



United States Patent [19]

Sham et al.

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[45] **Date of Patent:** **Apr. 6, 1999**

[54] **FITNESS MONITORING DEVICE HAVING AN ELECTRONIC PEDOMETER AND A WIRELESS HEART RATE MONITOR**

5,456,262 10/1995 Birnbaum .
5,491,474 2/1996 Suni et al. .
5,539,706 7/1996 Takenaka et al. .

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[57] ABSTRACT

[21] Appl. No.: **926,035**

[22] Filed: **Sep. 9, 1997**

[51] **Int. Cl.⁶** **A61B 5/0205**

[52] **U.S. Cl.** **600/483**

[58] **Field of Search** 600/483, 503, 600/508, 509, 519, 520; 128/903

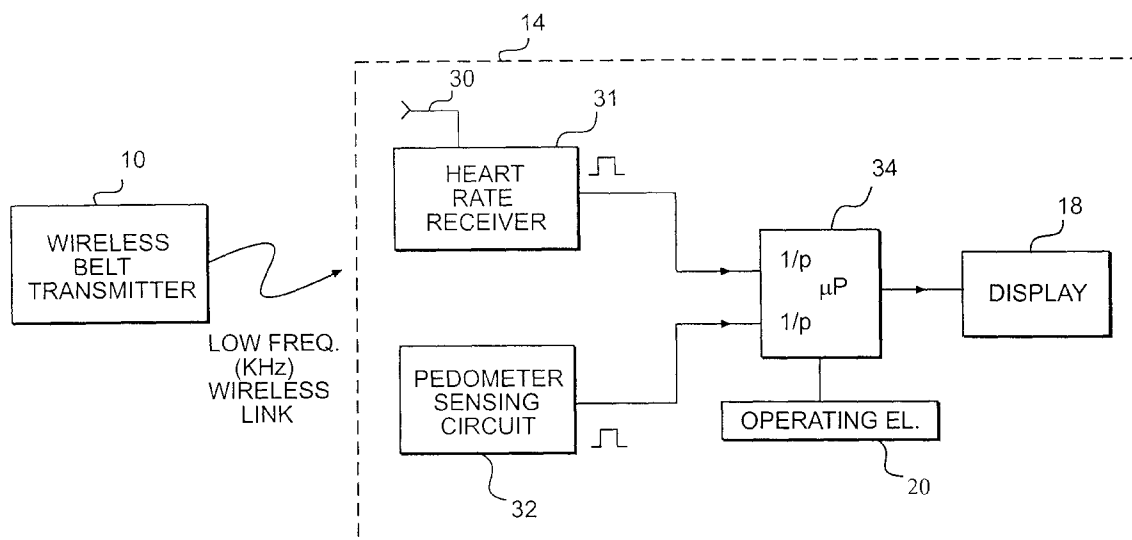
A fitness monitoring device includes an electronic pedometer which responds to a user's body motion at each step and a wireless heart rate monitor which is wirelessly coupled to the electronic pedometer. The wireless heart rate monitor provides a heart beat signal indicative of an exertion level of the user. A visual display is provided to display the pedometer functions and the heart rate signal. A microprocessor receives the pedometer output signal and the heart rate signal. The microprocessor is programmed to provide visual display data relating to the heart rate and pedometer functions.

