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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

ELAN MICROELECTRONICS CORPORATION, Plaintiff and Counterclaim Defendant, v. APPLE INC., Defendant and Counterclaim Plaintiff.	Case No. C-09-01531 RS (PVT) **APPLE'S RESPONSIVE CLAIM CONSTRUCTION BRIEF** JURY TRIAL DEMANDED Hon. Richard Seeborg Tutorial: June 21, 2010 1:30 p.m. Hearing: June 23, 2010 1:30 p.m.

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES

Page(s)

CASES

TABLE OF AUTHORITIES
(continued)

Page(s)

INTRODUCTION

Elan's opening claim construction brief reveals the tenuous foundation for Elan's claim construction positions in this case. The evidence upon which Elan relies to support its proposed constructions is in many cases completely irrelevant to the parties' disputes. Where it is relevant, it actually undermines Elan's proposed constructions and instead provides direct support for Apple's proposed constructions. This result is unsurprising. While Elan's constructions appear to flow from its litigation goals, Apple's constructions are supported by the meaning of the terms as used in the claims, the context provided by the specifications and the file histories, and appropriate extrinsic evidence. For the reasons set forth in Apple's opening brief and herein, Apple's proposed constructions should be adopted.

ARGUMENT

I. U.S. PATENT NO. 5,825,352

A. "Identify a First Maxima in a Signal Corresponding to a First Finger" /"Identify a Minima Following the First Maxima"/"Identify a Second Maxima in a Signal Corresponding to the Second Finger Following said Minima" (Claims 1 and 18)

Term	Court's Construction from *Synaptics*	Apple's Construction	Elan's Construction
"identify a first maxima in a signal corresponding to a first finger"	Identify a first peak value in a finger profile obtained from scanning the touch sensor.	Identify a first peak value in a finger profile taken on an axis obtained from scanning the touch sensor.	Identify a first peak value in a finger profile obtained from scanning the touch sensor.
"identify a minima following the first maxima"	Identify the lowest value in the finger profile that occurs after the first peak value and before another peak value is identified.	Identify the lowest value in the finger profile taken on said axis that occurs after the first peak value and before another peak value is identified.	Identify the lowest value in the finger profile that occurs after the first peak value ~~[and before another peak value is identified.]~~
"identify a second maxima in a signal corresponding to the second finger following said minima"	After identifying the lowest value in the finger profile, identify a second peak value in the finger profile.	After identifying the lowest value in the finger profile taken on said axis, identify a second peak value in the finger profile taken on said axis.	~~[After identifying the lowest value in the finger profile,]~~ identify a second peak value in the finger profile following the minima.

1. Elan Is Estopped From Challenging Judge Breyer's Constructions

Elan does little in its opening claim construction brief to confront the fact that it is now both collaterally and judicially estopped from challenging the temporal requirements in Judge

Breyer's constructions (highlighted in green above). To the contrary, Elan acknowledges that Judge Breyer's constructions "would impose an order of execution of the steps" and that this "language was taken from a claim construction proposed by Elantech." D.I. 87 at 24. Elan also acknowledges, as it must, that it is now seeking to remove precisely the language from its prior construction that would impose this temporal requirement. To justify its inconsistent positions, Elan argues, at most, that "the order of the scanning steps was ***not important*** to the claim construction process or the determination of infringement." *Id.* (emphasis in original). This position is both inconsistent with the factual record from the *Synaptics* litigation and legally irrelevant—the "importance" (whatever that means) of an issue is, itself, not important to collateral or judicial estoppel. What is important is that, in *Synaptics*, the very claim constructions at issue here were proposed by Elan, were considered and adopted by Judge Breyer, and formed the basis for Elan's successful summary judgment and preliminary injunction.

a. Elan Is Collaterally Estopped From Challenging Judge Breyer's Constructions

Collateral estoppel applies where "(1) the issue necessarily decided at the previous proceeding is identical to the one which is sought to be relitigated; (2) the first proceeding ended with a final judgment on the merits; and (3) the party against whom collateral estoppel is asserted was a party or in privity with a party at the first proceeding." *Reyn's Pasta Bella, LLC v. Visa USA, Inc.*, 442 F.3d 741, 746 (9th Cir. 2006).[1]

Notwithstanding this well-defined standard, Elan's primary argument against collateral estoppel appears to be the novel theory that the first requirement for collateral estoppel is not satisfied because certain aspects of Judge Breyer's claim constructions were "not important" to the finding of infringement. *Id.* But this argument misses the mark. As an initial matter, Elan cites no case holding that the first requirement for collateral estoppel may be nullified by a party's after-the-fact subjective belief as to the "importance" of an issue that was litigated and decided.

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[1] Because Elan acknowledges in its opening claim construction brief that the plaintiff in *Synaptics*, Elantech Devices Corp., was Elan's "predecessor in interest," privity may be dispensed with summarily and it is not discussed further. D.I. 87 at 24.

Here, the issue is the construction of three terms: (1) "identify a first maxima . . .," (2) "identify a minima . . .," and (3) "identify a second maxima . . . ." There can be no dispute that, in *Synaptics*, Judge Breyer construed exactly these terms, and in doing so, adopted exactly the constructions Elan proposed. Declaration of Nathan Greenblatt In Support of Apple's Responsive Claim Construction Brief ("Greenblatt Decl.") Exh. A [Synaptics JCCS Exhibit A] at 2. Thus, the claim construction at issue now was squarely before the Court and was "necessarily decided," even assuming it were "not important" as Elan contends.

In any event, the fact that the parties in *Synaptics* zeroed-in on these terms, disputed their meaning, briefed competing constructions, held a hearing, and then asked the Court to resolve their meaning in a written opinion refutes any notion that the previous constructions were somehow "not important" to Judge Breyer's subsequent finding of infringement. Indeed, in *Synaptics*—as in every patent case—this thorough claim construction process was carried out precisely so that the issue of infringement could be resolved. *See Markman v. Westview Instruments, Inc.,* 52 F.3d 967, 976 (Fed. Cir. 1995) ("An infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed."). It is thus unsurprising that after claim construction, Elan specifically argued that "***[b]ased on the Court's claim construction***, the Enabled Type 2 Products literally infringe Claim 18." Greenblatt Decl. Exh. B [11/20/2007 Motion for Partial Summary Judgment] at 5.[2]

Ignoring this history, Elan takes the curious position that its argument in *Synaptics* somehow "anticipate[d] Elan's current position that the claim terms do not impose any sequence of steps." D.I. 87 at 24. This makes no sense. Elan's prior interpretation included, for instance, "and before another peak value is identified"—language that unambiguously imposed a temporal requirement. If it did not include a temporal requirement, there would be no need for Elan to revise its constructions now to remove that precise language. In fact, as Elan acknowledges in its opening brief, the argument in *Synaptics* that Elan now points to "was made to rebut a specific point not at issue here"—whether ***scanning*** may occur sequentially or simultaneously. *Id.* In other words, the only argument Elan made that a temporal requirement does not exist was the

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[2] Emphasis added and internal citations omitted throughout, unless otherwise noted.

very specific argument that the claim "does not require ***scanning*** in any particular order." This is both undisputed and irrelevant. Indeed, as explained in detail in Section I.A.2.a below, the parties agree that "scanning" refers to the collection of raw data from the sensors, not the subsequent analysis of that data to identify first a maxima, then a minima, and then another maxima. Elan acknowledged this very point during *Synaptics*. *See, e.g.*, Exh. E [Elan CC Brief] at 5 ("In the context of the '352 patent specification, 'scanning' refers to the process of examining the touch sensor information in general – a process that occurs before the finger- or object-induced maxima and minimum are identified.").

Accordingly, and not inconsistently with its position with respect to scanning, Elan always maintained during the *Synaptics* litigation that the max/min/max identification steps included a temporal requirement. For instance, in moving for summary judgment, Elan argued that the '352 patent first identifies a maximum, then a minimum, and then a maximum in that temporal order:

> So again, the claim language here, and this is important, the claim language says identify a first maxima, identify a minima, identify a second maxima. . . . How is it identified in the -- in the patent? You compare X(n) to X(n-l), until you find a -- excuse me, a place that is higher than its neighbors. ***You continue that comparison of the value associated with a particular trace to its neighboring trace, until you find the lowest value. You then continue on your analysis, trace by trace, until you find the trace that has the highest value.***

Exh. G [10/5/2007 SJ Hearing Tr.] at 31:4-23.[3] In other words, in *Synaptics*, Elan proposed a temporal requirement that tracked the language of the claim and mirrored the teachings of the specification. It is thus difficult to understand Elan's argument that the temporal aspects of Judge Breyer's constructions—rooted in the claim and specification and originally proposed by Elan—were "not important" in *Synaptics*. It is also difficult to believe that the temporal part of Elan's formerly-embraced claim constructions was a mere accident, as Elan now contends.

