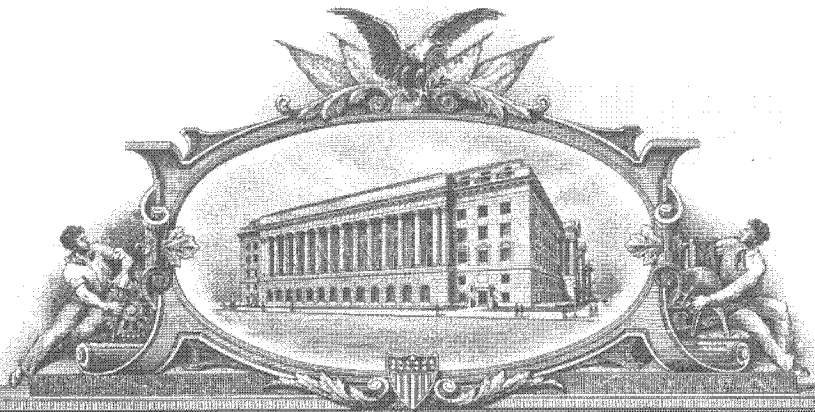


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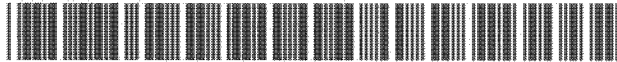
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ISSUE DATE: February 16, 2010

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(12) **United States Patent**
Hotelling et al.

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(45) **Date of Patent:** **Feb. 16, 2010**

(54) **MULTIPOINT TOUCHSCREEN**

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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 754 days.

(21) **Appl. No.:** **10/840,862**

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178/18.01-18.04
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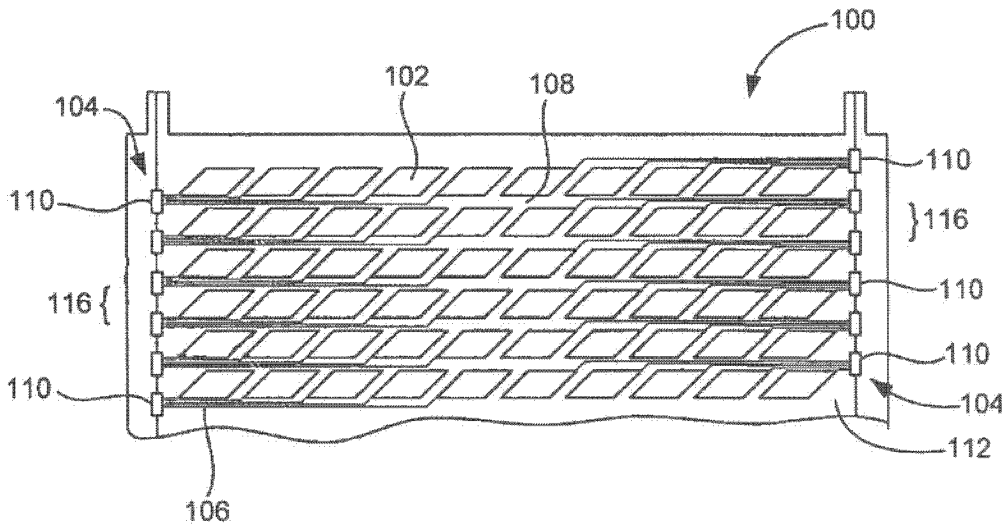
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(57) **ABSTRACT**

A touch panel having a transparent capacitive sensing medium configured to detect multiple touches or near touches that occur at the same time and at distinct locations in the plane of the touch panel and to produce distinct signals representative of the location of the touches on the plane of the touch panel for each of the multiple touches is disclosed.

11 Claims, 14 Drawing Sheets



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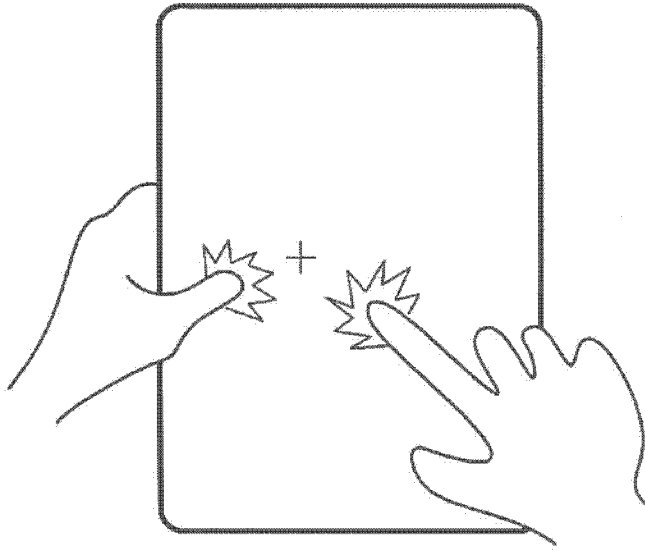


