US006251048B1

(12) **United States Patent**
Kaufman

(10) **Patent No.: US 6,251,048 B1**
(45) **Date of Patent: Jun. 26, 2001**

(54) **ELECTRONIC EXERCISE MONITOR**

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(73) Assignee: **EPM Develoment Systems Corporation**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/228,590**

(22) Filed: **Jan. 12, 1999**

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/869,749, filed on Jun. 5, 1997, now Pat. No. 5,857,939.

(51) **Int. Cl.**[7] **A63B 69/00**
(52) **U.S. Cl.** **482/8**; 482/1; 482/9; 482/902; 73/379.01; 601/23
(58) **Field of Search** 482/1–9, 900–902; 601/23, 33–36; 73/379.01–379.09

(56) **References Cited**

U.S. PATENT DOCUMENTS

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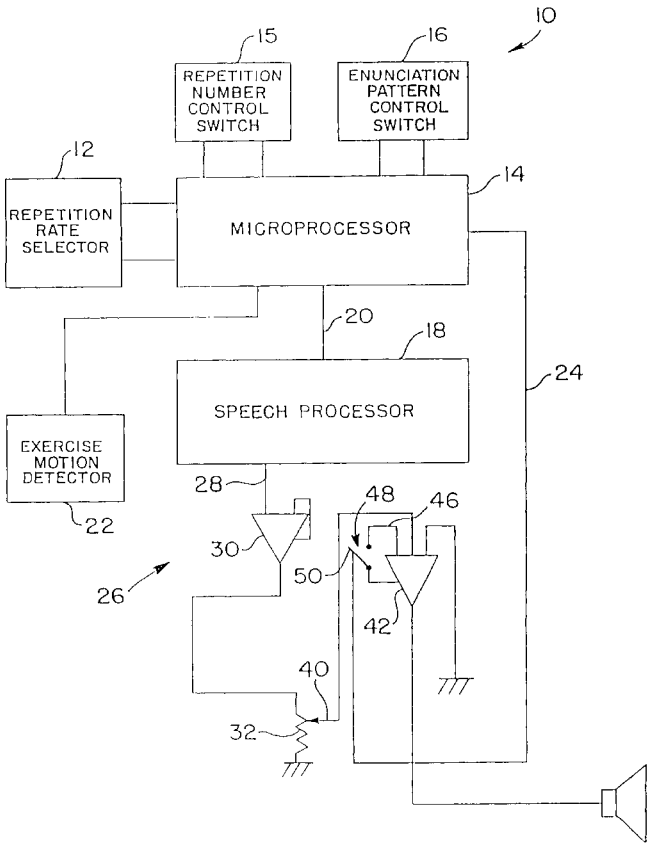
(57) **ABSTRACT**

An electronic activity monitor for monitoring the performance of an activity such as an exercise comprises an activity detector responsive to motion associated with the performance of the activity to output a corresponding signal, a processor for receiving the signal and determining a starting address at which a block of corresponding sound data is stored, a memory for storing sound data corresponding to a plurality of values associated with the monitored activity, the sound data preferably comprising data representing a voice representation of the values, and a speech generator for generating a naturally-sounding human voice or reproducing a pre-stored version of an actual human voice or other audible indicia in accordance with the sound data stored in the memory. The speech generator is controlled by the processor in response to the activity detector to provide a verbal representation of the user's performance of the activity. Motivational speech may also be generated to encourage correct and continued performance of the activity.

