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Athan et al.

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[54] PORTABLE PULSE OXIMETER

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[21] Appl. No.: **221,958**

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[51] Int. Cl.⁶ **A61B 5/02**

[52] U.S. Cl. **128/633; 356/41**

[58] Field of Search **128/633, 903; 356/41; 250/214 A, 214 L; 607/60**

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Primary Examiner—Angela D. Sykes

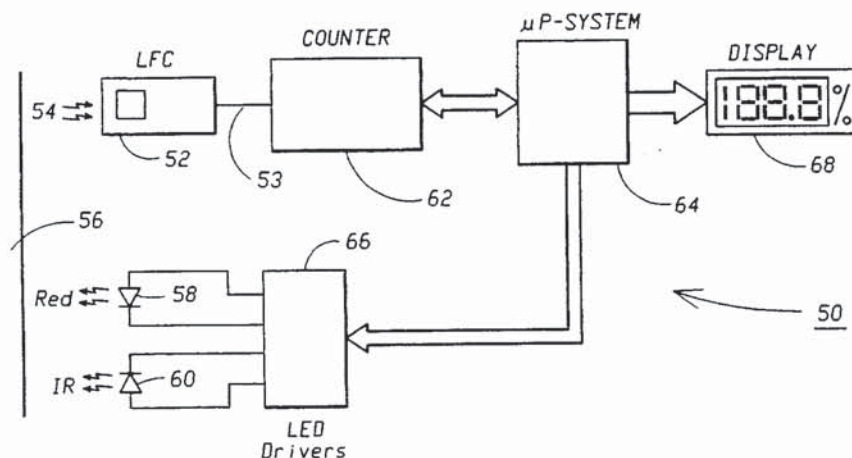
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[57] ABSTRACT

A diagnostic instrument for determining a cardiovascular system parameter. In one embodiment, the instrument takes the form of a portable pulse oximeter comprising a light to frequency converter (LFC) as a sensor. Also provided is a light to frequency converter comprising a photoresistor and capacitor in circuit communication with an inverting Schmitt trigger and configured such that the inverter generates a periodic electrical signal corresponding to the amount of electromagnetic radiation illuminating the photoresistor.

