United States Court of Appeals for the Federal Circuit

04-1093

NCR CORPORATION,

Plaintiff-Appellant,

v.

PALM, INC. and HANDSPRING, INC.
(now collectively palmOne, Inc.),

Defendants-Appellees.

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DECIDED: January 6, 2005

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Before MAYER,[*] RADER, and SCHALL, Circuit Judges.

SCHALL, Circuit Judge.

NCR Corp. ("NCR") appeals the decision of the United States District Court for the District of Delaware that granted summary judgment of non-infringement in favor of Palm, Inc. ("Palm") and Handspring, Inc. ("Handspring") in NCR's suit against Palm and Handspring (collectively "defendants") for infringement of U.S. Patent Nos. 4,634,845 ("the '845 patent") and 4,689,478 ("the '478 patent"). NCR Corp. v. Palm, Inc., 217 F.

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[*]   Judge Haldane Robert Mayer vacated the position of Chief Judge on December 24, 2004.

Supp. 2d 491 (D. Del. 2002). The district court granted summary judgment in favor of defendants after construing the asserted claims of the '845 and '478 patents and determining that there was no genuine issue of material fact as to whether defendants infringed the claims. Id. at 529. We have jurisdiction over NCR's timely appeal pursuant to 28 U.S.C. § 1295(a)(1). For the reasons set forth below, we affirm.

BACKGROUND

I.

The '845 patent is directed to a portable handheld electronic device ("handheld") and the '478 patent is directed to a system comprising a handheld, an interface module to connect the handheld to other devices, and other optional components. The '478 and '845 patents are not within the same chain of applications. However, both patent applications were filed on the same date and have virtually identical specifications regarding the device features that are at issue.

Although multiple claim terms are disputed, this appeal can be resolved by focusing on one principal feature of the claimed device: the handheld's interactive display screen. The display guides the user through various menu options and tasks. The display can reconfigure its menu options in response to a user pressing a "key area" on the display.

For example, the handheld's display may initially show a menu of different applications from which the user may choose, such as a calendar, a calculator, a task list, etc. At that point, the user may press a key area on the panel to enter one of these applications. For instance, if the calculator application is selected, the handheld's processor will reconfigure the display to show a calculator device instead of the initial

menu display. The various key areas on the display will then correspond with buttons on a normal calculator, instead of the initial menu options previously displayed. The following figures, which are Figures 3 and 4 in both patents, depict the handheld's display in two different configurations, with the same line display 26-9 presenting the user with different options.
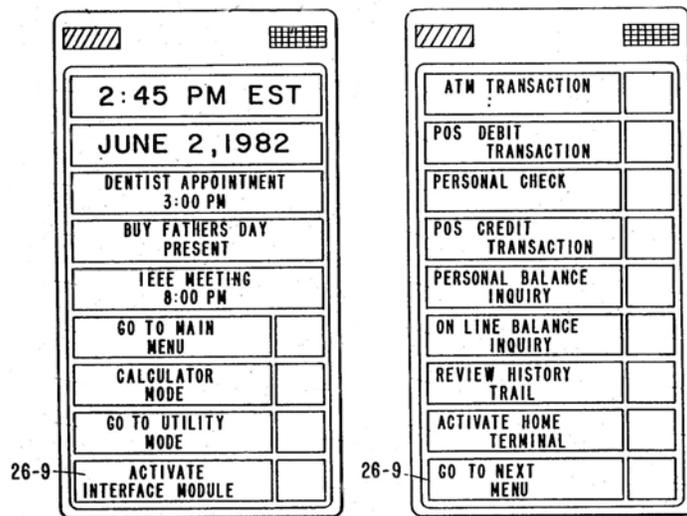
Defendants also produce portable handheld devices. The accused products, Palm's PalmPilot and Handspring's Visor and Treo™ PDAs, use liquid crystal display screens to display information for the user. See NCR, 217 F. Supp. 2d at 498. Defendants describe the display system on their handhelds as a "resistive digitizer," characterized as "a single, continuous touch screen, with which the handheld computer can sense the touch of a stylus." (Br. of Appellees, at 14.)

II.

