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(54) **PSEUDO DRIVEN SHIELD**

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See application file for complete search history.

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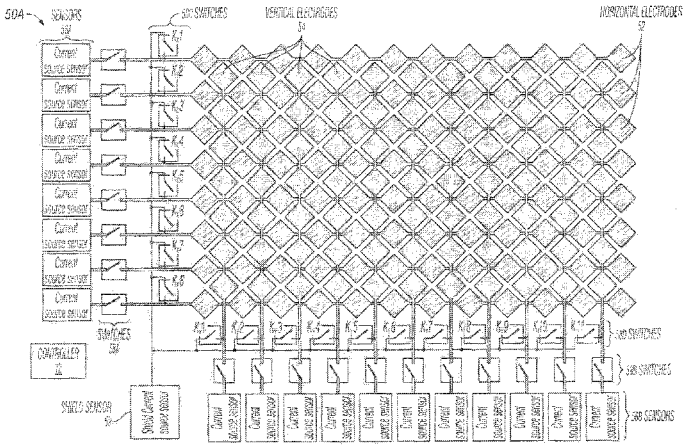
(57) **ABSTRACT**

In one embodiment, a touch-sensitive device includes a controller, horizontal electrodes, and vertical electrodes. The touch-sensitive device further includes a first plurality of switches that couple the horizontal electrodes to a first plurality of sensors, a second plurality of switches that couple the vertical electrodes to a second plurality of sensors, and a third and fourth plurality of switches that couple the horizontal and vertical electrodes to a shield sensor. The controller is operable to perform simultaneous hovering, touch, and proximity detection by selectively controlling the first, second, third, and fourth plurality of switches. The hovering, touch, and proximity detection includes causing substantially equal voltages to be present on the horizontal and vertical electrodes while measuring capacitances using the shield sensor and either the first or second plurality of sensors.

20 Claims, 12 Drawing Sheets