FIG. 1A

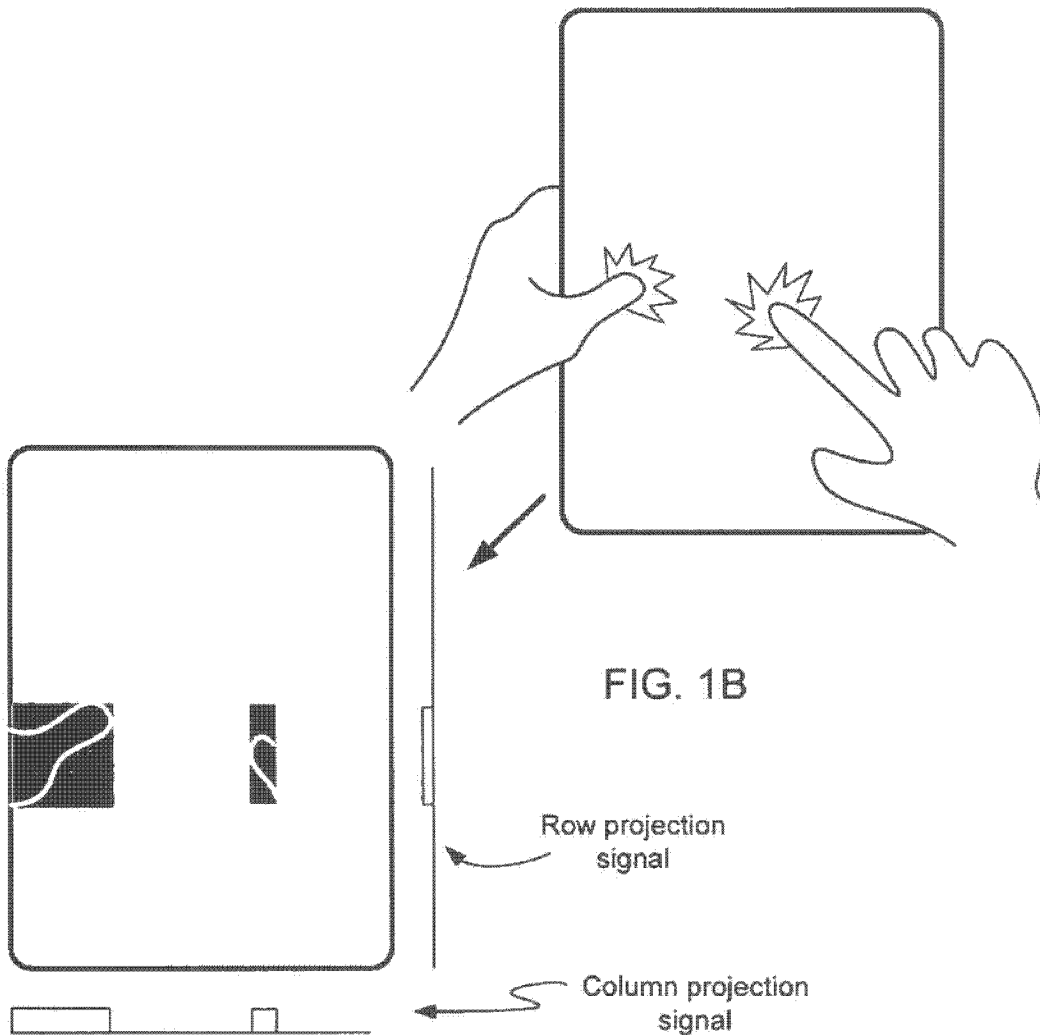


FIG. 1B

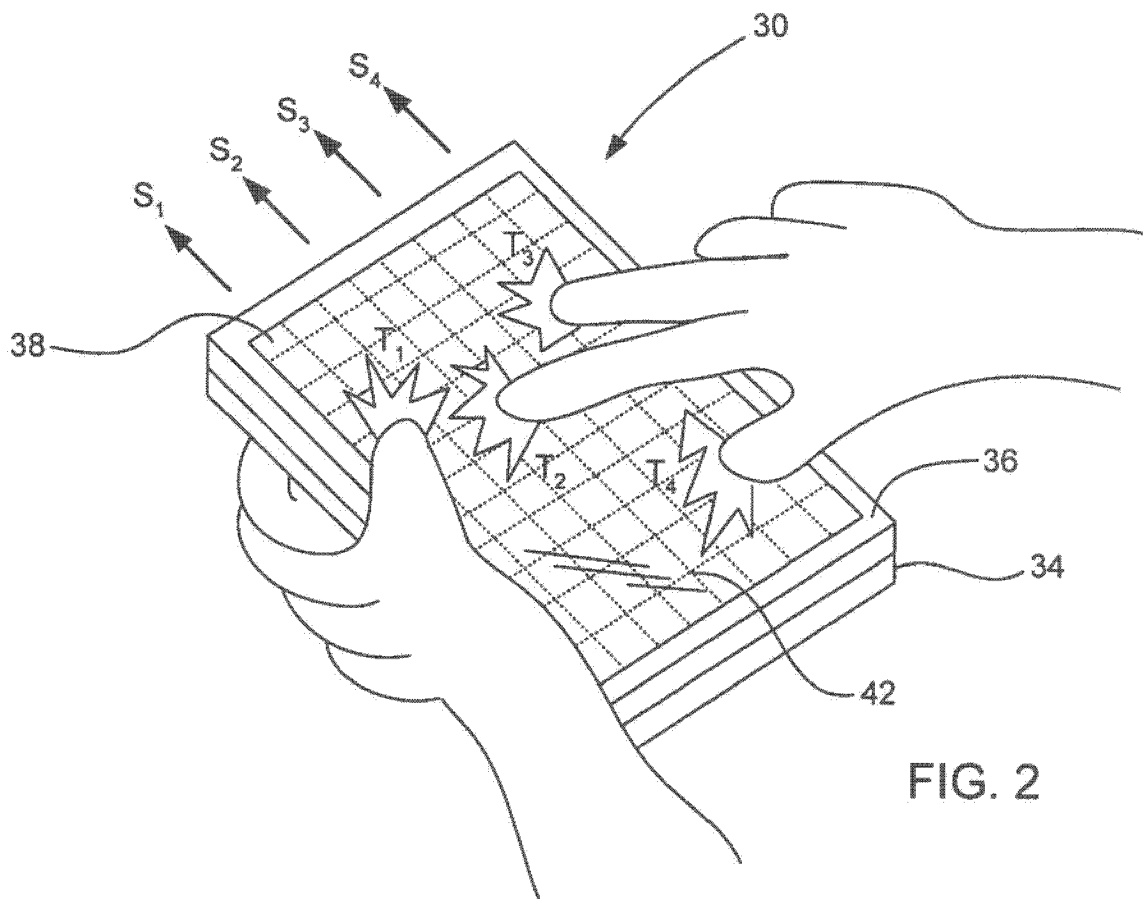


FIG. 2

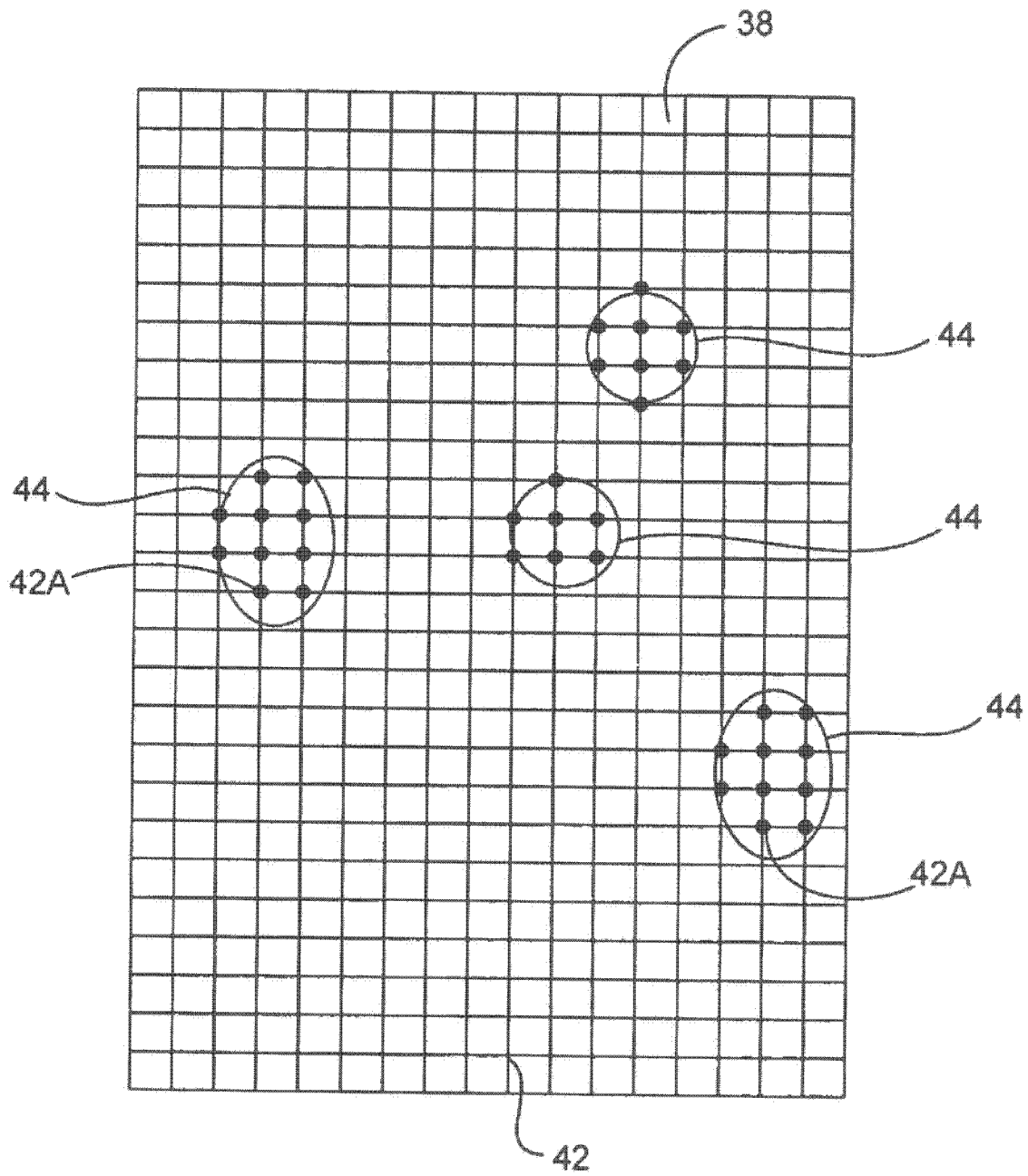


