



# United States Patent [19]

Aoshima et al.

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[45] **Date of Patent:** Aug. 8, 2000

[54] **PULSE COUNTER AND PULSE DISPLAY METHOD**

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Japan

[21] Appl. No.: **09/180,727**

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PCT Pub. Date: **Sep. 24, 1998**

### [30] Foreign Application Priority Data

Mar. 18, 1997 [JP] Japan ..... 9-064991

[51] **Int. Cl.<sup>7</sup>** ..... **A61B 5/02**

[52] **U.S. Cl.** ..... **600/500; 600/502**

[58] **Field of Search** ..... **600/500, 502,**  
**600/503, 501, 481**

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*Attorney, Agent, or Firm*—Mark P. Watson

### [57] ABSTRACT

A pulse counter is provided in which the value displayed for the detected value is highly reliable. An SN condition detecting means detects the SN condition of a pulse wave signal (step S201). The SN condition detecting means then determines whether or not the detected SN condition is good based on a specific threshold value (step S202). When a determination is made that the SN condition is good, a display control signal to display the pulse rate on a display means is output to a display method switching means (step S203). Conversely, when a determination is made in step S202 that the SN condition is not good, the pulse rate is not displayed on the display means, but rather a display control signal indicating that no information at all be displayed is output to the display method switching means (step S204).

