



US005827969A

# United States Patent [19]

[11] Patent Number: 5,827,969

Lee et al.

[45] Date of Patent: Oct. 27, 1998

[54] PORTABLE HAND HELD DOPPLER FETAL HEART RATE PROBE WITH SELECTIVE POWER SETTINGS

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[73] Assignee: MedaSonics, Inc., Newark, Calif.

[21] Appl. No.: 662,049

[22] Filed: Jun. 12, 1996

[51] Int. Cl.<sup>6</sup> ..... A61B 8/06

[52] U.S. Cl. .... 73/627; 073/861.25; 600/455

[58] Field of Search ..... 128/661.07, 661.09, 128/698; 073/627, 861.25; 364/413.25, 413.02; 600/453, 455, 446, 457

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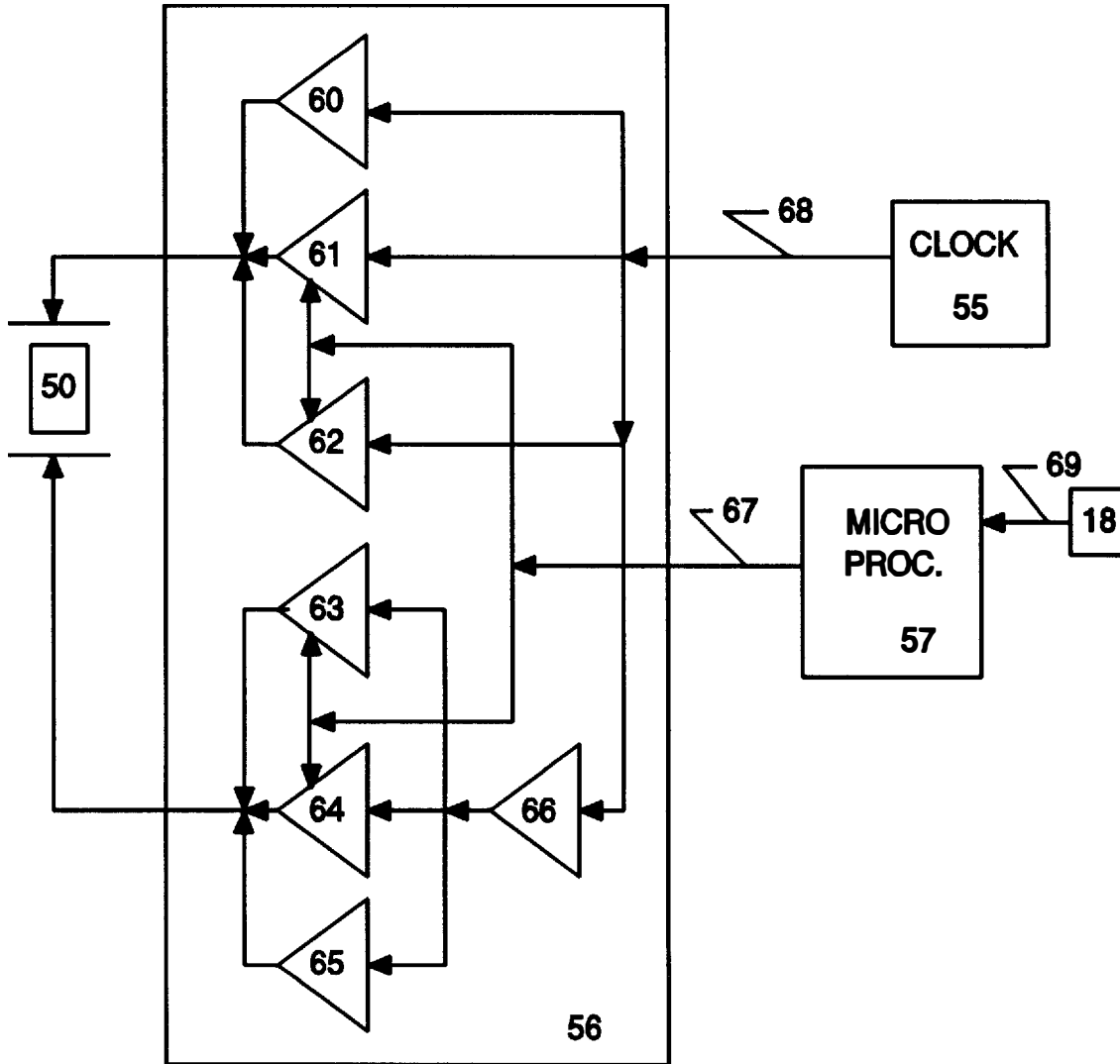
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Primary Examiner—Christine K. Oda  
Attorney, Agent, or Firm—Fliesler, Dubb, Meyer & Lovejoy

