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- (54) **CERAMIC EMITTER SUBSTRATE**
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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 1104 days.

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(51) **Int. Cl.**
A61B 5/00 (2006.01)

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(58) **Field of Classification Search** **600/309, 600/310, 322, 323, 331**
See application file for complete search history.

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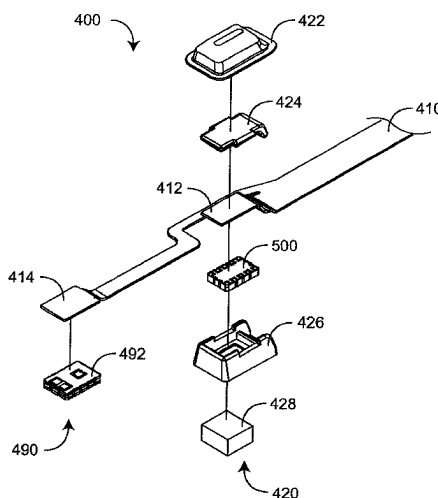
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(57) **ABSTRACT**

A ceramic emitter substrate has a substrate body with top and bottom sides and a cavity disposed on the top side. Bonding pads are disposed within the cavity and solder pads are disposed on the bottom side. Light emitting diodes (LEDs) are electrically connected to the bonding pads. Low-resistance conductors are disposed within the ceramic substrate body so as to interconnect the bonding pads and the solder pads. The interconnect is configured so that the LEDs can be individually activated as an array via row and column drive signals applied to the solder pads.

8 Claims, 26 Drawing Sheets



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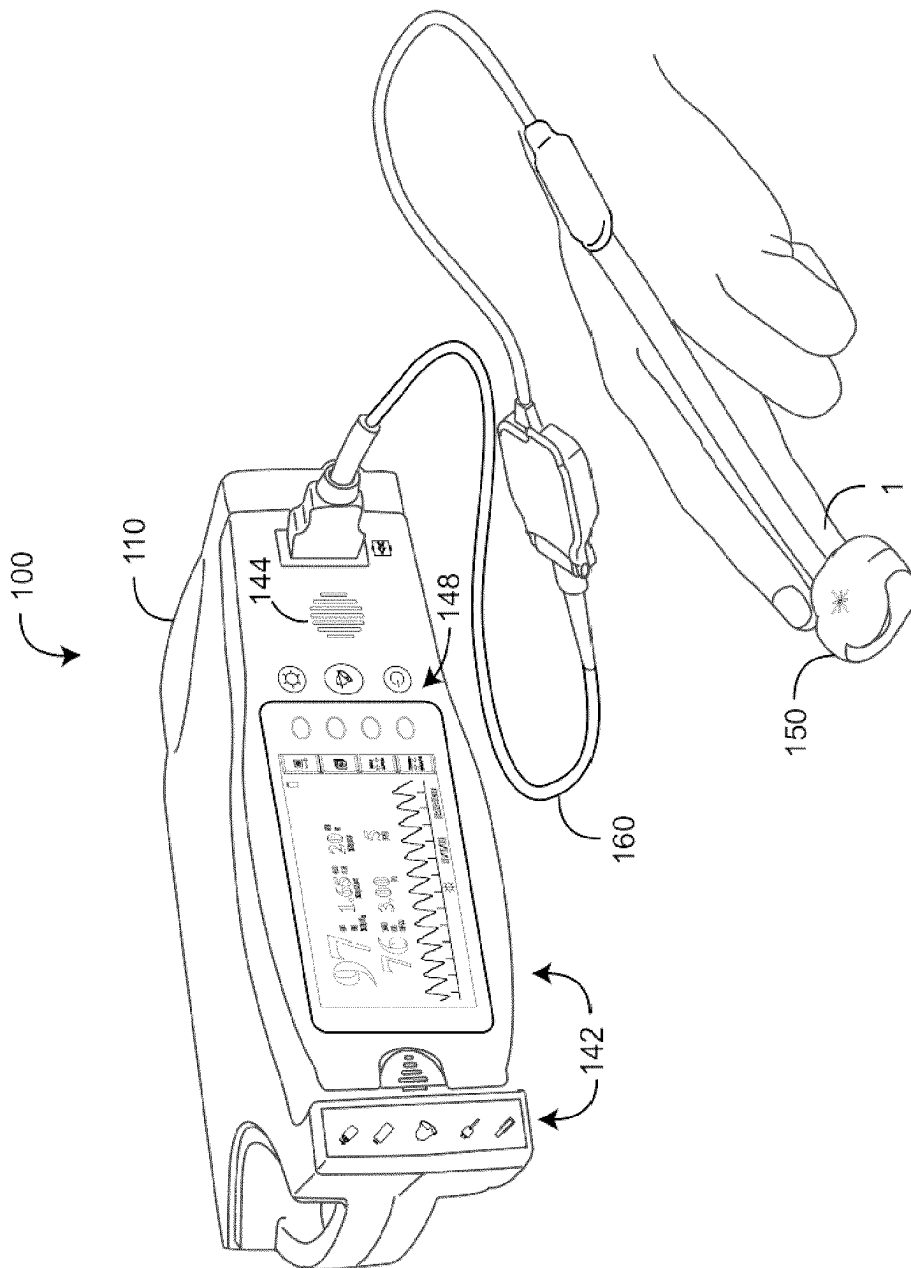


