UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.; AND
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioner

v.

NEODRON LTD.
Patent Owner.

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 7,821,425**

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I. INTRODUCTION

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, "Petitioner") request an *Inter Partes* Review ("IPR") of claims 1-40 (the "Challenged Claims") of U.S. Patent No. 7,821,425 ("the '425 Patent").

II. SUMMARY OF THE '425 PATENT

A. Description of the alleged invention

The '425 Patent relates to methods and devices for reducing keying ambiguity when a user's finger slides from one key to the next, potentially overlapping multiple keys. *'425 Patent* (Ex. 1001) at Abstract; *see also id.* at 3:1-11; Fig. 1A (illustrating movement from A to B, overlapping keys 1 and 2):

FIG. 1A
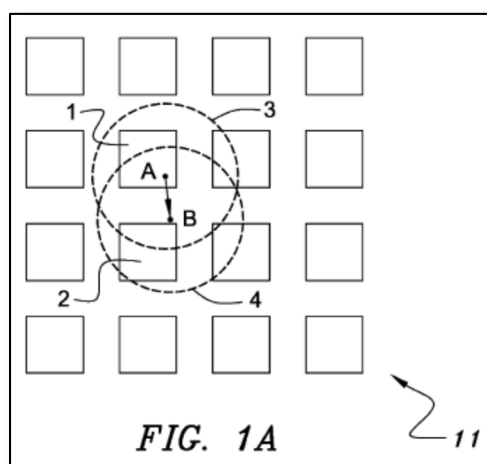
The '425 Patent proposes "'non-locking' key ambiguity reduction" by which the system selects a user-intended key based on comparative signal strengths. *Id.*; 1:16-20. Specifically, the system iteratively measures signal strengths associated with each key, compares them to find a maximum, and determines the key with the

maximum signal strength is the user-intended key until either this 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 2:3-15; *see also id.* at 3:1-11 (referred to as "non-locking" because the user-intended key can switch from a first to a second key). This is illustrated in Figures 1B and 1C below:

FIG. 1B   FIG. 1C
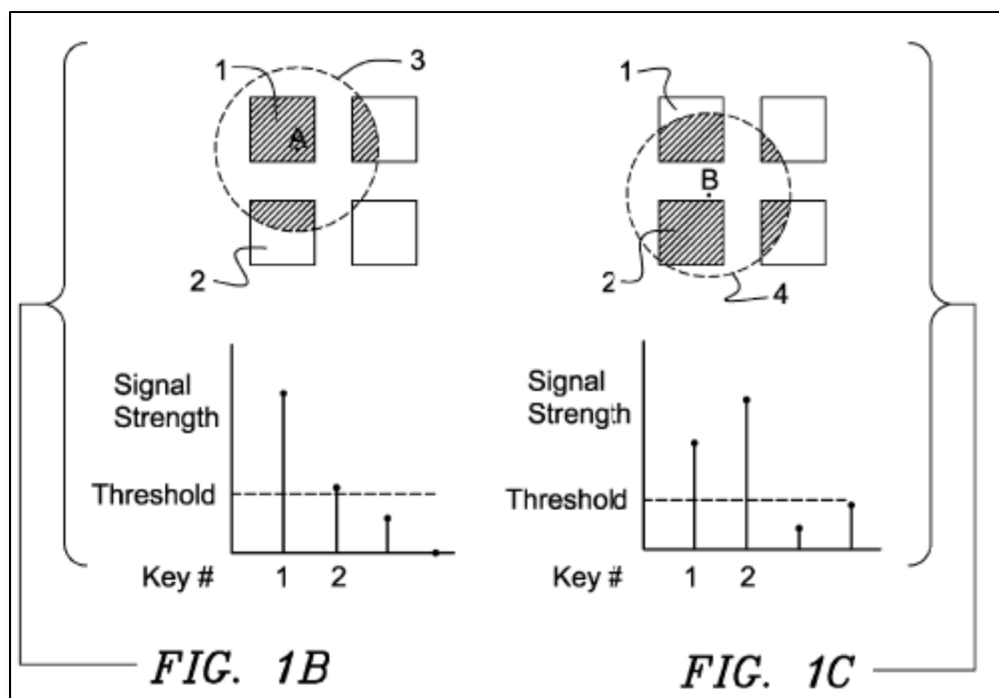
As a user's finger slides from point A to point B, key 2's signal strength exceeds previously active key 1 and becomes the newly active key. *Id.* at 5:11-33.

The '425 Patent notes that if this non-locking process is based solely on signal strength, there may be "dithering" (i.e., "undesirable rapid switching") between competing keys "having more or less the same signal strengths." *Id.* at 2:56-67. To avoid such instability, the '425 Patent biases (or favors) the "winning key" in

subsequent iterations by, for example, requiring a second key to exceed the signal strength of a first key by a small amount. *Id.* at 5:42-48.

Further embodiments employ "counter logic" (e.g., a "detection integrator counter") associated with each key to help remove ambiguities when comparing signal strengths from various keys, such as to suppress signal detections generated by noise. *Id.* at 7:13-18. This counter logic acts as a timer, incrementing when a key's signal strength measures above a threshold and decrementing when it falls below. *Id.* at 2:16-41; *see also id.* at 7:13-48. A key is selected as the active key when the count associated with that key equals a terminal count value ("TC")—a value determined to represent an active key. *Id.* at 7:49-67; *see also id.* at Figs. 5A and 5B.

B.   Prosecution history

The Application resulting in the '425 Patent was filed on April 12, 2006 as U.S. App. No. 11/279,402. *'425 Patent* (Ex. 1001). The '425 Patent application is a continuation-in-part of application No. 11/160,885, filed on July 14, 2005, now U.S. Pat. No. 7,256,714, which claims priority to Provisional App. No. 60/597,851, filed on December 21, 2005. That application is a continuation of application No. 10/617,602, filed on July 11, 2003, now U.S. Pat. No. 6,993,607, which claims priority to Provisional App. No. 60/395,368, filed on July 12, 2002. As discussed

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