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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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[73] Assignees: **Seiko Epson Corporation**, Tokyo; **Seiko Instruments, Inc.**, Chiba, both of Japan

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[86] PCT No.: **PCT/JP98/01142**

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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.**[7] **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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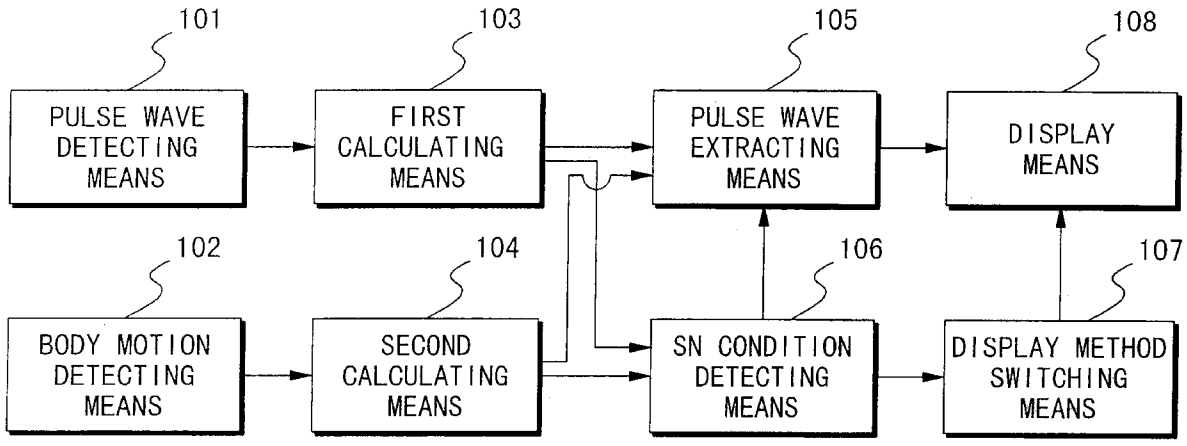
Assistant Examiner—Navin Natnithithadha
Attorney, Agent, or Firm—Mark P. Watson

[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



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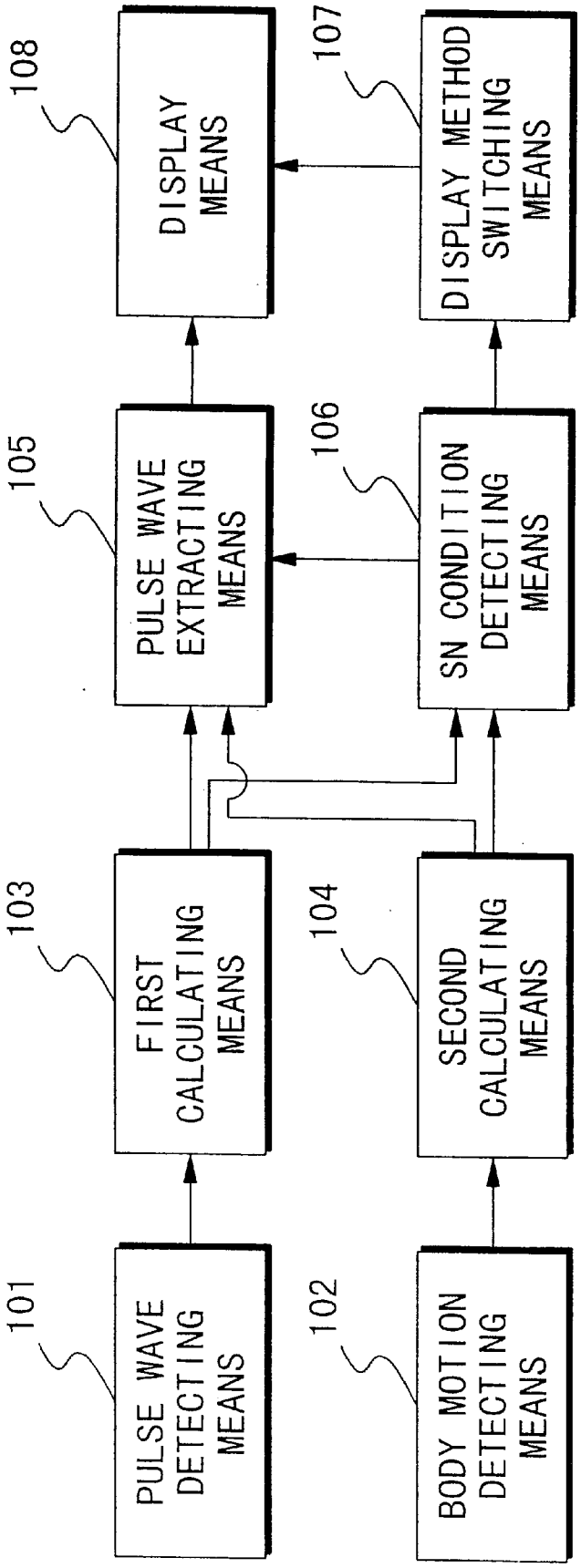