**16 Claims, 10 Drawing Sheets**

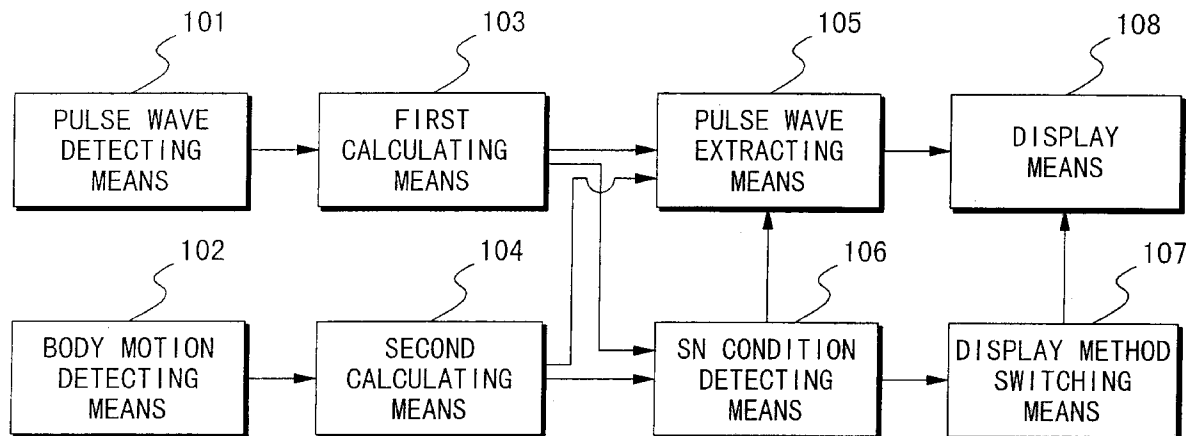


FIG. 1

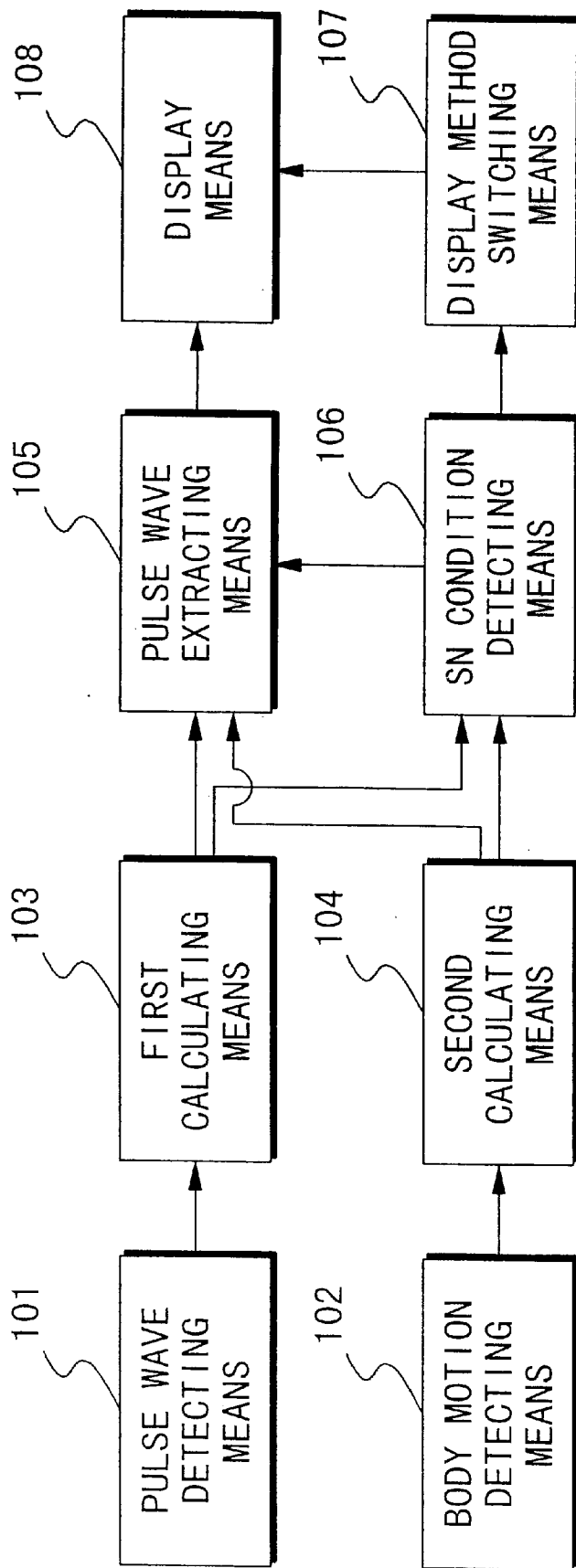


FIG. 2

