinguished his application from Bennett et al. by stating: "The [coding means] is significantly larger [than Bennett et al., thus] requiring a significantly lower sampling rate thus requiring much less processing power to process [than Bennett et al.]" (B0057); *see also* (B0099); (A0131); (A0159). As with the statements regarding stylus tilt, these statements limit the term "coding means."

While this court agrees that Sekendur has limited his claim to a sampling rate significantly less than that of Bennett et al.'s, this court rejects Anoto's attempt to define that disclaimer in absolute terms. Anoto has argued that Sekendur's "coding means" must be sized so as to permit a sampling rate significantly less than 6,125 dots/sec. Anoto's attempt to define the disclaimer in this manner is premised on a characterization of the Bennett et al. patent-that it samples at least 6,125 dots/sec-with which this court cannot agree at this time. The active tablet in Bennett et al. is "divided into a matrix of squares called Tablet Address Cells (TACs)." (Bennett et al., col. 9, 53-60.) The TACs are "identified by a binary code formed by [ ] dots." (Id.) Bennett et al. specifically claims a sampling rate of at least 125 TACs per second (Id., claim 1). Bennett et al. also describes an "example" where the patentee "[s]uppose[s] the TAC size is divided into a 7 by 7 array of 49 dot positions," (Id., col. 10, 15-16). Anoto, putting together the sampling claim of 125 TACs per second and the example of 49 dots per TAC, argues that Bennett et al. samples 6,125 dots per second. Anoto then points out the numerous circumstances where Sekendur, in response to an obviousness rejection, distinguished his invention from Bennett et al. by arguing that "[t]he [coding means in his invention] is significantly larger [than Bennett et al.], requiring a significantly lower sampling rate, thus requiring much less processing power to process." (B0057) *see also* (B0099); (A0131); (A0159). Thus, according to Anoto, because Sekendur's invention requires a signficantly lower sampling rate than Bennett et al., it must require a sampling rate of significantly less than 6,125 dots/sec.

Anoto does not address the fact that the number of 49 dots per TAC was explicitly described as an example by the patentee in Bennett et al. Anoto is correct that Sekendur has not disputed that Bennet et al. samples 6,125 dots per second, nevertheless, this court is not convinced that Anoto's characterization of the Bennett et al. patent is correct. Furthermore, at this stage of the litigation, it is unnecessary and inappropriate to construe the claims of Bennett et al. Before this court is the issue of how to construe the claims of the '434 patent. It is clear that Sekendur, through his attempts to distinguish his invention from Bennett et al.'s, has limited the interpretation of his claims in relation to that patent. The question of what that disclaimer means in absolute terms can be answered at either summary judgment or at trial. For now, it is sufficient to rule that Sekendur has limited his claims in relation to Bennett et al.FN9

FN9. This court sees no basis in the specification or the prosecution history to support Anoto's further characterization of the "coding means" as "simple." Therefore, this court refuses to characterize the term in that manner. This court also declines to use the phraseology "requiring deciphering algorithms much less sophisticated than that of Bennett." (Anoto's Claim Construction at 4.) Anoto originally used this language in its opening brief, where it set forth its full proposed claim construction. However, Anoto did not connect the term "algorithm" to "coding means" in the portion of that brief discussing "coding means." Furthermore, Anoto never mentions the term "algorithm," in relation to the term "coding means," in its Reply Brief in Support of its Claim Construction. The issue is addressed by Anoto in relation to the term "processing means," and that is where this court addresses it. *See* infra V.A.

(5) "Coding means" must be arranged so that the data making up each coordinate code is unique from the data making up each other coordinate code

Finally, Anoto argues that Sekendur has, through disclaimers in the prosecution history, limited his "coding means" so that the data making up each coordinate code must be unique from the data making up each other coordinate code. (Anoto's Reply at 18-19.) This proposed limitation is based upon a number of disclaimers Sekendur made during prosecution of the '012 patent for the purpose of distinguishing prior art: FN10 "A data space in the present invention contains unique patterns each carrying unique coordinate information to

determine a specific position of a datum point within a data space." (A0064); "The present invention is an absolute position determination device and requires unique data patterns in any form (typed numbers, bar codes, binary codes, etc.) so long as the unique data patterns designate the coordinates of a unique point in space recognizable by a detector and a processing means." (A0063). *See also* (A0068-69); (A0111); (A0118). Based upon these explicit disclaimers, the data making up each coordinate code in the "coding means" must be unique from the data making up each other coordinate code.

