UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and MICROSOFT CORPORATION,
Petitioner,

v.

NEODRON LTD.,
Patent Owner.

IPR2020-00779
Patent 7,903,092 B2

Before MIRIAM L. QUINN, PATRICK M. BOUCHER, and CHRISTOPHER L. OGDEN, *Administrative Patent Judges*.

BOUCHER, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314(a)

Apple Inc. and Microsoft Corporation (collectively, "Petitioner") filed a Petition pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1–14 of U.S. Patent No. 7,903,092 B2 (Ex. 1001, "the '092 patent"). Paper 1 ("Pet."). Neodron Ltd. ("Patent Owner") filed a

Preliminary Response. Paper 7 ("Prelim. Resp."). With our authorization, Petitioner filed a Reply and Patent Owner filed a Sur-Reply, both limited to addressing Patent Owner's argument in its Preliminary Response that we should deny the Petition under 35 U.S.C. § 314(a) in accordance with *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential). Papers 8 ("Reply"), 9 ("Sur-Reply").

Applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we grant the Petition and institute an *inter partes* review. The Board has not made a final determination regarding the patentability of any claim.

I. BACKGROUND

A. The '092 Patent

The '092 patent "relates to touch sensitive user interfaces having an array of sensing elements and methods for determining which of a plurality of sensing elements in simultaneous detection is intended by a user for selection." Ex. 1001, 1:7–10. According to the patent, capacitive proximity sensors, such as may be implemented in a keypad, have certain advantages over their mechanical counterparts, in that they are less prone to wear and can be provided in tightly packed arrays. *Id.* at 1:15–22. But at the same time, a drawback to arrays of capacitive sensors is that an object to be sensed, such as a user's pointing finger, "will often be capacitively coupled to multiple capacitive sensors at the same time." *Id.* at 1:32–35. A result of activating multiple sensors simultaneously is ambiguity as to which sensor the user intended to select. *Id.* at 1:35–38. The ’092 patent describes a solution to this problem.

Figure 1 of the ’092 patent is reproduced below.

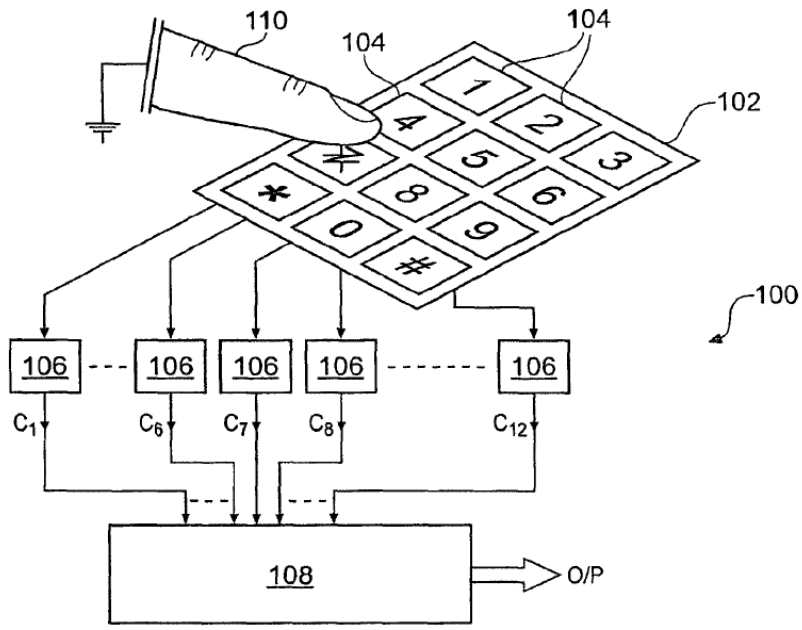

Figure 1 provides a perspective view of touch-sensitive user interface 100, which comprises sensing region 102 (sometimes referred to as a “keypad”) having an array of discrete capacitive sensing areas 104 (sometimes referred to as “keys”). *Id.* at 7:46–55. Sensing electrodes are provided by discrete areas of conductive material deposited on an underside of a plastic substrate, and are coupled to a plurality of capacitance measurement channels 106. *Id.* at 7:56–59, 7:62–64. In this illustration, a separate capacitance measurement channel 106 is provided for each sensing area 104. *Id.* at 8:8–10. Controller 108 receives output signals C_1–C_{12} from the capacitance measurement channels and uses those signals to determine which of the keys has been selected by a user. *Id.* at 8:14–19. The controller determines whether “the characteristics of an increase in measured capacitance (e.g. magnitude, duration) are such that the key should be deemed to be in an activated state.”

Id. at 8:63–66. Such a determination may be made, for example, when “a predefined activation output signal level [is] exceeded.” *Id.* at 8:66–9:3.