As to the second collateral estoppel requirement (finality), there can be no doubt that Judge Breyer's claim construction was final. As Judge Friendly explained in his seminal opinion in *Lummus Co. v. Commonwealth Oil Ref. Co.*, 297 F.2d 80, 89 (2d Cir. 1961), finality "turns upon such factors as the nature of the decision (*i.e.*, that it was not avowedly tentative), the

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[3] Citations to "Exh. —" are to the Declaration of Derek C. Walter In Support of Apple's Opening Claim Construction Brief (D.I. 86).

adequacy of the hearing, and the opportunity for review." *Id*; *see also TM Patents v. Int'l Business Machines Corp.*, 72 F. Supp. 2d 370, 376 (S.D.N.Y. 1999) ("[A]fter *Markman*, claim construction became a separate legal issue, for determination by the Court. The parties frequently litigate the meaning of those limitations prior to the trial . . . . The jury is not free to override the Court's construction of the disputed terms. It is hard to see how much more 'final' a determination can be"). All these considerations confirm that Judge Breyer's claim constructions are sufficiently final. As noted above, following claim construction, Judge Breyer granted Elan both summary judgment of infringement and a preliminary injunction. *See* Greenblatt Decl. Exh. C [3/13/2008 Memorandum and Order]; *id.*, Exh. D [3/19/2008 PI Order]. Such results are not the byproduct of an "avowedly tentative" claim construction. Indeed, Judge Breyer's claim construction proceedings were extensive, including proceedings pursuant to the Patent Local Rules, a tutorial, full briefing, the submission of expert witness testimony, a *Markman* hearing, and a reasoned written opinion.

Although the *Synaptics* litigation ultimately settled in the midst of appeal, as Judge Friendly explained in *Lummus*, "finality" "may mean little more than that the litigation of a particular issue has reached such a stage that a court sees no really good reason for permitting it to be litigated again." *Id.* We are clearly at such a stage. The intrinsic record, which fundamentally governs claim construction, has not changed one iota since Judge Breyer ruled in Elan's favor. The only thing that has changed since *Synaptics* is the infringement theory Elan now seeks to advance. But a new litigation theory simply does not provide a "good reason" to relitigate claim construction now. *See Smith & Nephew, Inc. v. Arthrex, Inc.* No. CV 04-29-MO, 2007 U.S. Dist. LEXIS 27499, at *8-*9 (D. Or. Apr. 12, 2007) (Exh. K) (holding that collateral estoppel barred plaintiff from altering constructions it had won in a prior case because it had "ample opportunity" to seek different constructions earlier, and because failure to "foresee the impact such a construction would have down the road" is "not a reason" to change constructions).

b. Elan Is Judicially Estopped From Challenging Judge Breyer's Constructions

Based on the foregoing, Elan is also judicially estopped from seeking different claim constructions than those that were adopted in *Synaptics*. Because "[t]he doctrine of judicial estoppel is an equitable doctrine a court may invoke to protect the integrity of the judicial process," judicial estoppel not only bars inconsistent positions taken in the same litigation, but "bar[s] litigants from making incompatible statements in two different cases." *United Nat'l Ins. Co. v. Spectrum Worldwide, Inc.*, 555 F.3d 772, 778 (9th Cir. 2009) (citing *Hamilton v. State Farm Fire & Cas. Co.*, 270 F.3d 778, 783 (9th Cir. 2001)). Whether to apply judicial estoppel is a matter largely within the Court's discretion. *See Hamilton*, 270 F.3d at 782. However, the Supreme Court has provided "a blueprint for determining whether judicial estoppel applies" based on consideration of whether (1) Elan's current position is inconsistent with its previous position, (2) the Court adopted Elan's previous position, and (3) Apple would be prejudiced if Elan were permitted to assert an inconsistent position now. *See United Nat'l Ins. Co.*, 555 F.3d at 779. For the reasons set forth above, there can be no doubt that the first two factors tilt sharply in favor of estoppel. *See supra* Part I.A.1.a. The constructions Elan proposed—and the Court adopted—in *Synaptics* include ***verbatim*** the temporal aspects that Elan now seeks to remove.

The third factor also favors judicial estoppel. Apple surely will be prejudiced if Elan is allowed to change the claim construction it asked for and has relied upon for years. Indeed, as early as May 2008, Elan relied upon the results of the *Synaptics* litigation as the basis for a groundless threat letter to Apple. *See* Greenblatt Decl. Exh. E [5/21/2008 letter from S. DeBruine to J. Whitt]. After initiating this litigation, Elan invoked Judge Breyer's rulings again, citing to his claim construction order as support for its proposed constructions here. *See* D.I. 60, Exh. A. It was not until April 8, 2010—the night before the deposition of Elan's claim construction expert—that Elan finally stated its intention to disown key portions of Judge Breyer's claim constructions. *See* Exh. I [4/8/2010 email from S. DeBruine to S. Mehta]. Thus, for years Elan let on that it would rely upon Judge Breyer's decision to give Elan exactly the constructions it asked for. To permit Elan to shift now would be inequitable and inconsistent with the orderly administration of justice, and Elan should be judicially estopped from doing so.

2. The Claims Include Both Temporal And Spatial Requirements

Even beyond the double-bar to Elan's attempt to change its construction at this stage, the claims themselves, as well as the rest of the intrinsic record, require both spatial and temporal ordering. As Apple noted in its opening brief, the temporal and spatial aspects of Judge Breyer's claim construction go hand-in-hand, stemming from clear claim language, a corresponding disclosure in the specification of an algorithm that proceeds in serial fashion along a "finger profile," and unwavering instruction in the specification that the "finger profile" is one-dimensional and taken along an axis.

a. The Claims Include Temporal Requirements

Elan contends that the test set forth in *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1342-43 (Fed. Cir. 2001), confirms that the claims of the '352 patent impose no order in which "a first maximum," "a minima following the first maxima," and "a second maxima . . . following said minima" are identified. Quite the contrary. Under the *Interactive Gift* test, courts must first look to the "logic or grammar" of the claims to determine whether they impose an order on the recited steps. *See Taltech Ltd. v. Esquel Apparel, Inc.*, 279 Fed. Appx. 974, 978 (Fed. Cir. 2008). If there is nothing in the "logic or grammar" of the claims compelling that the steps be performed in order, the claims may still require a specific sequence if the specification "directly or implicitly" requires such a construction. *Id*. Here, both prongs of the *Interactive Gift* test confirm the temporal requirement of the claims.

As a matter of logic and grammar, steps (b) and (c) of claim 1 refer to the completed results of the prior step. One simply cannot determine whether "a minima ***follow[s] the first maxima***" before "the first maxima" has been identified. Indeed, by using the demonstrative adjective "the" in the phrase "a minima following ***the*** first maxima," step (b) refers directly to "the first maxima" identified earlier by step (a). Similarly, by using the demonstrative adjective "said" in the phrase "a second maxima . . . following ***said*** minima," step (c) refers directly to the minima identified earlier by step (b). The Federal Circuit has held that when a claim refers to the completed results of a prior step, those steps must be performed in order. *See E-Pass Technologies, Inc. v. 3Com Corp*, 473 F.3d 1213, 1222 (Fed. Cir. 2007) ("Substantively, because the language of most of the steps of its method claim refer to the completed results of the prior step, E-Pass must show that all of those steps were performed in order. E.g., '311 patent, claim 1 (‘transferring a data set . . .; storing said transferred data set’)”); *Mantech Envtl. v. Hudson Envtl. Servs.*, 152 F.3d 1368, 1376 (Fed. Cir. 1998) (holding that “the sequential nature of the claim steps is apparent from the plain meaning of the claim language” because “Step (c) introduces an aqueous solution of ferrous ion into said groundwater region for mixing with ‘*said acidified groundwater*’”) (emphasis in original). This rule has been applied numerous times by district courts as well. *See Versata Software, Inc. v. SAP America, Inc.*, 2009 WL 1408520, at *12 (E.D. Tex. May 19, 2009) (Greenblatt Decl. Exh. F) (“As indicated by the above-highlighted language, both logic and grammar suggest an order. As argued by SAP, the output of the prior limitation becomes the input of the subsequent limitation.”); *Spreadsheet Automation Corp. v. Microsoft Corp.*, 2006 WL 6143063, at *17 (E.D. Tex. Nov. 9, 2006) (Greenblatt Decl. Exh. G) (“Because Claim 1 would fail for indefiniteness if ‘the pattern and variable data’ in Step 3 were to be placed before the antecedent bases in Step 1 and Step 2, such a construction is disfavored.”).

