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ELAN MICROELECTRONICS CORPORATION

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

ELAN MICROELECTRONICS CORPORATION,

Plaintiff,

v.

APPLE, INC.,

Defendant.

AND RELATED COUNTERCLAIMS

Case No. 09-cv-01531 RS

ELAN MICROELECTRONICS CORPORATION'S OPENING CLAIM CONSTRUCTION BRIEF

DATE: June 23, 2010
TIME: 1:30 p.m.
JUDGE: Richard Seeborg
CTRM: 3, 17th Floor

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INTRODUCTION

Elan's claim constructions are consistent with all of the relevant evidence: the plain language of the claims, the patents themselves and their file histories, and the way one of ordinary skill in the art would understand those terms. Apple, with respect to the '218 patent seeks to broaden the scope of claim terms by reading them without any reference to the specification, in a vacuum, which is contrary to the Federal Circuit's precepts for claim construction. With respect to its '659 patent, Apple proposes claim construction that simply rearrange the words in the claim and are not likely to help the finder of fact determine whether the claims are infringed or invalid. Elan's construction, however, add explanation based on the specification so as to help the trier of fact. For the reasons set out in detail below, the Court should adopt Elan's proposed constructions.

I. STATEMENT OF FACTS

A. The Parties

Elan is a leading designer of specialty microcontroller-based semiconductor products, including input devices for computers, such as controllers for computer mice, optical computer mice and touch pads. Elan's innovations have received numerous awards. For example, in 2002 Elan was named both one of the 500 Fastest-Growing Technology Enterprises in Asia by Deloitte Touche Tohmatsu and one of the best companies in the world with under $1 billion in revenue by Forbes Magazine. At the 2009 Computex computer and electronics trade show in Taipei, Taiwan, Elan's transparent touchpad product was given the Best Choice of the Year award among all products displayed, and was also named the Best Choice of the Year in the Peripheral Products category. Elan's Smart-Remote™, which includes Elan's proprietary touch sensitive input technology, was named the Best Choice of the Year in the Digital Entertainment category.

Apple designs, imports and sells electronic devices, including mobile phones, personal media players, computers, and peripheral devices such as computer mice.

B. Background of the Technology and Patents.

Prior to the earliest-filed of the patents-in-suit, a variety of touch sensitive computer input devices had been developed. *See* Declaration of Sean P. DeBruine in Support of Elan

Microelectronics Corporation's Opening Claim Construction Brief ("DeBruine Decl."), Ex. A (U.S. Patent No. 5,825,352 ("'352 patent")) at 1:19-47; Ex. B (U.S. Patent No. 5,764,218 ("'218 patent")) at 1:37-41 (stylus tablets and touchpads). The known technologies included resistive touch sensors, optical touch sensors and capacitive touch sensors. '352 patent at 1:18-32. A more detailed description of the operation of the resistive and capacitive touch sensing technologies is provided in the Declaration of Robert Dezmelyk in Support of Elan Microelectronics Corporation's Opening Claim Construction Brief ("Dezmelyk Decl.") filed herewith.

In the early 1990s, two trends coincided to make touch-sensitive input devices important in the computer industry. First, graphical user interfaces such as the Apple Macintosh and Microsoft Windows operating systems were becoming commonplace. Systems running such interfaces required a user input device that could manipulate the cursor on the screen, select menu choices and issue commands to act on objects on the screen. In most systems, cursor control was performed with a mouse or similar mechanical input devices such as trackballs. *Id., see also* '218 patent at 1:24-43. Second, portable computers were becoming small and inexpensive enough to garner significant market acceptance. One problem in the design of portable computers using a graphical user interface was the need for a user input device to control the cursor. A separate external device, such as a mouse was unacceptable for laptop computers. Many early laptops included a trackball pointing device in the computer housing. Trackballs, however, had a tendency to become dirty and wear out and were difficult to operate. For these reasons, starting in 1994, the flat, solid state touchpad became a popular mechanism for cursor control input in portable computers.

Touchpads lend themselves well to controlling simple cursor movement. The user simply moves his or her finger on the touchpad to move the cursor a corresponding distance and direction on the computer screen. The form factor and limited size of the touchpad, however, presented usability problems, especially compared to the computer mouse to which many laptop users were accustomed from using desktop computers. Controlling the cursor precisely was often difficult. For example, it was difficult to positioning a cursor onto the arrows provided to scroll the display in many applications. In addition, pressing mechanical buttons to perform operations usually

accomplished with a mouse by clicking a mouse button required a user to make awkward movements. Often, the user would have to lift his or her pointing finger off the touchpad to click a button. '218 patent at 2:16-19. This made operations that require both moving a cursor and clicking a button, such as selecting blocks of text or selecting and dragging an object, particularly challenging. *Id.* at 2:20-41. The patents-in-suit describe and claim aspects of touch-sensitive input devices meant to address these and other perceived deficiencies.

C. Apple's U.S. Patent No. 5,764,218 (the '218 Patent)

It was long known that the problem of having to move one's finger from the touchpad surface to a separate mechanical button could be eliminated by interpreting a quick tap on the touch pad as a button press. In fact, one of the first "laptop" computers, sold by Gavilan Computer Corp. in 1984, had just such a feature. *See* DeBruine Decl., Ex. C. That touchpad was described in a UK Patent Application, GB 2139762A, published November 14, 1984. DeBruine Decl., Ex. D.

Nevertheless, Apple filed the application that became the '218 patent on January 31, 1995. The '218 patent issued on June 9, 1998. The '218 patent is directed to a way for a touchpad user to "click" at a position on the screen to produce a "button" effect without taking one's finger off the touchpad to click a mechanical button. *See* '218 patent at 2:17-20, 38-41. Essentially, the touchpad controller detects how long the user's finger stays on the touchpad ("contact intervals") and also detects how long the finger is off the touch pad between touches ("gap intervals"). The controller compares these intervals to thresholds and determines whether to tell the computer to move the cursor on the screen, whether to change the value of a button-state variable so the computer system reacts as though it would to clicking of a mechanical button, or both. *Id.* at 2:43-61.

D. Elan's U.S. Patent No. 5,825,352 (the '352 Patent)

The '352 patent was filed one year later on January 4, 1996 and issued October 20, 1998. Unlike the '218 patent, the '352 patent discloses and claims technology that is a significant advance and fundamental to the multi-touch user interfaces now found in many computers and portable electronic devices: the ability to detect the presence of two or more fingers or objects.

