

- [54] TOUCH PANEL SYSTEM AND METHOD
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- [21] Appl. No.: 14,450
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- [51] Int. Cl.³ G08C 21/00; G01N 27/00
- [52] U.S. Cl. 178/18; 178/19
- [58] Field of Search 178/18, 19, 20;
340/365 R, 365 S, 365 C, 365 A, 146.3 SY, 347
AD; 33/1 M; 250/207, 211 R, 211 K; 324/71
R, 71 EB

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Primary Examiner—Thomas A. Robinson
 Attorney, Agent, or Firm—Jim Zegeer

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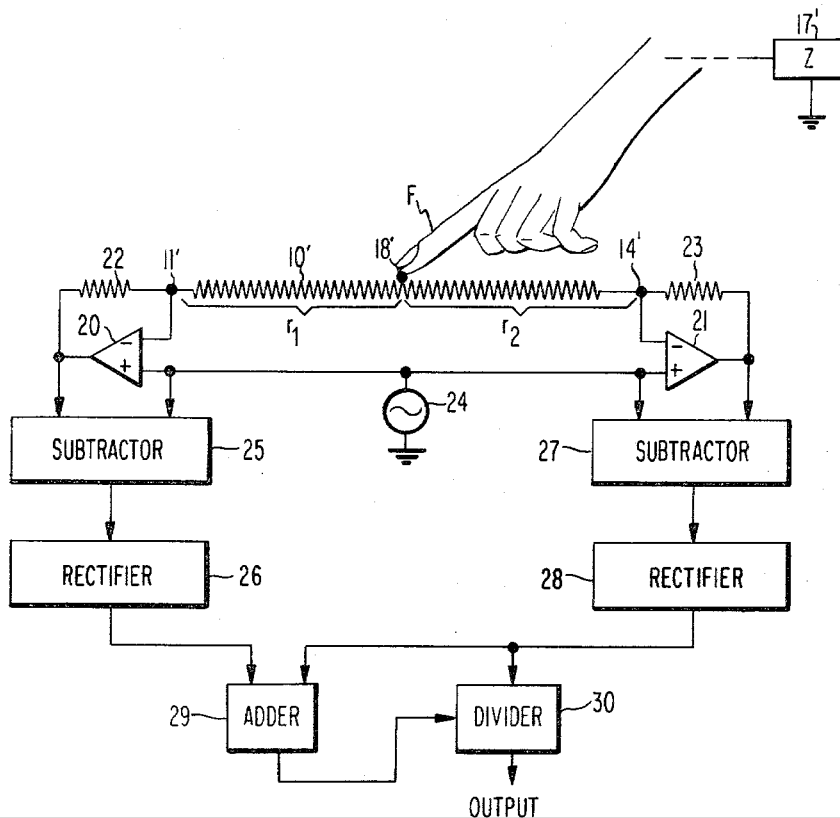
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[57] ABSTRACT

A general method is disclosed for accurately determining the location or position of a source or sink of electric current on the surface of a resistance element or impedance layer. Touch panels are described that detect the presence of a user's finger on such surface, and produce output signals corresponding to the position of the finger in one or more axes. A preferred embodiment discloses a touch panel that includes a signal generator and determines the position of the user's finger from current flowing through the user's body to ground. Another touch panel embodiment determines the position of the user's finger from currents caused by ambient electrical noise. A pressure-sensitive touch panel, a transparent touch panel for use with a video display, a touch-panel-controlled audio mixer, and a video game incorporating touch panels are also disclosed.