Figure 1 shows a user selecting the key associated with the number 7. *Id.* at 8:44–45. The proximity of the user’s finger increases the capacitive coupling of the corresponding electrode, leading to an increase in output signal C_7. *Id.* at 8:45–49, 9:4–9. But for the reasons summarized above, output signals associated with nearby keys, namely 4, 5, 8, 0, and * may also increase. *Id.* at 9:9–22. According to the ’092 patent, “[t]he ‘*’ key is likely to be most significantly [a]ffected because in addition to the user’s finger tip being near to this key, the main body of the user’s finger is also located over it.” *Id.* at 9:22–25. This is one example of an effect that results from a common “approach direction” of a user’s finger to a keypad. *See id.* at 9:33–49.

Instead of relying solely on the strength of the output signals, user interfaces described by the ’092 patent instead “tak[e] account of both the output signals from the keys in the keypad and their positions within the keypad when determining a user selected one of the sensing areas (i.e. the intended key).” *Id.* at 10:42–46. That is, a preferential selection is made from the activated keys according to the position of the keys in the keypad, “i.e. by assigning a priority to each key in the keypad according to its position, and preferentially selecting keys having higher priorities.” *Id.* at 10:46–50. This is illustrated in Figure 3 of the ’092 patent, which is reproduced below.

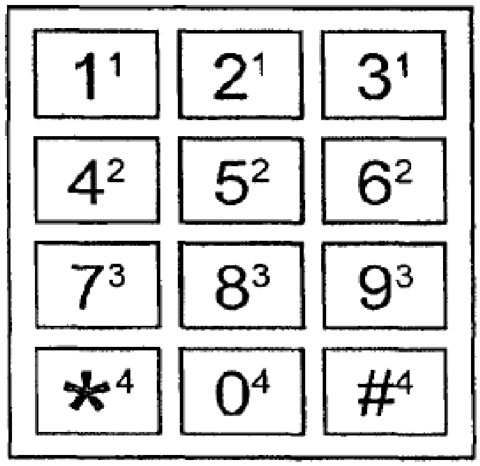

Fig. 3

Figure 3 illustrates a priority ranking scheme that "may be most appropriate for a keypad for which in normal use a pointing object approaches from, and extends along, a direction which is substantially parallel with the columns of the keys." *Id.* at 11:49–53. Other priority ranking schemes are also contemplated, such as those illustrated by Figures 4 and 5 of the '910 patent (not reproduced here).

In Figure 3, a priority rank is shown for each key as a superscript to the symbol associated with the key function. *Id.* at 10:53–55. In this example, all keys on the uppermost row are assigned the highest priority rank of "1"; all keys on the next two rows are respectively assigned a priority rank of "2" and "3"; and all keys on the lowest row are assigned the lowest priority rank of "4." *Id.* at 10:55–61. Notably, the keys of each row are of equal priority to one another. *Id.*

In determining which of multiple keys "deemed to be in simultaneous activation" is the user's intended key, the controller "is operable to take account of the relative priority ranking of the activated keys." *Id.* at 10:62–11:8. One method of doing so is "in an absolute manner," such as when the highest ranked key in activation is deemed to be the selected key. *Id.* at 10:66–11:4. If multiple keys of the same highest rank are in activation, "the key having the highest rank and greatest output signal, or the key having the highest rank to have gone into activation first," may be selected. *Id.* For example, if keys 1 and 4 are in activation, key 1 is deemed to be the user-intended key because its priority rank of 1 exceeds the priority rank of 2 assigned to key 4. *Id.* at 11:4–8.

Another method uses "output signal weighting to preferentially select keys at positions associated with higher rankings." *Id.* at 11:9–12. For instance, a scale factor may be associated with each priority rank, and keys associated with higher scale factors may be preferentially selected over keys having lower scale factors. *Id.* at 11:15–19. In one example, priority ranks 1, 2, 3, and 4 could respectively be associated with scale factors of 2, 1.5, 1.0, and 0.5. *Id.* at 11:19–24. After output signals of activated keys are scaled in accordance with such scale factors, the key with the highest weighted output signal is deemed to be the selected key. "This has the advantage over the above-described absolute priority ranking scheme in that a lower ranked key can still be selected over a higher-ranked key if its output signal is sufficiently high compared to that of the higher ranked key (i.e. the lowest ranked keys are not too strongly blocked out from selection)." *Id.* at 11:28–33.

B. Illustrative Claim

Independent claim 1 is illustrative of the challenged claims and is reproduced below.

1. A touch-sensitive user interface, comprising:

> a plurality of sensing areas arranged within a sensing region, each sensing area having a position within the sensing region;
>
> a measurement circuit coupled to the sensing areas and operable to generate output signals responsive to a coupling between a pointing object and respective ones of the sensing areas; and
>
> a controller operable to receive the output signals from the measurement circuit and to determine a selected one of the sensing areas by taking account of both the output signals associated with the sensing areas and the positions of the sensing areas within the sensing region such that sensing areas in parts of the sensing region that the pointing object passes over as the pointing object touches an intended sensing area are suppressed as being not intended by the user, wherein the coupling is a capacitive coupling and wherein a sensing area with a smaller output signal is selectable over a sensing area with a larger output signal based on the positions of the sensing areas, and wherein each sensing area is associated with a predefined ranking according to its position within the sensing region.

