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McGarry et al.

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[54] **MONITORING AND REPORTING SYSTEM USING CELLULAR CARRIERS**

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[73] Assignee: **Mars, Incorporated**, McLean, Va.

[21] Appl. No.: **08/978,811**

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[51] Int. Cl.⁷ **G06F 17/00**

[52] U.S. Cl. **700/231; 700/241; 700/236; 700/244**

[58] **Field of Search** 364/479.01, 479.06, 364/479.11, 479.14; 340/825.35; 235/381; 221/9; 369/24; 379/39, 40, 42; 455/404, 422; 700/231, 236, 241, 237, 244

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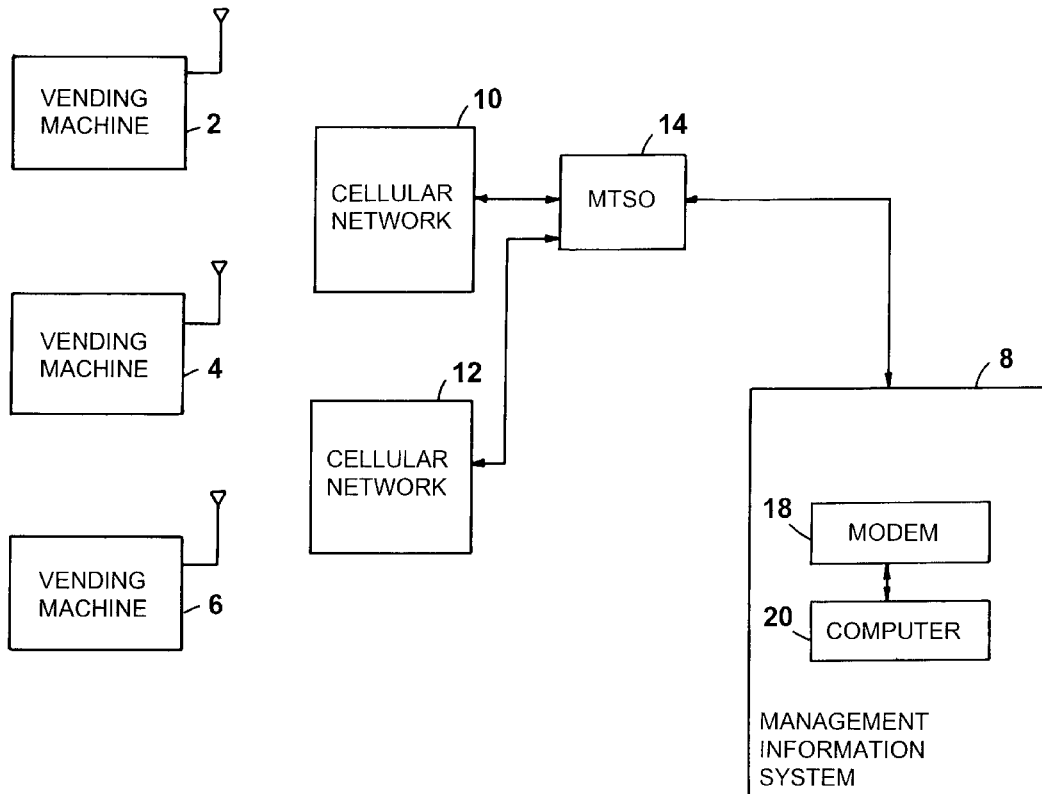
2 755 776 5/1998 France .

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[57] **ABSTRACT**

A vending machine capable of communicating with a central station using any one of multiple cellular carriers includes a telemetry device. The telemetry device includes a cellular transceiver, a digital signal processor-based modem, and memory storing software corresponding to protocols for each of the cellular carriers. The telemetry device can be reconfigured, in response to signals received from the central station using a first one of the cellular carriers, to transmit and receive signals subsequently using a second one of the cellular carriers. Software code residing in memory associated with a sub-unit of a vending machine can also be upgraded or otherwise modified by transmitting segments of software code from a remote station to a telemetry device in the vending machine using a cellular carrier, assembling the segments of software code in the telemetry device, and routing the assembled software code to a designated one of the sub-units of the vending machine.