22 Claims, 6 Drawing Sheets



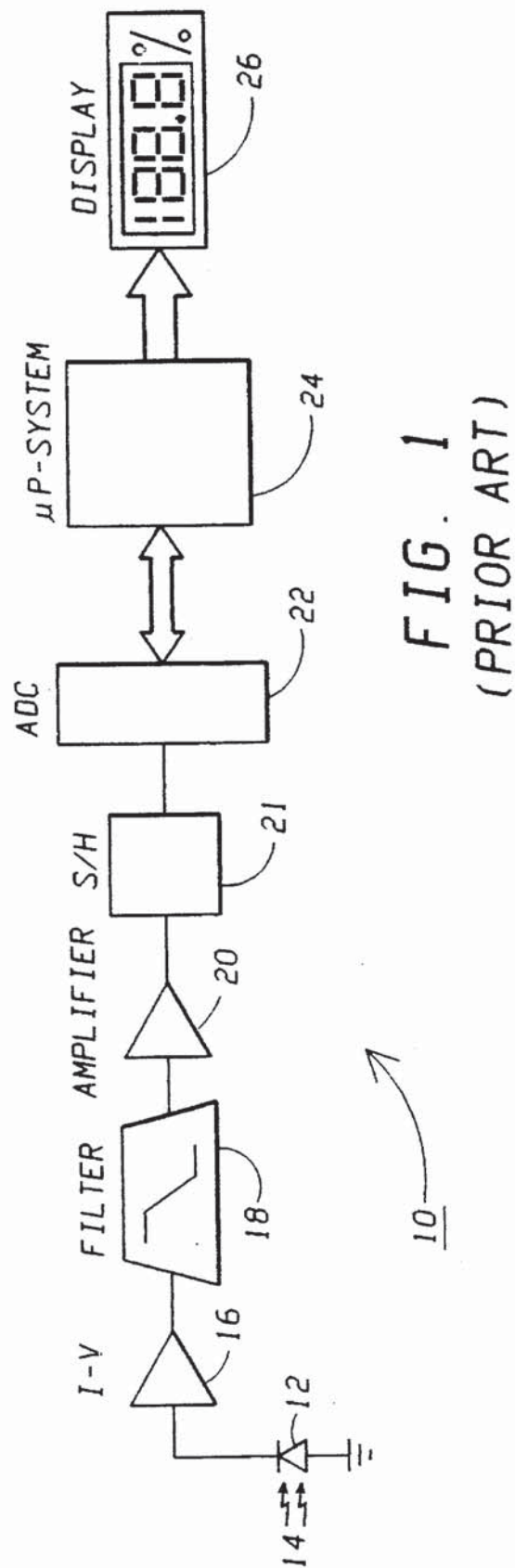


FIG. 1
(PRIOR ART)