Citing *3M Innovative Props. Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1374-75 (Fed. Cir. 2003), Elan argues only that the isolated words “first,” “second,” and “following” do not, on their own, impose a temporal requirement. *See* D.I. 87 at 23. But *3M* provides no support for Elan’s position at all. In *3M*, there was an explicit “clear definition” in the specification confirming that an apparatus claim was “devoid of sequential limitation.” A broadening amendment in the prosecution history provided further confirmation of this. *See 3M*, 350 F.3d at 1372. Neither of these facts is present here. The relevant facts of *3M*, which Elan ignores, actually support Apple’s position. Notably, also at issue in *3M* was a method claim, which, like the claims at issue here, included steps that logically built upon one another. In particular, the method claim in *3M* included a “first embossing step” and a “second embossing step” in which depressions from the first embossment were preserved “during” the second embossment. *Id.* Despite the teachings of the specification and file history noted above, the Federal Circuit held that a temporal limitation was “clearly present” in the method claim. *Id.* Thus, if anything, *3M* supports the conclusion that the claims of the ’352 patent—which include a flow of steps that logically build upon one another and grammatically follow one another through antecedent basis—include a temporal requirement.

Because the logic and grammar of the claims alone compel their temporal nature, there is little need to consider the extent to which the specification "directly or implicitly" requires a temporal limitation. *See, e.g., Versata*, 2009 WL 1408520, at *12 (Greenblatt Decl. Exh. F) ("Because the court finds that logic and grammar impose an order, the court need not consider the second step of the analysis."). Nevertheless, the specification is unequivocal. As Apple explained in its opening brief, the method disclosed in the specification of the '352 patent requires traversal of the finger profile to identify a maximum, followed by a minimum, and further followed by a second maximum. *See* D.I. 85 at 14. Indeed, with regard to every step of the method, the patent's disclosure is rich in language confirming its temporal nature. For instance, as a prelude to the process of finding the first peak, the specification explains that a variable is "***initially***" assigned a particular value to indicate that the algorithm is in the process of finding the first peak. Exh. C ['352 patent] at 9:41. When the first peak is found, the specification explains that "**[*a*]*t this point***, the peak has been found," but "the valley ***not yet*** been found." *Id.* at 9:53, 9:67. "***Eventually***," the specification explains, the finger profile will trend upward again such that the valley has been detected." *Id.* at 10:2-4. Yet "**[*a*]*s long as***" the finger profile continues its upward trend, the second peak has not yet been identified. *Id.* at 10:15-16. Finally, the finger profile "will ***eventually start*** to decrease," at which point the second peak has been found. *Id.* at 10:19-20. Not only did Elan take advantage of this temporal description in *Synaptics*, *see supra* Part I.A.1.a, but Elan's expert has confirmed in this litigation that the specification discloses no other method of identifying extrema other than the identification of a first maxima, followed by a minima, followed a second maxima in that temporal order. *See* Exh. D [Dezmelyk Tr.] at 148:25-149:12.

In contrast, the intrinsic evidence on which Elan relies to read out the temporal requirement from the claims is simply irrelevant. Elan notes that the specification explains that the "sensors may be scanned sequentially or concurrently, depending on the hardware implementation." Exh. C ['352 patent] at 7:36-37. Apparently, Elan contends that this means the extrema in the finger profile can be identified simultaneously or in any order.

However, the "scanning" Elan points to refers to the collection of raw data from the sensors, not the ***analysis*** of that data to find extrema in the finger profile and to determine if two fingers are present. This is reflected, first, in the specification, which distinguishes between scanning the sensors and executing the algorithms that identify the maxima and minima (which are called "Xcompute" and "Ycompute"). *See, e.g.*, *id.* at 7:34-48 ("Referring still to Fig. 5, the cyclical process begins at step 400 . . . by scanning the conductor sensors. . . .The cycle process continues by performing the Xcompute loop . . . ."); *id.* at Fig. 5 (depicting the process of "SCAN CONDUCTORS: STORE IN RAM" as separate and coming before "Xcompute" and "Ycompute"); *id.* at Fig. 8-1 (same). This is further reflected in the parties' agreed construction for "scanning the touch sensor," which makes no mention of analysis and requires only "measuring the values generated by a touch sensor to detect operative coupling and determining the corresponding positions at which measurements are made." D.I. 84 [JCCS] at Exh. A, p. 1. Finally, this is reflected in Elan's positions not only in this litigation but in *Synaptics*. Indeed, in this action, Elan has argued that "[t]he method claimed in the '352 patent works by scanning the sensors of the touchpad and measuring the capacitance at each sensor. The device's controller or software on the computer ***then*** analyzes the measurements to determine local 'maximas' or peaks indicating each finger . . . ." D.I. 87 at 4. In *Synaptics*, Elan argued even more unequivocally that "[i]n the context of the '352 patent specification, 'scanning' refers to the process of examining the touch sensor information in general – a process that occurs before the finger- or object-induced maxima and minimum are identified." Exh. E [Elan CC Brief] at 5; *see also* Exh. F [Reply CC Brief] at 11 ("[T]he ***'352 specification makes it clear that the touch sensor may be concurrently scanned*** and the finger-induced capacitance values can then be loaded into a memory. ***Then, the maxima and minima can be identified.***") Given this, Elan's attempt to now mix "scanning" and "identifying" for the purpose of disowning the temporal construction that it had embraced for years should be rejected.

The only other piece of evidence Elan points to in support of its construction is the statement in the specification that "the X and Y compute processes may be performed sequentially in either order or concurrently." Elan contends "in either order or concurrently" in this passage means that the max/min/max identification steps in the claims can be performed "concurrently." Elan is wrong. Briefly, "the X and Y compute processes" each determine first a maxima, then a minima, and then a second maxima. *See* Exh. C ['352 patent] at 11:7-10. The X compute process does so in the X direction, while the Y compute process does so independently in the Y direction. *See id.* at 9:18-10:30. Elan neglects to mention that the statement it relies upon (1) is preceded by a separate, detailed discussion of the "Xcompute" process, and (2) begins with the explanation that "[t]he Ycompute loop is performed similarly, as noted above." *Id.* at 11:6-7. When read properly in this context, it is clear that this passage merely confirms that there are two independent processes—one proceeding in the X direction and one proceeding in the Y direction—and that one process may be carried out before, after, or at the same time as the other. This passage has nothing whatsoever to do with the patent's disclosure that X compute and Y compute each, taken on their own, detect extrema in a temporal sequence.

b. The Claims Include Spatial Requirements

In its opening brief, Elan contends that the requirement that the "finger profile" be taken on an axis is merely an "'exemplary' embodiment." D.I. 87 at 21. Elan otherwise declines altogether to clarify the meaning of "finger profile," most likely so that it can manipulate the term later to support an infringement position. However, the intrinsic evidence is clear that a "finger profile" is one-dimensional and taken on axis, as reflected in Apple's construction. None of the evidence relied upon by Elan suggests otherwise.

For instance, Elan relies on the following passage from the specification as a "very clear statement" that the invention "could not possibly" require analysis "along an axis":

> While the foregoing example describes identification of minima and maxima in the ***X and Y directions***, it will be apparent that an analysis along ***a diagonal or some other angular direction*** may be preferred in some instances, and is still within the scope of the present invention.

