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(54) **SYSTEMS AND METHODS FOR ASSESSING LOCATIONS OF MULTIPLE TOUCH INPUTS**

Publication Classification

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(57) **ABSTRACT**

Matrix-based touch input systems assess touch locations of two or more temporally overlapping touch inputs by forming valid x-y coordinate pairs from independently determined x- and y-coordinates. Valid x-y pairs are formed based on comparing one or more signal parameters such as signal magnitude, signal strength, signal width, and signal rates of change. In matrix capacitive systems where capacitance-to-ground signals are used to determine the x- and y-coordinates, the determined coordinates may be formed into valid x-y pairs using mutual capacitance measurements. When resolving more than two temporally overlapping touches, information gained by resolving a valid x-y coordinate pair of at least one of the touches may be used to resolve the remaining touches.

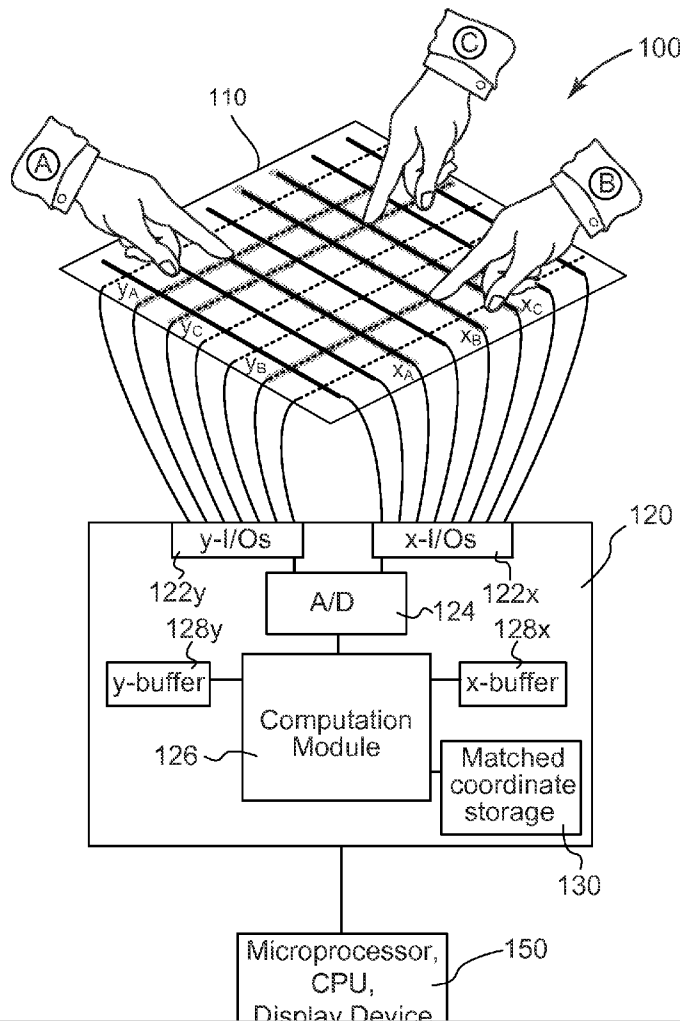
(73) Assignee: **3M Innovative Properties Company**