[57] **ABSTRACT**

A probe in a hand held ultrasonic Doppler fetal heart beat detector and monitoring system comprising a crystal for transmitting ultrasonic energy, a variable power source connected to said crystal for driving the crystal at a selected power setting and a microprocessor for selecting a power setting for the variable power source.

16 Claims, 5 Drawing Sheets



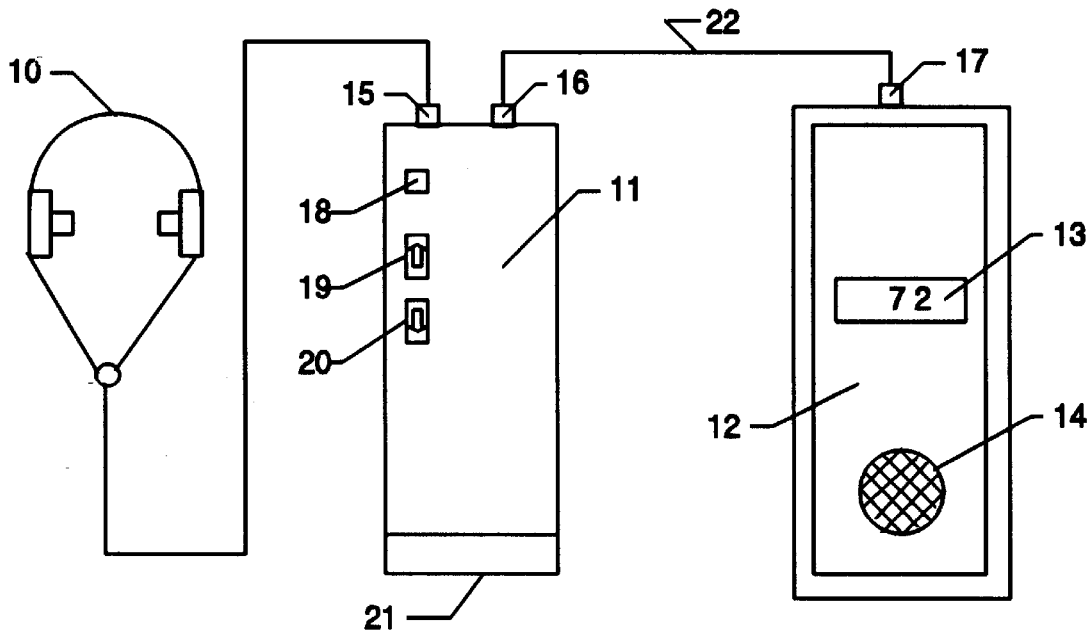


FIG. 1

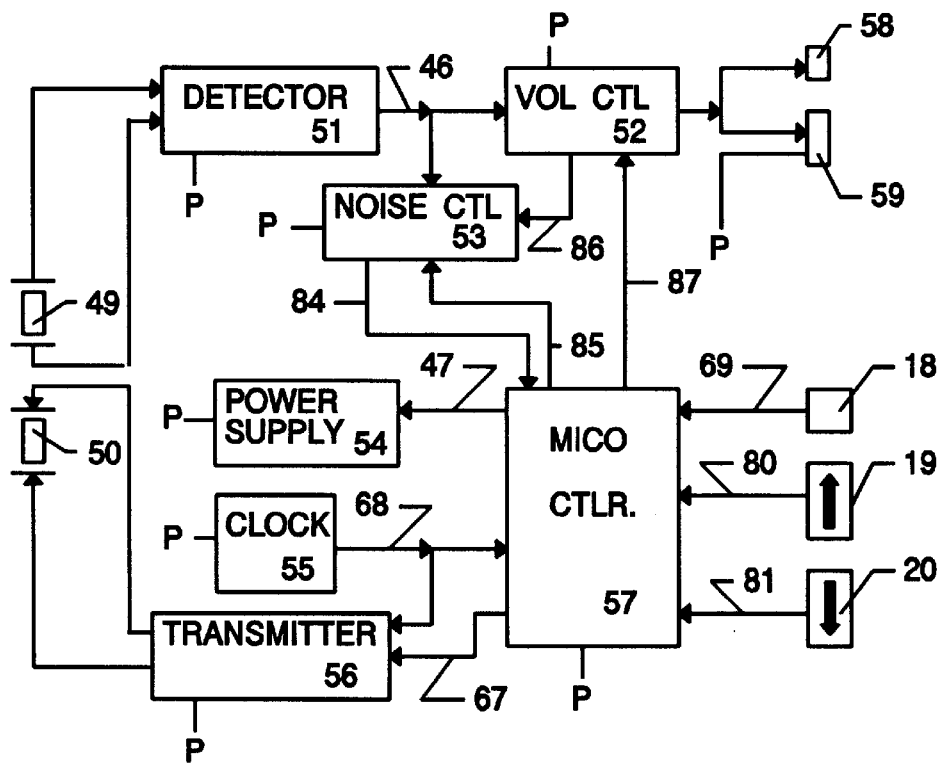
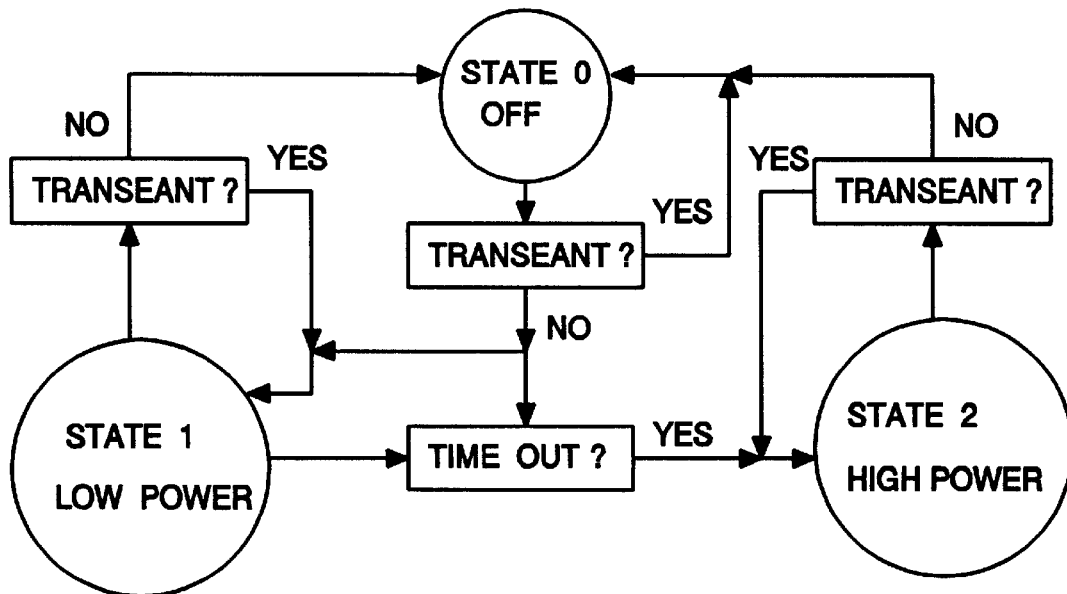
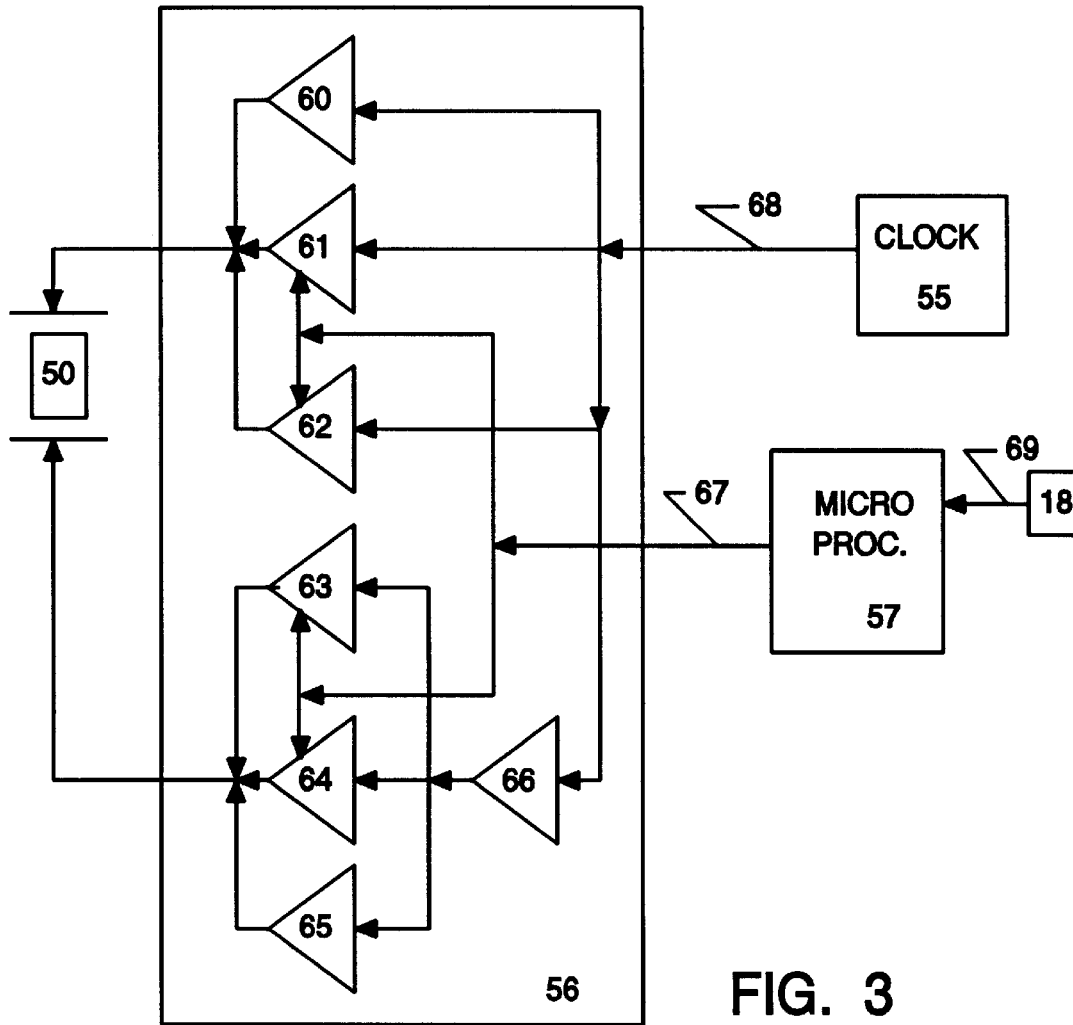