D.I. 87 at 22 (citing '352 patent at 11:11-15). To the contrary, this passage is a clear effort by the patentee to explain that "the scope of the present invention" is limited to analysis along an axis. To this end, the passage explains that, while the invention was disclosed using the X and Y axes, other embodiments "within the scope of the invention" include "analysis along a diagonal or some other angular direction." The "analysis" is ***always*** in a linear direction, or, more simply, on an axis.[4] Contrary to Elan's argument, even while it tries to describe the breadth of the patent, this passage includes no hint that the "analysis" can take place along a curve, over a two-dimensional plane, or some other surface. As Apple noted in its opening brief, this is compelling evidence that the claims are limited to the analysis of finger profiles taken "along an axis," as Apple has proposed.

Elan also argues that a finger profile need not be on an axis because the specification explains that "sensors may be scanned sequentially or concurrently, depending on the hardware implementation." D.I. 87 at 22 (citing '352 patent at 7:36-37). According to Elan, this citation confirms that "a matrix of sensors could be configured and scanned in various ways depending on the application, so long as the electrical values can be measured and maxima and minima identified." *Id.* But this is beside the point—as explained above, "scanning" is separate and distinct from the identification of extrema. *See supra* Part I.A.2.a. Thus, the passage upon which Elan relies simply sheds no light on the issue of whether a "finger profile" is one dimensional and whether, as a result, the "identifying" steps must take place along an axis.

Ultimately, as Apple explained at length in its opening brief, when the specification is considered as a whole, there can be no doubt that a "finger profile" is taken on an axis. *See* D.I. 85 at 12-14. Indeed, every embodiment disclosed in the specification includes finger profiles taken on either the X or Y axis, and, as explained above, the specification confirms that the only other embodiments contemplated are those in which the finger profile is taken "along a diagonal or some other angular direction." *See* Exh. C ['352 patent] at 11:11-15, Figs. 7B-7F-2; *see also* Exh. D [Dezmelyk Tr.] at 140:23-141:3 (Elan's expert agrees that "the example profiles that are shown in the drawings are on the X and Y axis"). In fact, the core method disclosed for identifying extrema in the finger profile is a straightforward traversal of a one-dimensional array of values taken along either the X or Y axis in which you "walk" up the profile until the values stop increasing such that a maxima is identified, walk down until the values stop decreasing such that a minima is identified, and then walk upward again to another maxima. *See* Exh. C ['352

[4] Moreover, because the act of "***analysis***" takes place "along" a "direction," this passage confirms that the extrema in the finger profile will be identified sequentially (first a peak, then a valley, then another peak), as reflected in both Judge Breyer's and Apple's constructions.

patent] at 9:24-10:30. Nothing more complex than is suggested, nor is there any hint as to how the claimed method may be applied in a more general way, *e.g.*, to a two-dimensional data set.

Notably, when asked at deposition whether a two-dimensional data set was a profile, Elan's expert was unequivocal that it was not: "[t]hat has a two-dimensional diagram showing capacitance against a plane. ***That's not a profile.***" Exh. D [Dezmelyk Tr.] at 141:16-23; *see also id.* ("No, that's a prospective [sic] view of a kind of two-dimensional set of data. ***It's not a profile***."). At the same time, Elan's expert confirmed what a profile is. Specifically, and in total harmony with Apple's construction, Elan's expert explained that it is a "slice" taken in "one direction":

> Q. And are there any profiles that are shown in the '352 patent that are shown in a sort of two-dimensional XY matrix of the type that we saw in Exhibit 5 to your deposition, which has figure 3 in it from your report?
>
> A. Well, a profile is – a profile is a profile. I think I've said that before. ***A profile is a – in essence, a view of data from one – like a slice almost through it or from one direction.***

Exh. D [Dezmelyk Tr.] at 141:4-12. Although it is perhaps striking that Elan's own expert takes a view completely contrary to Elan's proposed construction, it is a view that is nonetheless compelled by the intrinsic evidence.

B. "Identify" (Claims 1 and 18)

Term	Apple's Construction	Elan's Construction
"identify"	Recognize a value to be.	Plain meaning.

To support its position that the claim limitation "identify" be given only "plain meaning," Elan contends that "common words need no construction." D.I. 87 at 25. According to Elan, the applicable legal standard is that "[l]anguage that is clear on its face needs no construction, because no further understanding or explanation is needed." *Id.* Yet, it is beyond reasonable dispute that even simple, everyday words "often have different meanings to different people and in different contexts . . . ." *Ferguson Beauregard/Logic Controls v. Mega Systems, LLC*, 350 F.3d 1327, 1338 (Fed. Cir. 2003). Indeed, Elan tacitly acknowledges that there are potentially disputed shades of meaning within the term "identify." To wit, Elan contends that Apple's proposed construction should be rejected because it can be contorted to require that data be "written into memory." *See* D.I. 87 at 25-26. Notwithstanding the fact that Apple's proposed construction simply cannot be understood to impose this detail, it is precisely because "plain" words have a spectrum of meanings that the Federal Circuit has held that "[a] determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute." *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008) (reversing district court that declined to construe the term "only if"). "When the parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve it." *Id.* at 1362. The term "identify" presents such a fundamental dispute.

Specifically, in Apple's view, a dispute will arise as to whether, in the context of the '352 patent, the term "identify" truly requires *recognition* that a value is a maximum or a minimum, as Apple contends, or if it may be understood so broadly as to only require *seeing* the maximum or minimum value, as Elan's infringement contentions suggest. An analogy is instructive: If one must "identify" an old friend across a crowded room, is it enough that they merely see the person or must they actually recognize the person as that old friend?

As Apple explained in its opening brief, in the context of the '352 patent, "recognition" is required. The process of identifying the extrema in the '352 patent is an analytical process, in which the values stored at neighboring traces are sequentially compared to determine if the "finger profile" is proceeding uphill to a peak or downhill to a valley. Thus, the specification discloses that when it has been determined that the values in the "finger profile" stop increasing, "the peak has been ***found***." Exh. C ['352 patent] at 9:51-60. A variable ("XPeak1") is then set to the value of the maximum, and another status variable ("Xstate") is set to indicate that the analysis is currently within a "valley" of the profile. *Id.* Similarly, the specification discloses that "the valley is ***detected***" when it is determined that the values of the finger profile are no longer decreasing such that the profile is at a minimum. A variable ("XValley") is set to the value of the minimum, and the status variable ("Xstate") is set to indicate that the analysis is proceeding uphill to the second peak. *Id.* at 10:1-8. Disclosing the analysis of sequential trace values until a peak is "found" and a valley is "detected," it is clear that in the context of the '352 patent, extrema are truly recognized as such.[5]

Indeed, merely "seeing" a maxima or minima without recognizing it as such would be inherent in any prior art touchpad, a point that was emphasized during prosecution of the '352 patent. Specifically, during prosecution, the examiner rejected the claims as anticipated by the Miller reference, which merely "save[d] information for every node in its sensor matrix" such that if two fingers were to touch the apparatus "the corresponding profile plots would illustrate exactly" what is claimed in the '352 patent. Greenblatt Decl. Exh. H [12/5/97 Rejection] at 352 CFH 0478. In response, the patentee argued that Miller did not "suggest analyzing profile information" so that the "detection of two maxima" could be used to determine if two fingers were present. Exh. O [4/8/1998 Amendment and Response] at 352 CFH 0535-36. In other words, according to the patentee, it was not enough that a touchpad merely generated and stored information corresponding to the extrema described in the claims, it had to further analyze that information to truly recognize the extrema. The claims should be understood accordingly.

C. "In Response To" (Claims 1 and 18)

Term	Apple's Construction	Elan's Construction
"in response to"	After and in reaction to.	Plain meaning.

Elan's opening brief devotes only a paragraph to the "in response to" claim limitation, lumping the limitation in with "identify" to argue that the terms need no construction. D.I. 87 at 25. Setting aside the legal and analytical problems with Elan's "plain meaning" approach described above, Elan's position also suffers from serious substantive defects. Although it purports to criticize Apple and Apple's expert witness for interpreting the phrase to exclude intervening steps or events, Elan completely ignores the extensive support that Apple and Dr.

[5] The parties have agreed that the claim term "scanning the touch sensor" means "measuring the values generated by a touch sensor to detect operative coupling and determining the corresponding positions at which measurements are made." D.I. 84, Exh. A at 1. This "scanning" process—including the mere measurement of values and a determination of where the measurements were made—is the electronic equivalent of "seeing." Thus, the parties' agreed construction confirms that the process of "identify[ing]" extrema entails more than just seeing values associated with peaks and valleys—it requires recognizing those values as maxima and minima.