Ex. 1001, 17:60–18:15.

C. Evidence

Petitioner relies on the following references:

Yasuhiro	JP 2,666,900	Oct. 22, 1997	Ex. 1004[1]
Houston	US 6,696,985 B2	Feb. 24, 2004	Ex. 1005
Philipp	US 2004/0008129	Jan. 15, 2004	Ex. 1006

In addition, Petitioner relies on a Declaration by Tony Givargis, Ph.D. Ex. 1003.

[1] Exhibit 1004 includes both the original Japanese patent and a certified English translation.

D. Asserted Grounds of Unpatentability

Petitioner challenges claims 1–14 on the following grounds. Pet. 7–8.

Claims Challenged	35 U.S.C. §[2]	References
1, 2, 5–9, 12–14	103(a)[3]	Yasuhiro
3, 4	103(a)	Yasuhiro, Houston
10, 11	103(a)	Yasuhiro, Philipp

E. Real Parties in Interest

The parties identify only themselves as real parties in interest. Pet. 68; Paper 5, 1.

F. Related Matters

Both parties identify the following related matters: (1) *Neodron Ltd. v. Amazon.com, Inc.*, No. 6:20-cv-00115-ADA (W.D. Tex.); (2) *Neodron Ltd. v. Apple Inc.*, No. 6:20-cv-00116-ADA (W.D. Tex.); (3) *Neodron Ltd. v. ASUSTeK Computer Inc.*, No. 6:20-cv-00117-ADA (W.D. Tex.); (4) *Neodron Ltd. v. LG Electronics, Inc.*, No. 6:20-cv-00118-ADA (W.D. Tex.); (5) *Neodron Ltd. v. Microsoft Corporation*, No. 6:20-cv-00119-ADA

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[2] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended various provisions of 35 U.S.C. Because the '092 patent was filed before March 16, 2013 (the effective date of the relevant amendment), the pre-AIA versions of those provisions apply.

[3] Petitioner does not clearly state the statutory basis for its challenge. Because Petitioner asserts that "Yasuhiro . . . in view of the knowledge of a [person having ordinary skill in the art] *renders obvious* claims 1-2, 5-9, 12-14," we understand Petitioner to be making a single-reference obviousness challenge against claims 1–2, 5–9, and 12–14 as unpatentable under 35 U.S.C. § 103(a) over Yasuhiro. Pet. 7 (emphasis added).

(W.D. Tex.); (6) *Neodron Ltd. v. Samsung Electronics Co., Ltd.*, No. 6:20-cv-00121 (W.D. Tex.); and (7) *Neodron Ltd. v. Sony Corporation*, No. 6:20-cv-00122 (W.D. Tex.). Pet. 68; Paper 5, 2. Petitioner additionally identifies the following related matters: (1) *In the Matter of Certain Capacitive Touch-Controlled Mobile Devices, Computers, and Components Thereof*, No. 337-TA-1193 (ITC) ("the ITC Investigation"); and (2) *Neodron Ltd. v. Motorola Mobility LLC*, No. 3:20-cv-01179 (N.D. Cal.). Pet. 68.

II. ANALYSIS

A. Legal Principles

A claim is unpatentable for obviousness under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of nonobviousness, i.e., secondary considerations.[4] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Additionally, the obviousness inquiry typically requires an analysis of "whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR*, 550 U.S. at 418 (citing

[4] At this time, the parties do not address objective indicia of nonobviousness, which accordingly do not form part of our analysis.

In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006) (requiring "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness")); *see In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016) (citing *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006)).

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. "The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The "person of ordinary skill in the art" is a hypothetical construct, from whose vantage point obviousness is assessed. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). "This legal construct is akin to the 'reasonable person' used as a reference in negligence determinations" and "also presumes that all prior art references in the field of the invention are available to this hypothetical skilled artisan." *Id.* (citing *In re Carlson*, 983 F.2d 1032, 1038 (Fed. Cir. 1993)).

Petitioner proposes that "[a] person having ordinary skill in the art (PHOSITA) at the time of the '092 Patent would have been a person having at least a bachelor's degree in electrical engineering, computer engineering, computer science, or a related field, and at least two years of experience in the research, design, development, and/or testing of touch sensors, human-machine interaction and interfaces, and/or graphical user interfaces, and related firmware and software, or the equivalent, with additional education substituting for experience and vice versa." Pet. 6–7. Patent Owner does not propose a level of ordinary skill in the art at this time.

For purposes of this Decision, we adopt Petitioner's articulation of the level of skill in the art, which includes general knowledge consistent with the field of the invention, and is additionally consistent with the prior art presented. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art may reflect an appropriate level of skill in the art).

C. Claim Construction

For petitions filed after November 13, 2018, as here, the Board uses "the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." 37 C.F.R. § 42.100(b) (2019); *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). The specification may reveal a special definition given to a claim term by the patentee. *Phillips* at 1316. If an inventor acts as his or her own lexicographer, the definition must be set forth in the specification with reasonable clarity, deliberateness, and precision. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998).