NCR filed suit against defendants for infringement of claims 1-7, 9, and 12-16 of the '845 patent, and claims 6-9 and 11 of the '478 patent. Four of the asserted claims

are independent: claims 1 and 16 of the '845 patent, and claims 6 and 11 of the '478

patent. The independent claims are set forth in pertinent part below, with the disputed

limitations in bold:

'845 patent, Claim 1:

> A data handling device comprising:
> a panel;
> a plurality of discrete display elements arranged relative to said panel to
> present, when selectively energized, user instructions and key information
> to a user of said device; said discrete display elements being small in size
> to enable said user instructions and key information to be presented over
> substantially all of said panel;
> a **plurality of discrete switches** for entering data when actuated;
> said discrete display elements and said discrete switches being positioned
> in overlapping relationship relative to said panel to enable said switches to
> be actuated from said panel;
> . . .

'845 patent, Claim 16:

> A portable, intelligent, data-handling device comprising:
> means for storing data and machine instructions;
> means for executing said machine instructions;
> a panel;
> means for displaying data to a user of said device;
> **means for entering data** on said device;
> said displaying means and said entering means being in overlapping
> relationship relative to said panel and extending over substantially all of
> said panel;
> . . .

'478 patent, Claim 6:

> A system for handling data comprising:
> > a portable data handling device; and
> > an interface module for coupling said device with other systems;
> > said data handling device comprising:
> > > a panel;
> > > a plurality of discrete display elements arranged relative to
> > > said panel to present, when selectively energized,
> > > information to a user of said device;
> > > a **plurality of discrete switches** for entering data when
> > > actuated;

said discrete display elements and said discrete switches being positioned in overlapping relationship relative to said panel to enable said switches to be activated from said panel;

. . .

'478 patent, Claim 11:

A system for handling data comprising:
    a portable data handling device having a size which is substantially the same as a credit card;
    at least one other system; and
    an interface module for coupling said device with said other system to transfer data between said device and said other system;
    said device comprising:
        a panel;
        a plurality of discrete display elements arranged relative to said panel to present, when selectively energized, user instructions and key information to a user of said device;
        said discrete display elements being small in size to enable said user instructions and key information to be presented over substantially all of said panel;
        a plurality of discrete switches for entering data when actuated;
        . . .

After the parties submitted cross motions for summary judgment, the district court conducted a hearing, and heard argument on the proper claim construction of the disputed claim limitations. NCR, 217 F. Supp. 2d at 493-94. In a comprehensive opinion ruling on the summary judgment motions, the district court construed various limitations of the asserted claims. Among the limitations construed were "a plurality of discrete switches," id. at 508, and "means for entering data," id. at 510. Based on its construction of these and other limitations of the asserted claims, the district court granted summary judgment of non-infringement in favor of defendants. Id. at 529.

III.

"We review the district court's grant of summary judgment de novo." Caterpillar Inc. v. Sturman Indus., 387 F.3d 1358, 1373 (Fed. Cir. 2004). Summary judgment is appropriate when "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c).

On appeal, NCR challenges, among other things, the district court's construction of the claim limitations a "plurality of discrete switches" and "means for entering data." Claim construction is a question of law that we review de novo. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). We begin our analysis with the words of the claim. See Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). "In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to particularly point out and distinctly claim the subject matter which the patentee regards as his invention." Interactive Gift Express, Inc. v. Compuserve, Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001) (citations omitted). The ordinary and customary meaning of a claim term may be determined by reviewing a variety of sources, including "the claims themselves; dictionaries and treatises; and the written description, the drawings, and the prosecution history." Ferguson Beauregard v. Mega Sys., LLC, 350 F.3d 1327, 1338 (Fed. Cir. 2003) (citations omitted).

The limitation "plurality of discrete switches" appears in the '845 patent in claims 1-7, 9, and 12-15, and in the '478 patent in claims 6-9 and 11. The district court

construed "plurality of discrete switches" to mean "two or more distinct and separate manual or mechanically actuated devices for making, breaking, or changing the connections in an electric circuit" (for shorthand, the "physical switch" definition). NCR, 217 F. Supp. 2d at 508. NCR argues that the proper construction of "plurality of discrete switches" is "more than one individually distinct programmed device for indicating that one of alternative states or conditions have been chosen" (for shorthand, the "programmed device" definition).