Von Herzen have identified for that limitation. *Id.* That support is described in detail in Apple's opening brief and need not be repeated here. Suffice it to say, Elan has offered no explanation for how its claims should be expanded to include intervening steps and events when (1) the claim language clearly requires that the indication of two fingers is "in response to" the identification of two maxima; (2) the specification confirms that it is the identification of two maxima indicative of fingers in contact with that touchpad that determines the finger count; and (3) the file history shows decisively that patentees expressly distinguished their claimed inventions over the prior art on the ground that the identification of maxima ***determines*** the presence of fingers on the touchpad. *See* D.I. 85 at 16-18. That Elan has elected to give short shrift to this evidence and instead tout a "plain meaning" speaks volumes as to the merits of the debate.

D. "Means For Selecting An Appropriate Control Function" (Claim 19)

Term	Apple's Construction	Elan's Construction
"means for selecting an appropriate control function based on a combination of a number of fingers detected, an amount of time said fingers are detected, and any movement of said fingers "	The recited function is selecting an appropriate control function based on a combination of a number of fingers detected, an amount of time said fingers are detected, and any movement of said fingers. Because the ***specification does not disclose a corresponding structure,*** this limitation is indefinite.	The recited function is selecting an appropriate control function based on a combination of a number of fingers detected, an amount of time said fingers are detected, and any movement of said fingers. The ***corresponding structure*** is Analog multiplexor: 45 Capacitance measuring circuit 70: A to D convertor 80, Microcontroller 60 and/or software, firmware, or hardware performing the claimed function.

In its opening brief, Elan fails to address the fact that its proposed corresponding structure is legally inadequate under binding Federal Circuit precedent and simply cannot be adopted. Indeed, the Federal Circuit has instructed that "[a] computer-implemented means-plus-function term is limited to the corresponding structure disclosed in the specification and equivalents thereof, and the corresponding structure is the algorithm." *Aristocrat Techs., Australia v. Int'l. Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). Elan's construction, however, includes no such algorithm, either explicitly or implicitly. Instead, it refers at most to "software, firmware, or hardware performing the claimed function." Elan's proposed corresponding structure is insufficient as a matter of law. *See Finisar Corp. v. DirecTV Group, Inc.*, 523 F. 3d 1323, 1340-41 (Fed. Cir. 2008) ("Simply reciting 'software' without providing some detail about the means to accomplish the function is not enough.”).

In an apparent effort to beef up its proposed structure and evade this precedent, Elan points to additional hardware, including an assortment of generic electronic components and a “microcontroller.” But these generic components do nothing to cure the deficiencies in Elan’s proposed construction because they shed no light on the algorithm required to perform the claimed functions. *See, e.g.*, *Network-1 Security Solutions, Inc. v. Cisco Systems, Inc.*, No. 6:08CV30, 2010 U.S. Dist. LEXIS 12938, at *32-*35 (E.D. Tex. Feb. 16, 2010) (Greenblatt Decl. Exh. I) (rejecting the argument that “no algorithm is required because an algorithm is necessary only when a computer is the sole corresponding structure” because “whether the computer stands alone or is combined with additional structures, the structure of the computer itself nevertheless includes its programming”).

Stuck with this legally-inadequate corresponding structure, Elan uses its opening brief to belatedly suggest additional possibilities for corresponding structure. Specifically, Elan points to (1) five “examples” of control functions listed in Figures 7A-F and accompanying text, and (2) an irrelevant “exemplary” algorithm described in Figure 8. *See* D.I. 87 at 26-28. However, none of this—taken individually or as a whole—discloses an algorithm for “selecting a control function based on a number of fingers detected, an amount of time said fingers are detected, and any movement of said fingers” as required by the claim. That is, none of this discloses necessary logic for taking the inputs (the number of fingers detected, the amount of time said fingers are detected, and any movement of the fingers) and producing as an output an appropriate control function (for example, click, double-click, or drag functions). It is this translation from input to output that is the claimed function and, yet, the patent provides no algorithm for performing it.

For instance, of the infinite number of ways of moving fingers across a touchpad, Figs. 7A-F depict a few of them in frame-by-frame cartoon format. These figures, however, say nothing about ***the algorithm*** for selecting a control function (*i.e.*, click, double-click, select, etc.) based on these—or any other—movements. The text in the specification accompanying these figures is similarly lacking in such details, providing at the most a black box of exemplary control functions that result from this undefined process. In fact, the patent repeatedly emphasizes that it provides nothing more than examples of possible outcomes of the claimed function. For instance, the patent explains that the illustrations in Figs. 7A-F "can be programmed to define any number of cursor movement and control functions . . . ." Exh. C ['352 patent] at 13:1-4. Explaining merely that the touchpad "can be programmed" so that the illustrations define "any number" of functions, this passage alludes only to the possibility of an algorithm, not an actual algorithm. And, although it goes on to disclose one such "exemplary definition," the patent nonetheless fails to disclose any details as to ***how*** the control function is actually selected. *Id.* at 13:3. To the contrary, the patent reinforces the notion that it provides mere examples of the result of selecting control functions: "Again, such sequences—all of which may be regarded as gestures—can be mapped to control functions in numerous ways, but one reasonable definition is . . . ." *Id.* at 13:16-20. None of this offers any guidance as to ***how*** an "appropriate control function" is actually selected—it merely provides illustrations of possible outcomes of some undisclosed algorithm for doing so. This is simply not enough. *See Aristocrat*, 521 F.3d at 1335 ("The figures, tables, and related discussion, however, are not algorithms. They are simply examples of the results of the operation of an unspecified algorithm."); *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1384 (Fed. Cir. 2009) ("[T]he language 'describes an outcome, not a means for achieving that outcome.'").

Elan's reliance on Figure 8 is also misplaced, but for the opposite reason. While Figs. 7A-F and its accompanying text disclose the results of the undisclosed algorithm, Figure 8 discloses nothing but a method for determining the inputs to the undisclosed algorithm. Indeed, although the specification vaguely states that Figure 8 discloses "the generalized case associated with FIGS. 7F1-2," a careful review of Figure 8 reveals that it describes nothing more than a method for keeping track of finger position and an algorithm for determining "whether zero, one or two fingers are in contact with the touchpad." *See* Exh. C ['352 patent] at 13:61-64, 14:4-15:31, Fig. 8. In other words, it determines, at the very most, "a number of fingers detected, an amount of time said fingers are detected, and any movement of said fingers"—precisely the things that claim 19 recites as the input to the claimed function.

At bottom, while the '352 specification describes the function recited in the claim, including the inputs and the outputs recited, it is devoid of any explanation as to ***how*** the inputs of Fig. 8 are connected to the outputs of Fig. 7. In other words, the ’352 specification is devoid of an algorithm for “selecting an appropriate control function.” As in *Aristocrat*, the issue here “is not whether the algorithm that was disclosed was described with sufficient specificity, but whether an algorithm was disclosed at all.” *Aristocrat*, 521 F.3d at 1337. As such, Elan’s reliance on *AllVoice Computing PLC v. Nuance Commc’ns., Inc.*, 504 F.3d 1236, 1245 (Fed. Cir. 2007), and its corresponding argument that one of skill in the art could supply implementation details fails. *See* D.I. 87 at 28-29. Indeed, no matter how simple the claimed function is, and regardless of whether those of skill in the art could implement the claimed function in numerous ways, the entire algorithm cannot, as Elan contends, simply be supplied by the knowledge of one skilled in the art. *See Encyclopedia Britannica, Inc. v. Alpine Electronics, Inc.*, 355 Fed. Appx. 389, 395 (Fed. Cir. 2009) (rejecting argument based on *AllVoice* because “it is well settled that the specification must disclose the algorithm that transformed the general purpose microprocessor to a special purpose computer programmed to perform the disclosed algorithm, regardless of its simplicity.”). To the contrary, it is precisely because one of skill in the art could, in fact, implement a simple function in numerous distinct ways that a disclosure of a particular algorithm is imperative. *See Aristocrat*, 521 F.3d at 1333; *BlackBoard*, 574 F.3d at 1385. Absent such a disclosure, patentees could claim in a purely functional manner, which is precisely what Section 112, paragraph 6 is intended to prevent. *See BlackBoard*, 574 F.3d at 1385. There is no reason to allow Elan to skirt this principle here.