FIG. 3

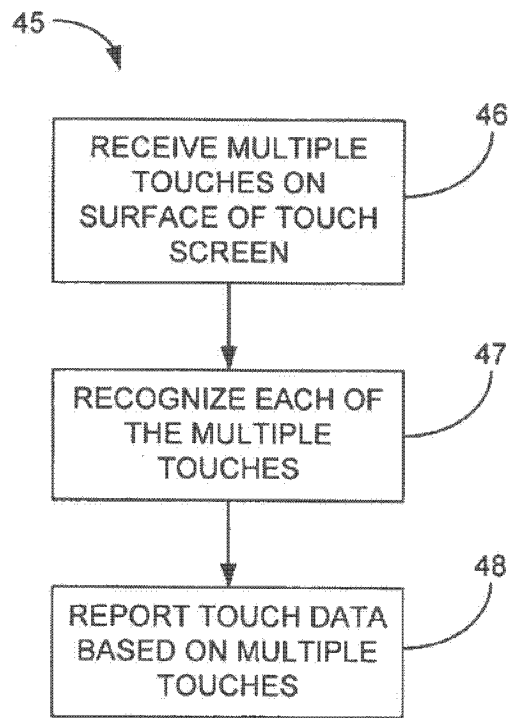


FIG. 4

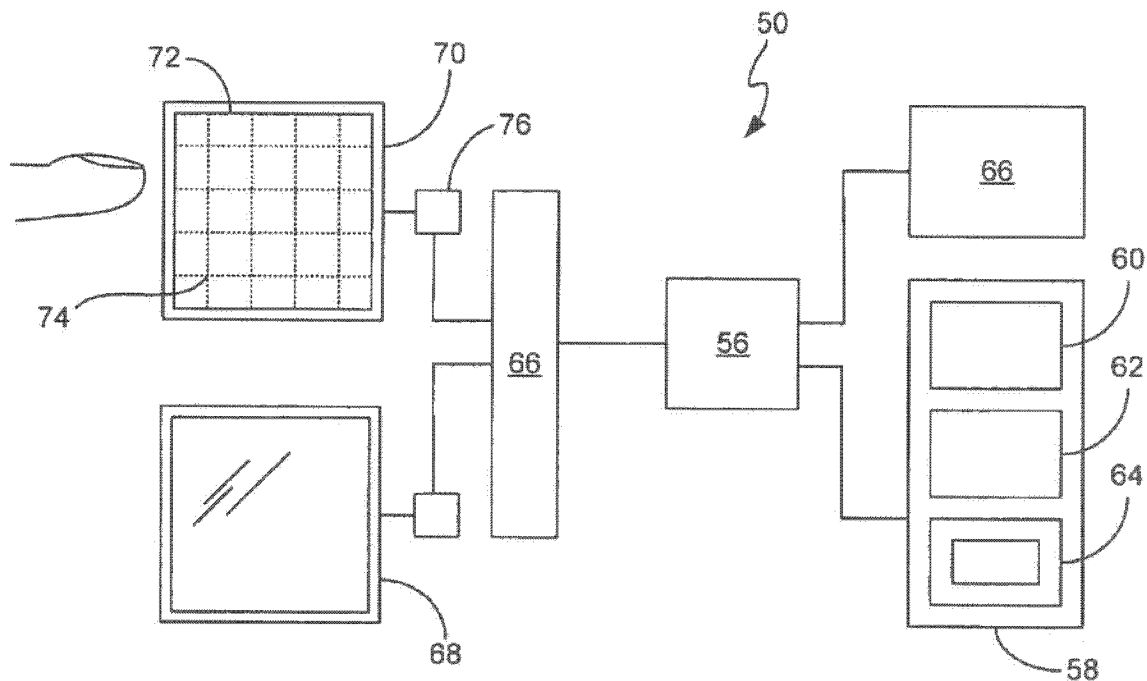
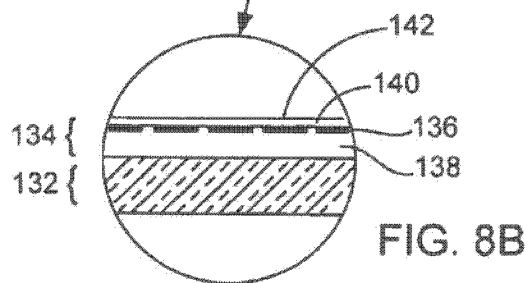