The ’352 patent recognized shortcomings in the use of a single finger with tapping gestures. ’352 patent at 1:40-2:15. Those drawbacks included, for example, the fact that in certain instances the cursor would need to be moved to a specific location on the screen so that a particular function could be chosen with a button press. By lifting and tapping the finger, the cursor was likely to move out of position, frustrating the user’s attempt to control a computer program. *Id.* at 1:60-2:14. To overcome these shortcomings, the ’352 patent discloses that the detection of two or more fingers simultaneously on the touch sensor may be used, along with contact duration and movement, to provide a rich and useful set of control functions. *Id.* at 2:18-4:16. To select an icon, for example, the user can position the cursor over the icon by moving one finger, and then briefly tap the touchscreen with a second finger. The touchscreen controller interprets this second contact as a press and release of a mechanical mouse-button. In addition, the user could touch the touchscreen with two fingers simultaneously and move these fingers vertically to scroll up or down in an application, or move both fingers horizontally to scroll side-to-side in an application. The ability to detect two or more fingers makes these and many other user input commands possible, opening up new worlds for application designers. The method claimed in the ’352 patent works by scanning the sensors of the touchpad and measuring the capacitance at each sensor. *Id.* at 58-61. The device’s controller or software on the computer then analyzes the measurements to determine local “maximas” or peaks indicating each finger, and a local “minima” or valley between the fingers. *Id.* at 6:26-38.

E. Elan’s U.S. Patent No. 7,274,353 (the ’353 Patent)

The ’353 patent discloses a device including a transparent touchscreen that can accept user input in multiple modes including a keyboard or keypad mode, a mode for using finger gestures to control a cursor as though moving or clicking with a mouse, or a handwriting mode. DeBruine Decl., Ex E (U.S. Patent No. 7,274,353 (“ ’353 patent”)) at 2:60-3:35. The ’353 patent’s innovation is to enable the use of a single area of the touch panel for all of these kinds of user interfaces. For this purpose, the panel displays an indication (“first pattern”) of where to touch it in order to switch modes. The user can change the input mode among cursor control (mouse), keyboard or handwriting mode by touching the mode switch area, much like invoking the “shift”

or "control" keys on a keyboard allows for twice or three times the operations with the same number of keys. Patterns or graphics displayed on the screen indicate the mode choices, as well as the input areas and current mode. Figure 1, reproduced here, illustrates different areas for inputting information that might be displayed on the same area of the touchpad in three different "modes."

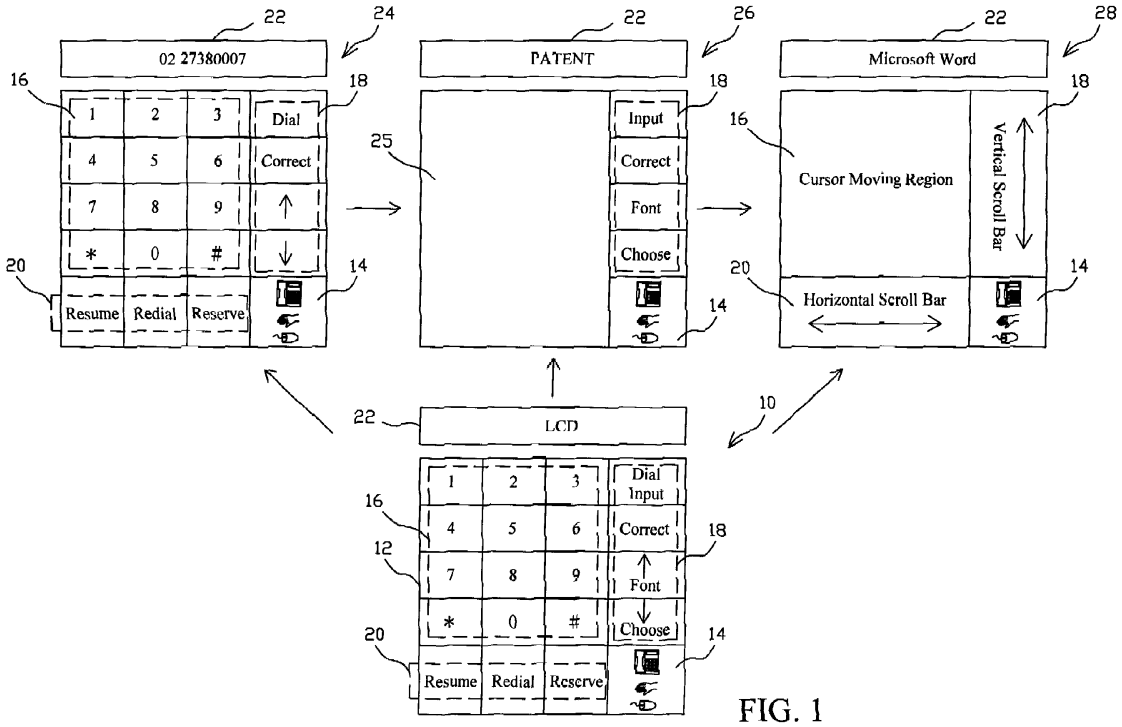

FIG. 1

F. Apple's U.S. Patent No. 7,495,659 (the '659 Patent)

The '659 patent was filed on November 23, 2003 and issued on February 24, 2009. The '659 patent describes a touchpad that supplies positional or other data to a host device. The touchpad translates the influence of a user's finger on the electrical properties measured near the touchpad surface into data, and the touchpad controller logic uses that data to determine the contact point's location. DeBruine Decl., Ex. F (U.S. Patent 7,495,659 (" '659 patent")) at 2:30-53. The purported invention of the '659 patent was to utilize the position information to determine if the contact is within a virtual actuation zone or "logical device unit" - an area of the touchpad made up of multiple possible contact points. When a contact is detected at coordinates within the button zone, the touchpad controller (or computer software) sends data to the host relating to the

button as initially determined, rather than the position on the touchpad.

II. LEGAL STANDARDS FOR CLAIM CONSTRUCTION

Claim interpretation begins with the plain language of the claim. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). Generally, there is a heavy presumption in favor of the ordinary meaning of claim language rather than an unconventional meaning. *Bell Atl. Network Servs., Inc. v. Convad Commc'ns. Group, Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001). The person of ordinary skill is deemed to read the claim terms in the context of the specification. *Phillips*, 415 F.3d at 1313. The specification is the single best guide to the meaning of a disputed term and the specification "acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

It is the district court's role and duty to resolve fundamental disputes about the meaning of claim terms. *See 02 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362-63 (Fed. Cir. 2008) (where parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve that dispute and failure to construe the term is error). Construing claim terms with reference to the accused devices violates a fundamental tenet of claim construction. *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1118 (Fed. Cir. 1985) (en banc); *NeoMagic Corp. v. Trident Microsystems, Inc.*, 287 F.3d 1062, 1074 (Fed. Cir. 2002). This does not mean, however, that the Court has to avert its gaze from the accused products and the infringement dispute in order to reach an unbiased construction. Doing so can result in a claim construction that simply rephrases the infringement issue rather than helping the jury decide infringement by deciding issues of fact. It is appropriate for the Court to use its understanding of the accused products, in order to arrive at a claim construction that the finder of fact can readily apply in its infringement analysis without relying on expert testimony about what any claim term means. *See Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1326-27, 1330-31 (Fed. Cir. 2006) (While courts should not construe claims with an aim to include or exclude an accused product, knowledge of that product "provides meaningful context for the first step of the infringement analyses, claim construction.").