40 Claims, 7 Drawing Sheets



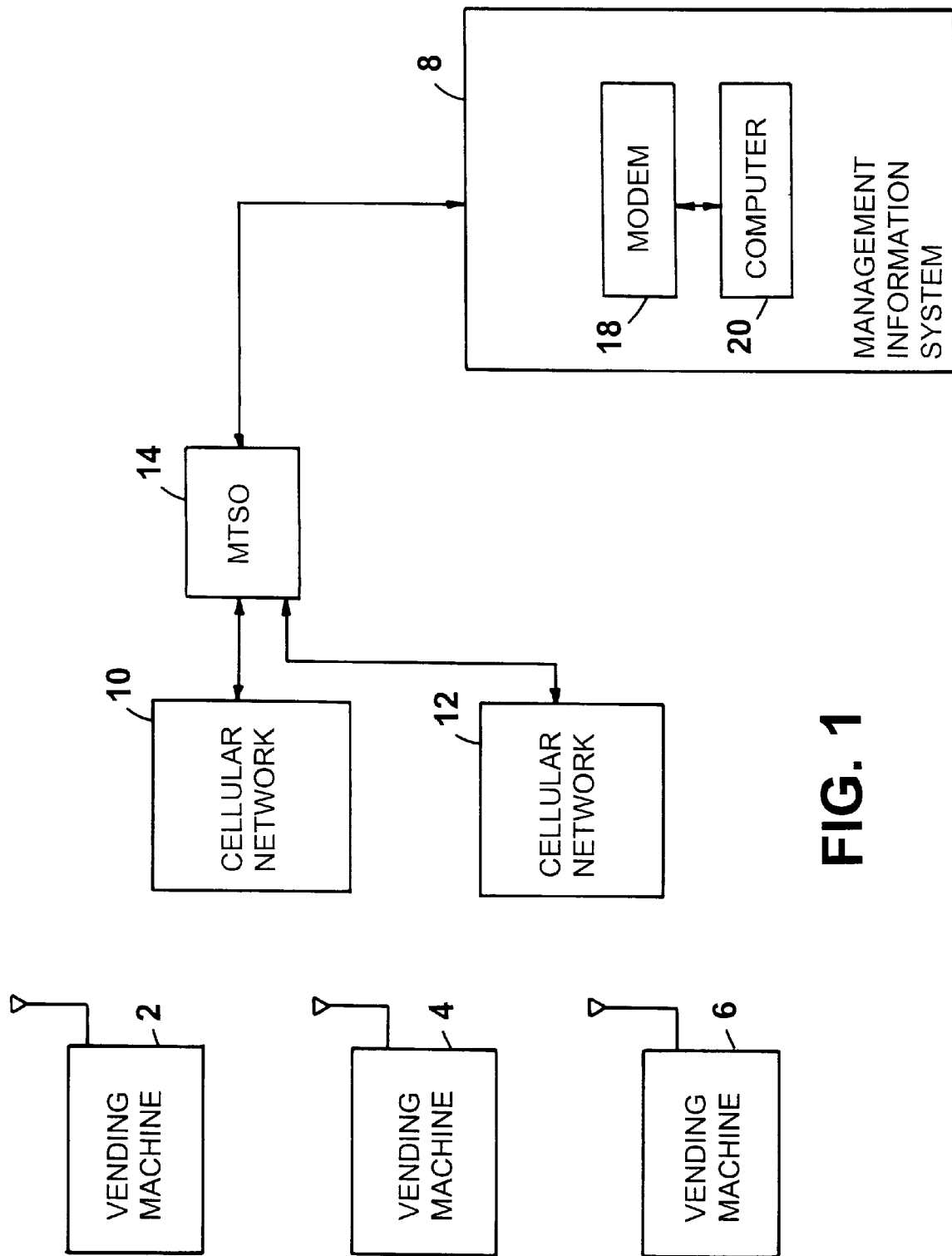


