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(12) **United States Patent**  
**Drury et al.**

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(54) **DRIVER INFORMATION SYSTEM**  
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5,948,040 A \* 9/1999 DeLorme et al. .... 701/201  
6,324,404 B1 \* 11/2001 Dennison et al. .... 455/456  
6,324,472 B1 11/2001 O'Shea  
6,381,535 B1 \* 4/2002 Durocher et al. .... 701/202

\* cited by examiner

(73) Assignee: **Siemens VDO Automotive Corporation**, Auburn Hills, MI (US)

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

(57) **ABSTRACT**

(21) Appl. No.: **09/252,432**

(22) Filed: **Feb. 18, 1999**

An information system for providing services including traffic and navigation services, as well as other information services to a driver. One versions of the system makes use of existing components of a wireless telephone system, for example, by using the input and output capabilities of a telephone handset. Another version is a portable system that includes multiple switches for initiating access to a remote server in one of a number of operating modes. For instance the system has switches for initiating traffic information, roadside assistance, personal information, or emergency modes. The system includes a positioning system for generating position data related to a geographic location of the system, and a wireless communication device. The system also includes an audio output device, such as a speaker for presenting the received information. The system can also include a storage for a unique identification of the information system. This identification is passed to the remote server through the wireless communication device. Another version of the system provides both autonomous and client-server based navigation services in which a removable database supports route planning in a limited area and a remote server supports route planning outside that area.

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 09/136,868, filed on Aug. 19, 1998.

(60) Provisional application No. 60/056,150, filed on Aug. 19, 1997, and provisional application No. 60/104,275, filed on Oct. 14, 1998.

(51) **Int. Cl.**<sup>7</sup> ..... **G01S 5/02**; H04B 7/185

(52) **U.S. Cl.** ..... **342/357.1**; 342/357.09; 342/357.13; 701/208; 701/209

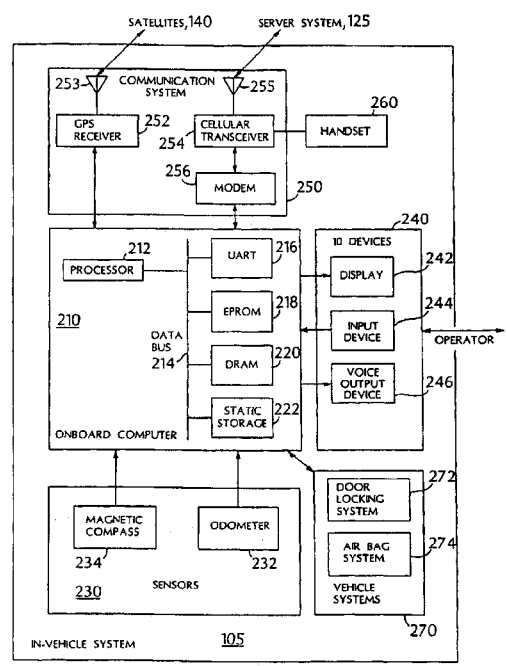
(58) **Field of Search** ..... 342/357.09, 357.1, 342/357.13; 701/208, 209