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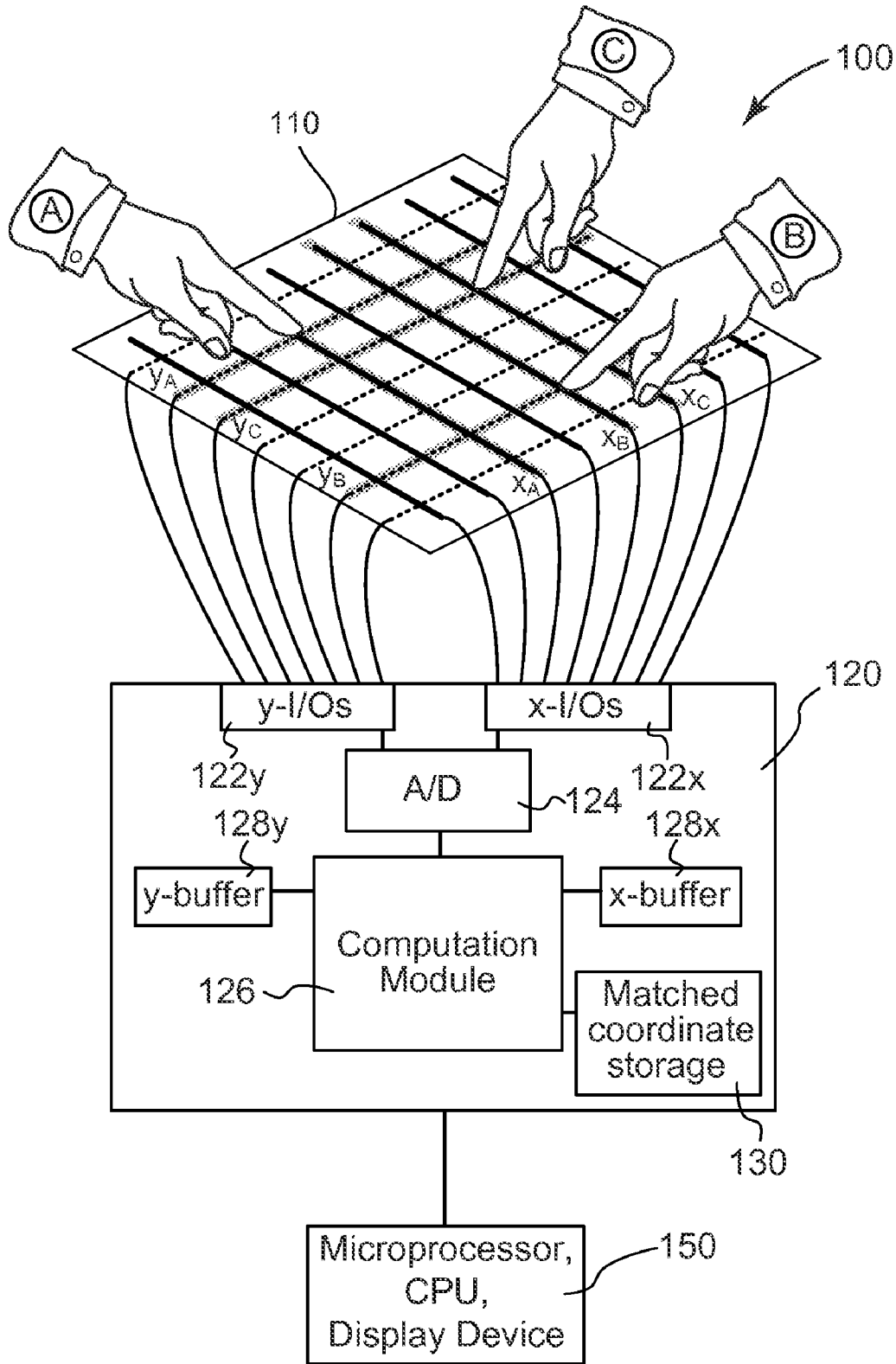