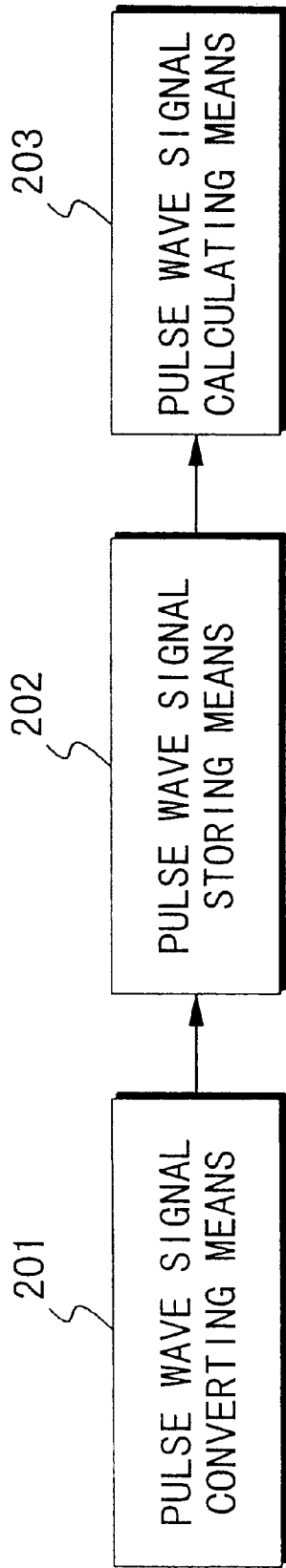


FIG. 3

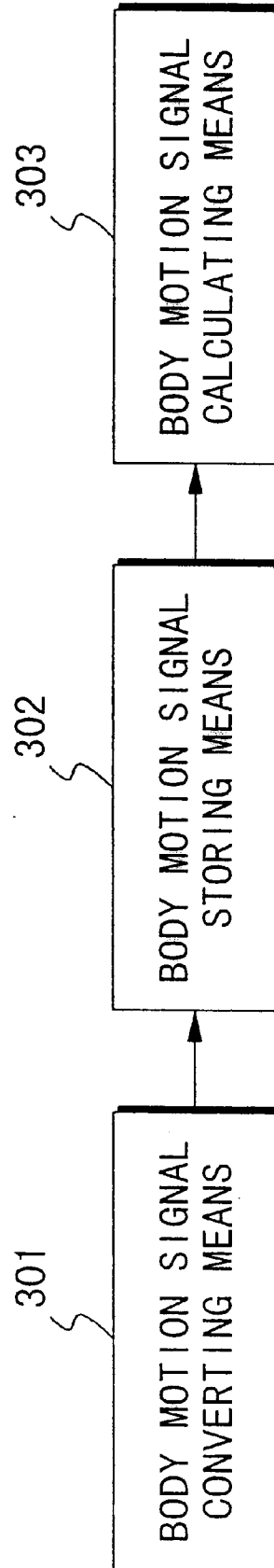


FIG. 4

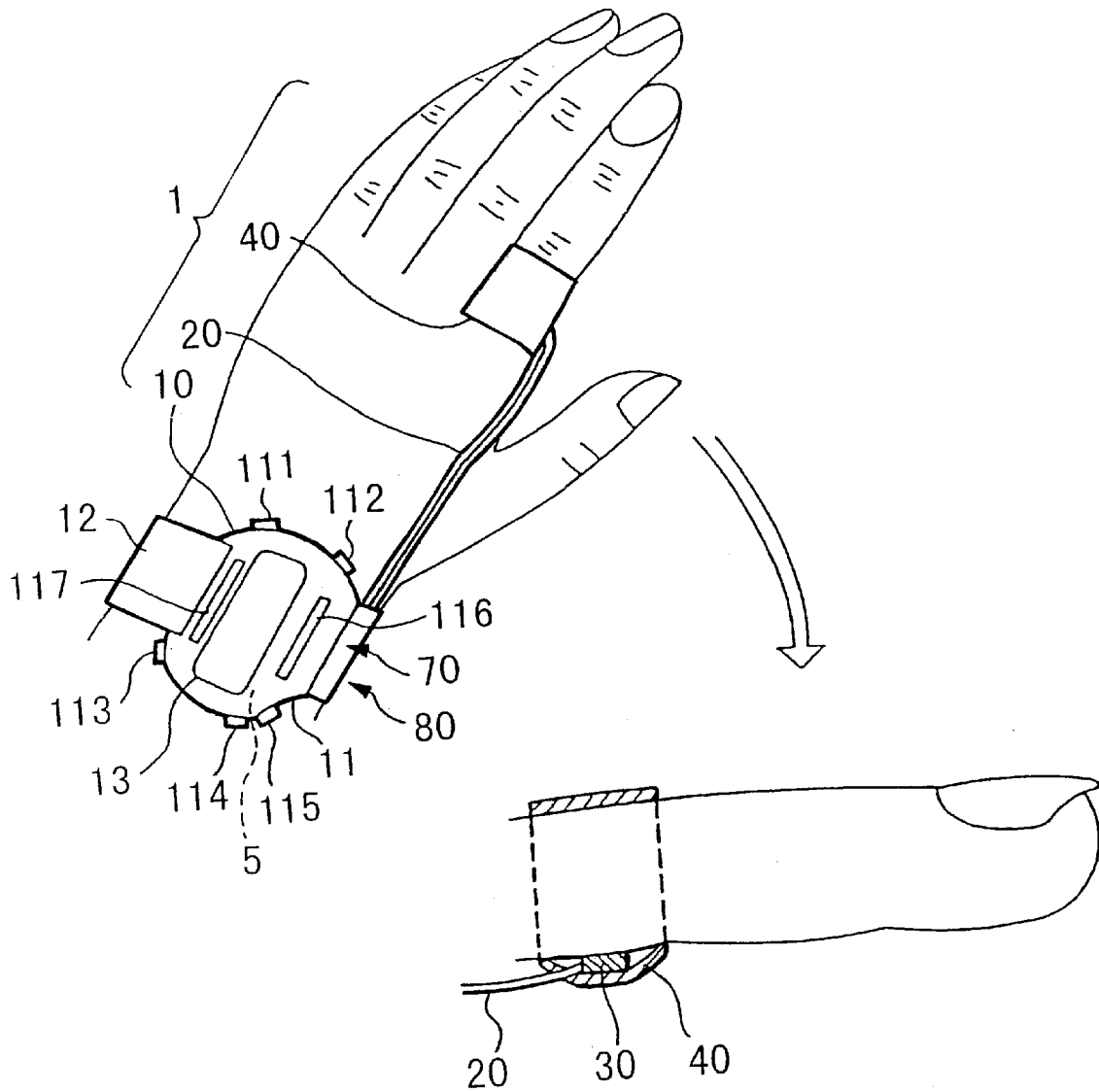


FIG. 5

