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United States Patent [19]

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DeCaro et al.

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- [54] **INFRARED WIRELESS COMMUNICATION BETWEEN ELECTRONIC SYSTEM COMPONENTS**
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- [73] Assignee: **Irvine Sensors Corporation**, Costa Mesa, Calif.
- [21] Appl. No.: **305,066**
- [22] Filed: **Sep. 13, 1994**
- [51] Int. Cl.⁶ **H04B 10/06; H04B 10/00**
- [52] U.S. Cl. **359/189; 359/172; 359/142**
- [58] **Field of Search** 359/142, 143, 359/171, 172, 189, 194; 455/343, 127; 375/75

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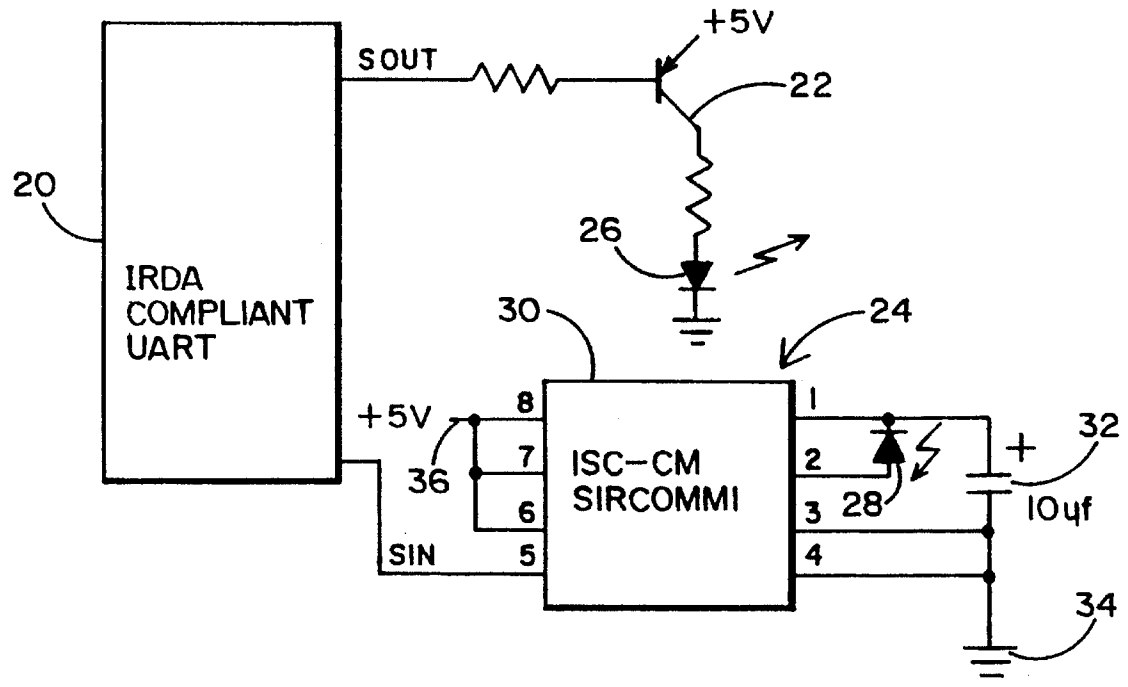
Primary Examiner—Leo Boudreau
Assistant Examiner—Bhavesh Mehta
Attorney, Agent, or Firm—Thomas J. Plante

[57] ABSTRACT

A wireless infrared pulse-transmitting system for communication with electronic components. The receiver for such a system has radically reduced current (and power) values, which permit a battery-powered receiver to remain on while awaiting transmitter signals. Use of several mosfet transistors operating in the subthreshold region minimizes power. Bandwidth requirements are met, in spite of the low power operation. In order to eliminate amplifier saturation, with the accompanying problem of recovery time which slows the transmission process, clamping circuitry is used to cause instantaneous shunting of signals when a predetermined signal level is reached.