To the extent the Court should find the claim language ambiguous, the Court should construe it, where possible, to preserve the claim's validity. *See Harris Corp. v. IXYS Corp.*, 114 F.3d 1149, 1153 (Fed. Cir. 1997) (Claims should be read in a way that avoids ensnaring prior art if it is possible to do so.); *Phillips*, 415 F.3d at 1327 (It is reasonable to infer that the PTO would not have issued an invalid patent, and "ambiguity in the claim language should therefore be resolved in a manner that would preserve the patent's validity.") The Court need not rewrite claim language that is unambiguous, however, merely to preserve a claim's validity. *Id.* at 1328.

III. ARGUMENT

A. The Level of Ordinary Skill

Because patent claims are to be construed to reflect the understanding of an ordinary worker in the appropriate filed, a first step in the claim construction process is to determine the level of ordinary skill in the relevant technology. Factors to be considered are the complexity of the technology, the pace of technological advancement in the field, and the education and experience of those working in the area. *Daiichi Sankyo Co. Ltd. v. Apotex, Inc.*, 501 F.3d 1254, 1257 (Fed. Cir. 2007). Here, the parties are largely in agreement regarding the appropriate level of skill. For all of the patents, one of ordinary skill would have an undergraduate degree in electrical engineering or computer science with class work on electrical circuits, and about three years of experience in the design and operation of touch-sensitive input devices. One with a more advanced degree may have less practical experience. *See* Dezmelyk Decl., ¶ 3. Dr. Von Herzen's opinion is similar. *See* DeBruine Decl., Ex. G (Von Herzen Depo), at 23:21-24:14.

B. Disputed Terms In The '218 Patent

Claim 1 reads, in its entirety:

> A method of operating a touch-sensitive input device of a computer system comprising the steps of:
> a) detecting contact intervals when a user contacts the touch-sensitive input device;
> b) detecting gap intervals between subsequent contact intervals; and
> c) distinguishing between a first cursor control operation, a second cursor control operation and a third cursor control operation based on the duration of said contact and gap intervals; and
> d) reporting one of said first, second or third **cursor control operations** in accordance with said step of distinguishing.

'218 Patent (DeBruine Decl., Ex. B) at 13:28-41.

1. "Cursor control operation" In Claims 1 and 5 of the '218 Patent Should Be Construed to Mean "Providing of Positional Data to Effect Movement of the Cursor (i.e. Cursor Tracking)."

Apple's Proposal	Elan's Proposal
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)

Claim interpretation begins with the claim language. Generally, there is a heavy presumption in favor of the ordinary meaning of claim language rather than an unconventional meaning. *Bell Atl.*, 262 F.3d at 1268. In addition, the specification is the single best guide to the meaning of a disputed term and the specification "acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." *Vitronics Corp.*, 90 F.3d at 1582.

On its face, the plain meaning of "cursor control operation" is an operation that controls the cursor. That is confirmed by the specification, which explains that "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***). Thus, positional data relating to the user's contact with the touch-sensitive input device is supplied to the computer system in order to effectuate cursor movement on the computer screen." '218 patent at 6:9-17 (emphasis added). In this passage, the patent expressly states that a cursor control operation is exactly what one would expect it to be – an operation to control the position of the cursor on the screen. The '218 patent discloses at least three such "cursor control operations," each of which is determined by the duration of contact and gap intervals. For example, simple cursor movement results from an initial contact that lasts longer than a first time interval tMAX. *See id.*, Fig. 5A, 6:8-15. If the first contact lasts less than time tMAX but is followed shortly by a second contact longer than tMAX, a drag is initiated. In a drag, the button variable is set to down and cursor position information is passed to the host for cursor tracking. *Id.* Fig. 5D, 6:47-55. Finally, the patent discloses "click and drag" and "drag and stick," or sticky drag, operations. *Id.* Figs. 5E-5F, 7:33-41. As such, the specification discloses at least three

cursor control operations, i.e. cursor tracking operations in which cursor position information is sent to the host, each of which is determined based upon a determination of contact and gap intervals.

Significantly, the specification does not use the term "cursor control operation" in connection with any function that does not involve positional data. Rather, when the discussion includes functions that return particular button state variables without cursor movement, such as click, double-click and multi-click, the patent uses the broader term "control operations." *See, e.g., id.* at 10:8-13.

While the specification is the best guide to the meaning of claim terms, here the prosecution history also supports construing "cursor control operation" to mean providing positional data to effect cursor movement. In an Office Action dated October 24, 1996, the Patent Examiner rejected a number of proposed claims as anticipated by U.S. Patent 5,432,531 to Calder, on the grounds that the Calder patent's device also detects the interval of contact with a touch pad and updates button state variable information to simulate a mechanical switch. Calder also detects cursor movement and allows the user to double-click on icons. The Examiner, however, found that certain dependent claims, if re-written in independent form would be patentable. The reason stated was that Calder did not recognize a "click & drag & stick" operation. DeBruine Decl., Ex. H. In other words, Calder did not teach this third cursor control operation involving cursor movement. In response, the patentee cancelled claims 2-7, 9, 13-17, 19 and 21-25 and amended claim 1 and what is now claim 5 (formerly claim 11) to add two requirements to incorporate cursor movement: "distinguishing between a first cursor control operation, a second cursor control operation and a third cursor control operation" based on the duration of said contact and gap intervals; and "reporting one of said first, second or third cursor control operation in accordance" with said step of distinguishing. DeBruine Decl. Ex. I. As amended, the claims were allowed. In the Reasons for Allowability, the Examiner again stated that all of the issued claims were allowable because they included a "click & drag & stick operation for controlling the cursor on the touch–sensitive input device." *Id.*, Ex. H at APEL0001276.

Apple may argue that the prosecuting attorney's comments accompanying the amendment

of claims 1 and claim 5 (application claim 11) show that the term "cursor control operation" is not limited to an operation in which the cursor is not controlled. In those comments, the patentee refers to simple "drag," "single-click" and "multiple click" as cursor control operations, even though they do not involve cursor movement. The patentee may have been mistaken, or may have been referring in short hand to the click and multiple clicks necessary to invoke the click and drag and sticky drag operations. It is telling that the Examiner, after reviewing those comments, reiterated the claims were allowable not because they performed those three operations, but because they required the unique third "cursor control operation, namely the "click & drag & stick" operation." DeBruine Decl., Ex. J at APEL0001276. This shows that the Examiner understood "cursor control operation" to mean functions that "control the operation of the cursor on the touch-sensitive input device." *Id.* When reviewed in light of the clear definitional statement in the patent specification equating cursor control operations to cursor tracking, and the clearly expressed understanding of the Examiner consistent with that definition, the ambiguous comments by the prosecuting attorney are insufficient to alter the meaning mandated in the specification. *Phillips*, 415 F.3d at 1317 (Prosecution history represents an ongoing negotiation between the Patent Office and the applicant, rather than the final product and lacks the clarity of the specification and is less useful for claim construction purposes).