28 Claims, 14 Drawing Figures



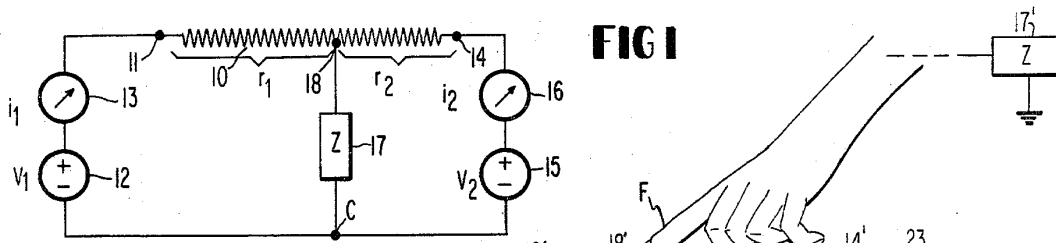


FIG 2

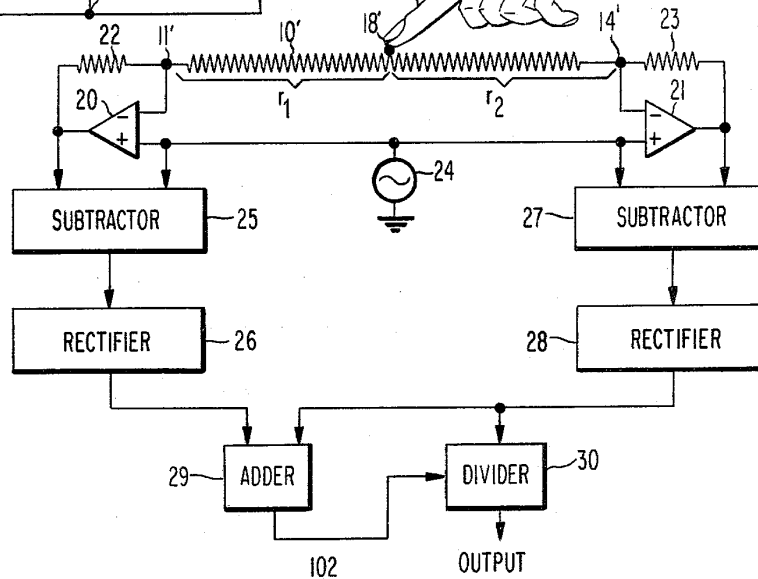


FIG 3

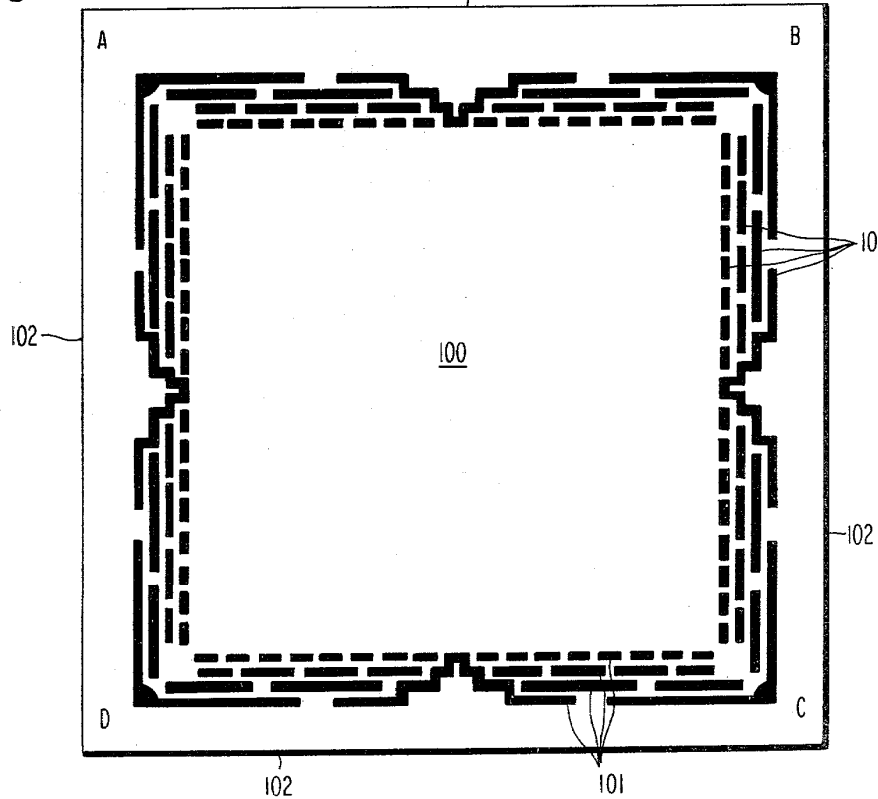


FIG 4