8 Claims, 12 Drawing Sheets



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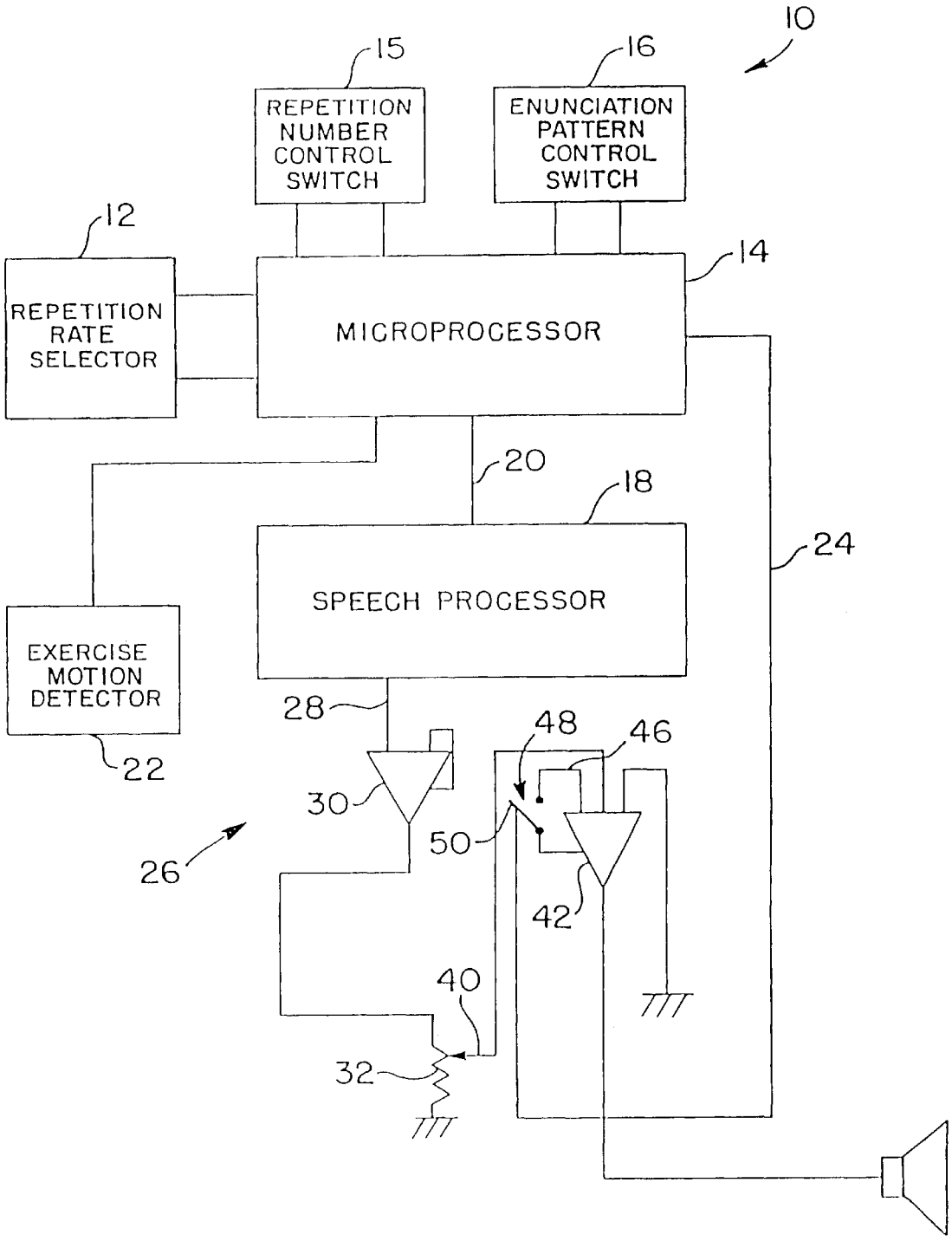

FIG. 1

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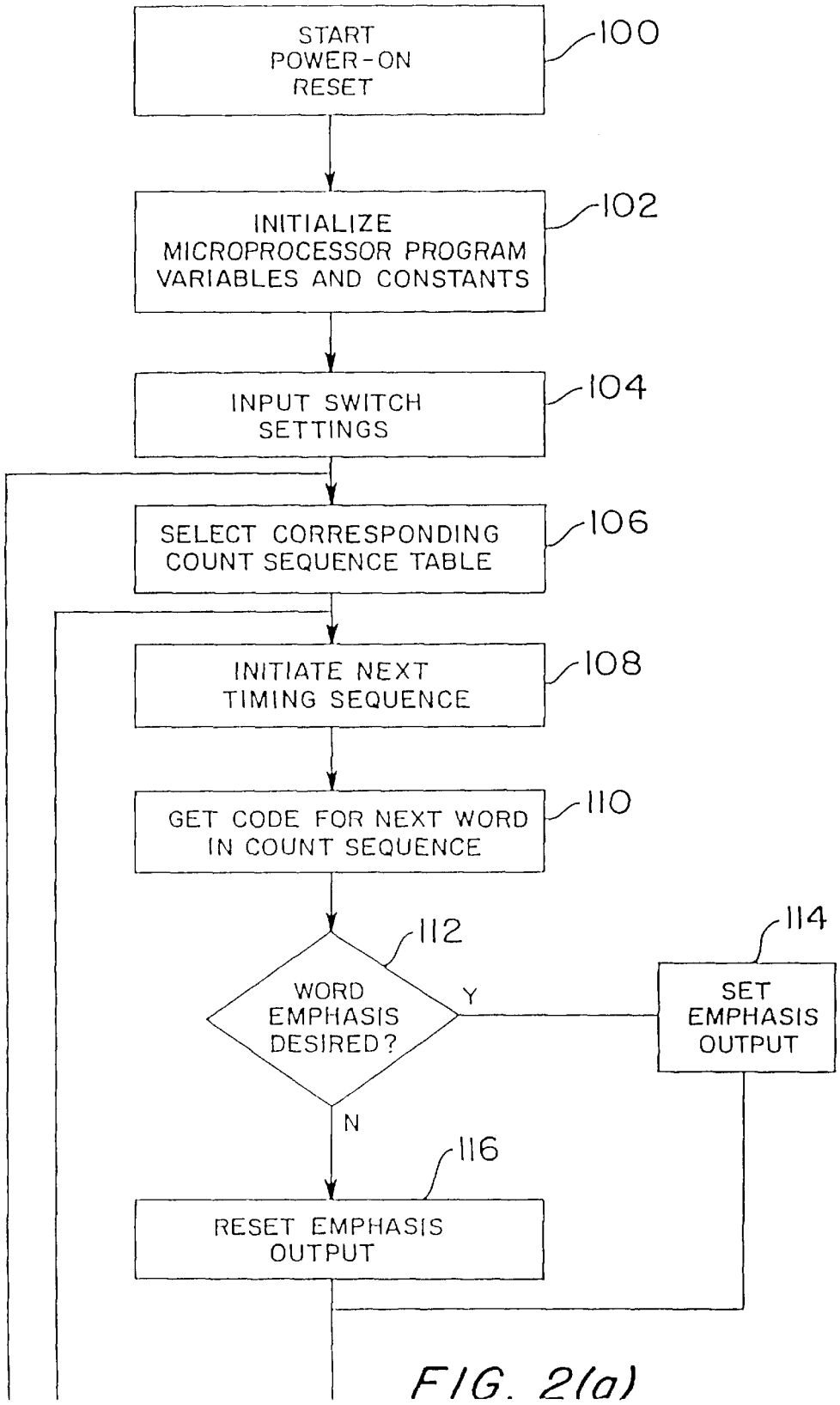