FN10. This is the first of two instances where the court relies upon a disclaimer Sekendur made solely during prosecution of the '012 patent.

ii. Limitations Rejected By This Court

(1) "Coding means" need not be human visible (i.e.decipherable)

This court rejects Anoto's proposal that "coding means" must be decipherable to the human eye. (Anoto's Reply at 16.) Sekendur repeatedly distinguished his invention from Bennett et al. by arguing that "Bennett et al. does not suggest the modifications in the present invention (i.e .... human eye visible coding means ...)." (B0076-77); *see also* (B0105); (A0142); (A0169); (A0171). While the preceding excerpt from the prosecution history seems to distinguish Sekendur's invention from Bennett et al.'s on the basis of "human eye visible coding means," Anoto has correctly argued to this court that the coding means in Bennett et al. is human eye visible. (Bennett et al., col. 9,64; col. 10, 2.) Anoto argues that Sekendur must have meant human eye "decipherable" when he used the term "human eye visible," because the coding means in Bennett et al., while visible, is so small that it would simply appear as a shade of gray. (Anoto's Reply at 16.) This may be true, but Sekendur may also have meant that the outline of his "coding means" is visible while Bennett et al.'s is not. Thus, the human eye would be able to decipher the different squares or circles he disclosed in the specification, but not necessarily bar coding present in the squares. Or, Sekendur may not have realized that Bennett et al.'s coding means is visible. This court cannot know what Sekendur meant by disclaiming his invention in this manner. At the very least, this court cannot clearly hold that Sekendur disclaimed the scope of his invention in the manner Anoto proposes. Therefore, applying the doctrine of prosecution disclaimer in this instance is inappropriate. *See* Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1324 -25 (Fed.Cir.2003) (explaining that the doctrine of prosecution disclaimer should not be applied where the "alleged disavowal of claim scope is ambiguous.").

III. ***Detector Means (and Data Input Means)***

For the following reasons, the terms "detector means" and "data input means" in the '434 patent are construed by this court to mean:

A light source and a charged-coupled device ("CCD") or other array of light-sensitive elements.

In patent '434, independent claims 1, 10 and 16 recite the terms as follows:

claim 1-"a detector means for detecting said at least one coding means"

claim 10-"a detector means comprising an array of light sensitive elements grouped together in two dimensions for detecting said at least one coding means"

claim 16-"an [sic] data input means for obtaining and outputting position-related data from said position-related coding means"

A. Means-Plus-Function Limitation

Each of these limitations are means-plus-function limitations because they use the words "means," invoking the presumption of the statutory mandates for means-plus-function clauses, and none of these claims recites sufficient structure to perform the recited function. While claim 10 recites "an array of light sensitive elements grouped together in two dimensions for detecting said at least one coding means," this structure is not sufficient to perform the function of detecting the "coding means" because it omits recitation of a light source of a frequency that reflects the "coding means." *See* Altiris, Inc. v. Symantec Corp., 318 F.3d 1363, 1376 (Fed.Cir.2003) (claim limitation that recited some, but "not sufficient structure to perform the entirety of the function" must be construed as means-plus-function limitation).

This court will construe the term "data input means" recited in claim 16 in the same manner as the term "detector means" because the claims themselves and the specification use those terms in the same manner. (434 patent, col. 3, 16-21) ("It is an object of the present invention to provide an apparatus and method for obtaining and outputting the position and/or movement of a moveable element on a data surface comprising: a writing surface formatted with a position-related coding means for indicating X-Y coordinates, *an optical data input means or detector means,* a data processing means, and a data output means.") (emphasis added).

Based upon the claim language and the specification, the function performed by the "detector means" and the "data input means" is the detecting of and outputting of the data from the "coding means." The '434 patent describes the following structure for performing this function:

The stylus or pen/pencil has a light source of a frequency for illuminating the surface. The frequency(s) of light is absorbed by the surrounding writing surface but reflected by the coding means into the stylus onto a charged-coupled device (CCD) or detector within the stylus. An output signal from the CCD or array of light sensitive elements is sent to a computer or processor for processing and finally output to the user.

('434 patent, col. 5, 5-12.; col. 6, 21-50.) Thus, the corresponding structure in the specification that performs this function consists of a light source and a charge-coupled device ("CCD") or other array of light-sensitive elements.

IV. *Array of Light-Sensitive Elements*

For the following reasons, this court will not construe the term "array of light sensitive elements" in the '434 patent to have a meaning other than its plain meaning.