NCR asserts that the district court improperly construed "plurality of discrete switches" because the court adopted one dictionary definition of "switch" (as a physical switch) and ignored alternate definitions of the term "switch" in the same dictionary. See Tex. Digital Sys. v. Telegenix, Inc., 308 F.3d 1193, 1203 (Fed. Cir. 2002) ("If more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all such consistent meanings."). NCR also asserts that the specification supports its proposed construction of "plurality of discrete switches" as programmed devices.

We agree with the district court's construction of "plurality of discrete switches." Preliminarily, we see a fundamental difficulty with NCR's arguments with respect to this claim limitation: the fact that the claimed invention contains various programmed components, some of which are programmed to respond to the closure of simple mechanical-electrical switches, does not in turn make the switches themselves "programmed." Nor does the fact that multiple components are necessary for the operation of the device's entire display system mean that all of such components are part of the "plurality of discrete switches," as that term is used in the patent claims. We

think that one skilled in the art, reading both the plain language of the claims and the specification, would conclude that the "plurality of discrete switches" is nothing more than a set of simple switches, and that separate components are programmed to respond to the actuation of those switches. These separately claimed components all work together to enable dynamic interaction with the user.

We begin with the language of the claims. See Nystrom v. Trex Co., 374 F.3d 1105, 1120 (Fed. Cir. 2004). Taking claim 1 of the '845 patent as an example, the claims recite various elements, including:

> a plurality of discrete switches for entering data when actuated;
>
> said discrete display elements and said discrete switches being positioned in overlapping relationship relative to said panel to enable said switches to be actuated from said panel;
>
> control means for controlling the operation of said device including said discrete display elements and said discrete switches so as to facilitate the displaying and entry of data;
>
> said control means comprising:
>
> means for storing data and a plurality of machine instructions; and
>
> means for executing said machine instructions including means for selectively energizing said display elements so as to present on said panel that key information and those of said user instructions which are associated with those of said discrete switches which are to be used in association with said machine instructions being executed so as to present to said user a variable user instruction format and a variable key format which are a function of said machine instructions being executed as said machine instructions are executed so as to facilitate the entry of data[.]

'845 patent, col. 14, l. 67 - col. 15, l. 23.

NCR asserts that software is "integrated" into the "plurality of discrete switches" to reconfigure the key areas for the user. See Brief of Appellant, at 34 ("When the user

actuates that yellow area, software reconfigures the active key switch areas and reassigns different functions to those areas[].").

However, this is contradicted by the claim language. The claims indicate that the invention includes "a plurality of discrete switches" and a separate "control means" for controlling, among other things, the "plurality of discrete switches." According to the claims, it is the "control means" for the "plurality of discrete switches," and not the "plurality of discrete switches" itself, that stores "machine instructions" (i.e., software) and reacts to a switch in the "plurality of discrete switches." The "means for executing said machine instructions" within the "control means," and not the "plurality of discrete switches," "present[s] on said panel that key information and those of said user instructions which are associated with those of said discrete switches. . . <u>so as to present to [the] user a variable user instruction format and a variable key format</u>." (emphasis added). The reconfiguring of the keys in a "variable user instruction format," recited in the claims as part of the "control means," contradicts NCR's assertion that this is performed by programming within the "plurality of discrete switches." This type of construction is disfavored. <u>See</u> <u>Innova/Pure Water, Inc. v. Safari Water Filtration Sys.</u>, 381 F.3d 1111, 1119 (Fed. Cir. 2004) ("While not an absolute rule, all claim terms are presumed to have meaning in a claim.").

Thus, we think that one skilled in the art, reading the claim language, would recognize that the invention includes a dynamic display arrangement, which functions with the help of several separately claimed elements. A "means for executing said machine instructions" energizes certain "display elements" on the handheld's panel, with different display elements representing a menu option or a particular task that the user

wishes to perform. The "control means" contains software to energize the proper display elements. Accordingly, the plain language of the claims indicates that a "control means" and a "means for executing said machine instructions" are programmed to cause the display elements to be selectively energized. The "plurality of discrete switches" is separate from the "control means" and its programming.

In addition to the fact that a separate claim element performs what NCR claims that the "plurality of discrete switches" is "programmed" to do, other claim limitations support the district court's interpretation that "plurality of discrete switches" means an array of physical switches. All of the asserted claims containing the "plurality of discrete switches" limitation also contain a limitation similar to that in claim 1 of the '845 patent:

> said discrete display elements and said discrete switches being positioned
> in overlapping relationship relative to said panel to enable said switches to
> be actuated from said panel. . .