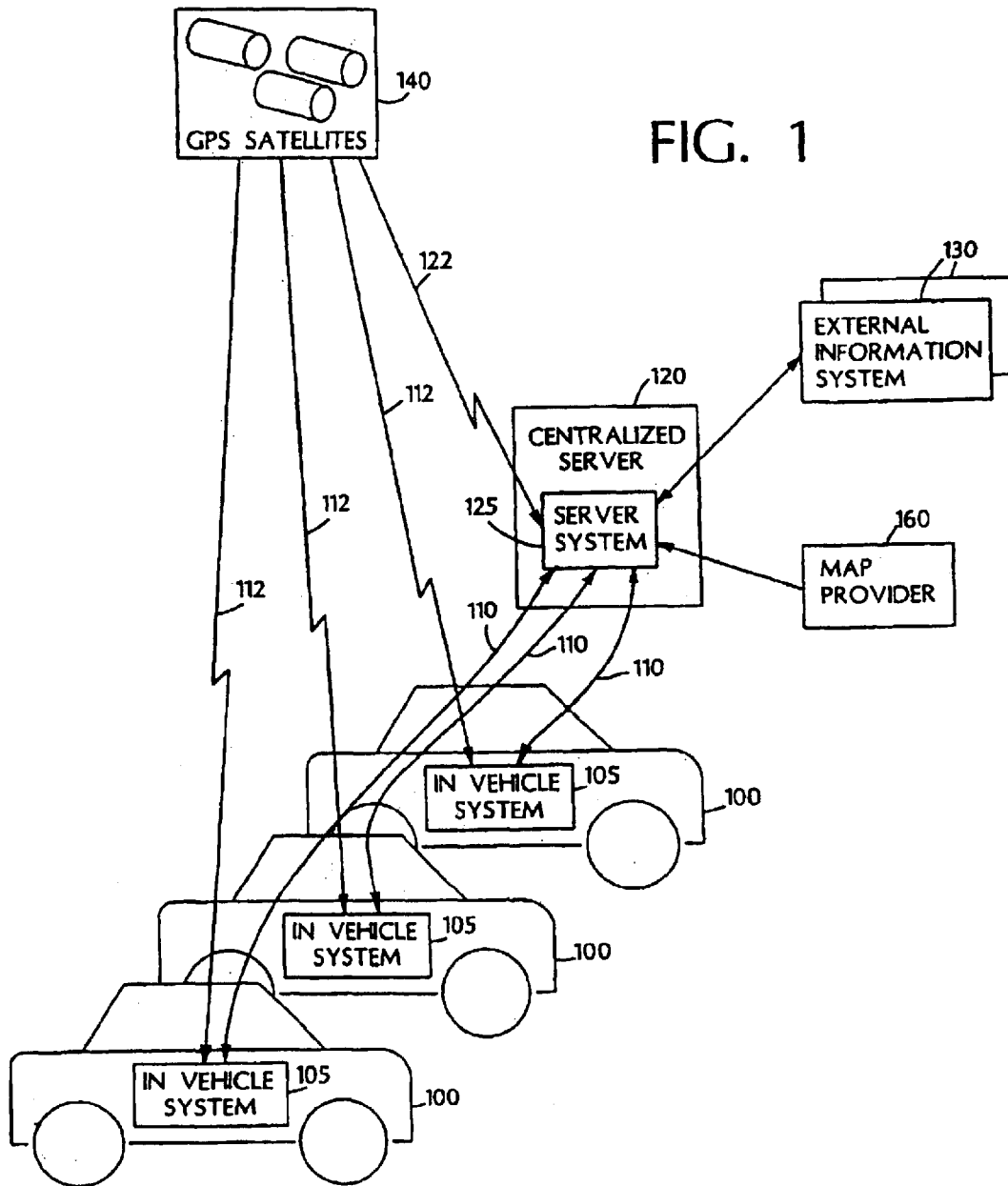
(56) **References Cited**

**U.S. PATENT DOCUMENTS**

5,848,373 A \* 12/1998 DeLorme et al. .... 701/200