- [56] **References Cited**
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12 Claims, 8 Drawing Sheets



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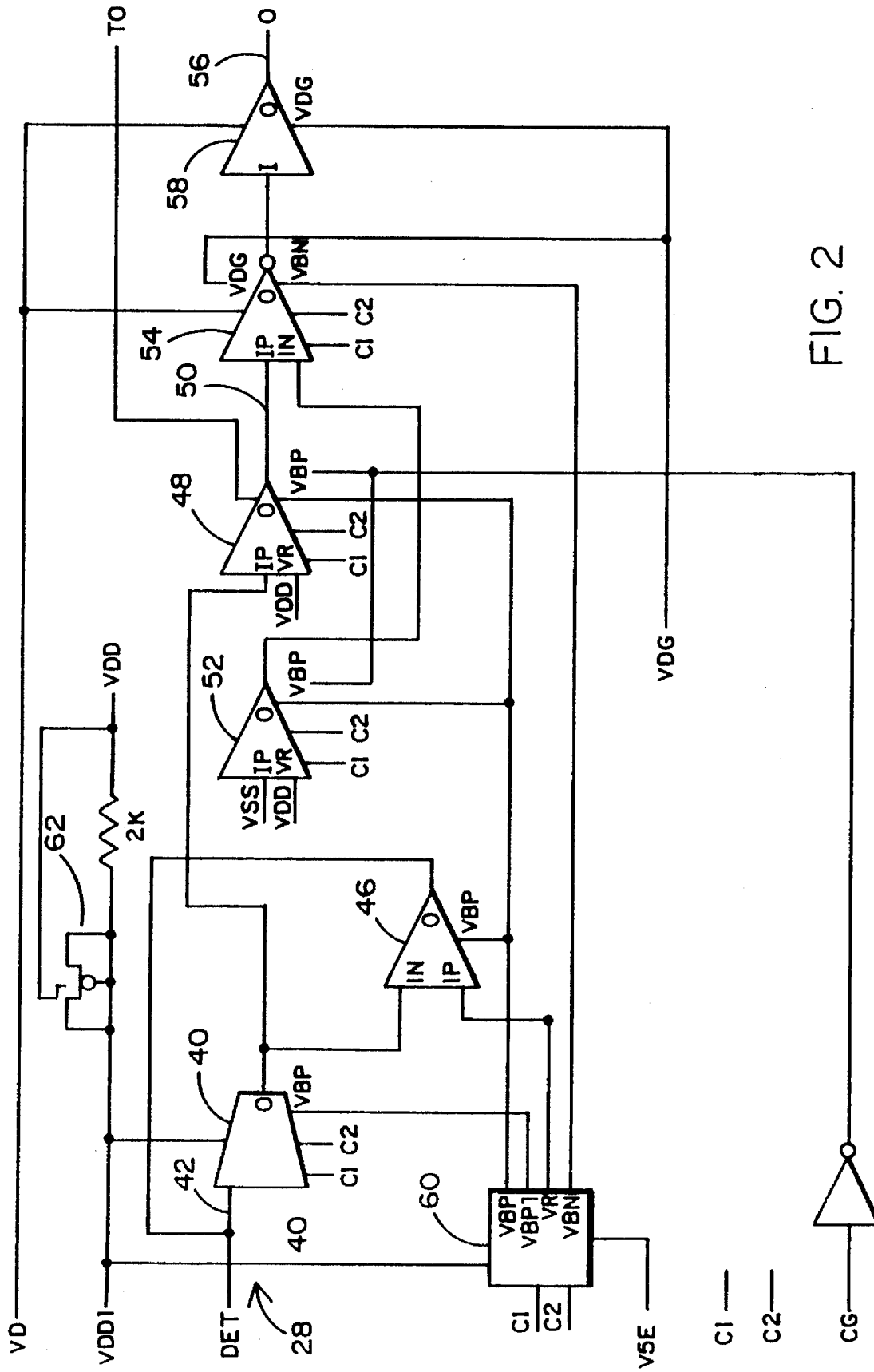