For these reasons, the term "cursor control operations" should be construed to mean an operation that includes "providing positional data to effect movement of the cursor (i.e. a cursor tracking operation."

C. Disputed Terms in the '659 Patent

Claim 1 of the '659 patent reads as follows, with the disputed terms highlighted:

A touch pad assembly, comprising:

A touch pad having a surface and one or more **sensors configured to map the touch pad surface into native sensor coordinates**; and

a controller configured to define one or more **logical device units** associated with the surface of the touch pad,

receive from the one or more sensors native values associated with the native sensor coordinates,

adjust the native values associated with the native sensor coordinate into new values associated with the logical device units and

report the new values to a host device, the logical device units associated with areas of the touch pad that can be actuated by a user,

the controller configured to pass the native values through a filtering process before reporting the new values to a host device, thereby reducing an amount of data sent to the host.

'659 Patent (DeBruine Decl., Ex. F) at 20:6-24.

1. "sensors configured to map the touchpad surface into native sensor coordinates" Should Be Construed to Mean "Sensors Configured to Produce Signals Indicating Native Sensor Coordinates."

Apple's Proposal	Elan's Proposal
sensors configured to map the touchpad surface into the sensor coordinates of the touchpad	sensors configured to produce signals indicating native sensor coordinates

The parties disagree over the proper construction to be given the phrase "sensors configured to map the touch pad surface into native sensor coordinates" and also disagree over the definition of "native sensor coordinates" within that phrase. *See* Amended Joint Claim Const. Stmt. (Dkt. No. 84). Apple proposes constructions that simply rearrange the terms, substituting "sensor coordinates of the touchpad" for "native sensor coordinates." *Id*. That begs the question: "what are the sensor coordinates of the touchpad?" Elan, on the other hand, defines "native sensor coordinates" as the "absolute position of an object on or near the touchpad." *Id*. That definition comports with the specification and the file history and the way one of ordinary skill in the art would understand that term. The parties also appear to disagree about how the "sensors map the touchpad surface" into native sensor coordinates. Apple simply repeats the claim language, while Elan's proposal recognizes that it is the sensor's output signals that provide the information that maps the surface into native sensor coordinates. In addition, as discussed below, Apple's proposal could be understood to mean that the physical sensor lines are the native coordinates – a meaning that both parties' experts reject.

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2. "Native sensor coordinates" Should Be Construed to Mean "Coordinates Indicating the Absolute Position of an Object On or Near the Touch Pad.

Apple's Proposal	Elan's Proposal
the sensor coordinates of a touchpad	Coordinates indicating the absolute position of an object on or near the touchpad

"Native sensor coordinates" should be construed to mean "coordinates indicating the absolute position of an object on or near the touch pad." The specification states that in touch pads (and mice and trackballs) "a Cartesian coordinate system is used to monitor the position of the finger" as it is moved. '659 patent at 2:17-19. "The Cartesian coordinate system is generally defined as a two dimensional coordinate system (x, y) in which the coordinates of a point, (e.g. the position of finger mouse or ball) are its distances from two intersecting, often perpendicular straight lines, the distance on each being measured along a straight line parallel to each other." *Id.* at 20-25. The position of the finger is monitored and that position is used to "correspondingly locate and move the input pointer on the display screen." *Id.* at 25-29. In particular, the electrode layer of the touch screen "is used to interpret the x, y position of the user's finger when the user's finger is resting or moving on the protective shield [of the touch pad]." *Id.* at 50-52. The whole purpose of a touch pad input device is to interpret a finger's contact with and movement along the surface of the touchpad and to translate that input into signals that the device or a host computer can use to control movement of a cursor on a display screen.

The "summary of the invention" describes five embodiments of the invention, two of which use the phrase "native sensor coordinates." Each description illustrates that "native sensor coordinates" are coordinates indicating where an object such as a finger is touching the pad. The description of the first embodiment states that the logical device units are areas "that can be actuated by a user." *Id.* at 3:26-33. When a user touches the pad to actuate it, the controller "receives the native sensor coordinates from the sensors," adjusts them and reports the value of the logical device unit to the host device. *Id.* This description illustrates that the "native sensor coordinates" refer to the position of the object used to actuate an area of the touchpad. The

description of the second embodiment is even more illustrative. "The method includes mapping the touch pad into native sensor coordinates" and "also includes producing native values of the natives sensor coordinates *when events occur on the touch pad*." *Id.* at 35-38. "The method further includes filtering the native values of the native sensor coordinates based on the type of *events that occur on the touch pad*." In other words, native sensor coordinates are the point on the touchpad where contact is determined.

The specification's detailed description of the invention likewise uses "native sensor coordinates" to refer to coordinates representing the absolute position of an object on or near the touch pad. "The touch pad… generates position data when a user places their finger (or object) over the touch pad 36." *Id.* at 5:11-14. The touch pad is able to generate position data because it contains sensors "configured [to] produce signals associated with the absolute position of an object on or near the touch pad." *Id.* at 5:38-41. The description continues "[i]n most cases, the sensors of the touch pad map the touch pad plane into native or physical sensor coordinates. The native sensor coordinates may be based on Cartesian coordinates or polar coordinates." *Id.* at 41-43.

Apple contends that "native sensor coordinates" merely means "the sensor coordinates of the touchpad." Amended Joint Claim Const. Stmt. (Dkt. No. 84). That construction simply substitutes "of the touchpad" for "native." But as the whole phrase describes the touch pad, Apple's construction gives no meaning at all to the term "native." "A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so." *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005); *see also Microsoft, Inc. v. Oracle Corp.*, 525 F.3d 1327, 1330-31 (Fed. Cir. 2008) (rejecting claim construction that "ascribes no meaning to the term not already implicit in the rest of the claim."). Here, the specification distinguishes between "native" sensor values that are received from the sensors and "new values" which are the result of processing the native values. More problematic is that Apple's proposed construction could be understood to mean only those points where the sensor traces intersect. While touchpads can be and have been constructed that report position based on sensor position, most touchpads report many more position coordinates than they have physical sensors. *See*

Dezmelyk Decl., ¶ 18-19. Put another way, there are many more "native sensor coordinates" than there are coordinates of the sensors themselves. The experts agree that native sensor coordinates are not limited to the locations of the sensors themselves. *See* Dezmelyk Decl., at ¶ 27; DeBruine Decl., Ex. G (Deposition of Von Herzen) at 51:9-52:4. Therefore, Apple's ambiguous construction to that effect would not help the jury to understand the meaning of this term.