'845 patent, col. 15, ll. 1-4; see also id. col. 16, ll. 39-42 (independent claim 16); '478 patent, col. 16, ll. 34-37 (independent claim 6); id. col. 18, ll. 7-10 (independent claim 11). This limitation also comports with the district court's physical switch interpretation, as it indicates to one skilled in the art that the switches are precisely located physical components. It would be strange to describe the switches, with software, as in "overlapping relationship" to anything, because there would be no precise place where a "switch" would be located. An entire component of the switches—the software component—would be stored in memory and only rendered by software.[1] The plain

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[1]   In addition, NCR has not pointed to any part of the specification that describes where the programming for the "plurality of discrete switches" is stored. The only memory elements disclosed are part of the "means for controlling the P terminal 12" shown in Figure 8, see '845 patent, col. 8, l. 31 - col. 9, l. 21, i.e., they are part of the

language of the claims stands as an obstacle in NCR's attempt to import separate claim limitations into the "plurality of discrete switches" limitation in an effort to broaden the meaning of that term.

The specification confirms the understanding found in the claim language that the switches are simple physical switches which are coupled with separate programmed components to make the entire overall display system functional for the user. In short, the specification discloses an array of transparent switches that are no more "programmed" than a simple mechanical "on/off" light-switch. It is other components that are programmed to dynamically "highlight" the appropriate physical switches that the user should actuate to perform a desired task, and to respond to the switch closures resulting from a user's pressure on a key area.

The preferred embodiment, shown in Figure 7 of both the '845 and '478 patents, discloses an array of simple open/closed physical switches that are fabricated as a set:

(Cont'd. . . .)
"means for controlling the operation of said device." <u>See</u> '478 patent, col. 15, ll. 5-7 (claim 1).

FIG. 7
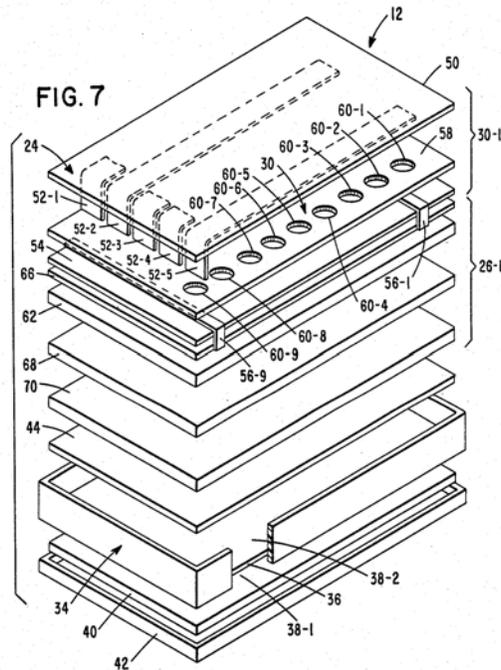
The specification unambiguously recites those elements that are included in the "plurality of switches:"

> **The upper compartment 38-2 contains those elements included in the plurality of switches 30** and they are included in the bracket 30-1 in FIG. 7.
> . . . The plurality of switches 30 included in the bracket 30-1 in FIG. 7 is comprised of a top, transparent, flexible, plastic-film layer 50 such as Mylar. . . The lower side of the layer 50 has five, equally spaced, transparent strips or conductors 52-1, 52-2, 52-3, 52-4, and 52-5[.]
> . . . The plurality of switches 30 (FIG. 7) also includes a thin, bottom, transparent, plastic-film layer 54, and this layer has nine equally-spaced, transparent strips or conductors 56-1, 56-2, 56-3, 56-4, 56-5, 56-6, 56-7, 56-8, and 56-9 deposited on the top surface of layer 54. . . A spacer layer 58 is positioned between the top layer 50 and the bottom layer 54 to provide insulation between the conductors. . . The layer 58 has a plurality of holes therein, with each hole being located at an intersection between one of the conductors 52-1 through 52-5 and one of the conductors 56-1 through 56-9.