II. U.S. PATENT NO. 7,274,353

A. “A First Pattern On Said Panel For Representing A Mode Switch To Switch Said Touchpad Between A Key Mode And A Handwriting Mode” (Claims 1, 4, 7, and 10)

Term	Apple’s Construction	Elan’s Construction
“a first pattern on said panel for representing a mode switch to switch said touchpad between a key mode and a handwriting mode”	A single graphic printed on said panel representing a mode switch that switches from key to handwriting mode and from handwriting to key mode.	Information on the panel visible to the user, indicating where the user can touch to change modes.

The fundamental dispute between the parties is whether the “first pattern” is printed on the touchpad (Apple's position) or whether it may be "backlit or displayed in some other manner" (Elan's position). D.I. 87 at 18. In its opening brief, Elan contends that Apple seeks to erroneously import a "single embodiment disclosed in the specification" into the claims. *Id.* at 17. Yet Elan identifies no evidence that the patent contemplates embodiments having anything other than printed graphics. Indeed, with respect to the embodiment depicted in Figure 1 of the patent—which is discussed almost exclusively throughout the specification—Elan's top argument is that "one cannot tell" if it includes printed graphics or not. *Id.* at 18.

Setting aside the peculiarity of Elan's position that its own patent was not clearly written, the reality is that the '353 patent claims and specification speak quite clearly. The claims require that the patterns be "on" the touchpad, not that they be "displayed on" the touchpad. Consistent with this, the claims specifically require "second patterns" that are all on the same "plurality of regions," but are nonetheless "for operation" in two distinct input modes. *See* Exh. R. ['353 patent] at 4:1-2. There is nothing in the claims that even hints at the possibility of a dynamic display. As to the specification, the Summary of the Invention explains that the "present invention" and the "present touchpad" is a touchpad with "plenty of patterns ***printed thereon***." Exh. R ['353 patent] at 2:6-12. The Summary of the Invention goes on to refer to "the key patterns among the ***printed patterns*** [that] simulate a keyboard." *Id.* at 2:12-13. Likewise, the Abstract explains that "[s]everal regions are defined on the panel of the touchpad and have several patterns ***printed thereon*** for the operation modes thereby." *Id.* at Abstract. And, as Elan acknowledges, in connection with the preferred embodiment, the specification even suggests the most appropriate place for printing the patterns, explaining that "usually" the "patterns to represent any number or function keys are ***printed on*** the insulator plate on the top of the panel." *Id*. at 3:39-43. Elan fails to address all but the final of these unambiguous passages, and attempts to dismiss even that one as an outlier.

Instead Elan notes that "[w]hile the mode switch in Figure 1 seems to display the same graphic in all three modes, the specification repeatedly describes the same areas of the touchpad serving different roles in the different modes." D.I. 87 at 18. What Elan fails to note is that this is precisely why each area of the touchpad includes multiple patterns "***printed thereon***." As set forth in Apple's opening brief, the bottom portion of this figure discloses the fixed appearance of the touchpad at all times. *See, e.g.*, *id.* at 2:41-42 ("A touchpad 10 . . . ."). This single representation of the touchpad includes patterns for different modes that are present in the same region of the touchpad. For example the mode switch 14 is the same in all three modes because the mode switch is printed in one place and does the same thing in all three modes (*i.e.*, switches modes). Likewise, the top right square of virtual key region 18 is printed with both "Dial" and "Input" because, as shown in the functional depictions or "arrangements" that make up the top of Figure 1, that square performs the "Dial" function in key mode and the "Input" function in handwriting mode. *See id.* at 2:65-67, 3:4-19. This depiction of the simultaneous presence of patterns for different functions in different modes in the same region of the touchpad is, in fact, another expression of the consistent disclosure in the specification of a touchpad with static patterns "***printed thereon***."

In another attempt to support its proposed construction, Elan asserts that "[t]his innovation would not be realized if all the information displayed on the entire panel were 'static' as Apple urges." D.I. 87 at 19. According to Elan, "one of the innovations in the patent is that the same input area can be used for different kinds of input in different modes . . . ." *Id.*; *see also id.* ("[t]he purpose of the plurality of second patterns is to convey information to the user about where to touch the touchpad to enter data in the various modes"). Based purely on unsupported and unexplained attorney argument, Elan asserts that this goal is incompatible with a touchpad with printed patterns. This is simply false. The specification clearly explains that "[i]n the key mode, the key patterns ***among the printed patterns*** simulate a keyboard," while "[i]n the handwriting mode, the handwriting region among the defined regions serves to handwriting input." Exh. R ['353 patent] at Abstract, 2:12-17. The plain import of this description is that the keyboard region—with a static, fixed, non-removable keyboard permanently "printed thereon"—can nonetheless be used for handwriting input in handwriting mode. The device simply interprets the input in a region differently depending on the mode. This is exactly what Figure 1 shows, and even Elan's own expert concedes that this is a reasonable interpretation of Figure 1 in the context of the claimed invention. *See* Fig. 1 (showing "virtual key region" 16 for handwriting input in handwriting mode 26 and key entry in keyboard arrangement 24); *see also* Exh. D [Dezmelyk Tr.] at 234:3-11.

To further support its position that printed patterns are inconsistent with multiple modes, Elan compares the '353 patent to multiple printed patterns on the keys of a keyboard. According to Elan, "one of the innovations in the patent is that ***the same*** input area can be used for different kinds of input in different modes (much the way that on a keyboard, the same key can be used to enter '5' in lower case mode and to enter '%' in upper case mode by first invoking the 'shift' key)." D.I. 87 at 19 (emphasis in original). Not only does Elan's acknowledgement that traditional keyboard keys operate in "much the way" as "one of the innovations in the patent" confirm the serious validity questions Apple has raised with respect to this patent, but it actually supports ***Apple's*** proposed construction ***not Elan's***. On a traditional keyboard, for example, the "5" key has both a "5" and "%" symbol ***printed on it***, confirming that the same area can be used for different input functions in different modes even where there are static printed patterns on the area. Thus, Elan's own example confirms that Elan's argument that the innovation of the patent "would not be realized if all the information displayed on the entire panel were 'static'" is wrong.

Elan's argument that Apple's proposed construction would read out embodiments contemplated in the '353 patent specification is equally flawed. Elan correctly notes that the specification describes using the invention in connection with such applications as a mobile phone, computer keyboard, PDA, etc. *Id.* According to Elan, because those devices ***can*** use touchscreens with dynamically displayed graphics, the '353 patent ***must*** cover dynamically displayed graphics too. *Id.* Of course, just because cellphones and PDAs can include dynamic displays does not mean they must. In fact, there is no reason why the printed patterns of Elan's claimed scheme could not be used with a PDA or cell phone, as was, in fact, common in the prior art. *See, e.g.,* Greenblatt Decl. Exh. J [U.S. Patent App. 08/923,677] (prior art cell phone with printed patterns on the touchpad).

Perhaps recognizing how short the above support falls, Elan argues that the patent states "in no uncertain terms" that "variations or modifications are possible within the scope of the present invention." D.I. 87 at 20. Apple does not dispute that variations are possible. What is critical, however, is that those variations must be "***within the scope of the present invention***," which the patent explicitly defines as a touchpad "with plenty of patterns printed thereon." Exh. R ['353 patent] at 2:6-17. Thus, variations might include, for example, printing the patterns on the bottom of a transparent insulator plate. *See id.* at 2:30-38; *see also* Exh. D [Dezmelyk Tr.] at 224:9-16 (Elan's expert explains that those of ordinary skill in the art knew that "you can print on just about anything you want" on a touchpad, including a "printed circuit card," "a membrane," or "a window or other transparent material"). Likewise, Apple agrees that a variation may include backlighting a transparent top panel with patterns printed either above or below it to help better display the patterns.

None of this, however, provides any support for Elan's further leap that the scope of the invention covers a panel with a display screen that dynamically displays information. Not only does the patent nowhere discuss a "display screen wherein the information 'on the panel' is a function of what data is displayed on the screen" as Elan misstates, D.I. 87 at 20, but Elan ignores that the patent expressly discloses a frontlight for the panel, a variation that is most consistent with a display that has static printed patterns. *See* Exh. R ['353 patent] at 3:36-39, Fig. 4. Elan goes so far as to rely on generic boilerplate in the patent stating, for example, that "it is evident that many alternative, modifications and variations will be apparent to those skilled in the art." *See* D.I. 87 at 18 (citing'353 patent at 3:52-58); *id.* at 20 (citing '353 patent at 3:39-43). Such catchall language does nothing to refute the clear disclosure of the claims and specification as to what fundamental features may be modified or varied—in this case, that the patterns are printed on the claimed panel. Elan's suggestion that the invention encompasses variations beyond this ignores the claim language and the overwhelming disclosure of the specification, and should be rejected.