The other main difference between Elan's construction and Apple's is that Elan's construction recognizes that the sensors *produce signals*, and those signals indicate the location of a contact with the touchpad. The specification supports Elan's construction. In order for the touchpad to function as a user interface, the sensors must produce signals. The specification explains that in touch pads, mice and trackballs, "a Cartesian coordinate system is used to monitor the position of the finger, mouse and ball, respectively, as they are moved." '659 patent at 2:17-19. "The x, y positions are then used to correspondingly locate and move the input pointer on the display screen." *Id.* at 26-28. Specifically, "distinct x and y positions signals, which control the x, y movement of a pointer device on the display screen, are thus generated when a finger is moved across the grid of sensors within the touch pad." *Id.* at 33-37. The patent further explains that "native sensor coordinate resolution" defines the maximum number of native coordinates the sensors are able to detect for a particular coordinate system. *Id.* at 10:16-19.

The specification sets this out in detail at Column 3, describing Figure 1. "Each of the electrodes 6 represents a different x, y position. In one configuration, as a finger approaches the electrode grid, a tiny capacitance forms between the finger and the electrodes proximate the finger. The circuit board/sensing electronics measures capacitance and produce and x, y input signal corresponding to the active electrodes. The x, y input signal is sent to a host device having a display screen. The x, y input signal 10 is used to control the movement of a cursor on the display screen." *Id.* at 3: 8-17 (numbers on figure omitted for clarity).

Apple's proposed construction term merely changes "native sensor coordinates" to "sensor coordinates of the touchpad" and provides no explanation of what it means to "map" sensors to "sensor coordinates." Because Elan's construction more accurately describes the claimed invention, it should be adopted.

3. "Logical Device Units" Should Be Construed To Mean "Discrete User Actuation Zones Representing Areas of the Touch Pad Encompassing Groups of Native Sensor Coordinates."

The parties agree that logical device units are actuation zones representing areas of the touchpad, but differ on precise definitions.

Apple's Proposal	Elan's Proposal
one or more actuation zones representing one or more areas of the touch pad encompassing native sensor coordinates	discrete user actuation zones representing areas of the touch pad encompassing groups of native sensor coordinates

Elan's construction requires that logical device units be *discrete* user actuation zones – that is, there is no overlap between zones. This construction is supported by the specification as read by one of ordinary skill in the art. The specification teaches that "[g]enerally speaking, the touch pad 110 outputs a control signal associated with a particular actuation zone 113 when most of the signals are from sensing coordinates located within the particular actuation zone." '659 patent at. 13:36-39. "That is, when an object approaches a zone 113, a position signal is generated at one or more sensing coordinates. The position signals generated by the one or more sensing coordinates may be used to inform the media player 100 that the object is at a specific zone 113 on the touch pad 110." *Id.* at 49-44. Therefore, the touchpad is to generate a signal to the host device informing it that the object is in one and only one specific zone.

If the logical device units were allowed to overlap, as Apple's construction allows, and if all the signals were from sensing coordinates within the overlapping area, the touch pad would not know which of the overlapping zones to report to the host. In addition, the specification later describes the touch pad in one embodiment as "divided into several independent and spatially distinct button zones." '659 patent at 18:24-26. The patent also describes setting logical device units including a "width border area between the clusters of native sensor coordinates that define one logical device unit." *Id.* at 10:20-25.

Elan's construction more clearly captures the concept that logical device units are groupings of native sensor coordinates. That is, a logical device unit is made up of groups of native sensor coordinates. The patent is very clear on this point: "the conversion process may

include grouping at least a portion of the native coordinates 40 together to form one or more virtual actuation zones 42." *Id.* at 6:65-67. "Virtual actuation zones 42 generally represent a more logical range of values than the native sensor coordinates 40 themselves, i.e. the virtual actuation zones 42 represent areas of the touch pad 36 that can be actuated by a user (magnitudes larger)." *Id.* at 7:13-17. "In most cases, the raw number of slices in the form of native device units are grouped into a more logical number of slices in the form of logical device units (e.g. virtual actuation zones)." *Id.* at 9:42-45. The patent also suggests that a ratio of 8:1 is preferable (that is, 1024 native coordinates become 128 user actuation zones). *Id.* at 7:17-21. Because the patent clearly explains the invention and the use of the term in the patent, Elan's construction should be adopted.

D. Disputed Terms In The '353 Patent

Claim 1 of the '353 patent reads as follows, with the disputed terms highlighted:

> A capacitive touchpad integrated with key and handwriting functions, comprising:
> a panel for touch inputting;
> a first pattern on said panel for representing a mode switch to switch said touchpad between a key mode and a handwriting mode;
> a plurality of regions defined on said panel; and
> a plurality of second patterns on said plurality of regions for operation in said key and handwriting modes;
> wherein said panel comprises:
> a substrate selected from the group consisting of PCB, membrane and a transparent plate;
> a conductor wiring on said substrate; and
> an insulator covered on said conductor wiring.

'353 Patent (DeBruine Decl., Ex. E) at 3:60-67.

As discussed above, the '353 patent relates to providing information on a touch screen to allow a user to change data entry modes, for example, from key to handwriting, or from handwriting to mouse mode, by touching an area of the screen delineated as a mode switch. For both of the disputed terms, the disagreement between the parties is whether the claims require that the "patterns" of the "first pattern" and "second patterns"defining mode switches and input areas on the touch screen to be "printed" on the touchpad itself, and thus static. Elan contends that claims merely require that the "patterns" appear on the panel by some means, including being displayed on the screen itself, depending on which "mode" the device is in.

1. "a first pattern on said panel for representing a mode switch…" in Claims 1, 4, 7 and 10, Should Be Construed to Mean "Information on the panel, Visible to the User, Indicating Where The User Can Touch to Change Modes."

Apple's Proposal	Elan's Proposal
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.

Claim interpretation begins with the claim language. Here, the claim language simply states that the first pattern for representing a mode switch among possible modes must be "on said panel." *Id.* at 3:64; 4:15; 4:33; 4:51. "Said panel" in each claim refers to the "panel for touch inputting." *Id*. at 63. The claim language has no requirement that the same pattern be displayed on the same portion of the panel at all times. Thus, there is no reason, with proper software to process the input information, that one area of the touchpad cannot display information indicating that it is the mode switch in a particular application, while in another application, a different area displays information that it is the mode switch.

Elan's proposed construction makes clear what is required by the claims, based on the specification, namely that the pattern must 1) be visible to the user and 2) indicate where the user can touch to change modes. There can hardly be any dispute that the pattern must be "visible." The examples given of "patterns" in the specification are "words or drawings" that are "displayed." *See id.* Figure 1, 2:10-12; 3:35-38. The second part in Elan's proposed construction is likewise consistent with the specification, which states that the mode switch pattern is "to switch the capacitive touchpad to key, handwriting or mouse modes by touching thereon." *Id.* at 2:43-45.