FIG. 2



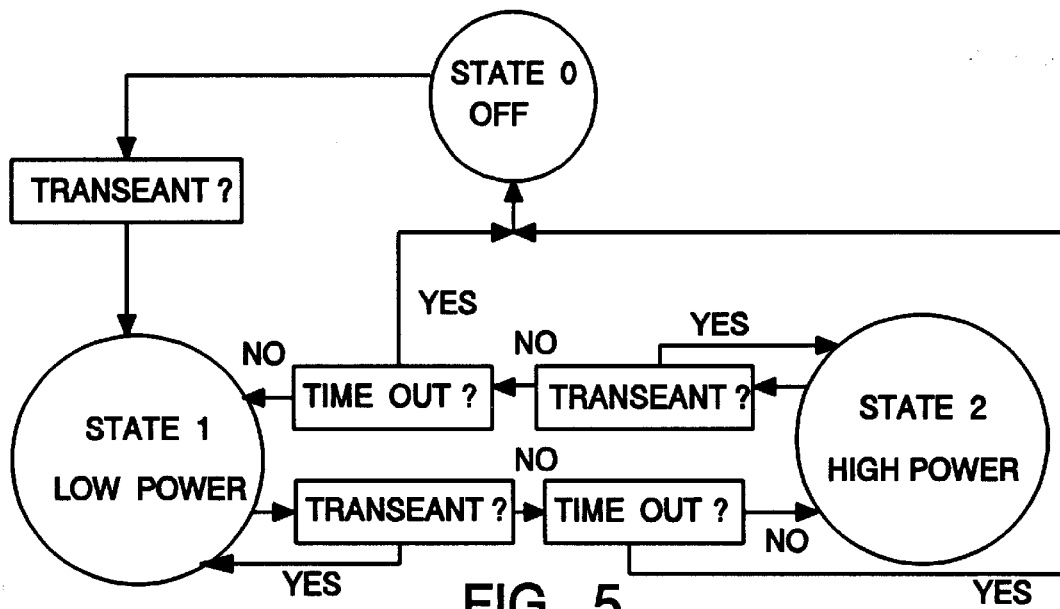


FIG. 5

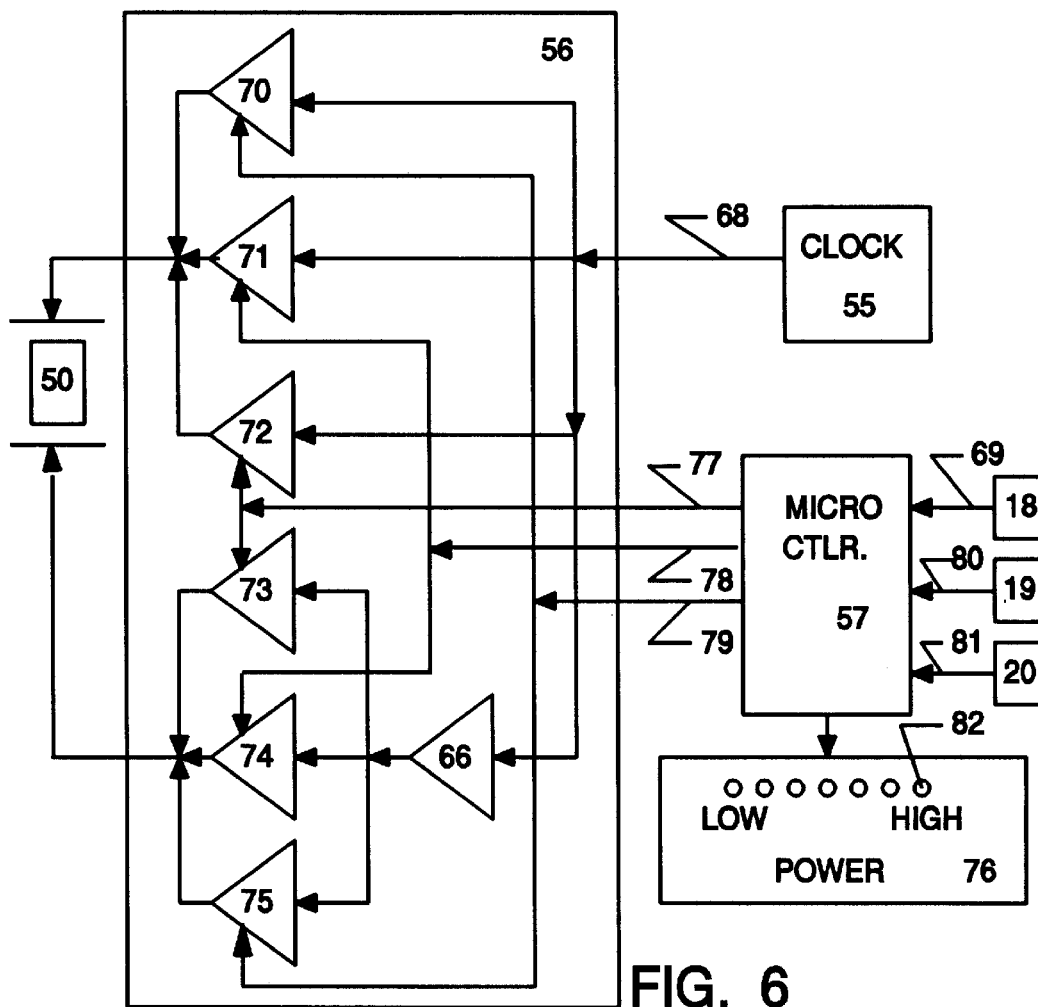