B. "A Plurality Of Second Patterns On Said Plurality Of Regions For Operation In Said Key And Handwriting Modes" (Claims 1, 4, 7, and 10)

Term	Apple's Construction	Elan's Construction
"a plurality of second patterns on said plurality of regions for operation in said key and handwriting modes"	Two or more graphics that are printed on the specific regions and are present in and perform operations in both key and handwriting modes.	Visual information on the panel that delineates "virtual regions" to convey to the user where to touch to enter alpha numeric data in key mode or enter handwriting data in handwriting mode.

Elan's opening brief does not address Apple's showing that Elan construction improperly seeks to replace "and" with "or" in the claim language to sweep within the claim patterns that are operable in only one mode. *See* D.I. 85 at 25-26. Instead, Elan's argument on the "plurality of second patterns …" limitations rehashes Elan's theory that the '353 patent does not require printed patterns. That theory is unsupportable for the reasons set forth above in Section II.A.

III. U.S. PATENT NO. 5,764,218

A. "Cursor Control Operation" (Claims 1 and 5)

Term	Apple's Construction	Elan's Construction
"cursor control operations"	Operations by a cursor controller such as a drag, single-click and multiple click.	Providing of positional data to effect movement of the cursor (i.e., cursor tracking operation).

Based on the language of Elan's construction, Apple justifiably understood Elan to contend that "cursor control operation" referred strictly to cursor movement. *See* D.I. 85 at 27-28. However, Elan has now clarified in its opening brief that it believes the term "cursor control operation" actually includes not just cursor movement, but any operation that includes ***at least*** cursor movement. Importantly, under Elan's view, operations such as clicking and double-clicking remain excluded from the scope of "cursor control operation" because they do not involve cursor movement. Elan's refined stance is just another position that remains unsupported by the intrinsic evidence.

Elan contends that the specification offers a "clear definitional statement" of "cursor control operation" when it states "if the first contact interval lasts longer than the maximum tap interval . . . the operation of the touch-sensitive cursor controlling input device is identified as a cursor control operation (*i.e.*, a cursor tracking operation)." D.I. 87 at 8 (quoting '218 patent at 6:9-17); *id.* at 10. However, as Apple explained in its opening brief, this clause cannot be regarded as a definition, as it is merely describing a cursor control operation that is detected in connection with a particular example. *See* D.I. 85 at 29-30. More specifically, Elan's brief omits the critical opening clause to this so-called "clear definitional statement"—the explanation that this language relates specifically to a single function "***[a]s shown in Part A of Fig. 5*** . . . ." Exh. T ['218 patent] at 6:9.

If Elan's position were accepted as true and this passage held to truly define "cursor control operation," then the term would be limited to only the single operation in Part A of Figure 5 labeled as "cursor tracking." This result would contradict the claims, which specifically require ***three*** distinct "cursor control operations," not just one. *See* D.I. 85 at 27-28. It would also contradict Elan's new position that the alleged "clear definitional statement" related to "Part A of Fig. 5" actually also includes Parts D, E, and F of Figure 5. Not only is Elan's position internally inconsistent, but it arbitrarily excludes from its definition of "cursor control operation" Parts B and C of Figure 5 describing "clicking" and "double clicking." Elan's picking and choosing of different parts from the same figure of the specification to support its desired claim construction result is unsupportable.

Nonetheless, Elan persists in its position that "cursor control operation" somehow requires cursor movement. *See* D.I. 87 at 9. Elan does so despite the many passages in the specification that use the term "cursor-controlling" to refer to groups of operations that only simulate button values and require no cursor movement, such as clicking and double-clicking. For instance, the Summary of the Invention states that a "***cursor-controlling*** input device" generates "button values simulating the button state of a mechanical switch." Exh. T ['218 patent] at 2:44-47; *see also id.* at 1:9-12, 7:42-43, 9:42-45. The Title and Abstract of the patent include nearly identical guidance. *See id.* at Title, Abstract. Furthermore, the specification explains that Figs. 4, 5, 6, and 7 of the patent are "embodiment[s] of the present invention." *See, e.g.*, *id.* at 5:46, 5:57-58, 7:42-43, 8:13-14. All of these figures encompass, in addition to operations including cursor movement, click and double-click operations that do not involve cursor movement.[6] *See, e.g.*, *id.* at 6:34-40 (explaining that Fig. 5 includes "a click operation"); *id.* at 8:40-52 (explaining how a "click operation" is identified in Fig. 7).

In any event, any doubt on this claim term is laid to rest by the prosecution history, where Apple expressly confirmed the scope of the term "cursor control operation" when it explained that "claim 1 recites steps of distinguishing between a first cursor control operation (e.g., a drag),

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[6] While "clicking" and "double clicking" may not involve cursor movement, the effect of these operations nonetheless depends intimately on where the user has actually placed the cursor (*i.e.*, is the cursor on a file, menu, button, hyperlink, etc.). In other words, the cursor acts as a conduit for the effect of these operations, and others like them. Given this, there is no principled basis to exclude click and double-click from the scope of the term "cursor control operation."

a second cursor control operation (e.g., a single click) and a third cursor control operation (e.g., a multiple click).” Exh. U [Dec 26, 1996 Amendment] at 218 CFH 0248. Under that definition, the term “cursor control operation” must be broad enough to include within its scope not just operations that include cursor movement, but also operations that do not, such as “single click” and “multiple click.” Although Elan attempts to obfuscate this prosecution history by pointing to a few general statements by the examiner concerning 12 claims, Elan identifies no statement on the part of either the applicant or examiner that unambiguously narrows claim scope. *See* D.I. 87 at 9-10. Indeed, the examiner’s statements, at most, merely confirm that the claims include at least “click & drag & stick” operations, a fact that is completely consistent with Apple’s construction. Ultimately, Elan has no real response to the unambiguous statements by the applicant that the term “cursor control operation” includes operations such as single- and multi-click. Elan just speculates that the “***patentee may have been mistaken***” or “may have been referring in short hand” to completely different operations when it expressly included within the claimed cursor control operations the very operations Elan now seeks to exclude. D.I. 87 at 10. Conjecture does not trump concrete evidence.

IV. U.S. PATENT NO. 7,495,659

A. “Sensors Configured To Map the Touch Pad Surface Into Native Sensor Coordinates” (Claim 1)

Term	Apple’s Construction	Elan’s Construction
“sensors configured to map the touch pad surface into native sensor coordinates”	Sensors configured to map the touchpad surface into the sensor coordinates of the touchpad.	Sensors configured to produce signals indicating native sensor coordinates.
“native sensor coordinates”	The sensor coordinates of a touchpad.	Coordinates indicating the absolute position of an object on or near the touchpad.

In at least two critical ways, Elan utterly misses the point of these claim terms. First, in contending that “native sensor coordinates” refers to the “position of the object used to actuate an area of the touchpad,” Elan takes the erroneous view that “native sensor coordinates” are not actually properties of the touchpad, but some object “on or near the touchpad.” Second, in seeking to construe these phrases in terms of “signals” with content reporting the “absolute position” of objects actuating the touchpad, Elan misreads these terms as somehow involving the act of providing information to a host device containing the touchpad.

In fact, these terms have nothing to do with either of these concepts. Rather, the term "native sensor coordinates" refers merely to a coordinate system intrinsic to the touchpad surface that is represented by an arrangement of sensors, much like the latitude and longitude lines on a classroom globe. Put more simply, the "native sensor coordinates" are the "sensor coordinates of the touchpad."[7] The plain language of the associated claim term "sensors configured to ***map*** the touchpad surface into ***native sensor coordinates***" merely confirms this understanding. Thus, as an example, a grid-like arrangement of sensors would represent a Cartesian (*i.e.*, x,y) "native sensor coordinate" system. Exh. V ['659 patent] at 3:24-26. Likewise, a circular arrangement of sensors would represent a polar (*i.e.*, r,θ) "native sensor coordinate" system. *Id.* at 5:42-45.