'845 patent, col. 6, ll. 8-10, 24-29, 35-48 (emphasis added). No software is disclosed as

part of the "plurality of switches 30." It is logical that none would be, because the above

figure and description make clear that the "plurality of switches 30" is comprised merely

of a few plastic-film layers and strips of conductive material. A spacer layer separates the conductors, and holes in the spacer layer allow the top and bottom conductive strips to contact each other at different points, thus forming a set of discrete open/closed, mechanical-electrical switches.

Figure 7 and its related description undermine NCR's arguments with respect to the specification. NCR has not explained how, without more, the disclosed pieces of plastic and conductive strips can be "programmed," as well as what the switches would be programmed to do that is not performed by elements separately claimed and disclosed apart from the "plurality of switches 30." Although NCR is correct that programming appears to be an integral part of the device's overall operation, the specification's description of switch actuation reinforces the point that the "plurality of switches" is merely a set of open/closed, mechanical-electrical switches:

> When a user wishes to actuate one of the plurality of switches 30, as for example that one associated with key area 28-9 in FIG. 4, the user simply depresses that area 28-9 causing the conductor 52-5 in FIG. 7 to pass through the hole 60-9 and thereby contact the conductor 56-9.

'845 patent, col. 6, ll. 58-63. Thus, a switch in the "plurality of switches 30" is a mechanical-electrical switch that is either open (when the upper and lower conductive strips are not in contact through a particular hole) or closed (when the pressure from a user's finger or stylus causes two conductors to contact through a particular hole to form a circuit). The handheld also includes a separate "keyboard interface 106" which "includes a set of drivers. . . to scan the rows of switches in the keyboard array 64 and to inform the microprocessor 46 of the switch closures." Id. col. 9, ll. 14-17 (emphasis added). The specification thus comports with the district court's understanding that the

patents disclose "the use of a plurality of discrete physical switches whose closures are recorded by a microprocessor." NCR, 217 F. Supp. 2d at 529.

NCR proffers other passages from the specification as supporting its programmed device definition of "plurality of discrete switches." First, NCR cites the following passage:

> It should also be noted that the key areas themselves have no captions or labels on them in the usual sense. The labels or designations are provided by the display 26 which lies below the plurality of switches 30.

'845 patent, col. 5, ll. 46-50. This statement does not support NCR's contention that "software creates a switch"[2] that is in the "plurality of switches." This merely explains how the display 26 is dynamically "re-labeled," so that the user is directed to the proper physical switches to actuate (which are transparent and lie above the corresponding display element) in order to complete various tasks.

Second, NCR argues that a related passage supports its construction:

> While the actual (physical) switches in the plurality of switches 30 are always present on the top panel 24, they are outlined or highlighted only when they become necessary for a particular function or instruction being executed by the P Terminal 12[.]

'845 patent, col. 5, ll. 48 - 54. We think that this statement undermines, rather than supports, NCR's proposed construction. As discussed supra, the "plurality of switches 30" is unambiguously described as a set of open/closed mechanical switches which are actuated by contacting two pieces of conductive material through a hole to complete a

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[2]   NCR's argument conflates "actuation" of a switch with whether other components in turn respond to switch actuation. The fact that a separate component is "programmed" to do something (or, in some cases, to do nothing) in response to the actuation of a simple mechanical-electrical switch does not logically make that switch itself a "programmed device."

circuit. The above-quoted statement merely observes that certain physical switches in the plurality of switches 30 are not always "highlighted." In reading the above statement, one must bear in mind how the switches are, in fact, highlighted. The specification explains that the key areas are "outlined or highlighted" by the display 26 positioned beneath the plurality of switches 30. Id. col. 6, ll. 63-65. Thus, the above-quoted statement merely explains that, when certain switches are not necessary for a particular function, those switches are not highlighted, i.e., the microprocessor does not send a signal to energize the display elements lying below those particular transparent switches.[3] We find nothing in that description to indicate that there is some type of software or logic within the switch itself. Rather, it further confirms that the switches themselves are of the simple mechanical-electrical variety, and that the only way to make the entire display apparatus appear dynamic to the user is to have software to alter the state of separately claimed components, such as the display elements, rather than the plurality of switches 30.