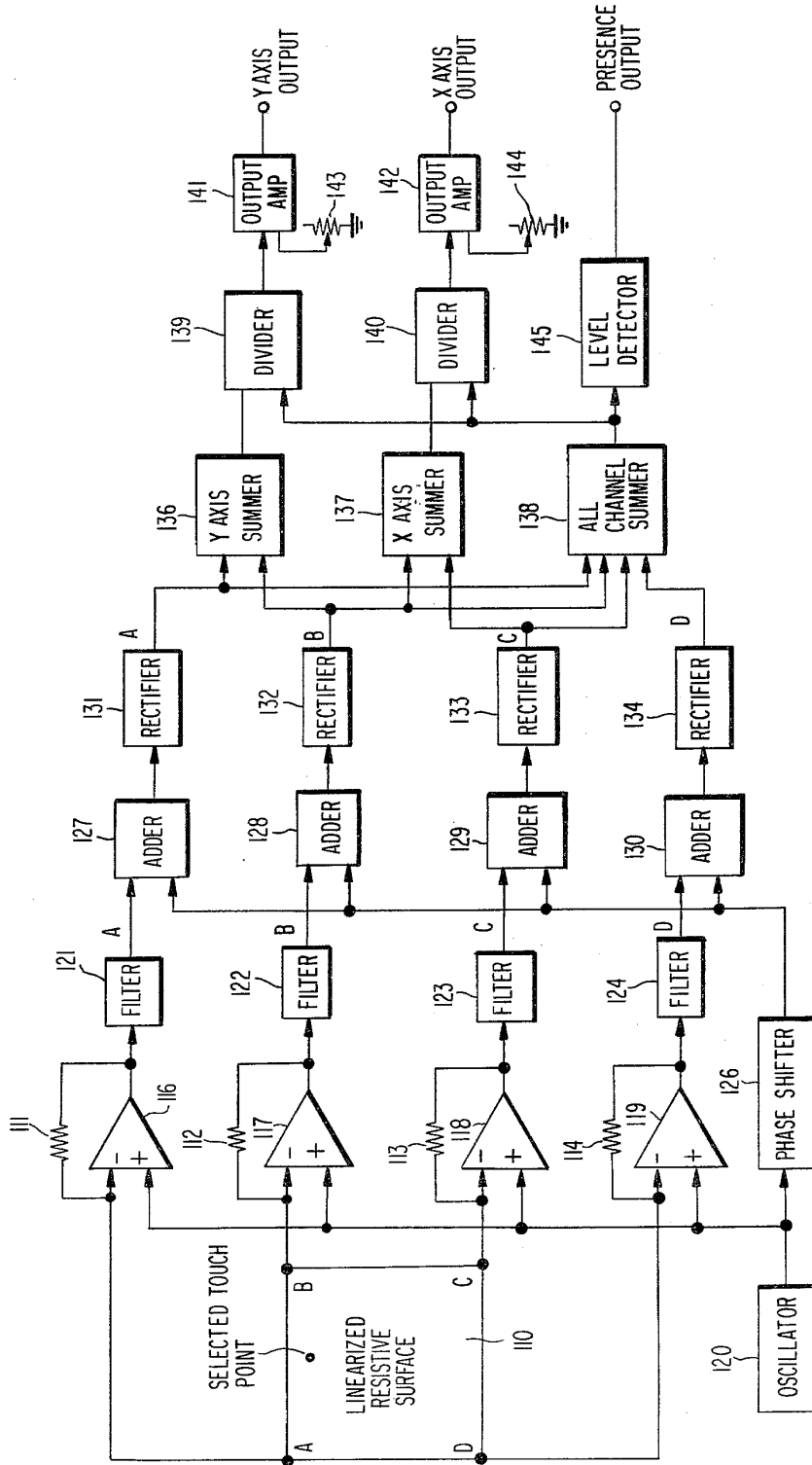


FIG 5A

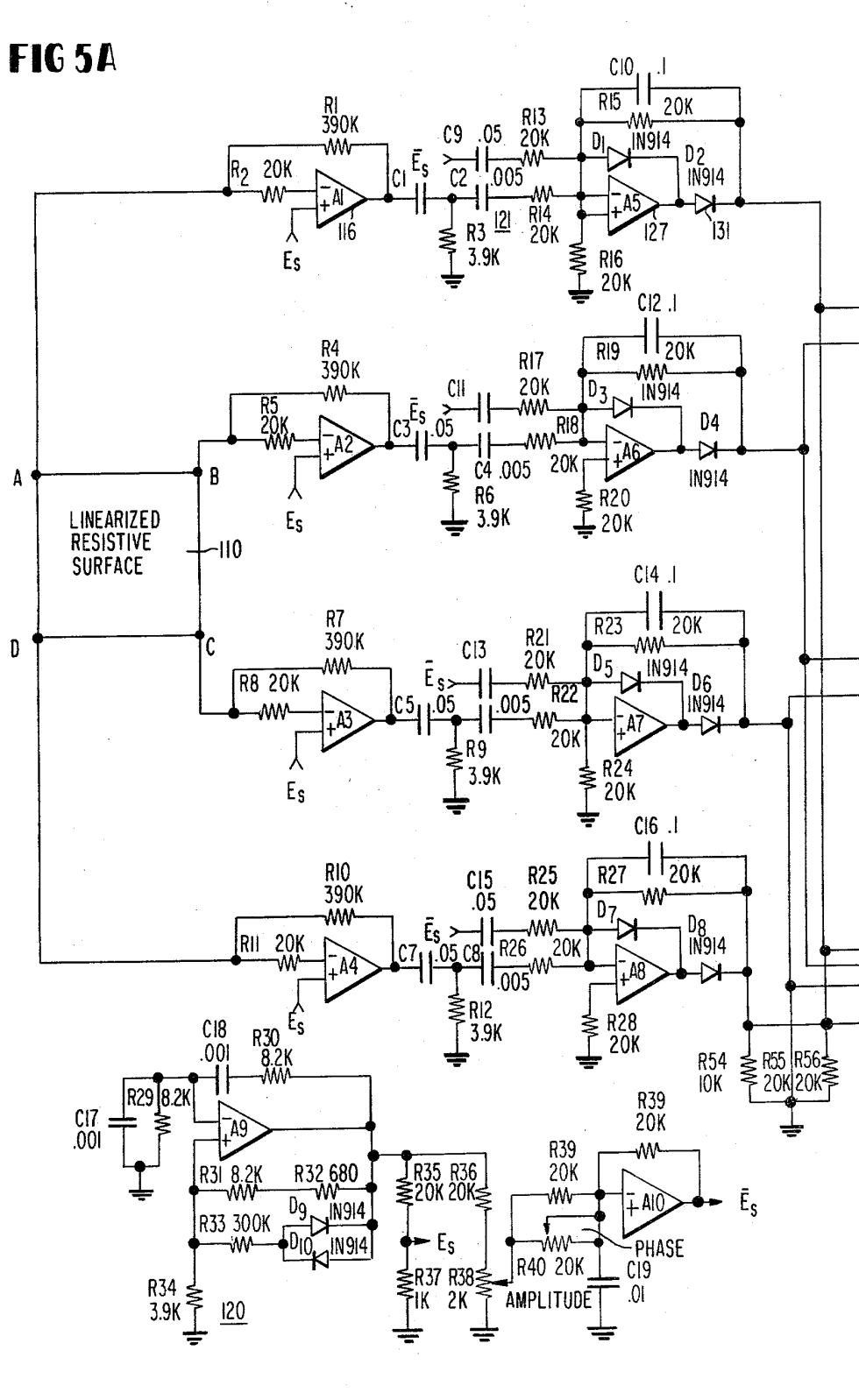