Apple, relying on a single embodiment disclosed in the specification, contends that the information on the first panel for indicating a mode switch should be "a single graphic printed on the panel." *See* Amended Joint Claim Const. Stmt. (Dkt. No. 84) at 13-14. The specification describes Figure 1 merely as "an embodiment of the present invention" and Figure 1 shows four different views of the same embodiment, representing how the same elements – an LCD display

and various areas of the touchpad-- appear in the different modes. The description of Fig. 1 in the specification states that the touchpad comprises, among other things, "a mode switch pattern 14" on the panel "to switch the capacitive touchpad 10 to key, handwriting or mouse modes by touching thereon." '353 Patent at 2:40-45. Figure 1 shows the same graphic on mode switch 14 in all four modes, namely, icons that seem to represent a computer mouse, a human hand and a telephone. *Id.*, Fig. 4.

One cannot tell from Figure 1, however, whether these icons are printed or whether they are backlit or displayed in some other manner. While 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. For example, the description of Figure 1 explains that when the touchpad is switched to the "key" mode, the "pound" and "star" patterns are on virtual key region 16. '353 Patent at 2:60-62. If the touchpad is switched to handwriting mode, the same region becomes part of a handwriting region shown as blank in Fig. 1. In mouse mode, the same region becomes a cursor-moving region, shown as divided into scroll and mouse areas in Fig. 1. *Id.* at 2:62-3:17. The specification also describes that the invention can be embodied as an input device or interface for many different kinds of applications including "mobile phone, public internet phone, computer keyboard, PDA, information appliance (IA) and electronic dictionary." *Id.* at 3:44-48. As is well known in the art, a transparent touchpad over a display screen can interact with graphics, such as buttons, on the display screen. *See id.* at 1:31-39 (capacitive and resistive touchpads used in "touching mode monitors" in the prior art). Finally, the specification states that the patent is not limited to the preferred embodiments and is intended to embrace all alternatives, modifications and variations that are within the scope of the claims. *Id.* at 52-58. Thus, based on the language of the claims and the disclosure in the specification, there is no basis on which to limit the term "pattern" to a *printed* pattern.

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2. "a plurality of second patterns on said plurality of regions for operation in said … modes in claims 1, 4, 7 and 10 Should Be Construed to Mean "Visual Information On the Panel that Delineates 'Virtual Regions' To Convey to the User Where to Touch to Enter Alphanumeric data in key mode; Handwriting data in Handwriting Mode; and Mouse Data in Mouse Mode."

Apple's Proposal	Elan's Proposal
"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.

Again, the claim construction dispute between the parties is about whether the claim requires fixed, static, printed information, as Apple contends, or whether the information can be displayed on the screen when the device is in a specific mode. Here, again, the plain language does not require "static" patterns each on a discreet portion of the touchpad. All the plain language requires is some pattern on the plurality of regions for operation in those modes. Reading the plain language in the context of the specification, it is even more clear that the invention contemplates that, at least in some embodiments, the information displayed on the panel can be variable from mode to mode. Indeed, 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). For example, the patent teaches that multiple "virtual key regions" in the key mode become a "handwriting region" in handwriting mode, while in mouse mode, one virtual key region become a "cursor moving region" and other virtual key regions become vertical and horizontal scroll bars. '353 patent at 3:4-18. This innovation would not be realized if all the information displayed on the entire panel were "static" as Apple urges.

The 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. The specification repeatedly describes a device user entering data by touching the panel. "The arrangement referred by 24 serves as an input device or interface for a telephone and users can input the telephone number for dialing by touching the corresponding key patterns." *Id.* at 2:65-3:1. In handwriting mode, the

handwriting region arrangement "provides… for handwriting input. Users write on their input data or drawings by fingers or conductors in the handwriting region." *Id.* at 3:8-10. In mouse mode, the key region "becomes a cursor moving region for users to control the cursor movement by touching on this region. *Id.* at 3:14-16. Therefore, Elan's construction explaining that the "second patterns" convey information to the user about where to touch is consistent with the specification and will be helpful to the finder of fact without broadening the scope of the claim.

It is true that the patent states that the information to delineate regions where a user can input data can be printed on the insulator plate on the top of the panel. But the patent also states in no uncertain terms that this is only one of the possible embodiments within the scope of the invention. "However, variation or modifications are possible within the scope of the present invention." *Id.* at 3:39-43. Moreover, the specification expressly describes a transparent top panel of a touch input panel and backlighting the panel to better display words or patterns on it. *Id.* at 32-38. Therefore, the scope of invention is broad enough to cover touch panels placed over a display screen wherein the information "on the panel" is a function of what data is displayed on the screen. Elan's construction, which stays close to the claim language and simply adds an explanation of the purpose for the second patterns, consistent with the specification, should therefore be adopted.

E. Disputed Terms in The '352 Patent

Claim 18 of the '352 patent reads as follows, with the disputed terms highlighted:

> A touch sensor for detecting the operative coupling of multiple fingers comprising:
>
> means for scanning the touch sensor to (a) identify a first maxima in a signal corresponding to a first finger, (b) identify a minima following the first maxima, and (c) identify a second maxima in a signal corresponding to a second finger following said minima, and
>
> means for providing an indication of the simultaneous presence of two fingers in response to identification of said first and second maxima.

'352 Patent (DeBruine Decl., Ex. A) at 16:14-23.

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1. "Identify a first maxima in a signal corresponding to a first finger" Should Be Construed to Mean "identify a first peak value in a finger profile obtained from scanning the touch sensor"

Apple's Proposal	Elan's Proposal
Identify a first peak value in a finger profile *taken on an axis* obtained from scanning the touch sensor (emphasis added)	Identify a first peak value in a finger profile obtained from scanning the touch sensor

The first recited step in the method claimed in the '352 patent for detecting the number of fingers on a touch pad begins "scanning the touch sensor to (a) identify a first maxima in a signal corresponding to a first finger . . ." The parties agree that "scanning the touch sensor" means "measuring the values generated by a touch sensor to detect operative coupling an determining the corresponding positions at which measurements are made." The parties also offer almost identical constructions for the phrase "identify a first maxima in a signal corresponding to a first finger."

The only difference between Elan's proposed construction and Apple's is that Apple's construction adds a requirement, not found in the claim language, that the finger profile be "taken on an axis." *See* Amended Joint Claim Const. Stmt. (Dkt. No. 84), Ex. A. Nothing in the claim language or intrinsic evidence supports adding this limitation to the claim term. Apple is improperly asking the Court to read limitations from a preferred embodiment into the claims to narrow them. This is improper. *Phillips*, 415 F.3d at 1325.