NCR also would have us infer that the language "the actual (physical) switches in the plurality of switches 30," id. col. 5, ll. 50-51, means that the physical switches are only "part" of a broader, more abstract set of switches that includes software. Breaking this argument into its logical components, NCR argues that (1) the "plurality of switches 30" contains something more than the physical switches; and (2) that the "something more" is software.

We can accept the first proposition, but must reject the second. The language "actual (physical) switches in the plurality of switches 30" indicates that the specification

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[3]   See, e.g., '845 patent, col. 7, l. 59 - col. 8, l. 4 (discussing "pixel selection" by the microprocessor).

is distinguishing certain physical switches from the entire plurality of switches 30, which, in the preferred embodiment, is a set of switches that is fabricated together. In Figure 7, there is indeed something more to the "plurality of switches 30" than the actual physical switches, but this "something more" is not software. In the preferred embodiment, each of the switches in the "plurality of switches 30" is fabricated from a layer of transparent plastic and conductive material. Consequently, portions of the top layer 50, and all of the spacer layer 58, for example, are part of the "plurality of switches 30" yet conceptually are not part of any one particular physical switch.

NCR points to a third statement in the specification in support of its position:

> Although the fabrication of switches 30 has been described in a specific manner, it is not intended to exclude other alternative methodologies to fabricate "transparent" switches such as homogeneous or discrete capacitive-film switches and electrostatic-sensitive switches, for example.

'845 patent, col. 7, ll. 5-10. We do not see how this passage shows that there is a software component to the claimed switches. The quoted statement does not mention programming or software; it only refers to physical fabrication methods of discrete physical switches.

NCR also proffers extrinsic evidence in support of its proposed definition of "plurality of discrete switches," quoting an article titled "Back to Basics: How Touchscreens Work":

> All touchscreen systems have three components. To process a user's selection, a sensor unit [physical switch] and a controller sense the touch and its location, and a software device driver transmits the touch coordinates to the computer's operating system.

NCR concludes from this description that (1) the patented display system is a "touchscreen" system and (2) consequently, the "plurality of discrete switches" must

include software. Defendants urge us not to consider this extrinsic evidence, citing

Elkay Manufacturing. Co. v. Ebco Manufacturing. Co., 192 F.3d 973, 976-77 (Fed. Cir.

1999).

Assuming arguendo that we should consider this extrinsic evidence, it does not

support NCR's construction of "plurality of discrete switches." The patents claim a

"touchscreen" not by using that term, but rather by claiming its separate components,

namely: "a plurality of discrete display elements" (which display items for the user); "a

plurality of discrete switches" (a set of physical switches); and a "control means"

(including a set of drivers).[4] This separation of the "touchscreen" into different claim

limitations within the claims is mirrored by the specification's separation of the elements:

a "display 26"; a separate "plurality of switches 30"; and a separate "keyboard interface

106" which "includes a set of drivers. . . to scan the rows of switches in the keyboard

array 64 and to inform the microprocessor 46 of the switch closures." '845 patent, col.

9, ll. 14-17. Thus, NCR's extrinsic evidence confirms that a software driver is not

considered part of the switches. Rather, according to this definition, both the switches

and drivers are separate components of a "touchscreen."

For these reasons, we affirm the district court's construction of "plurality of

discrete switches" as "two or more distinct and separate manual or mechanically

actuated devices for making, breaking, or changing the connections in an electric

circuit."

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[4]   The drivers are described in the context of Figure 8, which discloses the "means for controlling" the "P terminal" or handheld, and are not disclosed as part of the "plurality of discrete switches." See '845 patent, col. 2, ll. 33-35; id. col. 8, ll. 31-33; id. col. 9, ll. 14-17.

IV.

NCR also argues that the district court erred in construing the claim limitation "means for entering data," appearing in independent claim 16 of the '845 patent. The parties agree that this limitation is governed by 35 U.S.C. § 112, ¶ 6. However, they dispute whether the district court properly identified all of the corresponding and alternative structure disclosed in the specification to perform the function of "entering data." The court identified the corresponding structure for "entering data" as "the plurality of discrete switches" (as described in the specification and construed in the preceding section), "including capacitive-film and electrostatic-sensitive switches fabricated as an array of discrete transparent switches." <u>See</u> <u>NCR</u>, 217 F. Supp. 2d at 524.