Claims 2, 3, 4 and 10 of the '434 patent recite the claim limitation "array of light sensitive elements." Anoto argues that "array of light sensitive elements" should be interpreted to mean: "A charged-coupled device (CCD) or any other grouping of multiple light sensors configured to detect indicia in either one or two dimensions," (Anoto's Claim Construction at 11.) Anoto, however, has provided no reason why any limitation should be read into the term "array of light sensitive elements." The prosecution history quoted by Anoto does not support limiting the term to a CCD. The excerpt of the prosecution history primarily relied upon by Anoto states:

The Applicant believes that CCD bar code readers comprise light sensitive arrays grouped together in one

dimension or straight line. Two dimensional arrays are reserved for devices like video cameras or the like. The device described in the present invention is not exclusively a bare [sic] code reader, although it can be used for that purpose with the proper programming. The device may be described as a hand-held two dimensional CCD scanner or camera.

(A0112); (Anoto's Reply at 21.) This excerpt does not purport to define an "array of light sensitive elements" as a CCD. It cannot operate as a clear disclaimer of claim scope. *See* Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1324-25 (7th Cir.2003). Furthermore, Anoto has not made any argument that the terms require interpretation because they are unclear, but Anoto nevertheless has suggested construing the terms to mean an "arrangement of light sensitive elements." (Anoto's Reply at 21.) However, Anoto provides no reason why the term "arrangement" should be used instead of "array." This court finds no basis for departing from the ordinary meaning of the term "array of light sensitive elements."

V. *Processing Means*

For the following reasons, the term "processing means" in the '434 patent is construed by this court to mean:

A computer, processor, PC board, microcomputer or a microprocessor and structural equivalents thereof. Structural equivalents must 1) have a sampling rate significantly less than Bennett et al.; 2) require much less processing power than Bennett et al.; 3) not detect every point in the path of the stylus, but rather use techniques so that points can be intentionally skipped and processing power thereby reduced; and 4) be capable of coordinate detection without having to compensate for stylus tilt.

In patent '434, independent claims 1, 10 and 16 each recite a "processing means" as follows:

claim 1-"a processing means for receiving and processing said at least one output signal, thereby to determine the position of said detector means relative to said data surface"

claim 10-"a processing means for receiving and processing said at least one output signal from said detector means, thereby to determine the position of said detector means relative to said data surface"

claim 16-"a data processing means for obtaining and analyzing position-related data from said data input means"

A. Means-Plus-Function Limitation

Each of these claims recites the word "means" thereby triggering the presumption that they invoke the statutory mandate for means-plus-function clauses. Allen Eng'g Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 1347 (Fed.Cir.2002). Sekendur makes no attempt to rebut this conclusion, nor could he rebut this conclusion. These claims recite a function and do not attempt to describe any structure for performing that function. The function of all three claim terms shall be interpreted in the same manner despite the fact that claims 1 and 10 utilize the words "receiving" and "processing," while claim 16 utilizes the terms "obtaining" and "analyzing." The terms "receiving" and "obtaining" share the same meaning in the context of these claim limitations. Webster's II New Riverside Univ. Dictionary, 812, 981 (1984) (defining both words as to acquire). The specification supports the conclusion that the claims use the terms in the same manner. It does not use the terms "obtain" or "receive," but describes the data transfer by stating an "output signal" is "sent to a computer or processor for processing." ('434 patent, col. 5, 11; col. 6, 49-50). Thus, when the output signal is "sent to a computer," it is received/obtained by the "processing means." Furthermore, Sekendur

uses the terms "processing" and "analyzing" interchangeably in the specification. ('434 patent, col. 5, 11; col. 5, 42; col. 6, 49.).

This court must determine the function identified by the claims. Based upon the claim language and the descriptions in the specification, that function is receiving and processing at least one output signal and determining the position of the "detector means" relative to the data surface. This court now must determine the structure in the written description that corresponds to the claimed function, while remaining cognizant of the fact that "corresponding structure" must be clearly linked to the function. Northrop Grumman Corp. v. Intel Corp., 325 F.3d 1346, 1350 (Fed.Cir.2003). The '434 patent specification identifies only a computer, processor, PC board, microcomputer or a microprocessor as structure corresponding to the function of the "processing means." ('434 patent, col. 5, 9-12) ("An output signal from the CCD or array of light sensitive elements is sent to a computer or processor for processing and finally output to the user.") (Id., col. 6, 13-17) ("connected to a PC board"); (Id., col. 6, 36-38) ("interfaces the CCD and other components to the microcomputer"); (Id., col. 6, 48-50) ("Data from the CCD is sent to the micro processor for analysis").