The specification confirms this view. Indeed, the Summary of the Invention explains that the touchpad has "one or more sensors that ***map*** the touch pad plane into ***native sensor coordinates***." Exh. V ['659 patent] at 3:24-26; *see also id.* at 5:41-43 (Detailed Description of the Invention explains that "[i]n most cases, the sensors of the touch pad 36 ***map*** the touch pad plane into ***native or physical sensor coordinates*** 40"). In other words, the specification explains that "native sensor coordinates" are a property of the touchpad, not, as Elan contends, some object "on or near" the touchpad. Along these lines, as Apple noted in its opening brief, the specification explains that "the controller may detect the change in sensor levels at each of the native sensor coordinates ***and thereafter*** determine the current location of the user's finger on the touch pad . . . ." *Id.* at 9:53-57. Thus, "native sensor coordinates" and the location of an object "on or near the touchpad" (*i.e.*, "the user's finger") are two different things.

None of the evidence Elan cites in its opening brief says anything remotely to the contrary. In fact, much of it just confirms that Elan has also misunderstood these claim terms in a second way. Specifically, Elan erroneously includes the concept of "***signals*** indicating native

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[7] Elan contends that Apple's construction "could be understood to mean only those points where the sensor traces intersect." D.I. 87 at 13. This is not Apple's position. In fact, the "native sensor coordinates" include the infinite set of points in the coordinate system represented by the arrangement of sensors, including all points in between sensors. Elan confirmed this when Apple's expert testified in deposition that "the mapping of a touch pad surface into native sensor coordinates involves the mapping of a two-dimensional surface into a coordinate system that can comprise many values" and "those values, in general, can be more or less than the number of intersections of a set of wires or lines." Exh. P. [Von Herzen Tr.] at 51:9-52:4.

sensor coordinates" in its construction for "sensors configured to map the touchpad surface into native sensor coordinates." Likewise, Elan requires that "native sensor coordinates" "***indicate*[]** ***the absolute position*** of an object on or near the touchpad." But these claim terms have nothing to do with a signaling process or "indicating" location information, a point that is vividly illustrated by the passage that Elan contends, *see* D.I 87 at 13, is "even more illustrative" of its position:

> The invention relates, in another embodiment, to a method for a touch pad. ***The method includes mapping*** the touch pad into native sensor coordinates. ***The method also includes producing native values*** of the native sensor coordinates when events occur on the touch pad.

Exh. V ['659 patent] at 3:34-43. In other words, although "mapping" is one part of the invention, it "***also*** includes producing native values" (*i.e.*, signaling) as a separate aspect.

Likewise, the passage from the Background of the Invention upon which Elan relies similarly distinguishes mapping from signaling. D.I. 87 at 14. Indeed, this passage first refers to mapping ("[e]ach of the electrodes 6 ***represents*** a different x, y position") and only then goes on to refer to a separate signaling process ("circuit board/sensing electronics . . . produce[s] [an] x, y, input ***signal*** . . . ."). *Compare* Exh. V ['659 patent] at 3:8-9 *with* Exh. V ['659 patent] at 3:12-13. Figure 1 accompanying this passage is substantively identical, depicting the touchpad 6 with a set of x,y axes to represent the "native sensor coordinate" system intrinsic to the touchpad, and then including an arrow 10 to depict a distinct signaling process. *See also id.* at 5:34-43 (explaining first that the "sensors . . . are configured to ***produce signals***," and then separately that "the sensors of the touch pad 36 ***map*** the touch pad plane into native or physical sensor coordinates").

This dichotomy between mapping and signaling is crystallized in the claims. For instance, claim 1 includes a "mapping" step requiring only that the sensors be "configured to map the touch pad surface into native sensor coordinates." The claim further includes a separate and distinct step directed to signaling, reciting the receipt from "one or more sensors native values associated with the native sensor coordinates." As another example, Claim 21 includes a first limitation directed to "mapping a touch pad into native sensor coordinates," and a separate limitation directed to "producing a native value associated with a native sensor coordinate." Thus, in the claims, signaling and mapping are two different concepts, addressed in separate limitations. Given this intrinsic evidence, it is clear that the substance of Elan's proposed constructions—which focus on signaling and objects "on or near" the touchpad—is completely irrelevant to these mapping terms.[8] Elan's constructions should thus be rejected.

B. "One Or More Logical Device Units" (Claims 1, 8, 10, 12, and 13)

Term	Apple's Construction	Elan's Construction
"one or more logical device units"	One or more actuation zones representing one or more areas of the track [touch]pad encompassing native sensor coordinates.	Discrete user actuation zones representing areas of the touch pad encompassing groups of native sensor coordinates.

In its opening brief, Elan contends, first, that logical device units must be discrete user actuation zones and, second, that logical device units must encompass groups of native sensor coordinates. *See* D.I. 87 at 15-16. Elan is wrong on both counts.

As to the first point, Elan relies on two statements from the patent specification stating, for instance, that the touch pad is "divided into several independent and spatially distinct [actuation/button] zones." D.I. 87 at 15 (quoting '659 patent at 18:24-26). However, what Elan fails to make clear is that these passages are unequivocal that this is merely "one embodiment" of the invention. Exh. V ['659 patent] at 13:31-33, 18:37-39; *see also id.* at 10:8-25 (referring to "one embodiment"). As Apple explained in its opening brief, the patent discusses specific embodiments with independent and spatially distinct actuation zones because there are, in fact, four distinct claims in the patent that include such a limitation. *See* Claims 33-36; *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) ("Differences among claims can also be a useful guide in understanding the meaning of particular claim terms."). Thus, Elan's

[8] Elan further contends that Apple's constructions should be rejected because they fail to "recognize[] that the sensors ***produce signals***." D.I. 87 at 14 (emphasis in original). Apple does not dispute that the sensors ultimately produce some sort of signal. That does not mean that the "mapping" claim terms should be conflated with the separate signaling steps as described and claimed. In any event, Elan's construction should still be rejected because there is no basis for requiring the sensor signals to include actual positional information, as Elan appears to contend. *Id*. As Apple showed in its opening brief, the specification discloses relying on the predetermined arrangement of sensors to make a final determination of position; it does not require the actual content of the sensor signals to include position. *See* Exh. V ['659 patent] at 2:32-38 (explaining that because "[i]n most cases, the sensors are arranged in a grid of columns and rows," "x and y position signals . . . are ***thus*** generated"); *id.* at 9:53-57 (explaining that the controller can "detect changes in sensor levels" and "***thereafter*** determine the current location of the user's finger on the touch pad ***based on the change in sensor levels***"); *see also* D.I. 85 at 33.

attempt to cast these statements regarding specific embodiments as "general[]" statements about what "[t]he specification teaches" is quite simply misleading. *See* D.I. 87 at 15. Rounding out its "evidence" for inserting the word "discrete" into the claims is an argument that "[i]f the logical device units were allowed to overlap . . . the touch pad would not know which of the overlapping zones to report to the host." *Id.* But Elan identifies nothing inherently problematic, or even undesirable, about using a single touch to simultaneously actuate multiple zones in certain circumstances, let alone having the same area of the touchpad correspond to multiple zones that change over time.

Elan's argument that the "logical device units" require "groupings of native sensor coordinates" fares no better. In fact, the very statements Elan relies upon contradict its position. Each such statement includes a qualification confirming that, although it is sometimes true that "logical device units" include a group of native sensor coordinates, it is not an absolute rule. Indeed, the specification states that "[t]he conversion process ***may*** include grouping at least ***a portion*** of the native coordinates 40 together," "[v]irtual actuation zones 42 ***generally*** represent a more logical range of values than the native sensor coordinates 40 themselves," and "***[i]n most cases***, the raw number of slices in the form of native sensor coordinates are grouped," and that a ratio of eight native sensor coordinates to "one logical device unit" "is ***preferable***." *See id. at* 6:65-67, 7:13-17, 10:42-45, 7:17-21. In other words, logical device units may, generally, in most cases, preferably encompass groups of coordinates, but not always. Indeed, as Apple pointed out in its opening brief, the patent explicitly discloses an embodiment without grouping. *See id.* at 7:17-21 (1:1 ratio between logical device units and coordinates). This aspect of Elan's construction is thus unsupportable.

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