FIG. 1

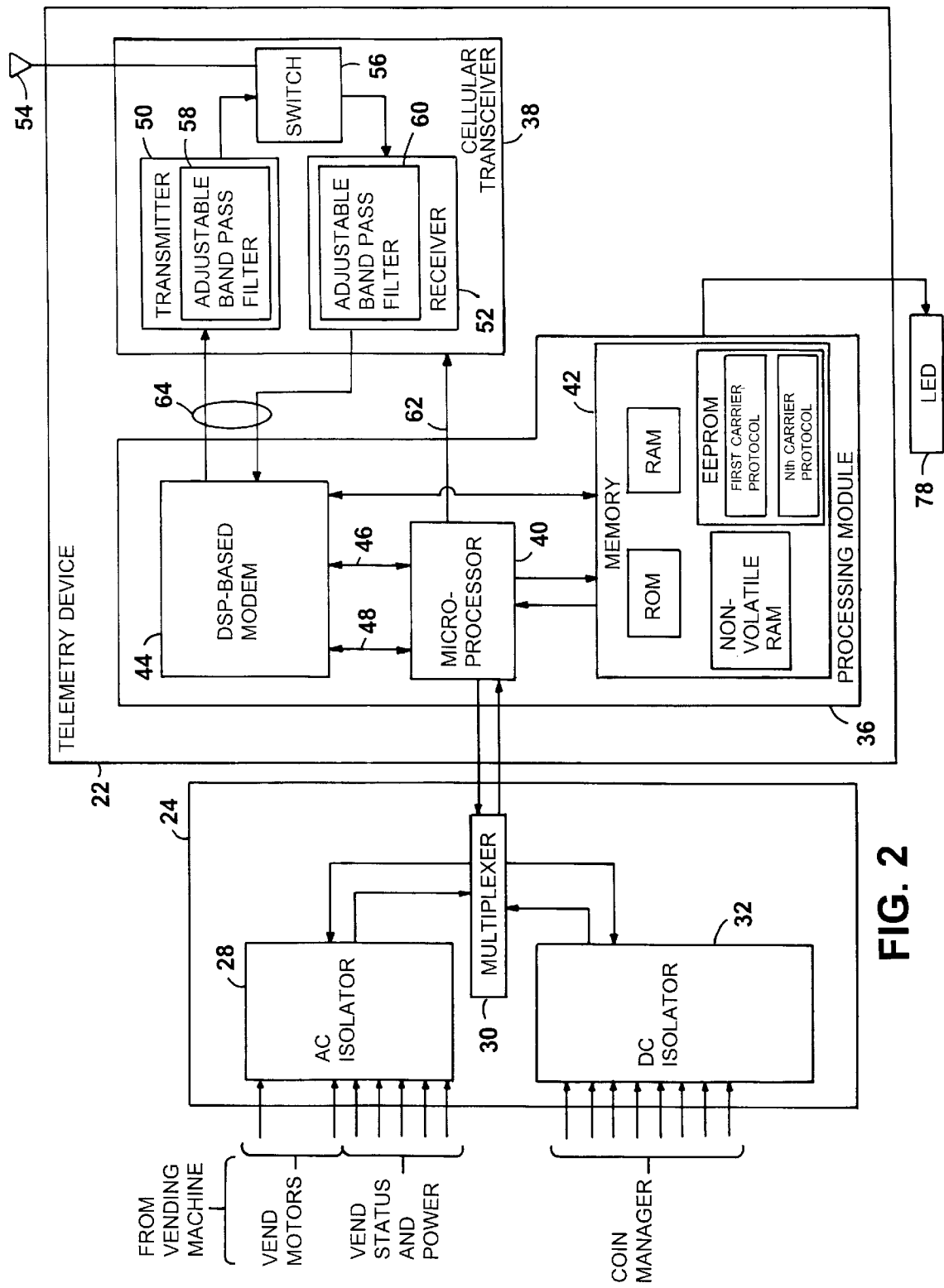