FIG. 2(a)

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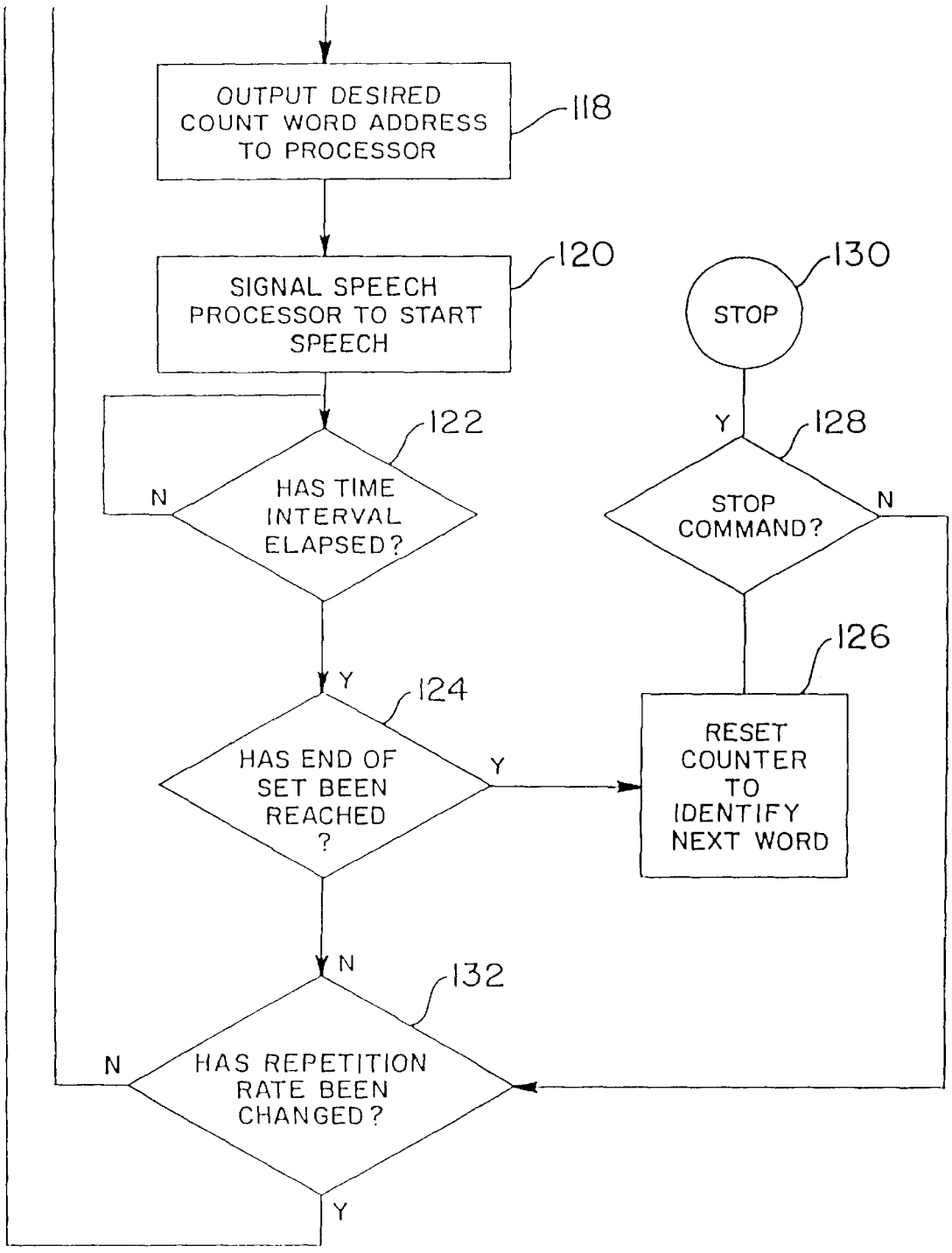