FIG. 1A

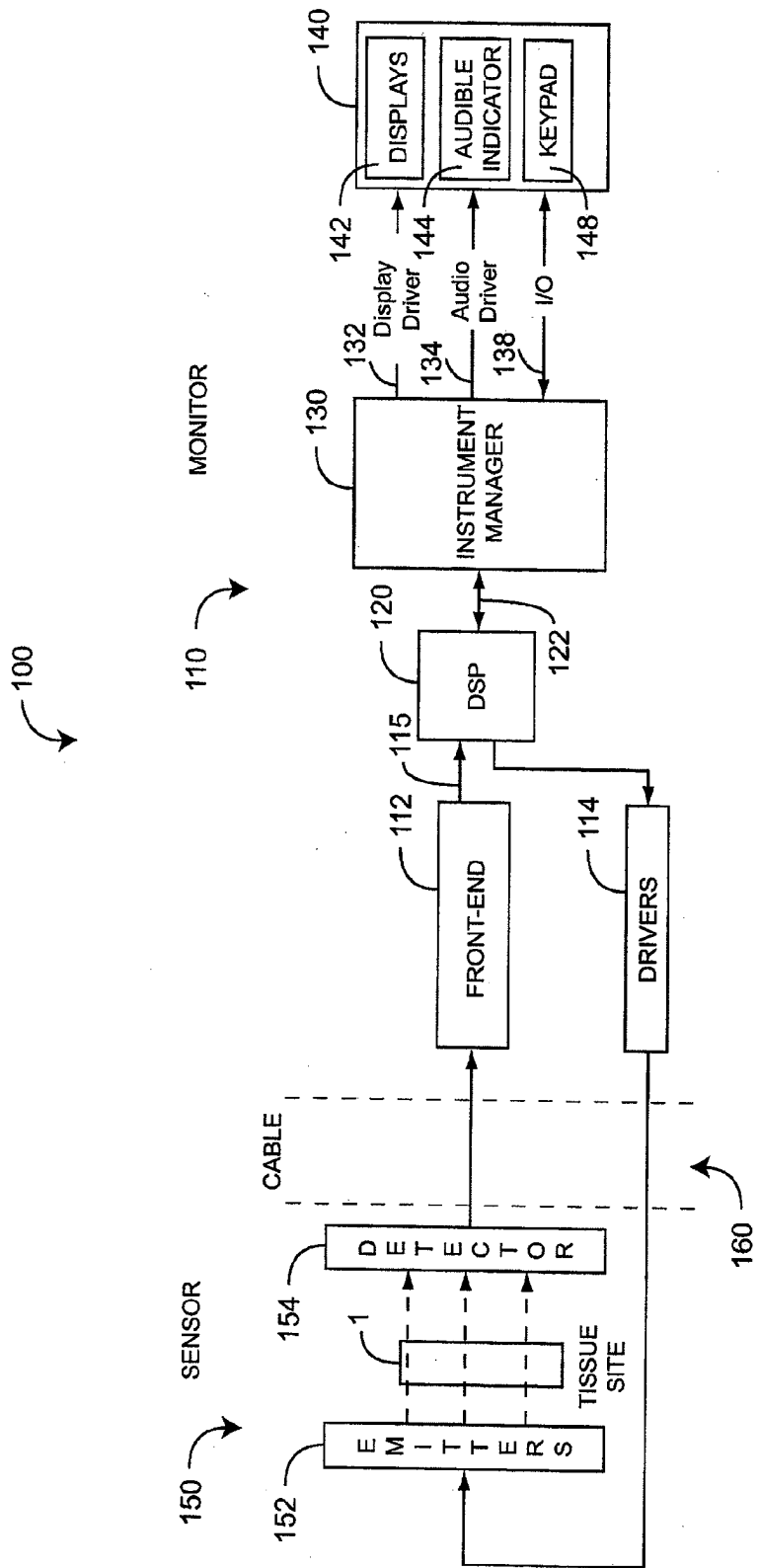


FIG. 1B

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