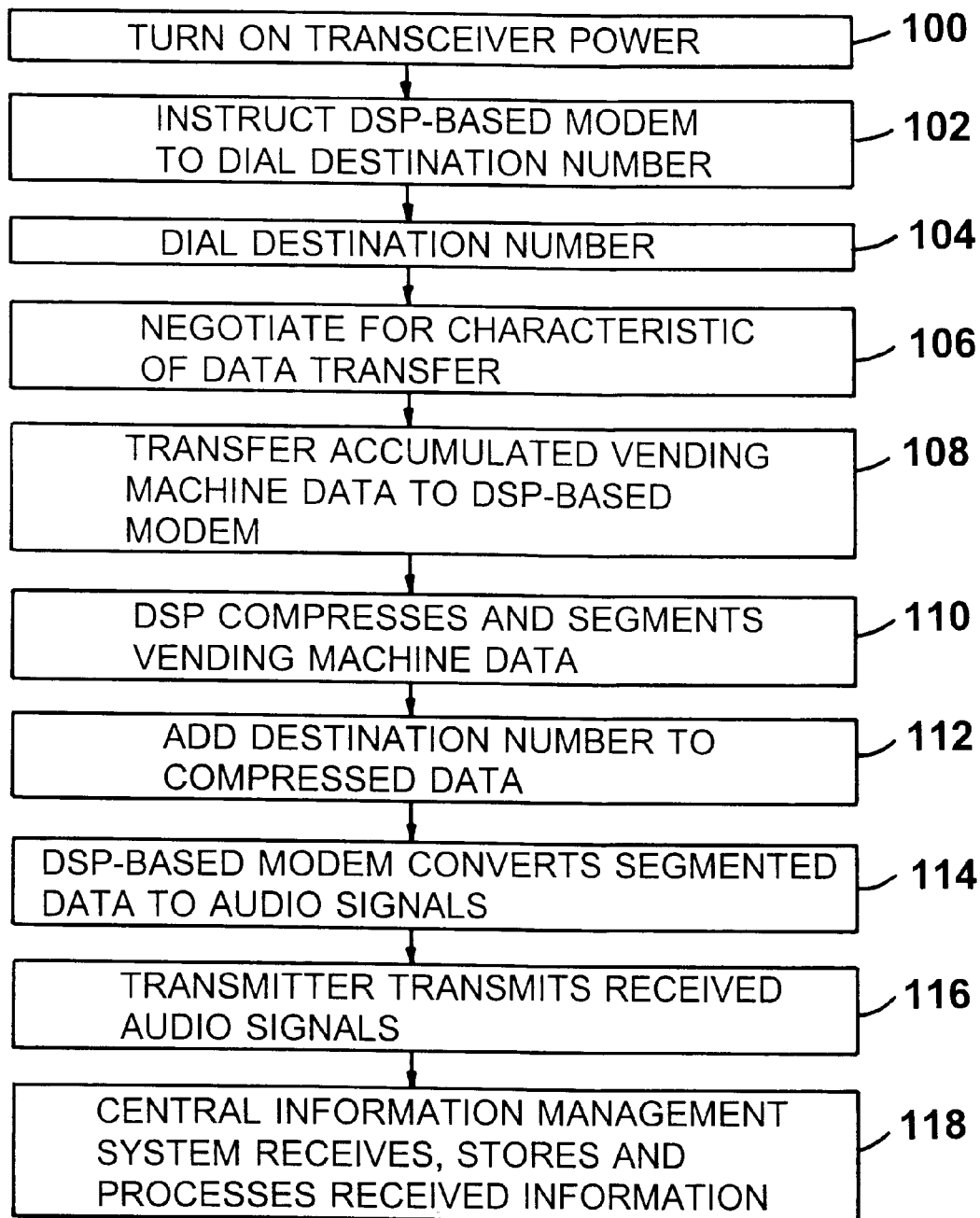