FIG. 1

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FIG. 2

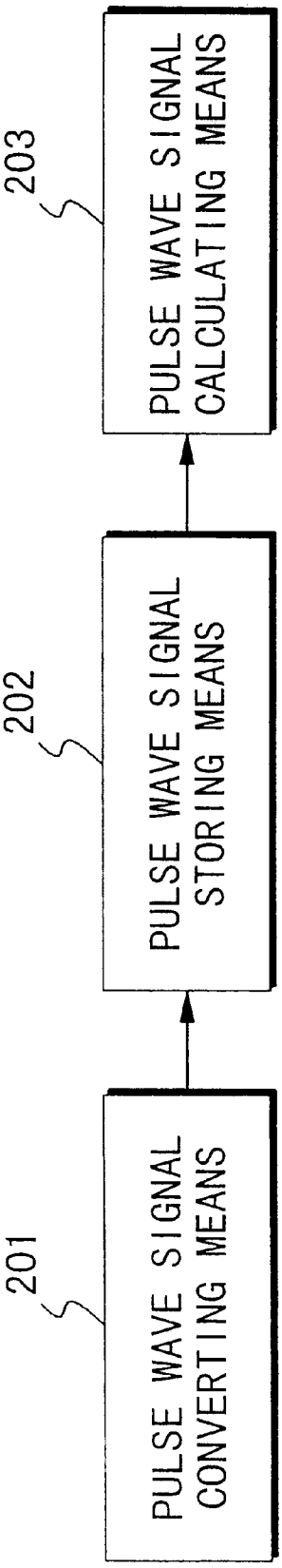

FIG. 3

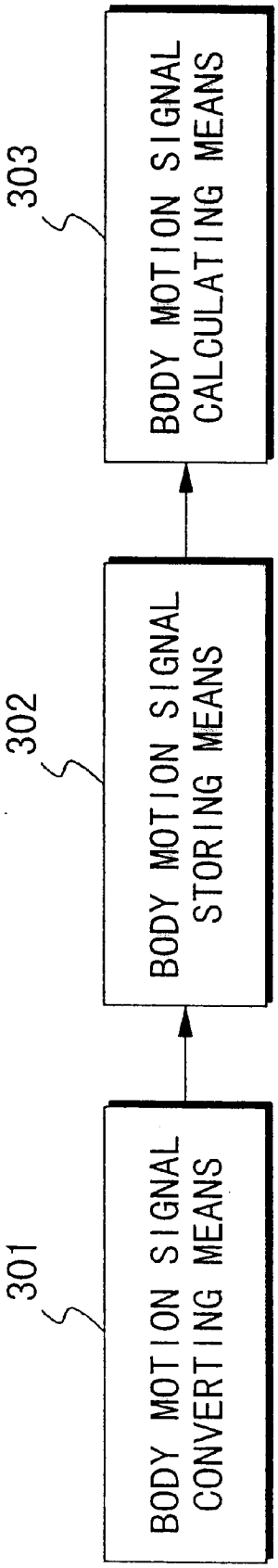