[56] References Cited

U.S. PATENT DOCUMENTS

4,367,752 1/1983 Jimenez et al. 600/519
5,335,664 8/1994 Nagashima 128/903

9 Claims, 5 Drawing Sheets



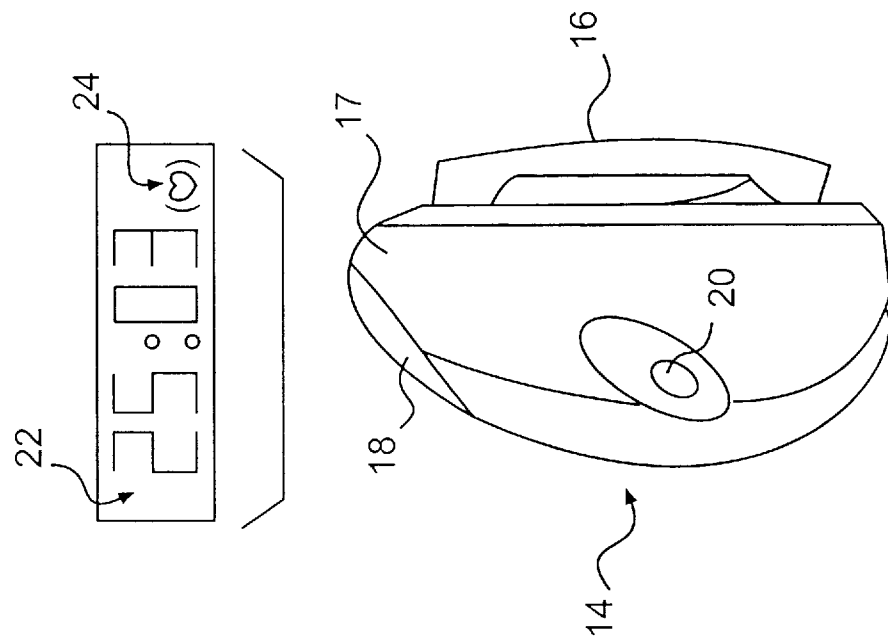