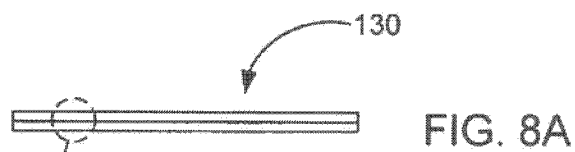
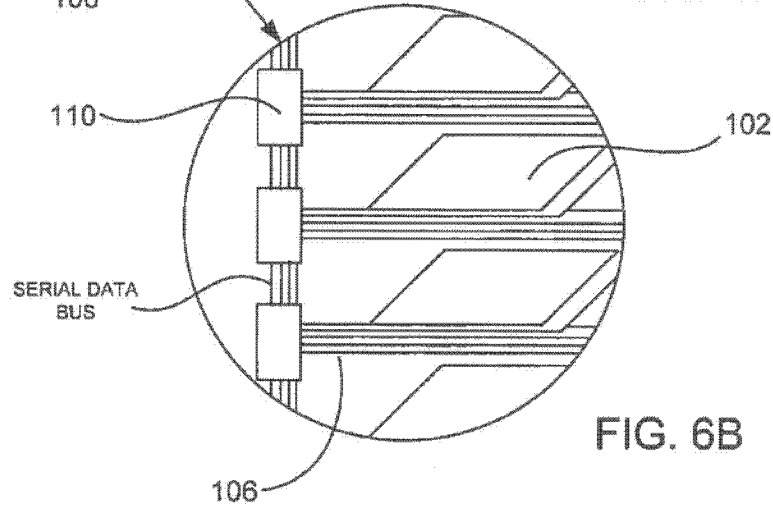
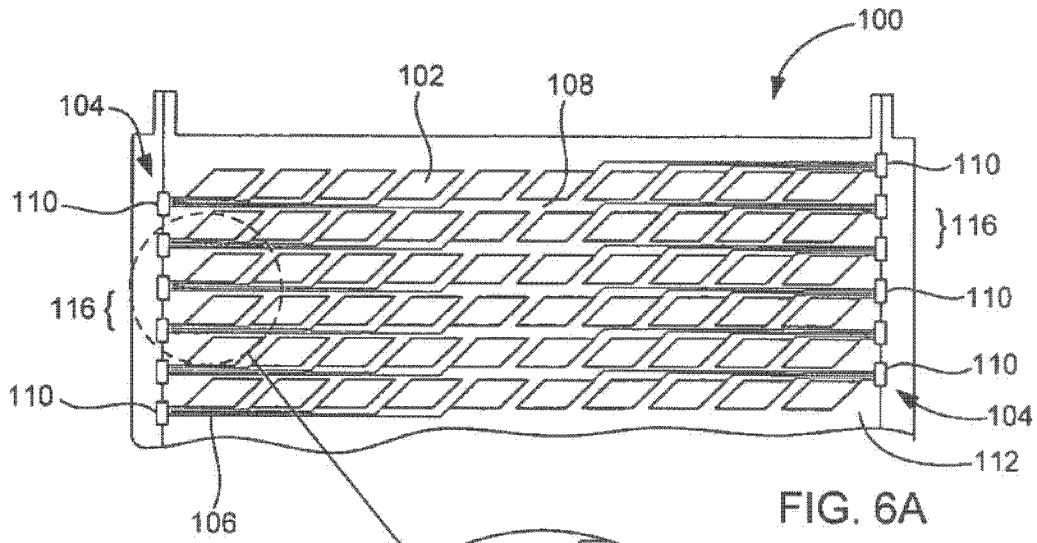