Petitioner addresses construction only of a single term, namely "touch," which is recited as part of the preamble of independent claim 1 ("[a] touch-sensitive user interface") and a form of which is recited in the body of the claim (". . . as the pointing object touches an intended sensing area . . .”). Pet. 9. “With the exception of ‘touch,’ Petitioners propose no claim language requires express construction.” *Id.* at 8.

According to Petitioner, the ’092 patent is “clear” that, in the context of the claims, “touch” “means either physical touch or close proximity.” *Id.* at 9. In particular, the specification of the ’092 patent expressly states that “‘[t]ouch’ can mean either human or mechanical contact or proximity to a key.” Ex. 1001, 15:28–29. We find this statement sufficiently clear, deliberate, and precise to act as a definition of “touch,” and, at least at this juncture, Patent Owner does not argue otherwise. We further note, as Petitioner points out (Pet. 9), that other statements in the specification are consistent with treating this as a definitional statement. Ex. 1001, 8:39–43 (“This act of selecting a key will sometimes be referred to as ‘pressing’ a key. However, it will be understood that the term is used for convenience, and should not be interpreted as necessarily implying any form of physical contact between the pointing object and the selected sensing area.”), 14:55–61 (“although the term ‘touch’ may be used in this description, a position sensor of the kind described above can be sufficiently sensitive that it is able to register the location of an adjacent finger (or other object such as a stylus) without requiring physical contact”).

Accordingly, for purposes of this Decision, we construe “touch” in accordance with the specification’s definition, namely as “human or mechanical contact or proximity to a key.” We determine that no further express constructions are required for purposes of this Decision. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Obviousness over Yasuhiro

1. Overview of Yasuhiro

Yasuhiro "relates to a non-touch switch device using planar capacitors, which detects changes in the capacitance of said planar capacitors." Ex. 1004, 8 ¶ 2. Individual non-touch switches are arranged in a matrix, with each non-touch switch formed from a planar capacitor that includes an outer electrode place, a central electrode plate, and an intermediate insulator. *Id.* at 8 ¶ 4, 9 ¶ 1, Figs. 4, 8. When a fingertip approaches a non-touch switch, it acts as a "third electrode," which results in a capacitance reduction between the electrode plates as compared with a "normal state." *Id.* at 9 ¶ 1. Yasuhiro explains that, when multiple non-touch switches "are disposed adjacent to each other," such as in the array format illustrated in Figure 8 (not reproduced here), "in response to the approach of a fingertip, the output pulses of the non-touch switches . . . therearound will change." *Id.* at 9 ¶ 3. For example, "when the switch surfaces of the non-touch switches are installed in the vertical direction, the non-touch switch below the non-touch switch intended by the person is undesirably detected first." *Id.*

Figure 3 of Yasuhiro is reproduced below.