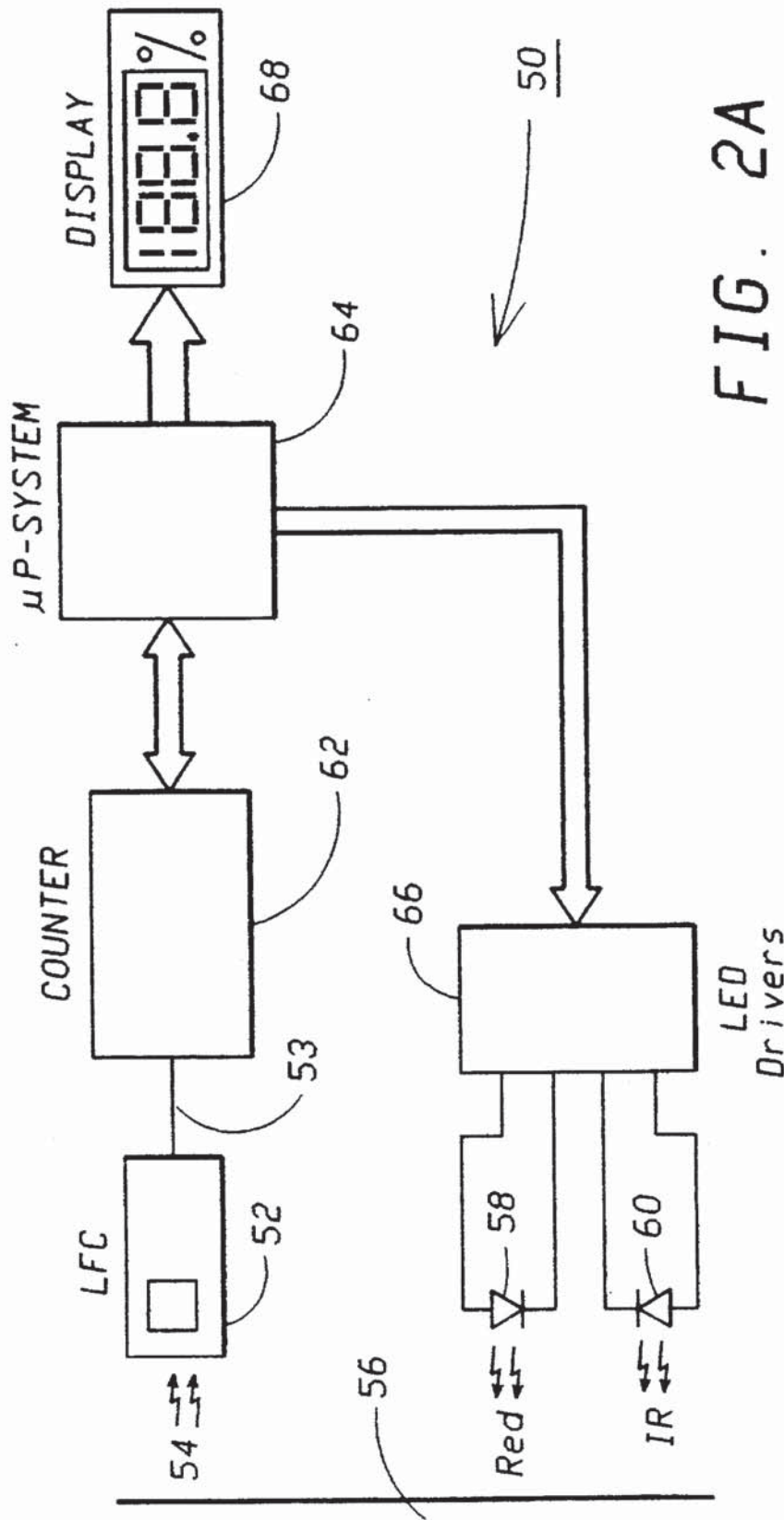


FIG. 2A

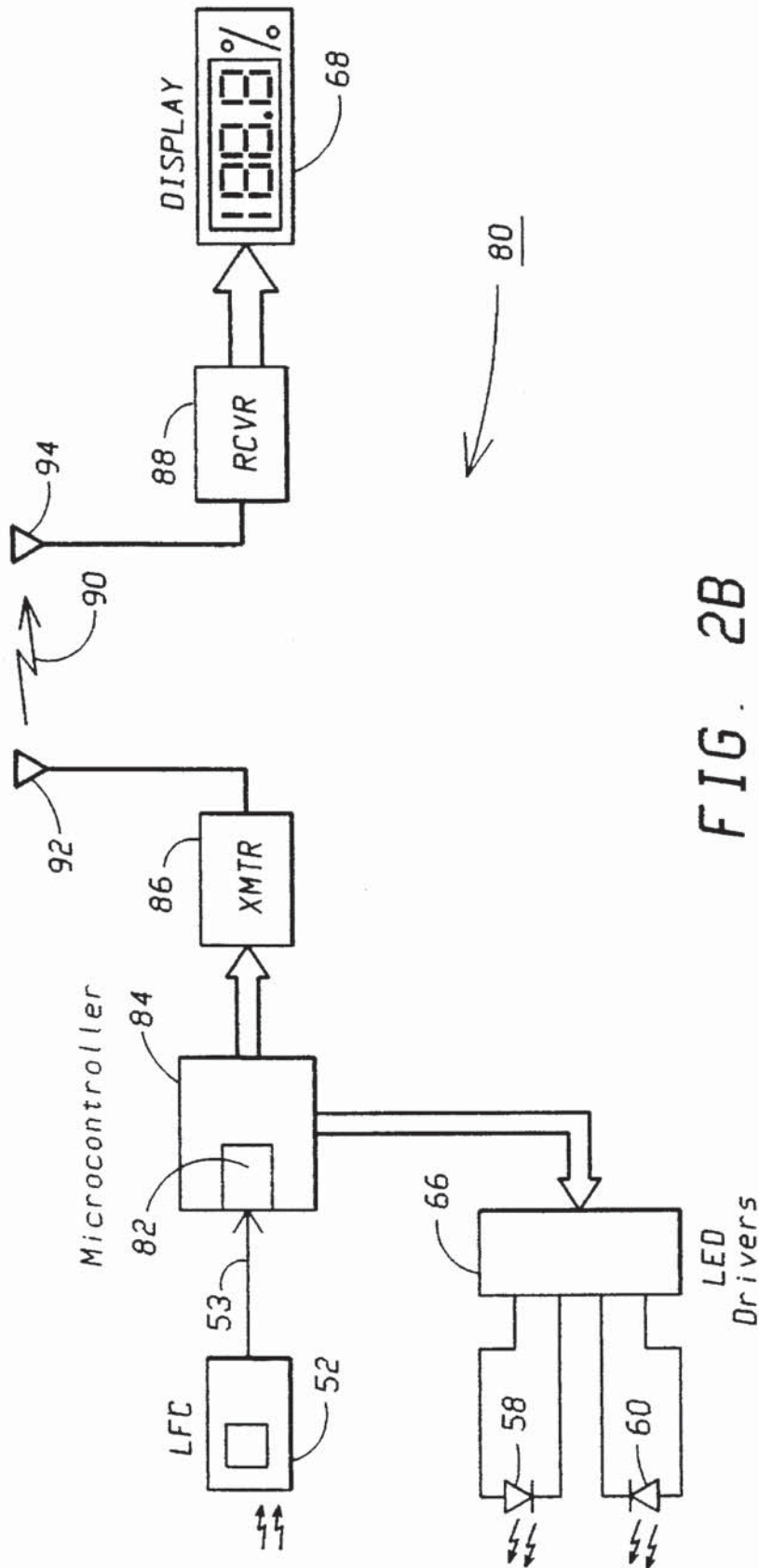


FIG. 2B

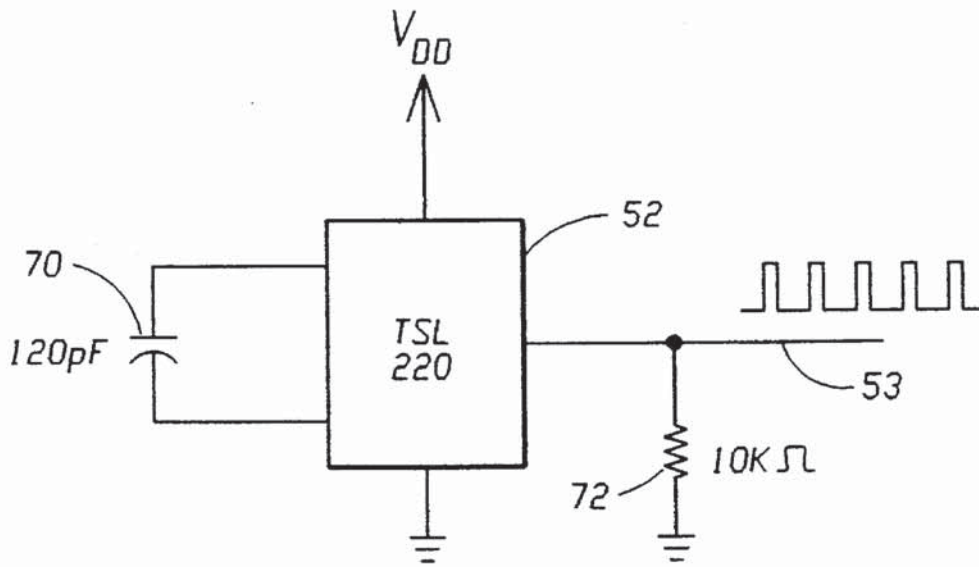