FIG. 5



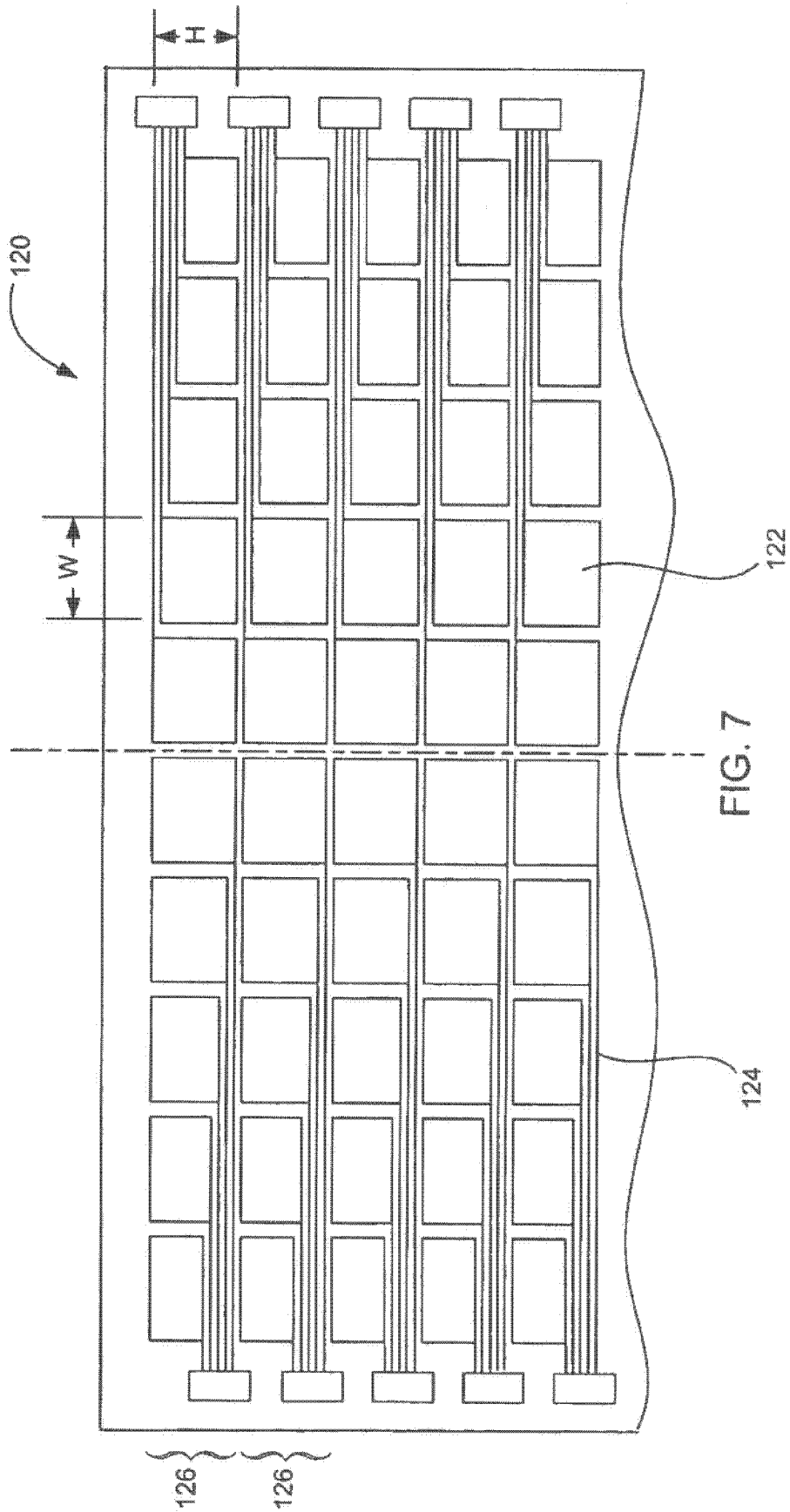
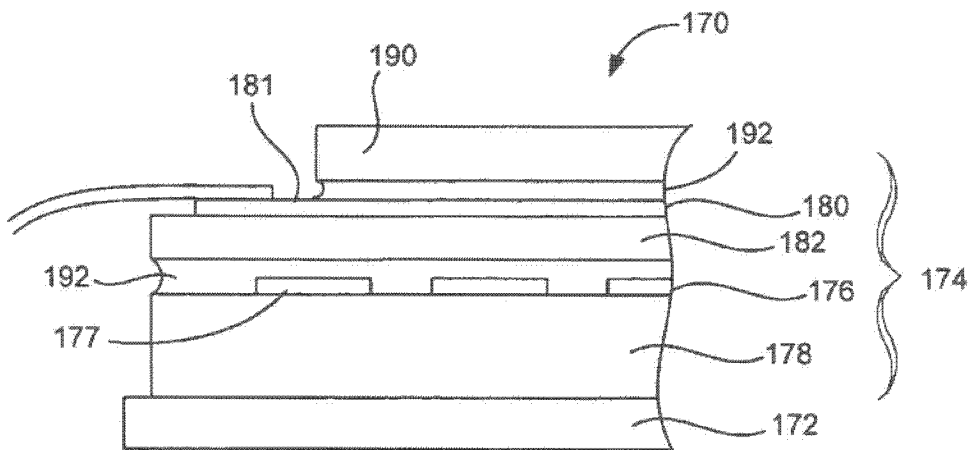
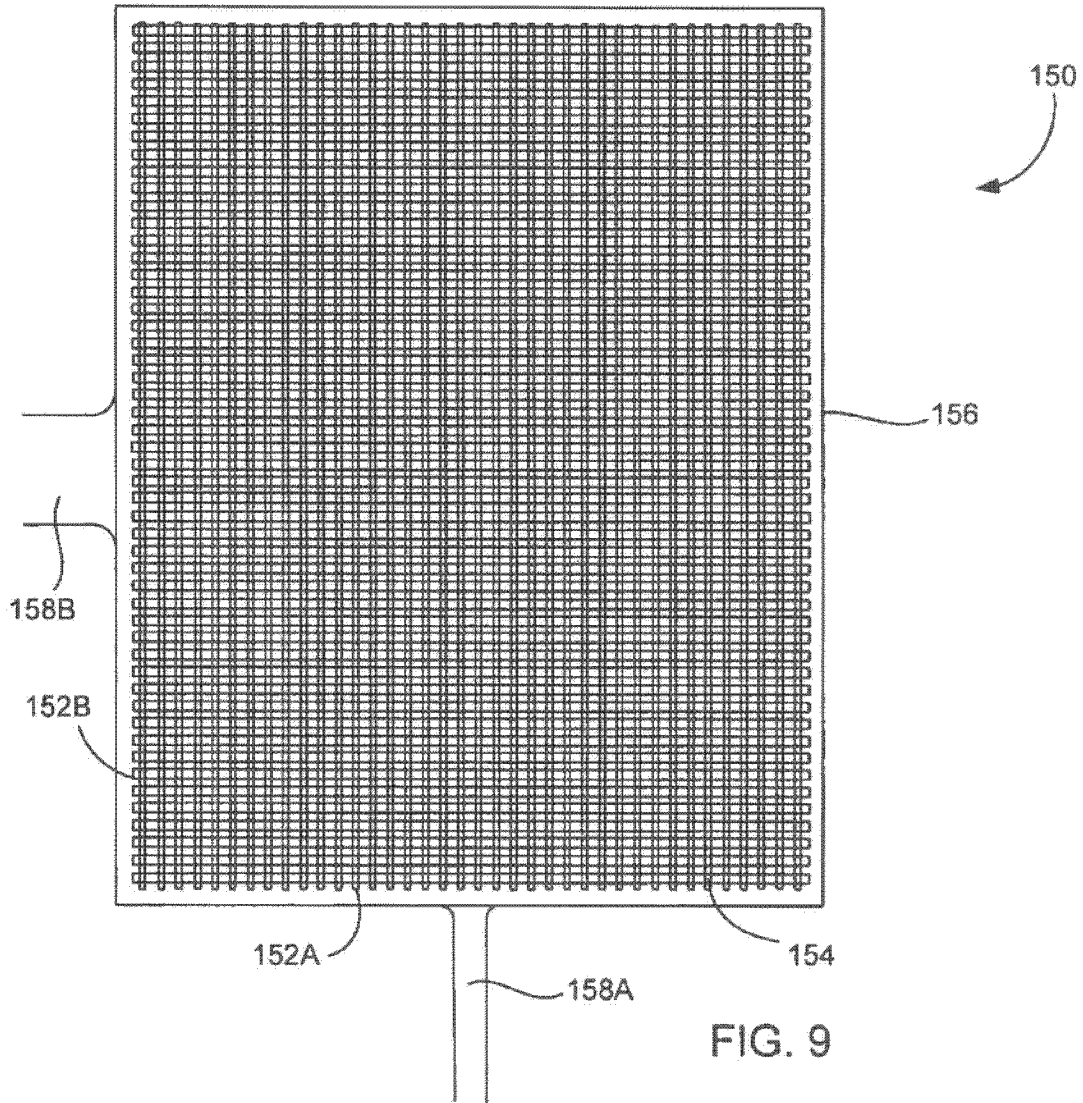


