

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and MICROSOFT CORPORATION,
Petitioner,

v.

NEODRON, LTD.,
Patent Owner.

IPR2020-00778
Patent 7,821,425 B2

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

QUINN, *Administrative Patent Judge*.

DECISION

Granting Institution of *Inter Partes* Review
35 U.S.C. § 314, 37 C.F.R. § 42.4

I. INTRODUCTION

Apple Inc. and Microsoft Corporation (collectively “Petitioner”), filed a Petition requesting *inter partes* review of claims 1–40 of U.S. Patent No. 7,821,425 B2 (Ex. 1001, “the ’425 patent”). Paper 1 (“Pet.”). Neodron Ltd. (“Patent Owner”), timely filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). With our authorization, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 8, “Reply”), and Patent Owner filed a Preliminary Response Sur-Reply (Paper 9, “Sur-Reply”).

We have jurisdiction under 35 U.S.C. § 314. Upon considering the record developed thus far, for the reasons discussed below, we grant the Petition and institute *inter partes* review as requested.

A. Related Matters

The parties indicate that the ’425 patent has been asserted in the following proceedings: *Neodron Ltd. v. Amazon.com, Inc.*, No. 6-20-cv-00115-ADA (W. D. Tex.); *Neodron Ltd. v. Apple Inc.*, No. 6-20-cv-00116-ADA (W.D. Tex.); *Neodron Ltd. v. AsusTek Computer Inc.*, No. 6-20-cv-00117-ADA (W.D. Tex.); *Neodron Ltd. v. LG Electronics, Inc.*, No. 6-20-cv-00118-ADA (W.D. Tex.); *Neodron Ltd. v. Microsoft Corporation*, No. 6-20-cv-00119-ADA (W. D. Tex.); and *Neodron Ltd. v. Samsung Electronics Co., Ltd. et al*, No. 6-20-cv-00121-ADA (W. D. Tex.). Pet. 67; Paper 5, 2. Petitioner additionally indicates that the ’425 patent has been asserted in *Capacitive Touch-Controlled Mobile Devices, Computer, and Components Thereof*, No. 337-TA-1193 (ITC). Pet. 67. Patent Owner also indicates that the following district court matters may also be affected by a decision in this proceeding: *Neodron Ltd. v. Motorola Mobility LLC*, No. 5-20-cv-01179-

SVK (N. D. Ca.); and *Neodron Ltd. v. Sony Corporation*, No. 6-20-cv-00122-ADA (W. D. Tex). Paper 5, 2–3.

B. The '425 Patent¹

The '425 patent relates to keyboards, keypads, and other data entry devices having capacitive keys. Ex. 1001, code (57). The '425 patent discloses that small keyboards suffer from a keying ambiguity problem, where, for example, a user's finger is likely to overlap from a desired key onto adjacent keys. *Id.* at 1:31–35. To address this problem, the '425 patent provides an iterative method of removing keying ambiguity. *Id.* at 2:3–4. The method involves measuring a detected signal strength associated with each key in an array, comparing the measured signal strengths to find a maximum, determining that the key having the maximum signal strength is the unique user-selected first key, and maintaining that selection (i.e., “winning key”) until either the first key's signal strength drops below a threshold level or a second key's signal strength exceeds the first key's signal strength. *Id.* at 2:4–11.

The '425 patent further discloses that, when any key is selected, its signal strength value may be enhanced relative to all the other keys so as to deselect all other keys. *Id.* at 2:11–13. For instance, the '425 patent explains that the “winning” key is given a slight advantage in subsequent repetitions of the decision process. *Id.* at 2:58–64. For instance, the first

¹ The '425 patent is a continuation-in-part application claiming priority via a chain of several application to U.S. Provisional Application No. 60/395,368, filed July 12, 2002. Ex. 1001, (60), (63). Petitioner alleges the '425 patent is not entitled to its claimed priority date. Pet. 5–7. We find, however, that it is not necessary for us to decide this issue because the asserted prior art appear to have priority dates earlier than July 12, 2002.