FIG. 2(b)

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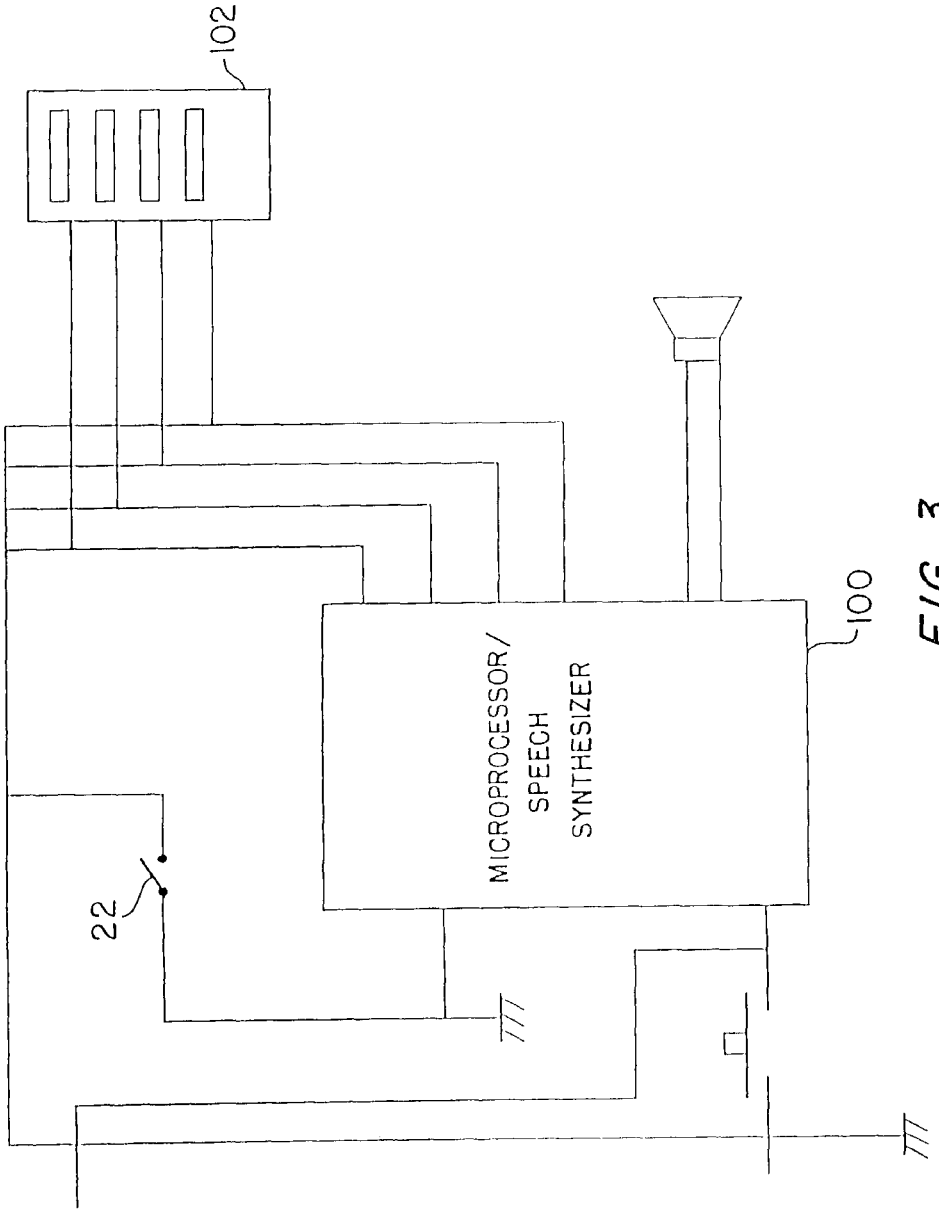

FIG. 3

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