**31 Claims, 31 Drawing Sheets**





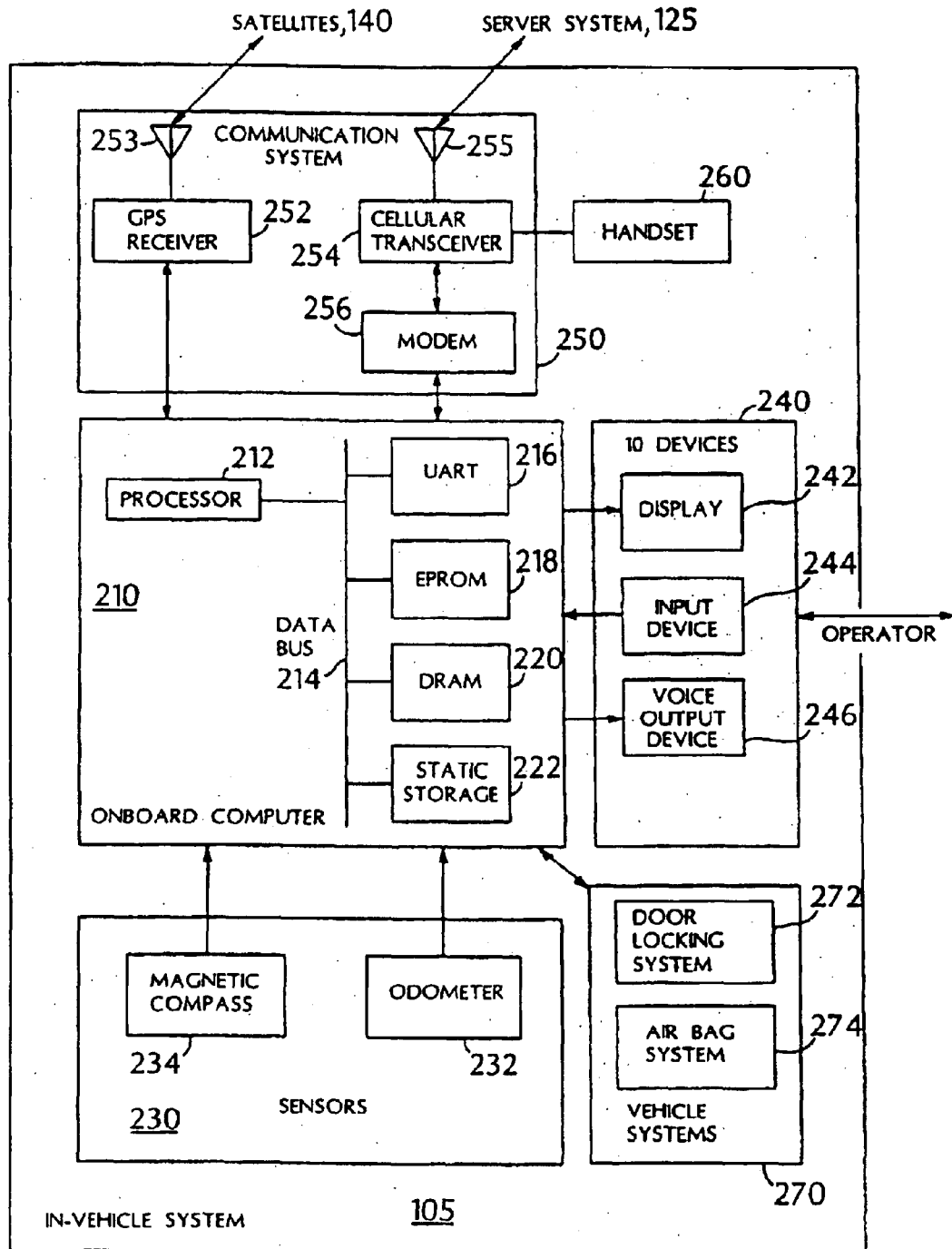


FIG. 2

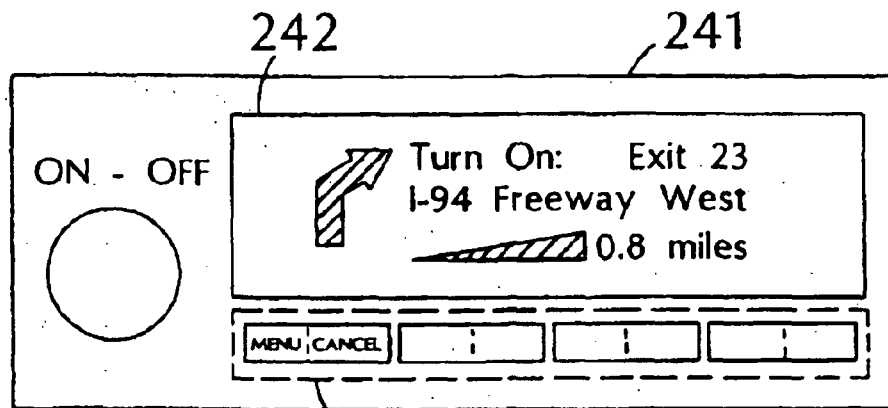


FIG. 2A

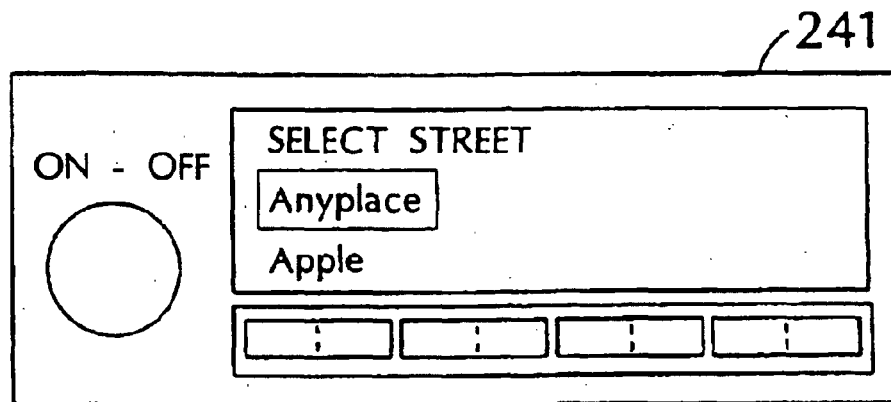