Additionally, Anoto argues that the "processing means" of the '434 patent is limited to a specific algorithm. (Anoto's Reply at 9.) This court rejects that assertion. In WMS Gaming, Inc. v. Int'l Game Technology, 184 F.3d 1339, 1348-49 (Fed.Cir.1999), a case addressed at the trial level by this court, the Federal Circuit stated: "In a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, *programmed to carry out an algorithm,* the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm." (emphasis added). Anoto construes this rule to mean that Sekendur must disclose an algorithm. However, the excerpt quoted above clearly distinguishes between general purpose computers without a disclosed algorithm (which Sekendur has claimed in the '434 patent) and those "special purpose computer[s] programmed to perform the disclosed algorithm," and does not purport to require disclosure of an algorithm. *See also* Tehrani v. Hamilton Medical, Inc., 331 F.3d 1355, 1361-62 (Fed.Cir.2003) (remanding to the district court to determine the precise algorithm where both parties and the district court agreed that the structure referred to by a "means for processing" was "a processor running an algorithm as described in the specification.").

B. Prosecution Disclaimer

i. Limitations Adopted By this Court

(1) and (2) "Processing means" must have a sampling rate and processing power significantly less than Bennett et al.

This court agrees that Sekendur has limited the scope of his claim to a "processing means" to structure and equivalents that have a sampling rate and processing power significantly lower than that of Bennett et al. (Anoto's Reply at 9-10.) (quoting B0104-105) ("Bennett et al. requires the sampling of too many TACs (125/second) (claim 1 in Bennett et al.) requiring tremendous processing power."); *see also* (B0057; B0099; A0131; A0159) ("The [coding means of the '434 patent] is significantly larger [than Bennett et al] requiring a significantly lower sampling rate thus requiring much less processing power to process."). However, for the reasons previously explained, this court will not at this time make a determination that Bennett et al. has a sampling rate of 6,125 dots/sec. *See* supra, pp. II.B.(i)(4)

(3) "Processing means" must not detect every point in the path of the stylus

This court agrees with Anoto's argument that Sekendur has limited his "processing means" so that it employs techniques to skip points in the path of the stylus. (Anoto's Reply at 11.) In support, Anoto relies upon the following excerpt from the prosecution history of the '012 patent: "Bennett et al. relies on the technique of reading every coordinate value in the path of the optical stylus. This method is too expensive to produce with present available technology." (A0141); (A0169). Sekendur also went on to state:

Bennett et al. teaches the reading of successive points to form a line, but unlike the present invention, Bennett et al. does not teach triangulation, interpolation, extrapolation,.... Using triangulation, interpolation, or extrapolation, the present invention does not require the reading of successive points to form a line.

(Id.).FN11 Finally, Sekendur again contrasted his invention from Bennett et al.'s in patent '434's prosecution history by stating that the "use of techniques in the present invention such as triangulation, extrapolation, and interpolation ... can reduce the cost of production greatly." (B0059.) These are "explicit statements made by [Sekendur] during prosecution to distinguish a claimed invention over prior art[, which] may serve to narrow the scope of the claim." Spectrum Int'l, Inc. v. Sterlite Corp., 164 F.3d 1372, 1378 (Fed.Cir.1998) (citation omitted). Therefore, Sekendur's claims are limited according to these disavowals made during prosecution.

FN11. This is the second instance where the court relies upon statements appearing only in the prosecution history of the '012 patent.

(4) "Processing means" must be capable of coordinate detection without having to compensate for stylus tilt.

Finally, Sekendur has disavowed the use of any correction for stylus tilt. During prosecution, Sekendur repeatedly stated that "[s]tylus tilt is a serious problem [in] Bennett et al. The effects of stylus tilt in the present invention are insignificant because of the larger human visible coding means ..." (B0101); *see also* (B0059); (A0133); (A0161). Accordingly, the "processing means" limitation is construed to exclude processors that compensate for stylus tilt.

ii. Limitations Rejected By This Court

(1) "Processing means" need not exclude compensation for image distortion

This court rejects Anoto's assertion that the claim term should be limited so that coordinate determination must not require compensation for image distortion. (Anoto's Reply at 11.) The statement offered by Anoto is not clear evidence of surrender: "[T]he methods Bennett et al. teaches for compensating for image distortions are unique to the problems associated with Bennett et al. such as refraction, reflection, dust, scratches. For the most part, these problems are overcome by the present invention." (A0137; A0166.) This statement cannot be construed to disclaim all compensation for image distortion. Therefore, it does not surrender the use of compensation for image distortion. *See* Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1324-25 (7th Cir.2003) (explaining that the doctrine of prosecution disclaimer should not be applied where the "alleged disavowal of claim scope is ambiguous.").

CONCLUSION

Accordingly, the disputed claim terms: "data surface," "coding means," "detector means," "array of light

sensitive elements," and "processing means" in the '434 patent are construed as explained by this order. The dates previously set in this case stand.

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