key to “win” remains selected even when the maximal strength has shifted to a new key, if the first key has enough signal strength in excess of its associated threshold value. *Id.* at 5:25–40. That threshold value is further described as the “biasing or skewing” of the key selection method in favor of an already selected key. *Id.* at 5:38–50. According to the ’425 patent, the “bias” may be provided in many ways in subsequent key selection decisions, such as “adding an incremental value to the signal associated with the selected key,” and:

multiplying the signal strength of the selected key by a value greater than one in subsequent selections; subtracting a respective incremental value from the signal strengths associated with each of the non-selected keys; or multiplying the signal strength of each of the non-selected keys by a respective value less than one.

Id. at 5:43–50. The biasing is further explained in connection with Figure 5A, reproduced below.

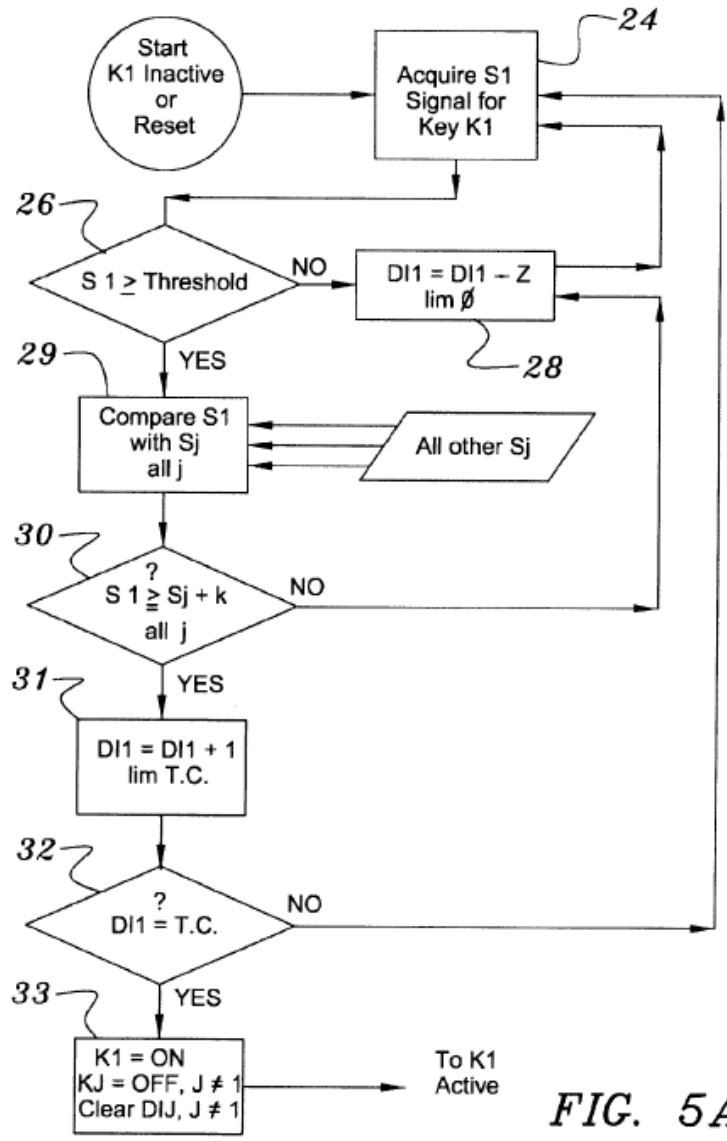


FIG. 5A

Figure 5A shows a flow chart of a method carried out when a Key 1 goes from inactive to active. *Id.* at 4:15–17. For example, when the signal acquired from Key 1 exceeds a certain threshold value at step 26, the acquired signal is compared against other acquired signals. *Id.* at 7:49–55. In determining whether Key 1 “wins” over other active key(s), the method introduces a non-dithering bias value “k,” which is added to the active key at step 30. *Id.* at 7:55–58, 8:4–7. If the signal value of Key 1 exceeds the signal value of the active key by at least the bias “k” value, Key 1 will

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