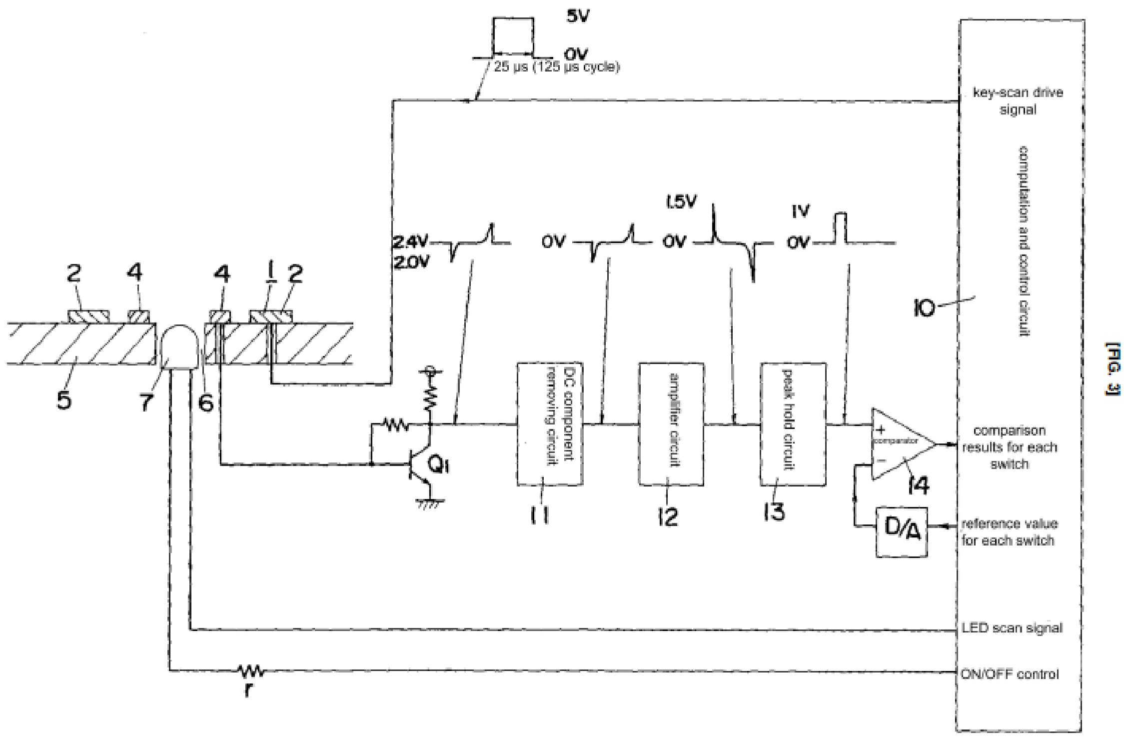

Figure 3 is a block diagram that illustrates a signal system for single non-touch switch. *Id.* at 9 ¶ 7. Non-touch switch 1 has outer and central electrode plates 2, 4. *Id.* at 8 ¶ 4, 9 ¶ 7. A square-wave key-scan drive signal is input to non-touch switch 1 from computation and control circuit 10, and output of non-touch switch 1 is input to computation and control circuit 10 after detection and processing by transistor Q1, signal transformation circuits 13, and comparator 14. *Id.* at 9 ¶ 7. As part of this processing, comparator 14 performs a comparison of the processed signal with a "reference value" that represents the "normal" capacitance of the non-touch switch to determine whether the switch is "ON" or "OFF." *Id.* at 9 ¶¶ 1, 2, 7.

Figure 1 of Yasuhiro is reproduced below.

[FIG. 1]

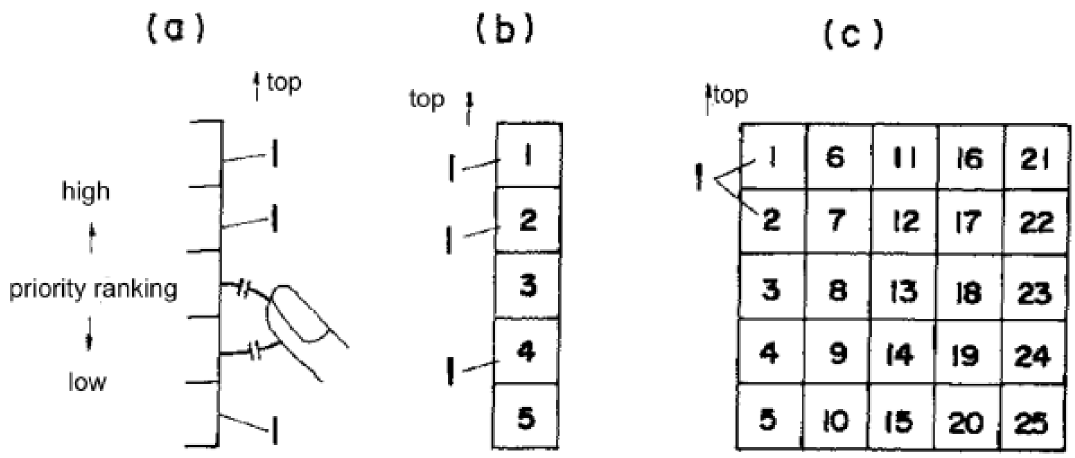

Figure 1 illustrates the implementation of priority rankings with a vertical configuration of non-touch switches. *Id.* at 9 ¶ 9–10. As illustrated in the left portion of the drawing, i.e., part (a), "it is possible that the non-touch switch 1 under the intended non-touch switch 1 will unavoidably also be undesirably pressed roughly simultaneously, and erroneous input will be received, such that erroneous operations are performed." *Id.* at 9 ¶ 9. To address this possibility, "priority rankings are given from top to bottom," as illustrated also in the central part of the drawing, i.e., part (b). *Id.* at 9 ¶ 10. The right part of the drawing, i.e., part (c), "shows a case in which the non-touch switches 1 are arranged in a matrix," with priority rankings "given from top to bottom" and also "given in the order of the leftmost column toward the rightward columns." *Id.* "Accordingly, even if simultaneous input occurs with the non-touch switch 1 below, the intended non-touch switch 1 having the higher priority ranking will be detected by way of the control determinations of the computation and control circuit 10, such that erroneous operations in response to normal fingertip approach are eliminated." *Id.* at 9–10 ¶ 10. Although this description focuses on a vertical priority assignment, Yasuhiro also discloses comparable embodiments with a horizontal priority assignment. *See id.* at 10 ¶ 1, Fig. 2.

2. *Independent Claim 1 and Dependent Claim 12*

In arguing that independent claim 1 would have been obvious over Yasuhiro, Petitioner notes the structural similarity between the recited "sensing region" and Yasuhiro's matrix of non-touch switches, as illustrated by Petitioner's annotation of Yasuhiro's Figure 8, reproduced below.

