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(54) **CAPACITANCE SENSING MATRIX FOR KEYBOARD ARCHITECTURE**

(75) Inventors: **Liu Hua**, Shanghai (CN); **Jiang XiaoPing**, Shanghai (CN)

(73) Assignee: **Cypress Semiconductor Corporation**, San Jose, CA (US)

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H03K 17/96 (2006.01)

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(58) **Field of Classification Search** 341/22, 341/33; 345/156, 168, 173; 178/18.05, 18.06; 324/658–668

See application file for complete search history.

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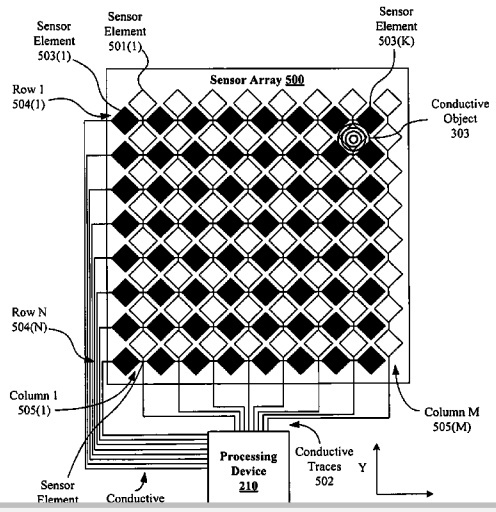
(57) **ABSTRACT**

An apparatus and method for selecting a keyboard key based on a position of a presence of a conductive object on a sensing device and a pre-defined area of the keyboard key. The apparatus may include a sensing device and a processing device. The sensing device may include a plurality of sensor elements to detect a presence of a conductive object on the sensing device. Multiple keyboard keys are assigned to pre-defined areas of the sensing device. The processing device is coupled to the sensing device using capacitance sensing pins, and may be operable to determine a position of the presence of the conductive object, and to select a keyboard key based on the position of the conductive object and the pre-defined areas of the sensing device.

26 Claims, 14 Drawing Sheets



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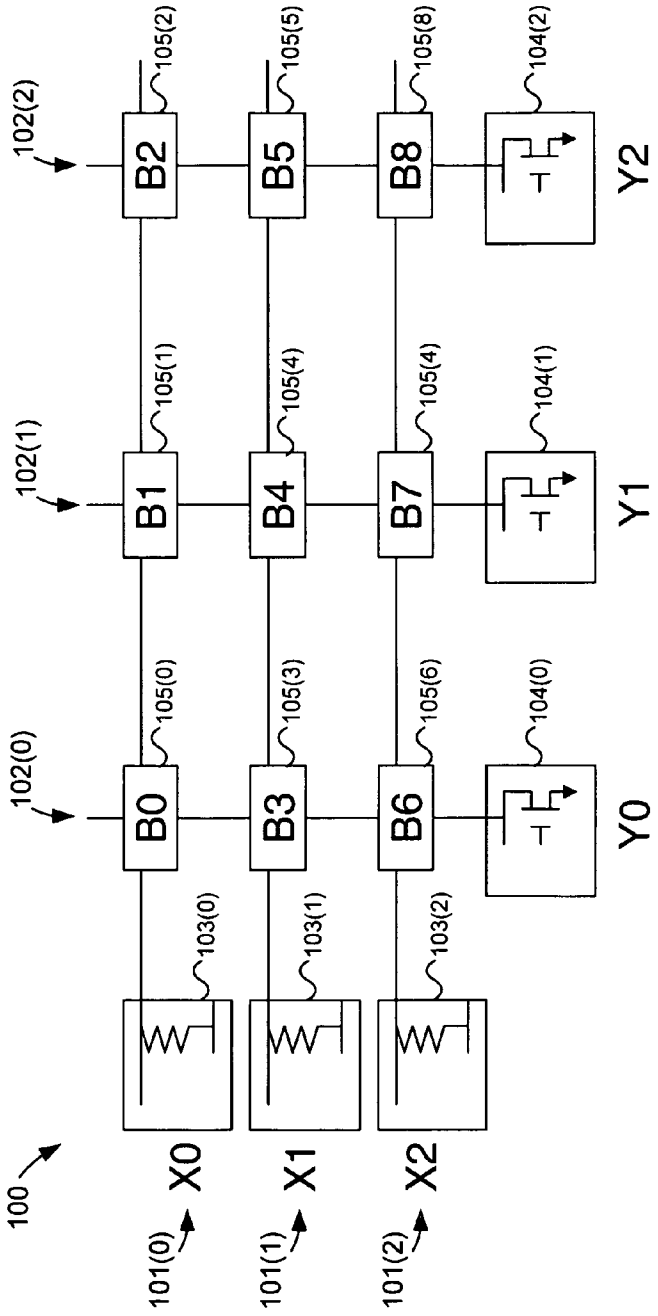

FIG. 1A

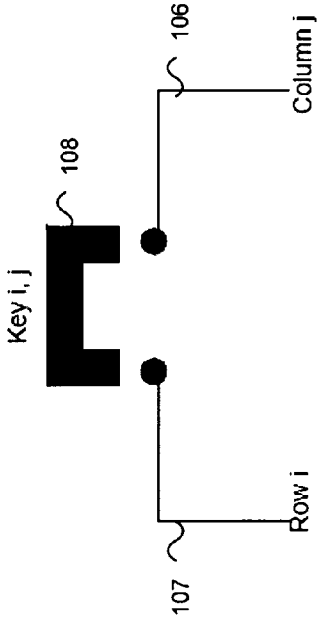

FIG. 1B

DOCKET ALARM

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