NCR argues that additional, alternative structure is disclosed in the following passage of the specification:

> Although the fabrication of switches 30 has been described in a specific manner, it is not intended to exclude other alternative methodologies to fabricate "transparent" switches such as homogeneous or discrete capacitive-film switches and electrostatic-sensitive switches, for example.

'845 patent, col. 7, ll. 5-10. According to NCR, this statement discloses alternative ways in which data may be entered because the "transparent switches" designation was well known to those skilled in the art. NCR asserts that the district court's identification of the corresponding structure is incorrect because the district court erroneously concluded that "details showing how the switches are fabricated ('fabricated as an array of discrete transparent switches') must be set forth in the specification in order to qualify the alternative disclosed switches as alternative embodiments."

NCR has misapprehended the district court's ruling. The court did not state that in order to qualify as corresponding structure, manufacturing details of the alternative structure must be disclosed in the specification. Rather, the district court simply read the above passage as stating that using "capacitive-film switches" and "electrostatic-sensitive switches" are alternative types of physical switches to use in fabricating an array of discrete transparent switches. See NCR, 217 F. Supp. 2d at 510 ("[W]hile the specification states that the switches in the plurality of switches could be made using capacitive or electrostatic-sensitive materials, the structure disclosed is still any array of physical switches. . . . If the 'alternative methodologies' language imparts any corresponding structure at all to one of skill in the art, it is capacitive-film and electrostatic-sensitive switches fabricated as an array of discrete transparent switches."). Thus, regardless of the transparent switch type one decides to employ, the only structure disclosed in the specification for "entering data" is still an array of discrete physical switches. NCR has not adequately explained how the nature of "transparent switches," such as electrostatic-sensitive or capacitive-film switches, requires us to disturb the district court's interpretation of the specification.

V.

We have considered NCR's passing argument on the doctrine of equivalents and find it to be without merit. NCR has not shown error in the district court's conclusion that, as a matter of law, no reasonable jury could find that the accused devices operate in substantially the same manner as the claimed "plurality of discrete switches," as that term is properly construed. See NCR, 217 F. Supp. 2d at 527-28. Nor has NCR addressed the district court's claim vitiation analysis, see id. at 527.

With respect to equivalents for the structure corresponding to the "means for entering data" limitation in claim 16 of the '478 patent, Mr. Kitchen's report is insufficient to create a genuine issue of material fact under the doctrine of equivalents. Mr. Kitchen's statement that one skilled in the art could easily "substitute" a resistive layer touch screen for a device having distinct physical switches only speaks to the fact that these input devices are functionally identical. However, under § 112, ¶ 6, "[f]unctional identity and either structural identity or equivalence are both necessary." Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1267 (Fed. Cir. 1999). As we explained in Odetics, "under § 112, ¶ 6 equivalence, functional identity is required; thus the equivalence (indeed, identity) of the 'function' of the assertedly substitute structure, material, or acts must be first established in order to reach the statutory equivalence analysis." Id. "The content of the test for insubstantial differences under § 112, ¶ 6 thus reduces to 'way' and 'result.'" Id.

The district court detailed how the patented input device and the accused devices perform the identical function of entering data but in a substantially different "way":

> [T]he touch screen digitizer and the plurality of discrete switches function to enter data in a substantially different way. In the claimed invention, data is entered by closing a particular switch and energizing a particular electrical circuit; the microprocessor is informed of which switches are closed and reacts accordingly. By contrast, in the accused devices, data is entered by means of a digitizer that measures voltages produced at the location of the touch and converts those voltages into digital coordinates. Moreover, the resistive sheets of the accused devices are "continuous" and comprise a single device for measuring tactile input.

NCR, 217 F. Supp. 2d at 527. Mr. Kitchen's one-sentence, conclusory statement that entering data on a resistive layer touch screen and on a plurality of discrete switches "is

accomplished in the same way" is insufficient to overcome the district court's reasoned analysis.

<div align="center">VI.</div>

To conclude, we affirm the district court's construction of the claim limitations "plurality of discrete switches" and "means for entering data." These two determinations are sufficient to decide this appeal. At least one of these two claim limitations appears in all of the asserted claims. We express no opinion on the other claim construction issues raised by the parties. For the foregoing reasons, the district court's grant of summary judgment of non-infringement in favor of defendants is affirmed.