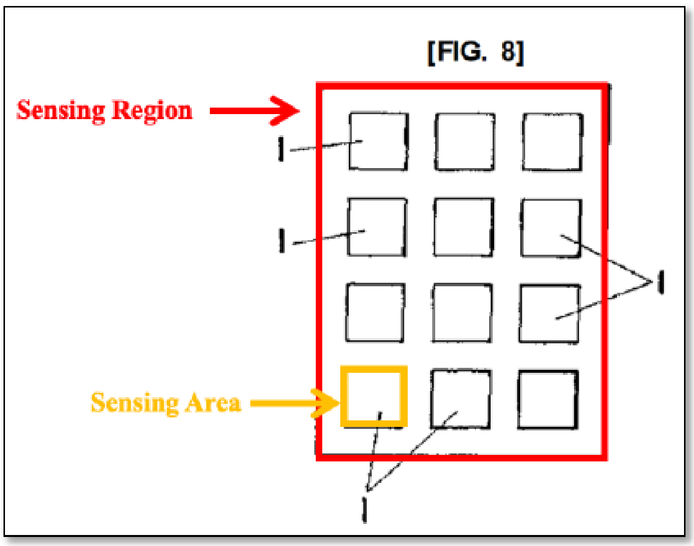

Figure 8 "is a plan view of non-touch switches . . . , arranged in a matrix." Ex. 1004, 10 ¶ 3. Petitioner has annotated the drawing to identify the "sensing region" recited in claim 1 in red and to identify one of the recited "plurality of sensing areas" in orange. Pet. 21–22. Petitioner thus contends that Yasuhiro discloses "a plurality of sensing areas arranged within a sensing region, each sensing area having a position within the sensing region." *Id.* at 20–23.

For the recited "measurement circuit," Petitioner identifies specific components illustrated in Yasuhiro's Figure 3, reproduced above:

> *Yasuhiro* discloses a measurement circuit coupled to the non-touch switches for generating output signals . . . responsive to the capacitance changes from the approach of a user's finger to a non-touch switch, comprising transistor Q1, DC component removing circuit 11, amplifier circuit[] 12, and comparator 14 (using a reference value input from controller 10 converted by a digital-to-analog (D/A) converter).

Id. at 23–24. Relying on Yasuhiro's disclosure, Petitioner explains that, for each non-touch switch, transistor Q1 measures a pulse signal from central electrode plate 4, generated in response to capacitive coupling of a user's finger, with the remaining circuitry performing additional processing. *Id.* at 24–26 (citing Ex. 1004, 9 ¶¶ 1, 7, Figs. 5–7).

For the recited "controller," Petitioner identifies computation and control circuit 10 of Yasuhiro's Figure 3, reproduced above, noting that Yasuhiro discloses that such a circuit may optionally be in the form of a "microcomputer." *Id.* at 26 (citing Ex. 1004, 9 ¶ 7). For the recited functionality of the controller, Petitioner refers to Yasuhiro's description of priority rankings, summarized above, when multiple non-touch switches are "activated." *Id.* at 27–32. Multiple switches may be activated when a comparison of stored reference values exceeds measured peak-value detection pulses. Ex. 1004, 9 ¶ 2. Specifically, Petitioner relies on the following sentence from Yasuhiro as supporting its position that Yasuhiro teaches "taking account of both the output signals associated with the sensing areas and the positions of the sensing areas within the sensing region," as the claim recites. Pet. 27–28.

> The present invention comprises: a comparator, which compares a peak value of a detection pulse signal from a non-touch switch with a reference value set for each of a multiplicity of arrayed non-touch switches; and a computation and control circuit, which determines which non-touch switch has been turned ON when comparison results have been simultaneously input from comparators corresponding to non-touch switches, by assigning validity to the comparison result of the comparator corresponding to the non-touch switch having a higher priority ranking in accordance with priority rankings that are established in a predetermined direction, wherein priority rankings are established from top to bottom, in cases in which the switch surfaces of the non-touch switches are arrayed in the vertical direction, and priority rankings are established from distal to proximal, in cases in which the switch surfaces of the non-touch switches are arrayed in the horizontal direction.

Ex. 1004, 9 ¶ 5.

Independent claim 1 includes three wherein clauses. For the first such clause, "wherein the coupling is a capacitive coupling," Petitioner observes that Yasuhiro discloses capacitive coupling between the user's finger and the non-touch switch. Pet. 32 (citing Ex. 1004, 9 ¶ 1, Figs. 7(a), 7(b)). For the third wherein clause, "wherein each sensing area is associated with a predefined ranking according to its position within the sensing region," Petitioner relies on Yasuhiro's priority rankings, such as illustrated by Yasuhiro's Figure 1, reproduced above. *Id.* at 34–35 (citing Ex. 1004, 2 ¶ 10).

At this juncture, Patent Owner does not dispute any of Petitioner's analysis summarized above. Rather, Patent Owner disputes only the sufficiency of Petitioner's showing for claim 1's second wherein clause, "wherein a sensing area with a smaller output signal is selectable over a sensing area with a larger output signal based on the positions of the sensing areas." Petitioner addresses this limitation by contending that a person of ordinary skill in the art would have understood Yasuhiro's priority selection as "accommodat[ing] three different scenarios," namely when the user-intended switch has a higher, equal, or lower output signal level than the inadvertently activated lower-priority switch. *Id.* at 33–34. In each scenario, the user-intended switch is selected because of the priority scheme. In the third scenario, according to Petitioner, "the system selects the user-intended switch based on the priority scheme despite this switch having a lower value than the other activated switch," thereby meeting the claim limitation. *Id.* at 34. Petitioner supports its reasoning that a person of skill in the art would have understood Yasuhiro's scheme as accommodating all three scenarios, including the most relevant third scenario, with testimony by Dr. Givargis. Ex. 1003 ¶¶ 38–44.