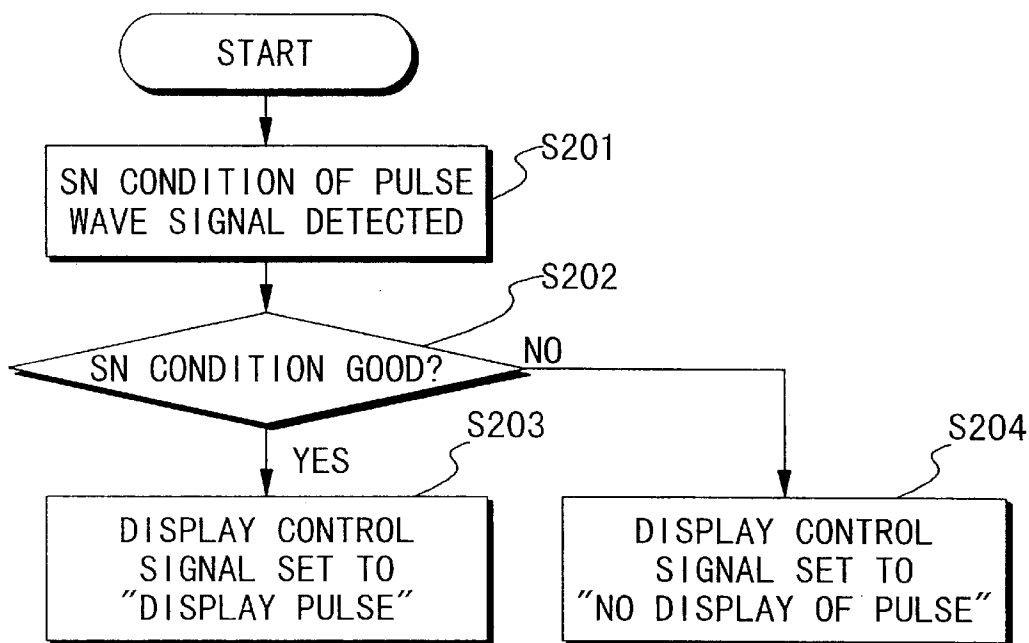
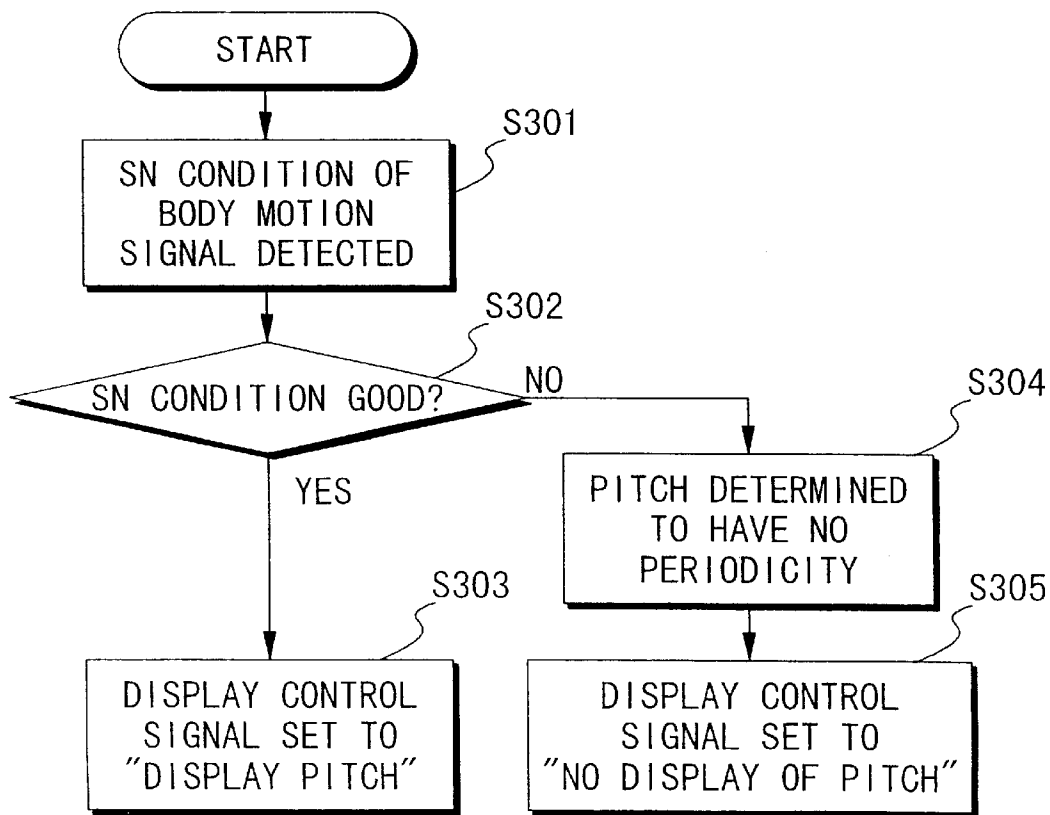


FIG. 6



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