Fig. 1

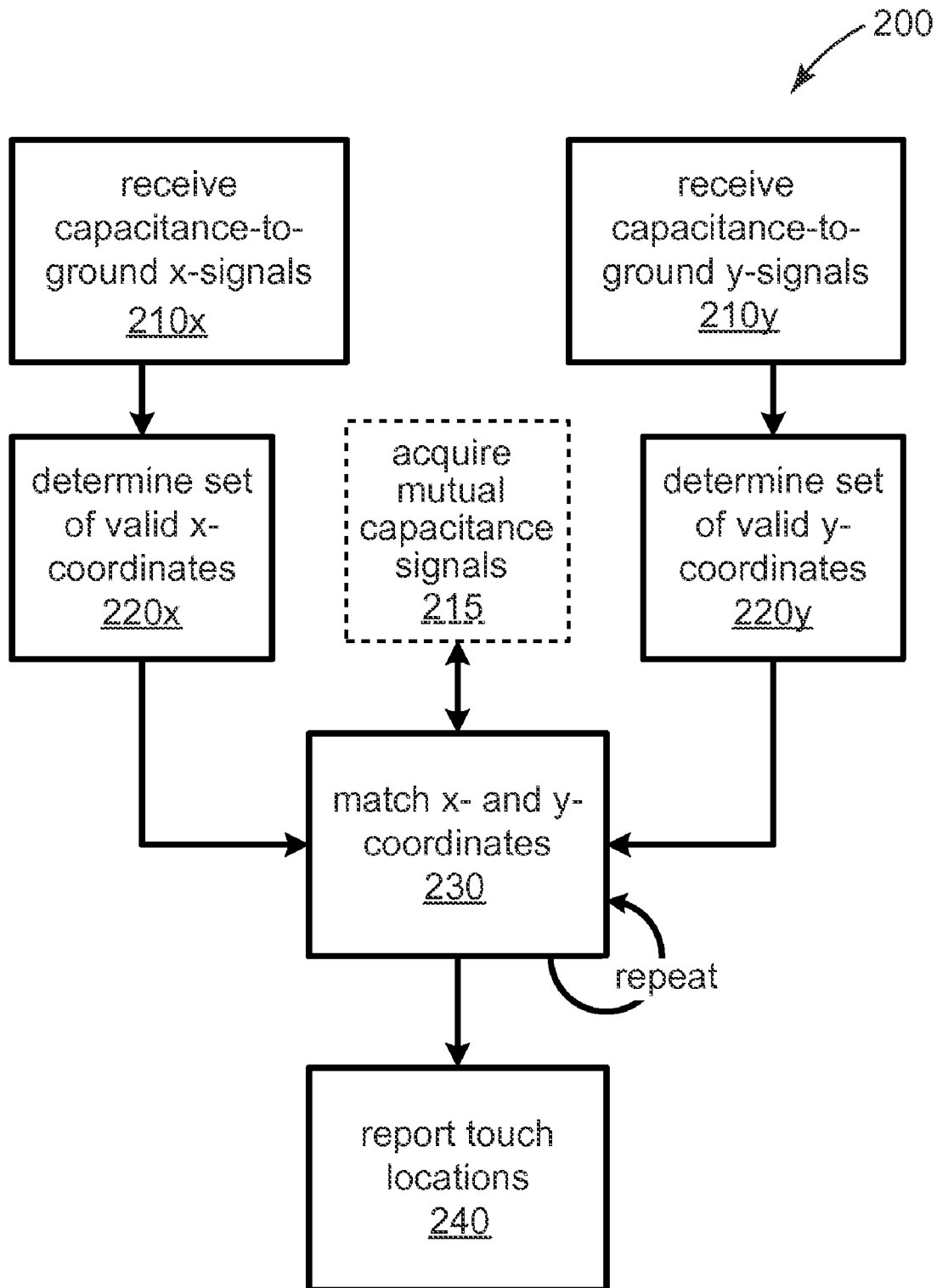


Fig. 2

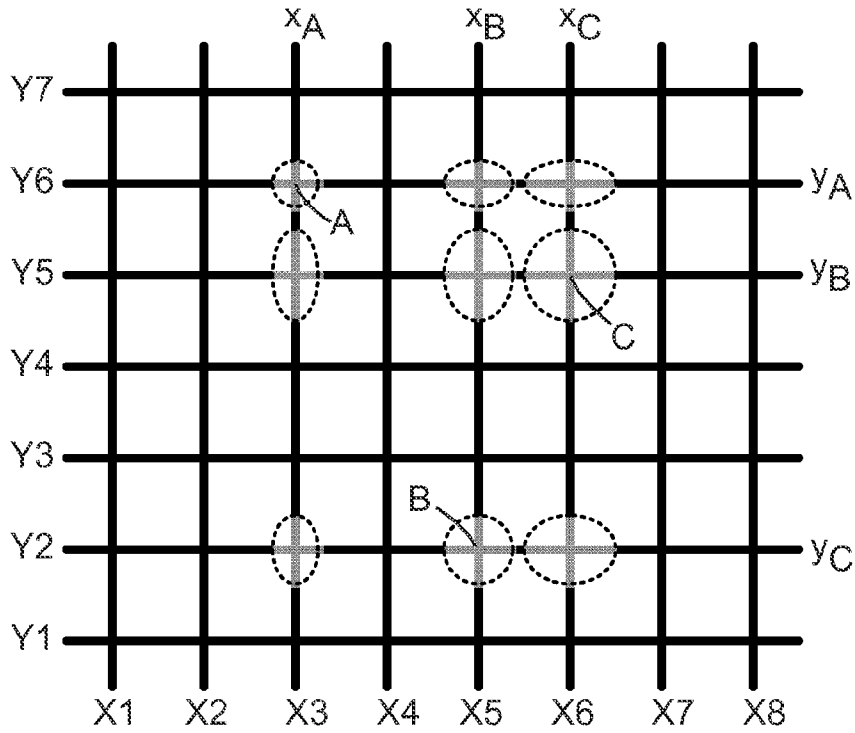


Fig. 3A

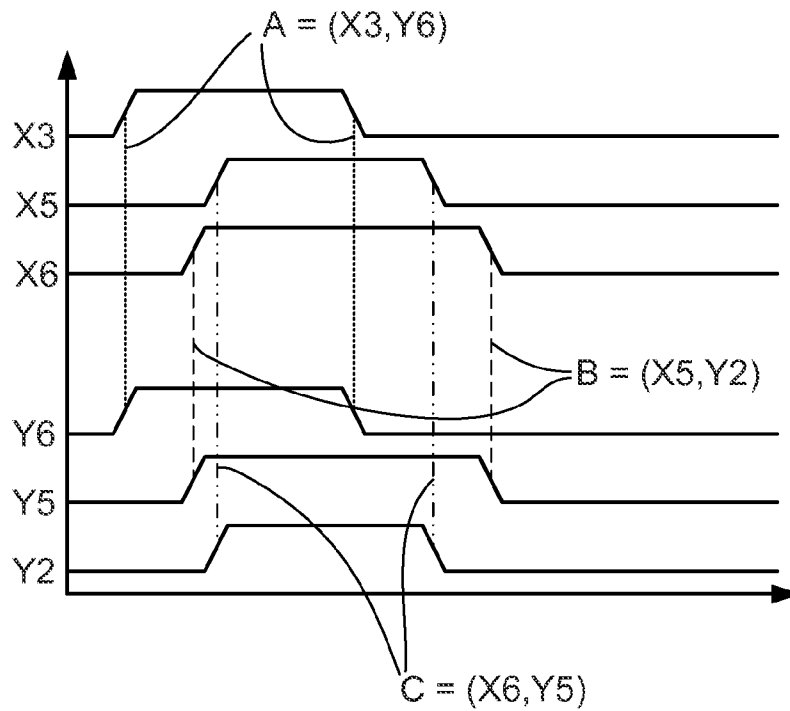


Fig. 3B