FIG. 1

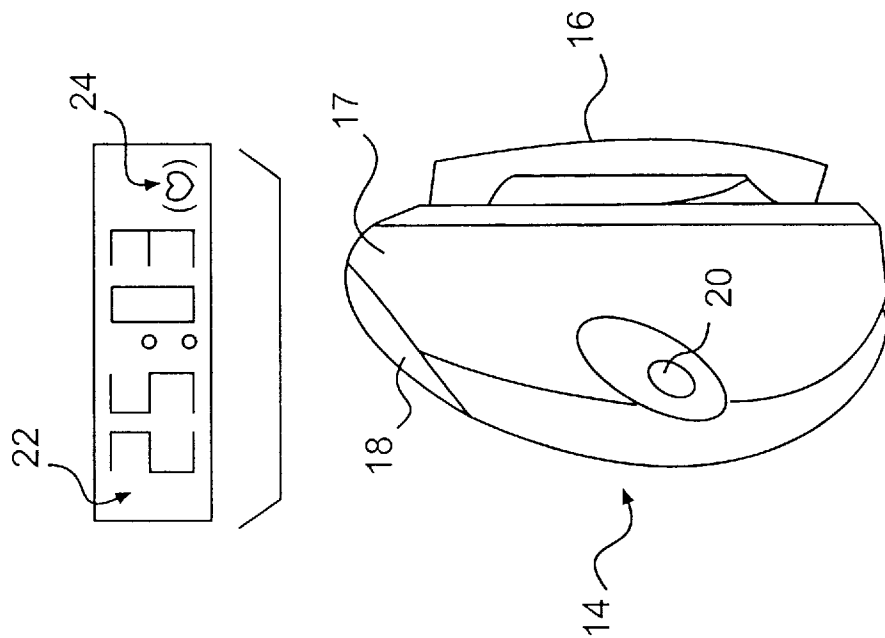


FIG. 2

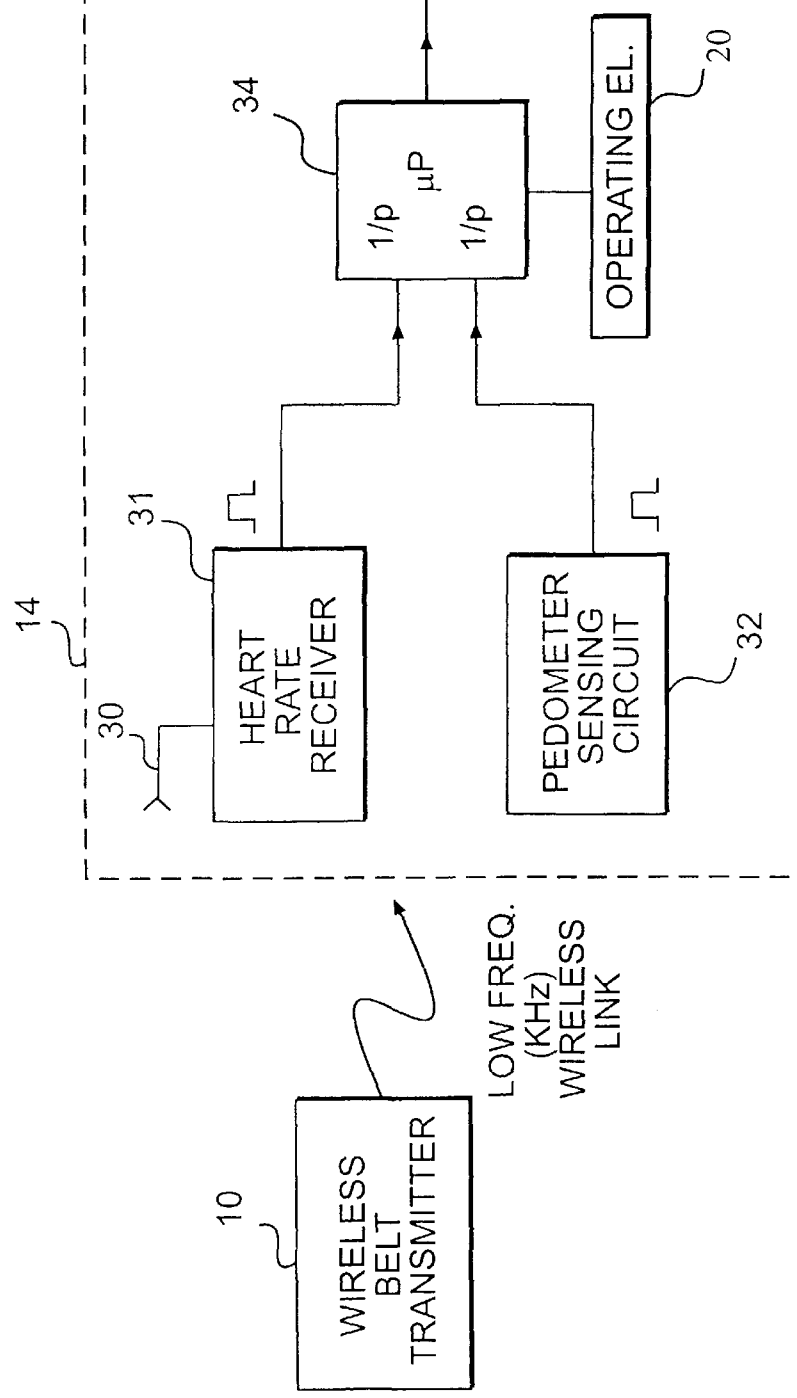


FIG. 3

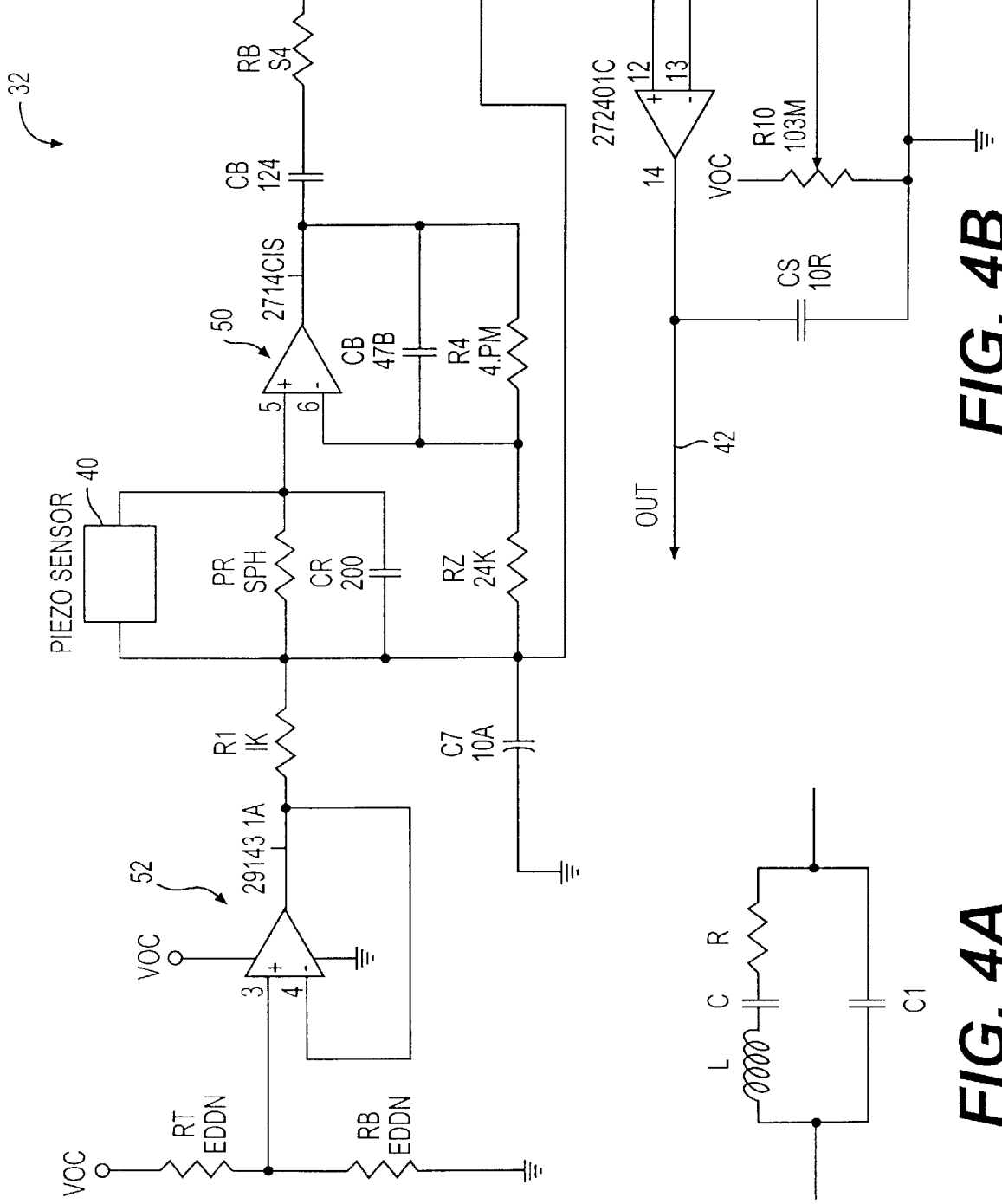