FIG. 7



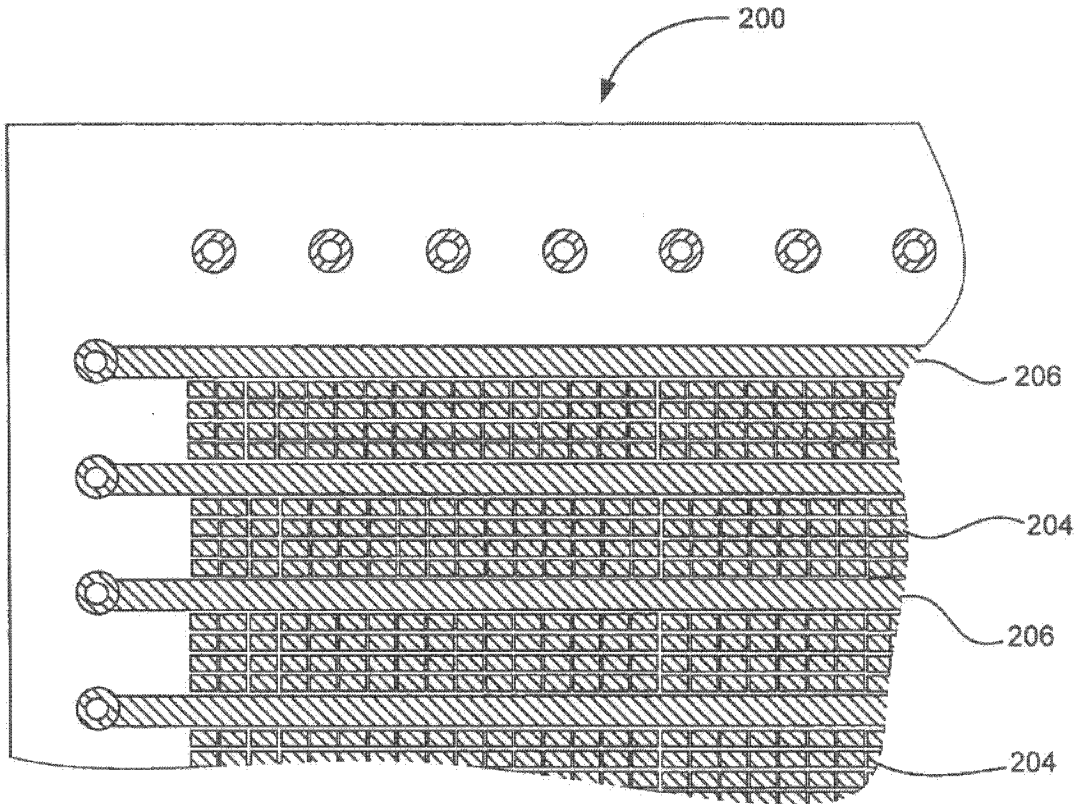


FIG. 11A

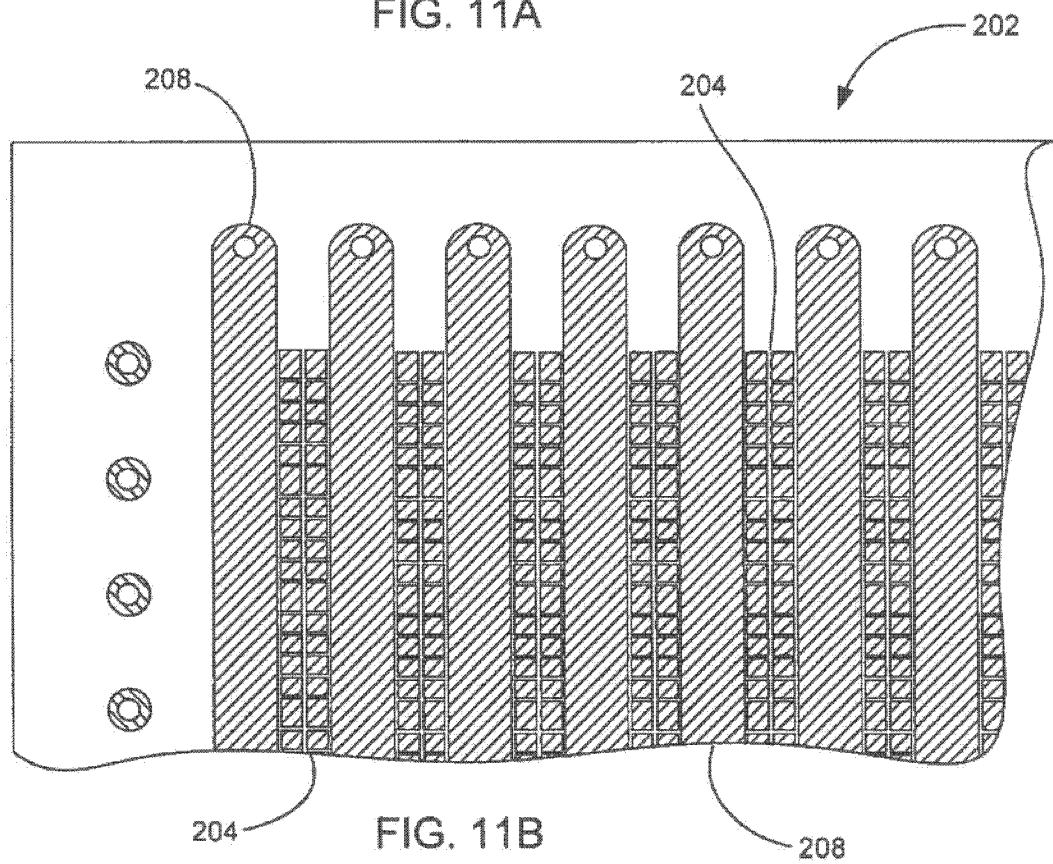


FIG. 11B