The Federal Circuit has many times explained that while claim terms are construed in the context of the specification, courts must take care not to limit the claims to specific embodiments described in the specification. *See, e.g.*, *Ekchian v. Home Depot, Inc.*, 104 F.3d 1299, 1303 (Fed. Cir. 1997) (The Federal Circuit has repeatedly "cautioned against limiting the claimed inventions to preferred embodiments or specific examples in the specification"); *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1354 (Fed. Cir. 2003) (reversing claim construction). That is particularly the case here. The '352 patent is careful to explain that the embodiment described in detail, in which the scanning occurs along the X or Y, axis is only an "exemplary" embodiment. *Id*. at 7:1-6. In fact, that embodiment is described as a "simple, exemplary embodiment." *Id.* at 2:51-47. Not only is does the specification not support Apple's construction, it *directly*

contradicts it. After describing the "exemplary embodiment" performing the analysis along the X and Y axes, the '352 patent goes on to explain that:

> While the foregoing example describes identification minima and maxima in the X and Y direction [e.g. along the X or Y axis] 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." *Id.* at 11:11-15. The patent further emphasizes that "sensors may be scanned sequentially or concurrently, depending on the hardware implementation."

Id. at 7:36-37.

In light of this very clear statement, one of ordinary skill in the art could not possibly conclude that the invention required scanning for a finger profile "on an axis." On the contrary, one of ordinary skill would realize 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. As a matter of law, "it is not necessary to embrace in the claims or describe in the specification all possible forms in which the claimed principle may be reduced to practice." *SRI Int'l*, 775 F.2d at 1121; *see also AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1248 (Fed. Cir. 2007). Apple's attempt to rewrite the claims should not be permitted.

2. The Steps of Method Claim 1 Do Not Require Any Order of Operation

The parties dispute the construction of "identify a minima . . . following a first maxima" and "identify a second maxima . . . following said minima" in claims 1 and 18.

Claim term	**Apple's Proposal**	**Elan's Proposal**
identify a minima . . . following a first maxima	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
identify a second maxima in a signal corresponding to a second finger following said minima	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	identify a second peak value in the finger profile that occurs after the first peak value

The parties have two disputes regarding these claim elements. First, Apple has inserted the same "taken on an axis" limitation in these terms as it did to the previous term "identify a first

maxima . . .” For the reasons discussed above, that limitation should not be read into these terms either. The parties also dispute whether there is a requirement that the first maxima, minima and second maxima be identified in that order; that is, whether the step of identifying the minima must be performed at a time after the step of identifying the first maxima and before the step of identify the second maxima. Reading the patent in light of the specification, it would be error to impose any such limitation. First, absent a clear indication in the claim itself, there is no requirement that the steps of a method claim be performed in the order recited. *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1342-43 (Fed. Cir. 2001). *Interactive Gift* describes a two-part test for determining whether a method claim recites a particular order of steps. First, the claim language is examined to determine whether, as a matter of grammar or logic, the steps must be performed in order. If there is no such requirement in the claim language itself, the rest of the specification is examine to determine whether it directly or implicitly requires such a narrow construction. *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363,1369-70 (Fed. Cir. 2003).

Applying that standard to claim 1, it is clear that there is no requirement that the step of “identifying the second maxima . . .” be performed after the step of “identifying the minima . . .” While the claim does use the phrase “following” that does not imply that the step follows in time. Rather, “following” refers to the location of the second maxima in relation to the minima. In other words, taking one maxima as the “first maxima,” the claimed method requires that the other, or “second” maxima, be separated from the first by a minima. Thus, the “minima” is described with relation to the “first” maxima, and the second maxima must follow the minima. *See, e.g., 3M Innovative Props., Inc. v. Avery Dennison Corp.*, 350 F.3d 1365, 1374-75 (Fed. Cir. 2003) (use of “first,” “second,” etc. does not imply that steps are performed in that order). According to the grammar of the claim, “following” and “after” refers to the spatial relationship of the minima and the second maxima to the “first” minima. It does not refer to the order in which that relationship is determined.

The specification is consistent with this understanding. Here, the patent makes clear that the order of steps are not important. The steps of identifying the maxima and minima are part of a “scanning” process. The patent makes clear that “sensors can be scanned sequentially or

concurrently, depending on the hardware implementation." *Id.* at 7:36-37. It also says that "the X and Y compute processes may be performed sequentially in either order or concurrently." *Id.* at 11:6-10. As such, the patent makes clear that the order of steps is not important to the invention.

Elan recognizes that the language Apple proposes that would impose an order of execution of the steps of "identifying a first maxima," "identifying a minima," and "identifying a second maxima" is taken in part from the claim construction order entered by Judge Breyer in the previous action involving Elan's predecessor in interest, Elantech Devices Corp. *See* DeBruine Decl., Ex. K. Elan also recognizes that this language was taken from a claim construction proposed by Elantech. In the previous action, however, the *order* of the scanning steps was not important to the claim construction process or the determination of infringement. To the extent step order was discussed, Elantech made arguments consistent with Elan's positions here. In its Reply Claim Construction Brief for U.S. Patent 5,825,352, Elantech argued:

> The use of the term "following" according to the plain language itself merely explains the relative locations of the maxima and minimum, as having "a minima *following* the first maxima" and "a second maxima … following said minima."

DeBruine Decl., Ex. L (Reply) at 5. While this argument was made to rebut a specific point not at issue here – i.e., that the term "scanning" required the storage and examination of measured values in the order of the sensors (e.g., taken along an X or Y axis) it anticipates Elan's current position that the claim terms do not impose any sequence of steps. Therefore, the Court should reject Apple's proposed construction as inconsistent with the specification, which illustrates that the claim term "following" merely describes the relative location of the two maxima and one minimum. It does not require scanning in any particular order. The use of the term "following" according to the plain language itself merely explains the relative locations of the maxima and minimum, as having "a minima following the first maxima" and "a second maxima . . . following said minima." *Id.*

Similarly, and for the same reasons, the term "identify a minima following the first maxima" should be construed to mean "identify the lowest value in a finger profile that occurs after the first value" and the term "identify a first maxima in a signal corresponding to a first

finger" should be given the meaning " identify a second peak value in the finger profile following the minima."

3. "Identify" and "In Response To" Are Common English Terms That Need No Construction

Apple's Proposal	Elan's Proposal
"recognize a value to be"	plain meaning

The terms "identify" and "in response to" appear in the longer claim term Elan identified for construction, discussed above. These common words need no construction. The purpose of claim construction is to understand and explain the scope of claims. *Embrex, Inc. v. Service Eng'g Corp.*, 216 F.3d 1343, 1347 (Fed. Cir. 2000). Language that is clear on its face needs no construction, because no further understanding or explanation is needed. *See, e.g.*, *Mentor H/S, Inc. v. Med. Device Alliance, Inc.*, 244 F.3d 1365, 1380 (Fed. Cir. 2001) (district court properly declined to construe claim terms "irrigating" and "frictional heat" and did not err by instructing the jury to give these terms their ordinary meanings). The words "identify" and "in response to" are even more common and general than the terms at issue in *Mentor*.

