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

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 915 days.

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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**

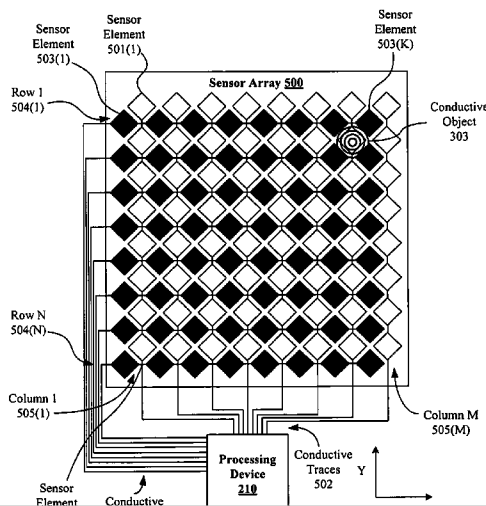
An apparatus and method for selecting a keyboard key based on a position of a presence of a conductive object on a sensing device and a pre-defined area of the keyboard key. The apparatus may include a sensing device and a processing device. The sensing device may include a plurality of sensor elements 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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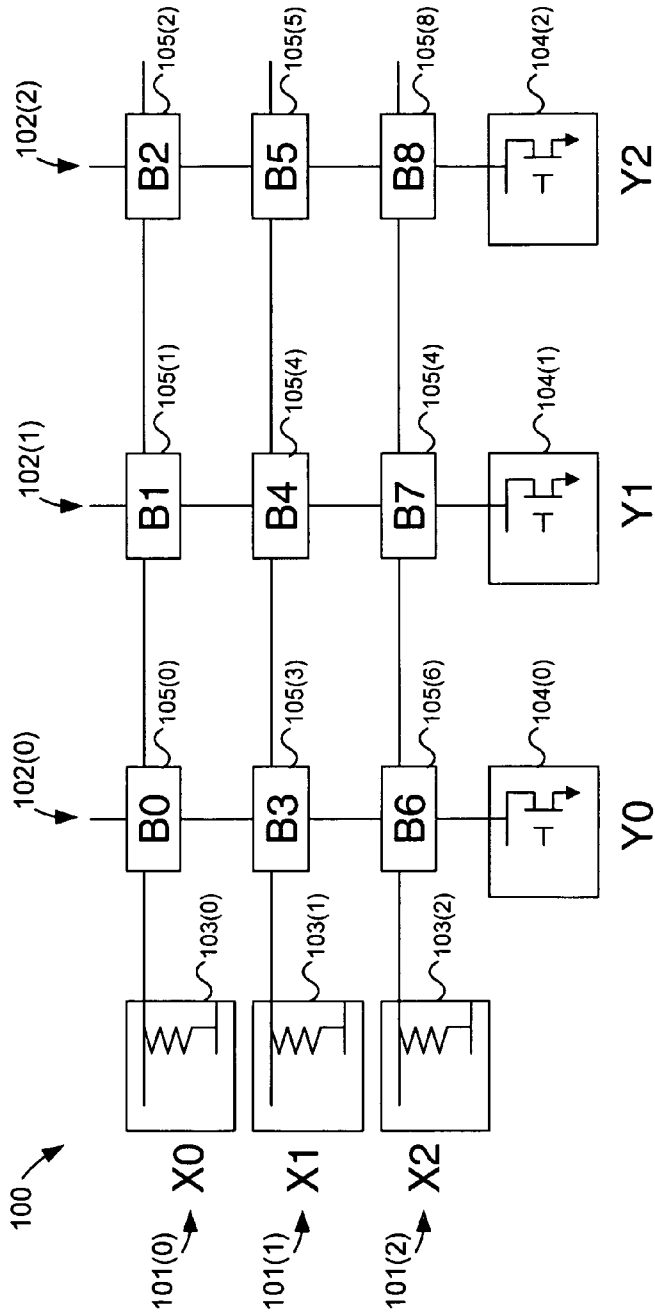


FIG. 1A

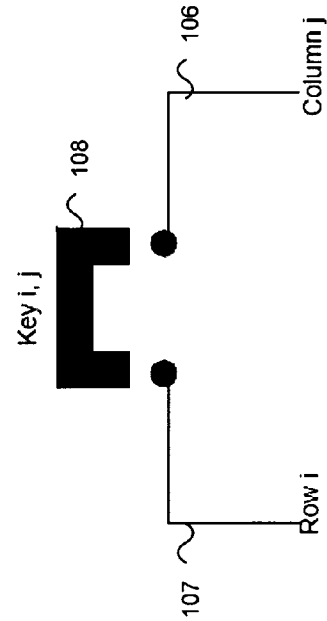


FIG. 1B

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