FIG. 2B

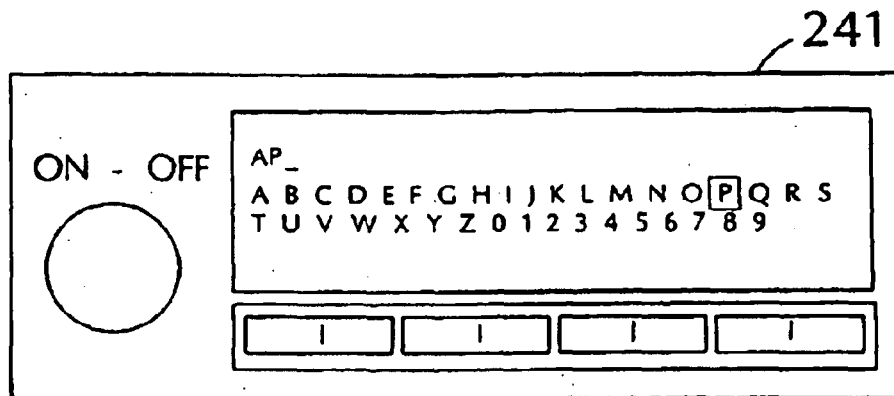


FIG. 2C

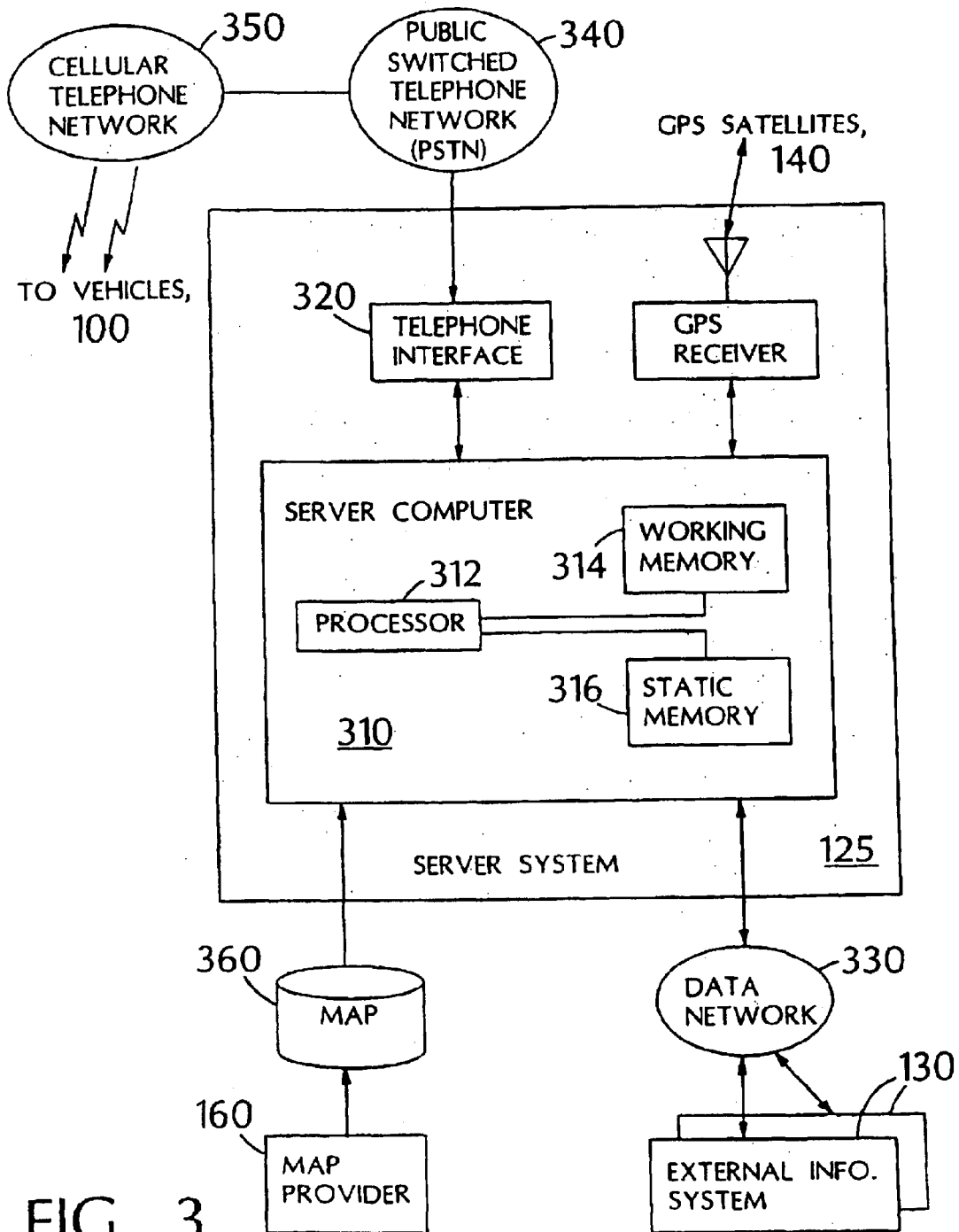


FIG. 3

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