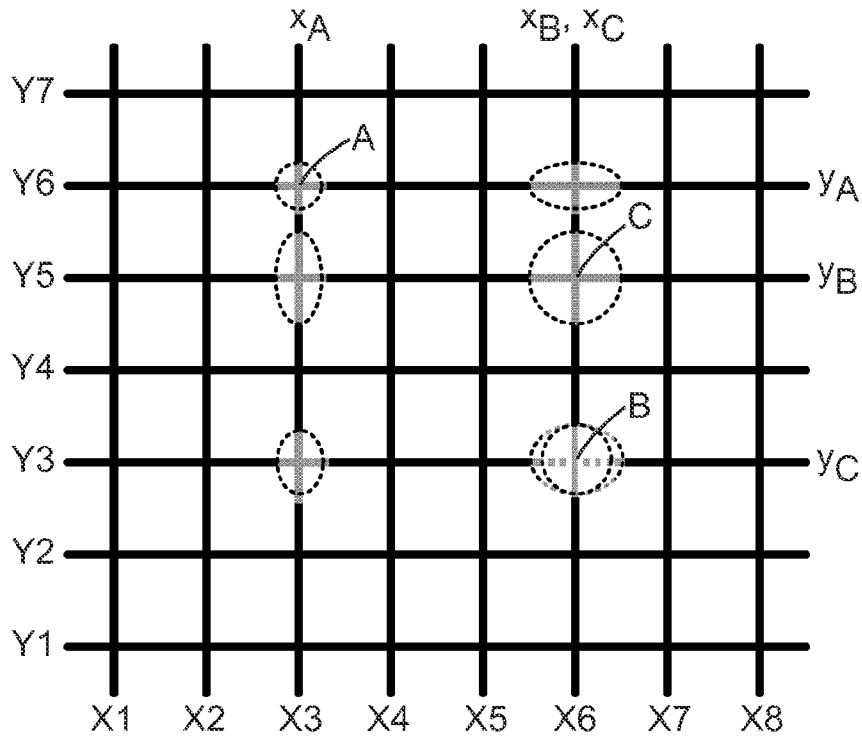


Fig. 4A

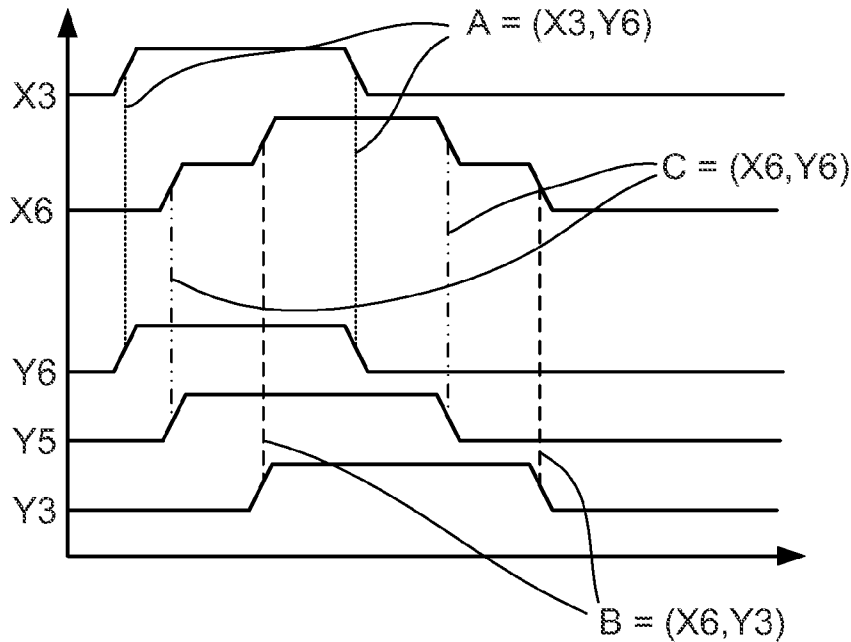


Fig. 4B

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