FIG. 2

**FIG. 3**

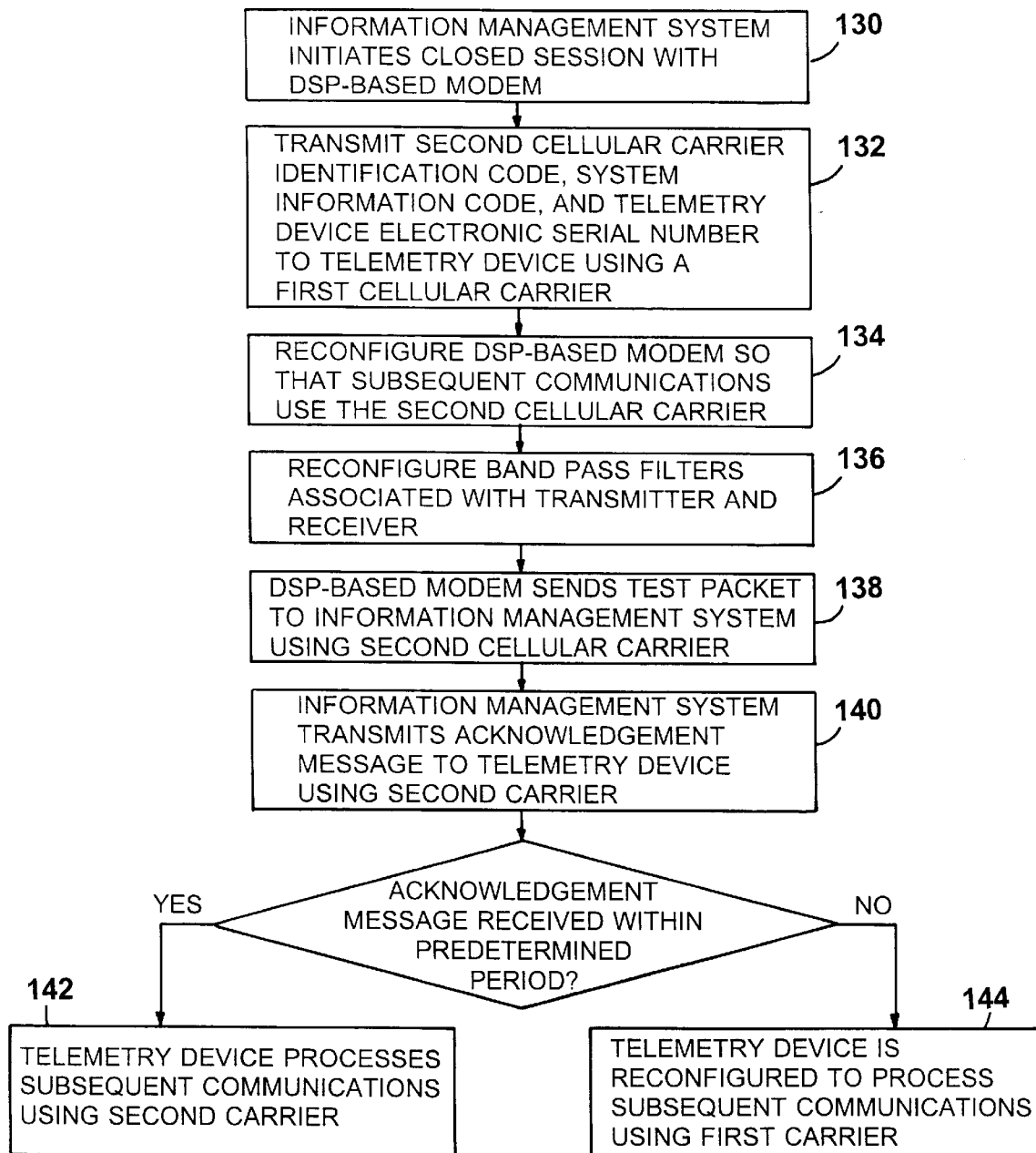


FIG. 4

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