FIG. 6

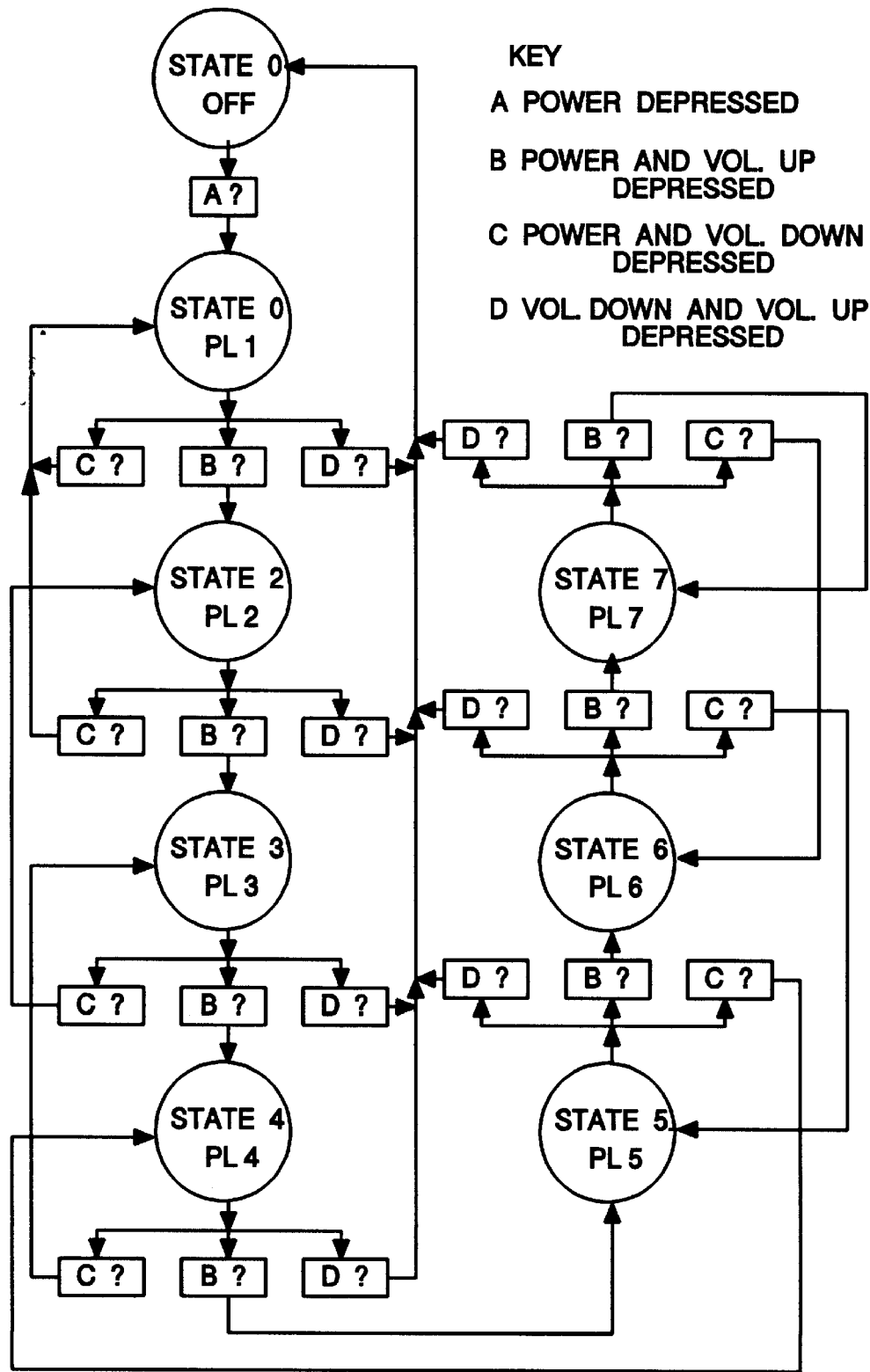


FIG. 7

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