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FIG. 4

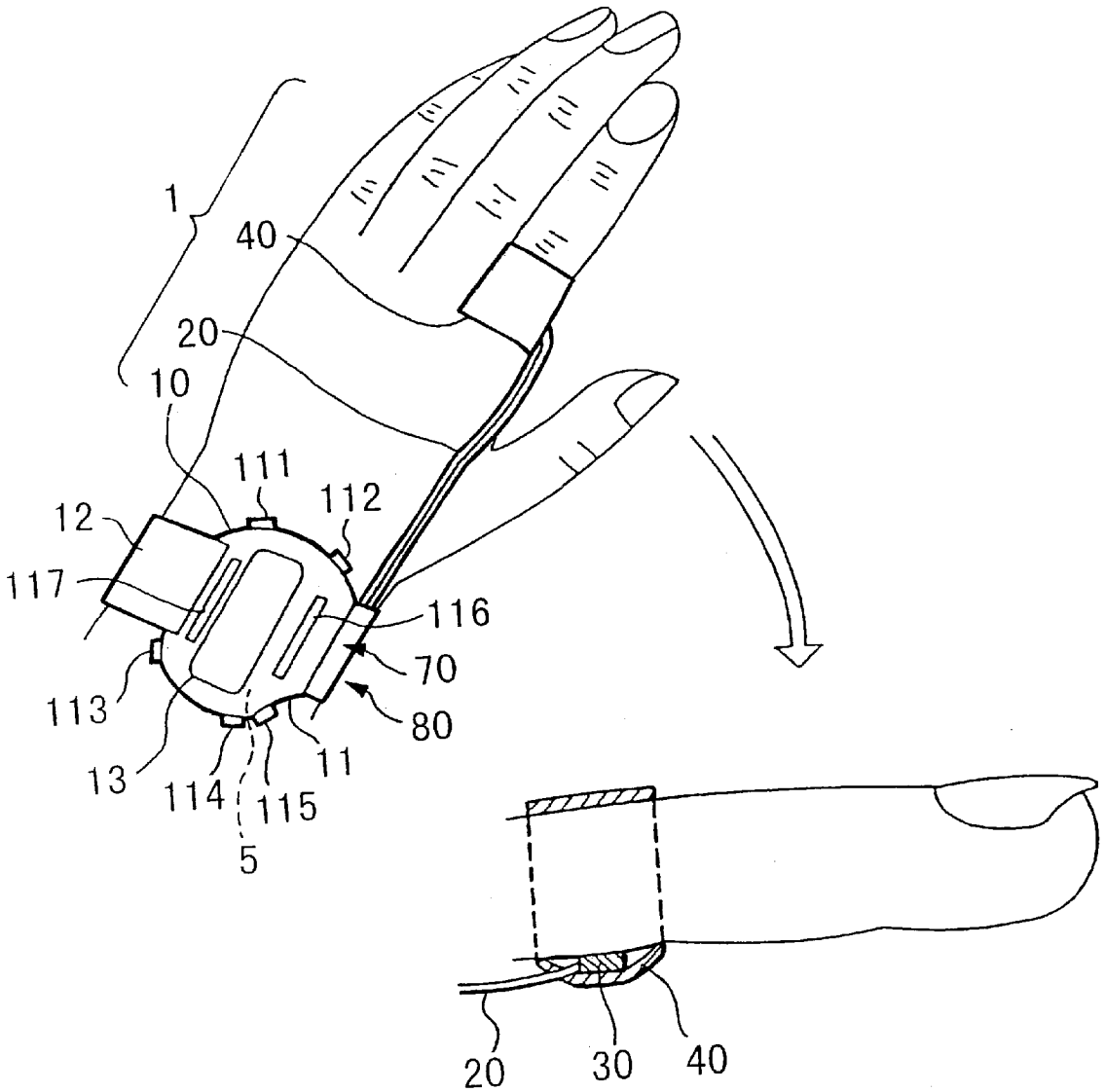

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FIG. 5