Patent Owner disputes Petitioner's showing, contending that "Yasuhiro contains no disclosure of smaller output signals or larger output signals, much less the claimed capability to select a sensing area with a smaller output signal over a sensing area with a larger output signal." Prelim. Resp. 15. In addition, Patent Owner characterizes Dr. Givargis's supporting testimony as "conclusory" and "circular," and urges that we reject that testimony as "lack[ing] a reasoned explanation as to how the limitation is satisfied." *Id.* at 16–17.

On the record before us, we decline to discount Dr. Givargis's testimony. As the Supreme Court has explained, "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. at 421. An obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.* at 418. In this instance, Yasuhiro makes clear its concern that "since a multiplicity of non-touch switches 1 are disposed adjacent to each other, in response to the approach of a fingertip, the output pulses of the non-touch switches 1 therearound will change." Ex. 1004, 9 ¶ 3. In this context, Dr. Givargis's opinion that a person of ordinary skill in the art "would have understood that the operation of this system would have resulted in three possible scenarios" appears unremarkable, merely listing the three logical possibilities that the user-intended switch has a higher, equal, or lower output signal level than the inadvertently activated lower-priority switch. *See* Ex. 1003 ¶ 39. Patent Owner characterizes Dr. Givargis's opinion as "rel[ying] on a hypothetical situation in which he expressly *assumes* the existence of the claimed 'smaller output signal' and 'larger output signal." Prelim. Resp. 15. We understand Patent Owner to be alleging that Dr. Givargis has assumed certain facts of which there is insufficient evidence, rather than properly drawing a reasonable inference from the Yasuhiro's teachings. To the extent this is the case, Patent Owner will have an opportunity to clarify the issue after meaningful cross-examination of Dr. Givargis.

In light of these considerations, we give weight to Dr. Givargis's opinion at this stage of the proceeding, and conclude that Petitioner demonstrates a reasonable likelihood of prevailing on its challenge of independent claim 1 as unpatentable under 35 U.S.C. § 103(a) over Yasuhiro. We also conclude that Petitioner demonstrates a reasonable likelihood of prevailing on its challenge of claim 12, which depends from claim 1 and recites "[a]n apparatus comprising a touch-sensitive user interface according to claim 1." Ex. 1001, 20:4–5; Pet. 45.

3. Dependent Claims 5–9

Each of claims 5–9 depends directly from independent claim 1 and recites a variation on preferential selection in determining the "selected one of the sensing areas" recited in the independent claim. Ex. 1001, 18:52–19:12. Petitioner challenges each of claims 5–9 for obviousness over Yasuhiro. Pet. 40–44.

We have reviewed Petitioner's analysis addressing the variations recited in claims 5–9, which Patent Owner does not contest outside of its arguments directed at the underlying independent claim, and which we address above. We conclude that Petitioner demonstrates a reasonable likelihood of prevailing on its challenge of those claims as unpatentable under 35 U.S.C. § 103(a) over Yasuhiro.

4. Independent Claim 2

Petitioner challenges claim 2 for obviousness over Yasuhiro. Pet. 36–40. Claim 2 is an independent claim with many limitations that duplicate limitations of claim 1. *See* Ex. 1001, 17:60–18:39. Claim 2 differs in that it recites that "the controller is operable to preferentially select one sensing area when two or more sensing areas have output signals exceeding a predefined activation output signal level according to their ranking." *Id.* at 18:29–35.

In addressing this limitation, Petitioner contends that a person of ordinary skill in the art "would have understood that the claimed '*exceeding* *a predefined activation output signal level*' encompasses either an output signal level that increases beyond a threshold value or an output signal level that decreases below a threshold level." Pet. 38. We note our agreement with this contention on the record before us, particularly in light of the '092 patent's explanation that

> [u]nless the context demands otherwise, references to an increased output signal should be read throughout this description as meaning a change in the output signal which indicates an increase in the measured capacitive coupling of the associated electrode to ground, irrespective of whether there is a direct or inverse relationship between the measured capacitance and the output signal (i.e. irrespective of whether parameterization of the output signal employed by the type of capacitance measurement channel goes up or down in response to an increase in measured capacitance).

Ex. 1001, 8:53–62. Dr. Givargis confirms this understanding, which is not disputed by Patent Owner on the present record. Ex. 1003 ¶ 46. With this understanding, Petitioner relies on Yasuhiro's description of priority rankings, summarized above, when multiple non-touch switches are "activated." Pet. 36–38.

We conclude that Petitioner demonstrates a reasonable likelihood of prevailing on its challenge of independent claim 2 as unpatentable under 35 U.S.C. § 103(a) over Yasuhiro.