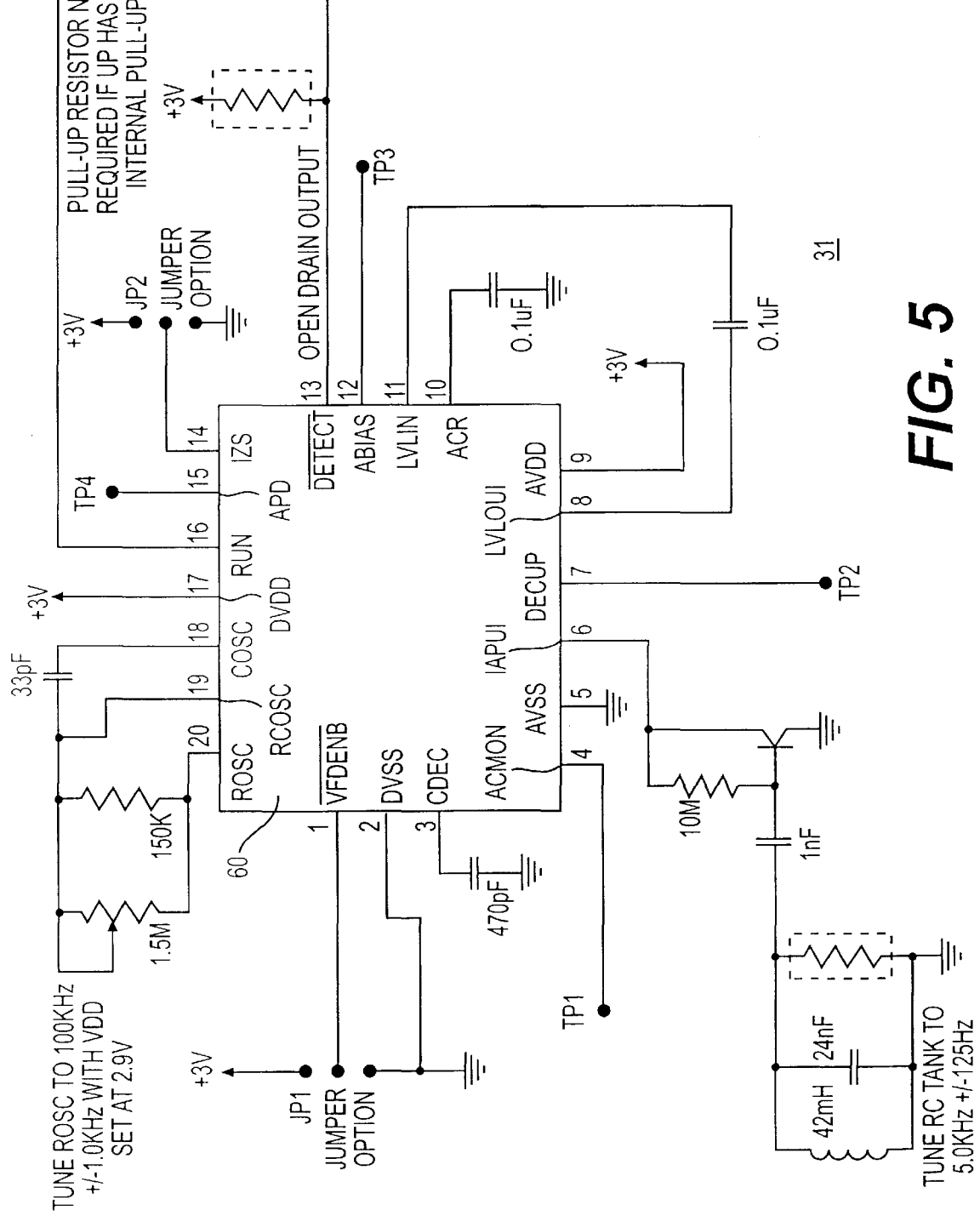


FIG. 4B

FIG. 4A



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FIG. 5

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