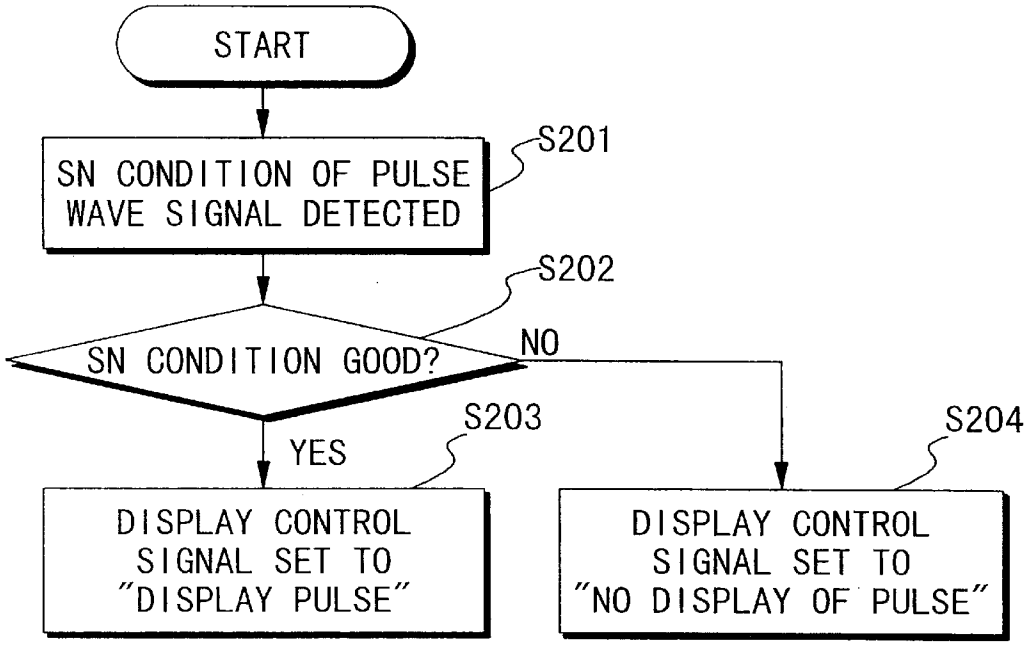
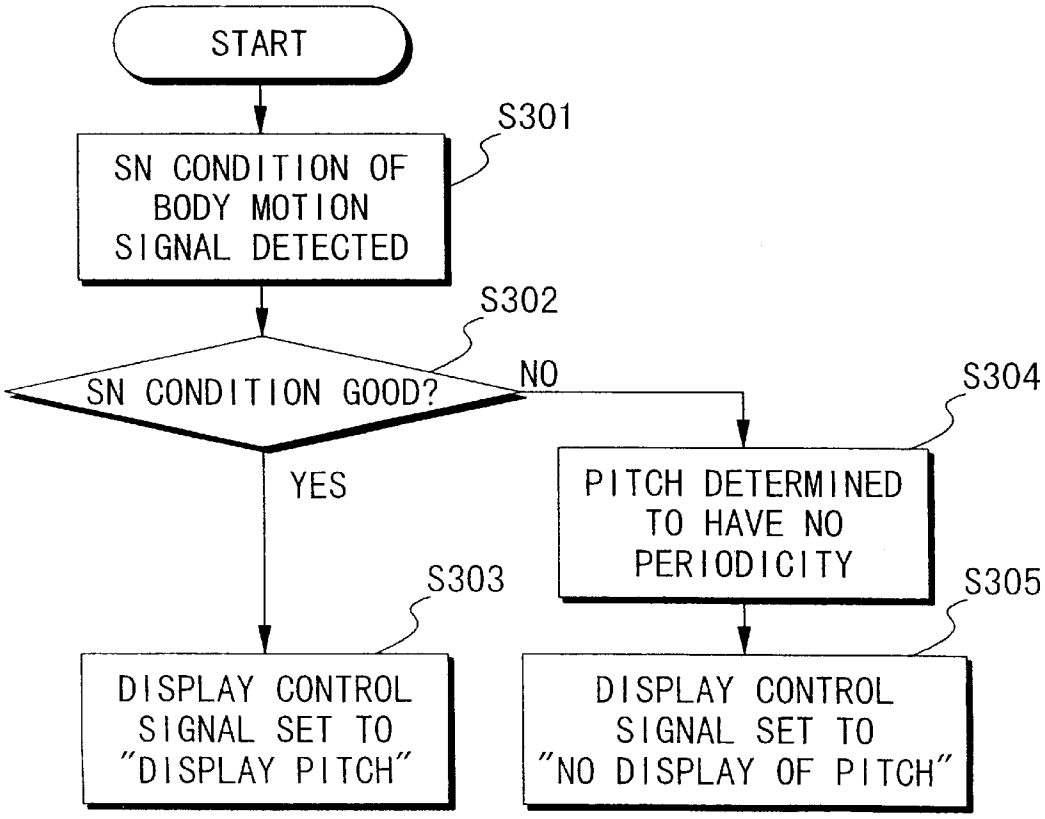


FIG. 6



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