FIG. 3A

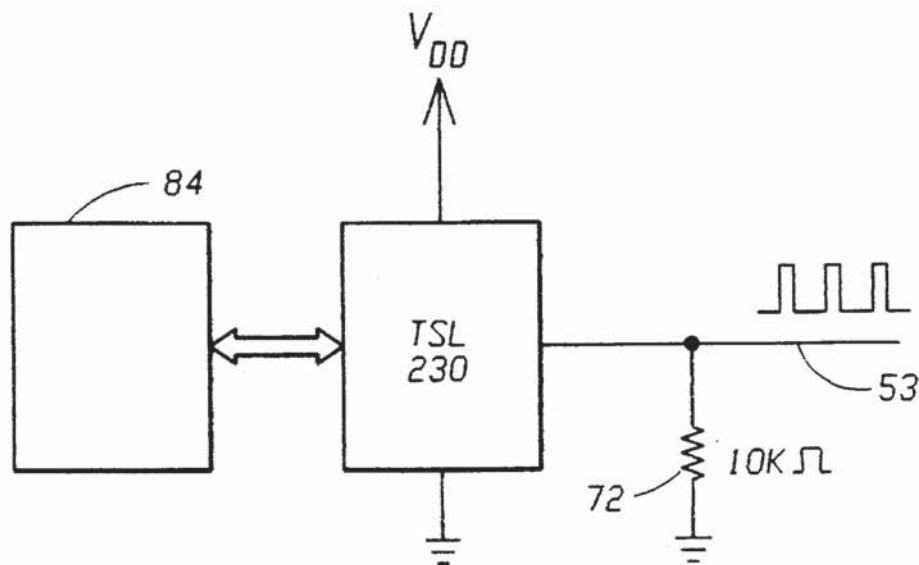


FIG. 3B

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