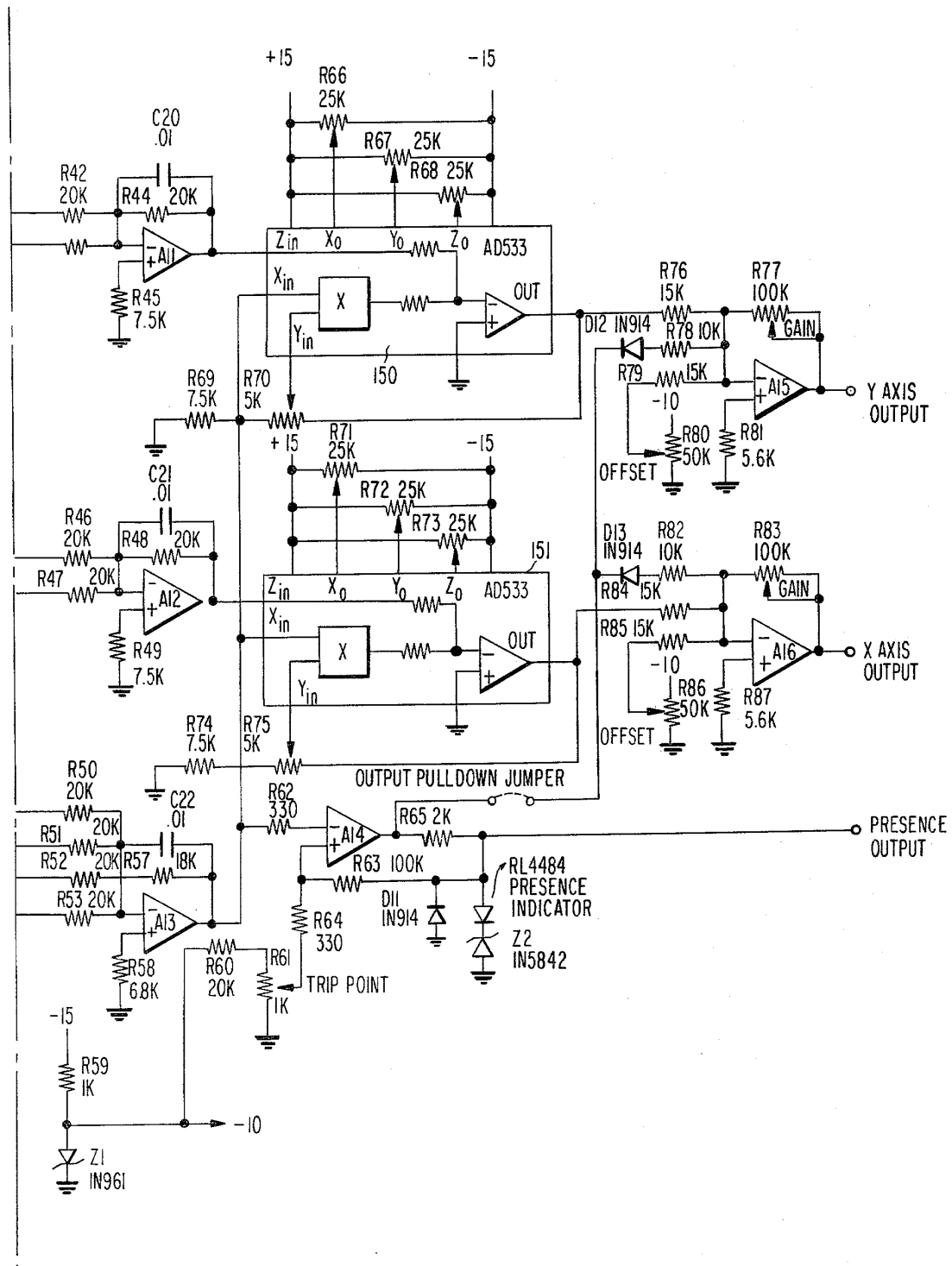


FIG 5B



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