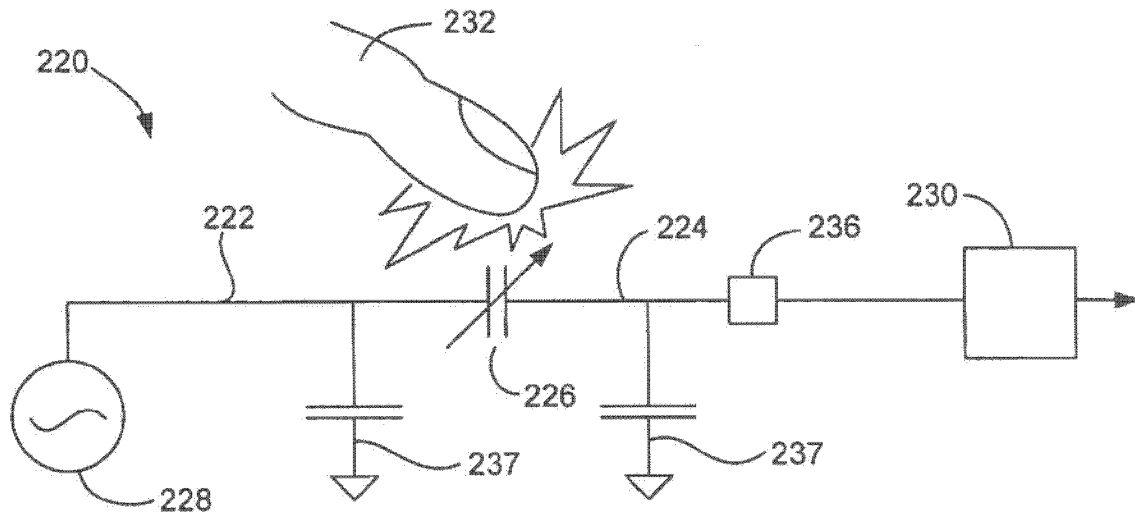


FIG. 12

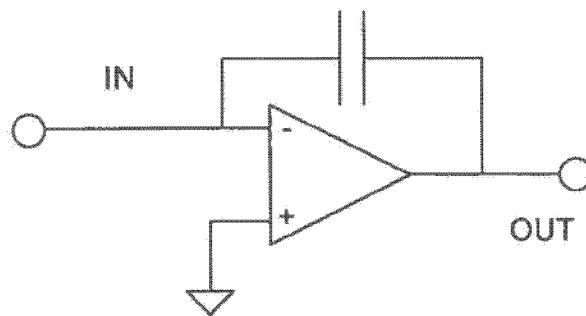


FIG. 13

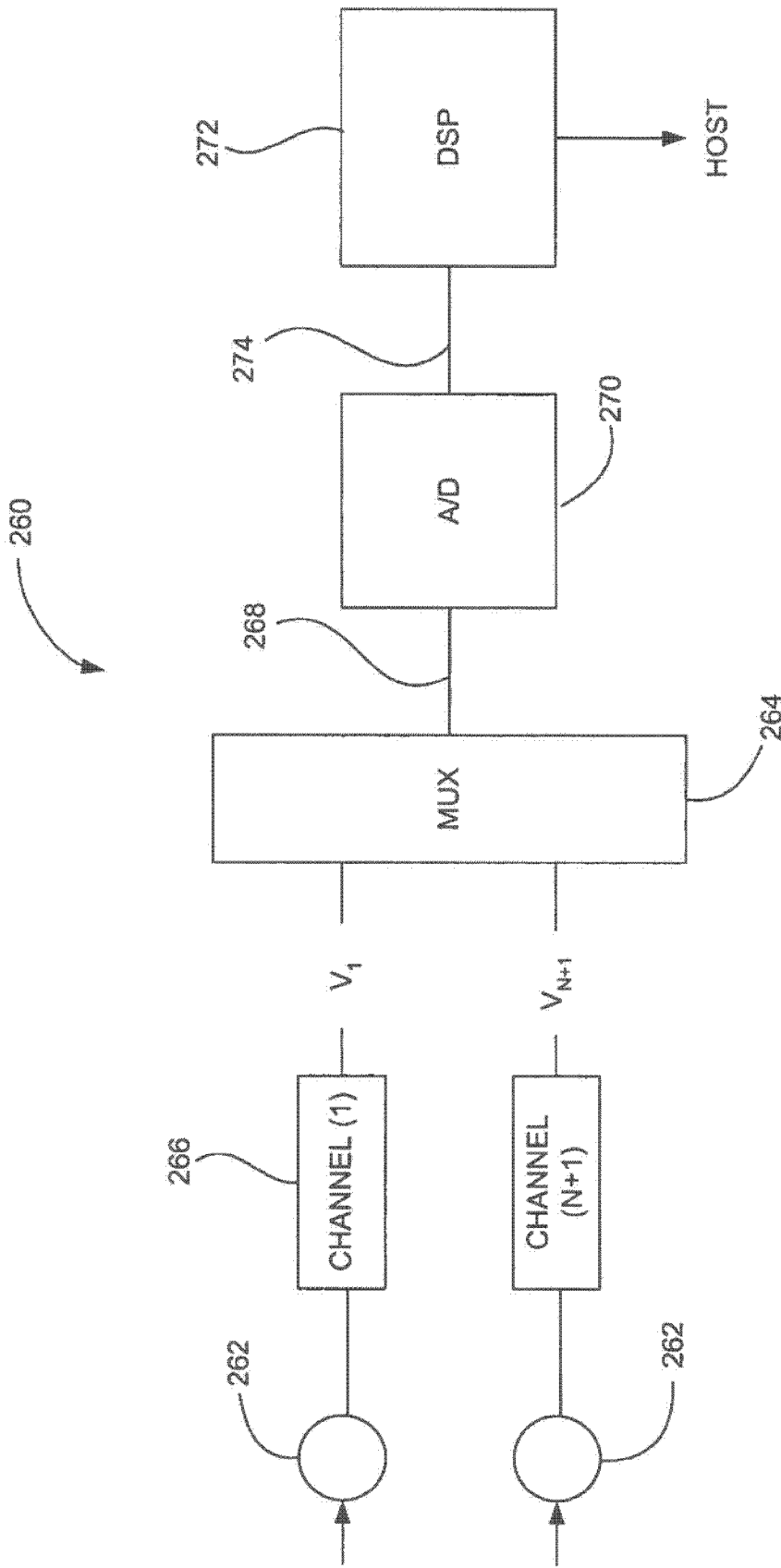