5. Independent Claim 13 and Dependent Claim 14

Claim 13 recites a method that generally corresponds to independent apparatus claim 1, particularly in its recitation of "taking account [of] both the output signals associated with the sensing areas and the positions of the sensing areas within the sensing region" in determining which sensing area is selected by a pointing object. Ex. 1001, 20:6–26. Claim 14 depends therefrom and recites that "the coupling is a capacitive coupling." *Id.* at 20:27–28. Petitioner challenges these claims for obviousness over Yasuhiro, advancing arguments that generally parallel its arguments directed at independent claim 1. Pet. 45–47.

We have reviewed Petitioner's analysis and conclude that Petitioner demonstrates a reasonable likelihood of prevailing on its challenge of claims 13 and 14 as unpatentable under 35 U.S.C. § 103(a) over Yasuhiro.

III. DISCRETIONARY DENIAL

Patent Owner argues that we should exercise our discretion to deny institution an *inter partes* review in light of the status of the ITC Investigation. Prelim. Resp. 1 ("Instituting review in this IPR would cause the parties and the Board to incur significant inefficiencies and wasted efforts of the type warned of in *Fintiv* and *NHK Spring*."). In assessing whether to exercise such discretion, the Board weighs the following factors:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020) (precedential). Recognizing that "there is some overlap among these factors" and that "[s]ome facts may be relevant to more than one factor," the Board "takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Id.* (citation omitted).

Although we have considered Patent Owner's argument in light of the *Fintiv* factors, we decline to exercise our discretion to deny the Petition. Related district court litigation involving the '092 patent has been stayed, and Patent Owner instead focuses on the ITC Investigation, which the parties agree is unlikely to be stayed. *See* Reply 4 (Petitioner acknowledging that "it is unlikely the ITC investigation will be stayed"); Sur-Reply 2 (Patent Owner asserting that the ITC Investigation "is in full swing").

But notwithstanding Patent Owner's assertion, the record evidences that the ITC Investigation is only in a limited state of advancement. Notably, for example, in addressing the overlap between issues raised in the Petition and in the ITC Investigation, Patent Owner's Preliminary Response largely relies on speculation based on comparison with how issues have developed in a related but *different* ITC investigation, namely *In the Matter of Certain Touch-Controlled Mobile Devices, Computers, and Components Thereof*, No. 337-TA-1162 (ITC). Based on development in that different proceeding, Patent Owner speculates that Petitioner is "likely to present the same prior art and invalidity theories." Prelim. Resp. 11. If the ITC Investigation were in a more advanced state, we expect Patent Owner would have been able to identify overlapping issues at the time it filed its Preliminary Response without resorting to such speculation.

That the ITC Investigation is not significantly advanced is also evident from the schedule provided by Patent Owner as Exhibit 2001. At this time, there has been no claim-construction hearing in the ITC Investigation, and an evidentiary hearing is not scheduled before February 16, 2021. Ex. 2001, 1–3. There has thus been limited investment in the ITC Investigation by the Commission or by the parties. Although Patent Owner emphasizes that an Initial Determination by the ITC is expected by June 18, 2021, the target date for completion of the ITC investigation is not until October 20, 2021, later than the deadline for issuing our Final Written Decision in this proceeding. These considerations impact *Fintiv* factors (2) and (3), which we find weigh against exercising our discretion to deny the Petition.

In addition, although Patent Owner asserts that "the same claims and claim construction standard are at issue in both proceedings," Petitioner observes that the ITC will not consider the validity of challenged claims 13 and 14. Prelim. Resp. 11; Reply 6 ("Thus, unless the Board institutes this proceeding and considers the merits of claims 13-14 when the district court lifts its stay, the district court will have to independently, and without guidance from the Board or the ITC, consider these issues."). This consideration impacts *Fintiv* factor (4), which we also find weighs against exercising our discretion to deny the Petition.

The combination of factors (2)–(4), together with the strength of Petitioner's position, as implicated by *Fintiv* factor (6), outweigh the remaining factors, such as the commonality of parties and the likelihood that no stay will be entered in the ITC Investigation. Accordingly, we conclude that efficiency and integrity of the system are best served by instituting review.

IV. CONCLUSION

As explained above, we determine that Petitioner demonstrates a reasonable likelihood of prevailing on its challenge of claims 1, 2, 5–9, and 12–14 as unpatentable under 35 U.S.C. § 103(a). Accordingly, we institute review on all challenged claims and grounds as asserted in the Petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018); *AC Techs. S.A. v. Amazon.com, Inc.*, 912 F.3d 1358, 1364 (Fed. Cir. 2019) ("[I]f the Board institutes an IPR, it must . . . address all grounds of unpatentability raised by the petitioner."); U.S. Patent and Trademark Office, *Guidance on the impact of SAS on AIA trial proceedings* (Apr. 26, 2018), https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial ("*SAS* Guidance").

V. ORDER

In consideration of the foregoing, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review is hereby instituted as to claims 1–14 of the '092 patent on all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, commencing on the entry date of this Decision.

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