FIG. 2

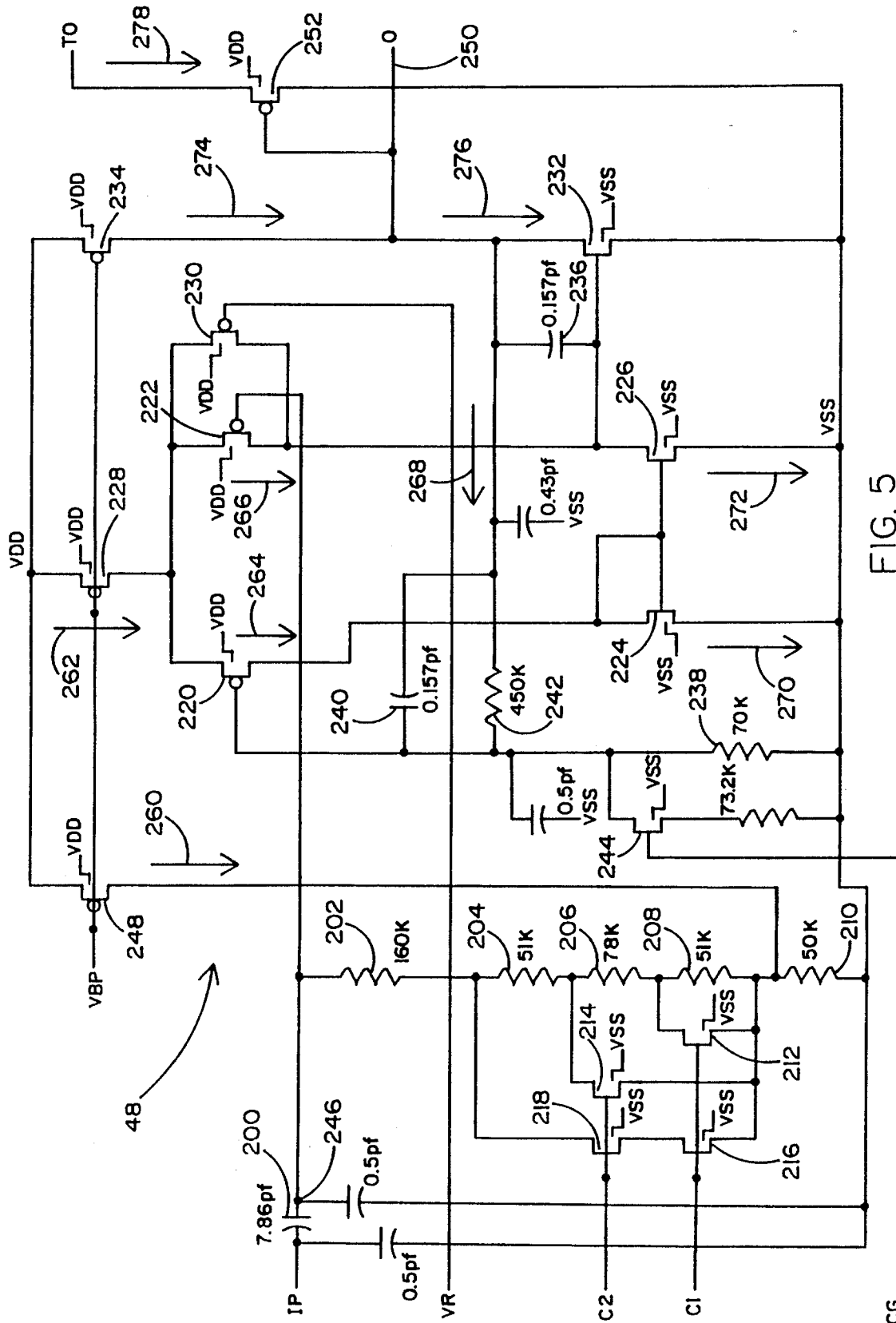


FIG. 5

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