What is more troubling than Apple's attempt to substitute words in an attempt to paraphrase the claim terms chosen by the inventors is the interpretation that Apple, or at least its expert, has adopted as an additional gloss on that improper interpretation. For example, while Apple proposes that "in response to" means "after and in reaction to," Dr. Von Herzen understands Apple's definition to mean "after and ***in direct*** reaction to" such that no intervening steps or events may take place. DeBruine Decl., Ex. G at 109:9-110:9. In other words, Apple appears to propose this unnecessary construction so that it can later construe its construction to require a limitation found nowhere in the claim or the specification. That attempt should be rejected.

Similarly, Apple's expert would interpret "identify" to mean "recognize to be" which in turn could well require that a value is written into memory. *Id.* at 102:15-105:8. Again, there is no basis on which to provide Apple the opportunity to present expert testimony to further construe

its construction to add spurious limitations to the claims if the Court accepts Apple's construction. The term "identify" means to identify, and "in response to" means in response to.

4. The specification Clearly Discloses and Links Copious Structure to the "means for selecting an appropriate control function" Limitation (claim 19) and Therefore the Claim Is Not Indefinite.

Claim 19 depends from claim 18, and adds the requirement of a

> 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.

17:37-42. Both parties agree that this element is a "means-plus-function" element that is governed by 35 U.S.C. § 112(6). Construction of such a claim element involves two steps. First, the Court must determine the claimed function. Second, the Court must identify the corresponding structure in the written description that performs the claimed function. *See AllVoice Computing*, 504 F.3d at 1240. Here, the parties agree that 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." Amended Joint Claim Const. Stmt. (Dkt. No. 84), at 8.

Apple's Proposal	Elan's Proposal
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.

Apple contends that the specification does not disclose a corresponding structure and that the limitation is therefore indefinite. *Id.* Apple could not be more wrong.

Where the structure for a means-plus-function element involves a computer or processor, the computer or processor itself is not the corresponding structure. Rather, it is the processor programmed to execute an algorithm that performs the claimed function. *WMS Gaming, Inc. v.*

Int'l. Game Tech., 184 F.3d 1339, 1349 (Fed. Cir. 1999). One of ordinary skill would understand that the structures in the specification linked to this function are the Multiplexor 45, Capacitance Measuring Circuit 70, Analog to Digital Convertor 80, Microcontroller 60 and/or software, firmware or hardware performing the claimed function, and their equivalents. *See* Dezmelyk Decl., ¶¶ 31-34.

The specification provides numerous examples of how the combinations of fingers the number of fingers, the movement of the fingers and the time the fingers are present can be used to select appropriate control functions. Many such sequences are shown in Figs. 7A-F. '352 Patent. Those functions, mapped to the illustrated gestures, can include: a second finger tap mapped to a select function, *id*. at 13:8-11; two fingers moving in unison to mapped to a "drag" function, *id*. at 13:19-22; two fingers briefly tapping the surface can be mapped to a double click of the left mouse button or a middle mouse button, *See id*. at 13:23-31; a three finger tap can be mapped to a right mouse button click to call up a context-sensitive menu, *id*. at 13:32-37; and three fingers moving can be used to control a scroll function. *Id*. at 13:36-44. The patent also states that the invention allows the implementation of control functions that go beyond conventional mouse functions, to include, for example an "ink" function or even to implement a musical keyboard. *Id*. at 3:47-4:26. There is no dispute that, as of the filing of the '352 patent, those skilled in the art could readily construct and program a touchpad that could detect the movement of fingers in contact with the touch sensor. *See* Dezmelyk Decl., ¶ 31. There is also no dispute that one of ordinary skill in the art could determine the time duration of any such contact. *See* DeBruine Decl., Ex. G at 38:2-10. The '352 patent teaches one skilled in the art how to determine the number of fingers present on the touchpad.

The '352 patent further teaches, with detailed exemplary algorithms and instructions, how to implement one such control function. For example, the algorithm described in Fig. 8. illustrates a program that implements the gestures shown in Figs. 7F-1 and 7F-2. '352 Patent at 13:59-61. That flow chart determines the number of fingers present on the touchpad and finger movement and determines whether to report the button as up or down (steps 915 and 925) and to report motion to control the cursor (step 930). '352 patent at 13:59-15:11. As such, one of ordinary skill

in the art would very clearly understand that the scope of claim 19 includes the firmware or software programmed to select 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 other structure corresponding to this limitation includes the multiplexor, capacitance measuring circuit and analog to digital converter, that provide signals from which the microcontroller, or software on the host device, can determine the presence of fingers on the touchpad, the amount of time the fingers are detected and any movement of the fingers. *See* '352 Patent at 5:20-55 ("the analog to digital converter 80 then supplies the signals to the microcontroller 60, which operates to form, among other things, a finger profile for one or more fingers, X-Y cursor data, and control signals"); *id.* at 7:1-3 ("… the operation of the system of Fig. 2 is controlled in either firmware, software or hardware."); *id.* at 7:29-33 ("In some instances, driver software executing on the host may ascertain the existence of finger movement, while in other instances including the exemplary embodiment described herein the determination of finger movement occurs in firmware in the pointing device."); *id*. at 15:64-16:5 ("…this aspect of the invention is directed to the ability to identify and process various sequences in which one or more fingers are either absent or present, interspersed with the motion or lack of motion of the finger or fingers across the touch sensor, to evaluate those sequences either locally or via software on the host, and to report appropriate signals to cause cursor movements or control functions to occur in applications programs or operating environments."). Thus, the patent discloses and links these hardware , along with firmware or software programmed to perform the claimed function, as the corresponding structure.

Because there is ample structure disclosed, this claim is not indefinite. A claim will be found indefinite only where one skilled in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim. *AllVoice*, 504 F.3d at 1241. In the case where the corresponding structure is disclosed as a logic, the algorithm in the specification need only disclose "adequate defining structure to render the bounds of the claim understandable to one of ordinary skill in the art." *AllVoice,* 504 F.3d at1245 (citing *Med.*

Instrumentation & Diagnostics Corp. v. Electra AB, 344 F.3d 125, 1214 (Fed. Cir. 2003) ("[H]ere there would be no need for a disclosure of the specific program code if software were linked to the converting function and one skilled in the art would know the kind of program to use."); *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003) (internal circuitry of an electronic device need not be disclosed in the specification if one of ordinary skill in the art would understand how to build and modify the device.") Here, one of ordinary skill in the art would understand that the written description of the '352 patent discloses structure corresponding to the function of choosing an appropriate control function based upon a combination of a number of fingers detected, an amount of time the fingers are detected and any movement of the fingers. Dezmelyk Decl., ¶¶ 31-34. As such, the claim can be understood by one skilled in the art, and would be understood to encompass the structure Elan has identified.

IV. CONCLUSION

For the foregoing reasons, the Court should adopt Elan's constructions.

DATED: May 7, 2010

Respectfully submitted,

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