FIG. 14

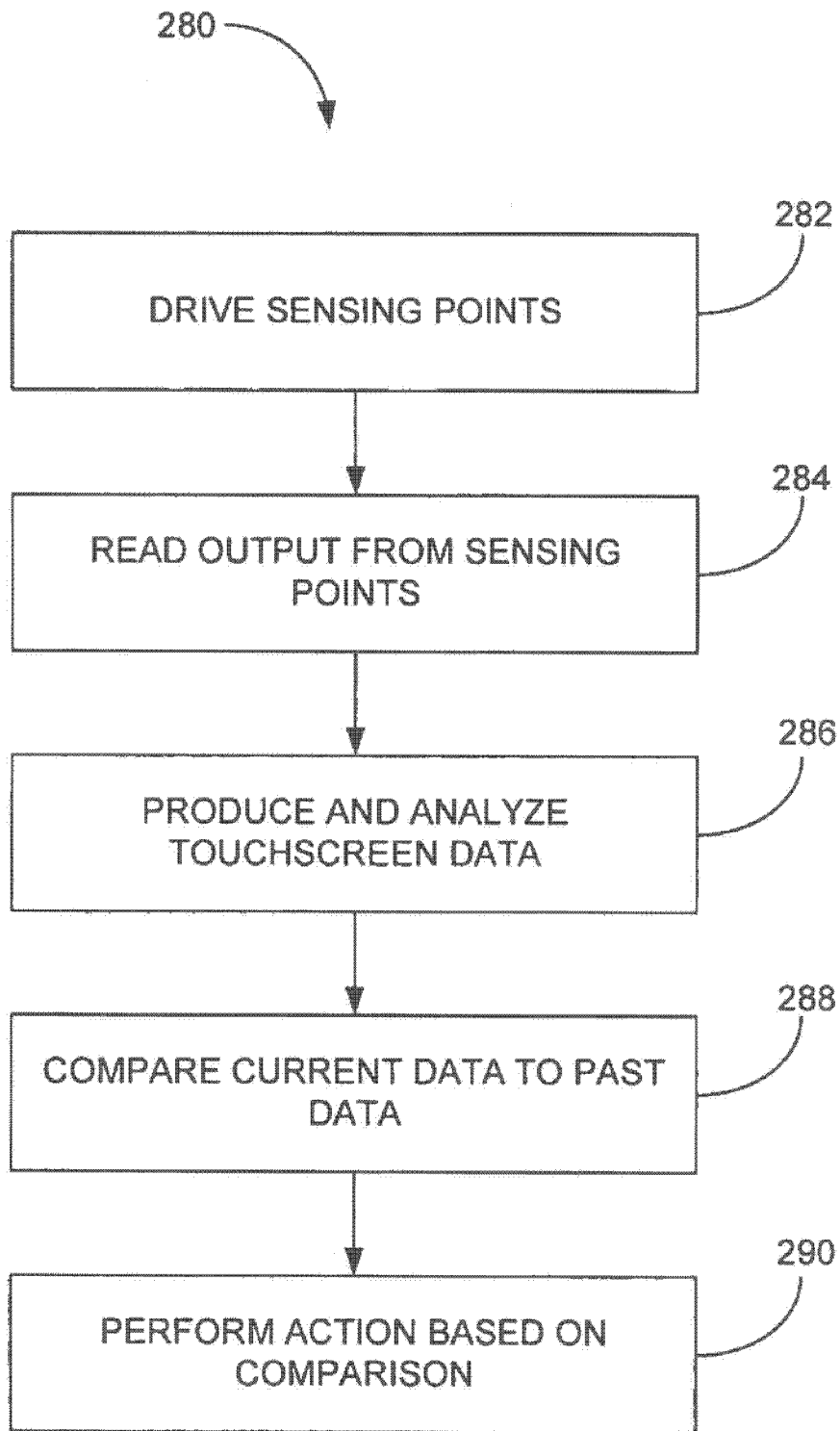


FIG. 15

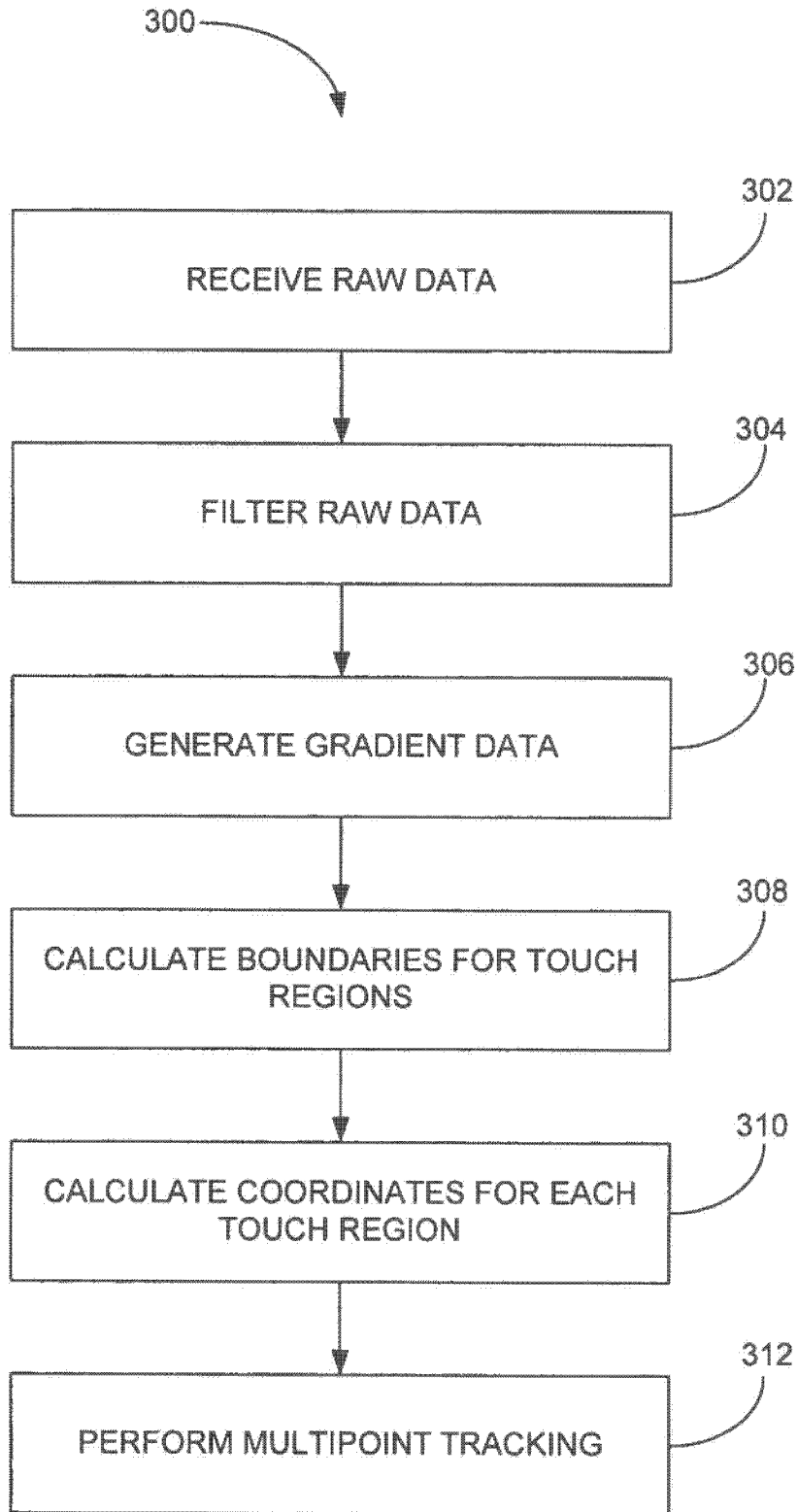


FIG. 16