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United States Patent [19]

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LaRue

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[54] **SENSOR FREE VEHICLE NAVIGATION SYSTEM UTILIZING A VOICE INPUT/OUTPUT INTERFACE FOR ROUTING A DRIVER FROM HIS SOURCE POINT TO HIS DESTINATION POINT**

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[75] Inventor: **Charles LaRue**, La Canada, Calif.
[73] Assignee: **Audio Navigation Systems, Inc.**, La Canada, Calif.

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[21] Appl. No.: **675,632**

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[22] Filed: **Mar. 27, 1991**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 621,577, Dec. 3, 1990, abandoned.

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[51] Int. Cl.⁵ **G06F 15/50**

[52] U.S. Cl. **364/444; 364/449; 340/988; 381/42; 395/2**

"Computer Software Information Management"; Lesk; Scientific American, vol. 251, No. 3, Sep. 1984.

[58] Field of Search **364/443, 444, 454, 449, 364/436-438, 419; 340/990, 995, 905, 988; 395/2; 381/41, 42, 43, 51**

Primary Examiner—Vincent N. Trans

Attorney, Agent, or Firm—Spensley, Horn, Jubas & Lubitz

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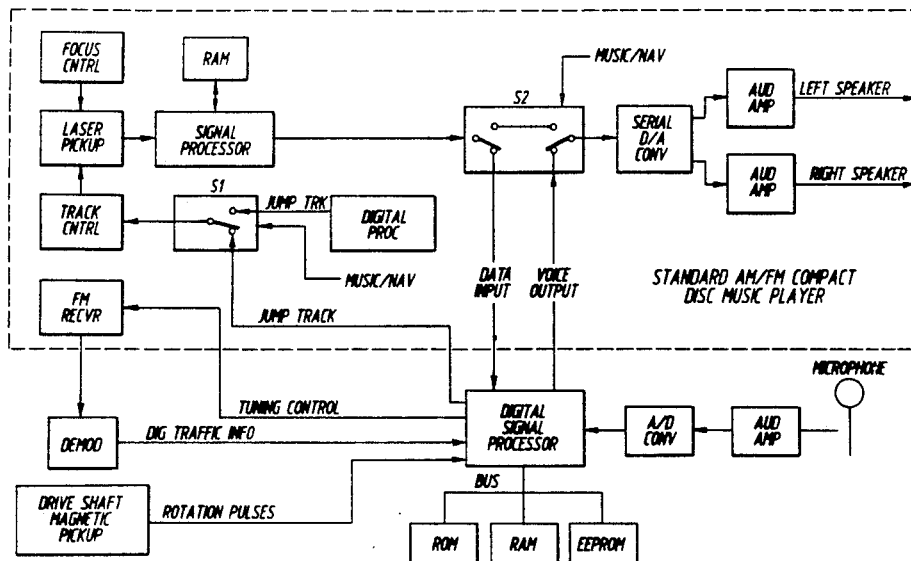
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[57] ABSTRACT

An audio navigation system including an artificial intelligence routing algorithm which does not require any internal or external sensors to locate the vehicle. The interface with the driver is via voice input and voice output and is therefor visually non-distracting and safe to use when the vehicle is in motion. The hardware is built around an optical disk player and therefor can be used for entertainment as well as navigation functions. Digitized maps, compressed voice records and the computer programs are stored on an optical disk.

13 Claims, 8 Drawing Sheets



SINGLE PROCESSOR NAVIGATOR WITH TRAFFIC UPDATE AND DRIVE SHAFT SENSOR

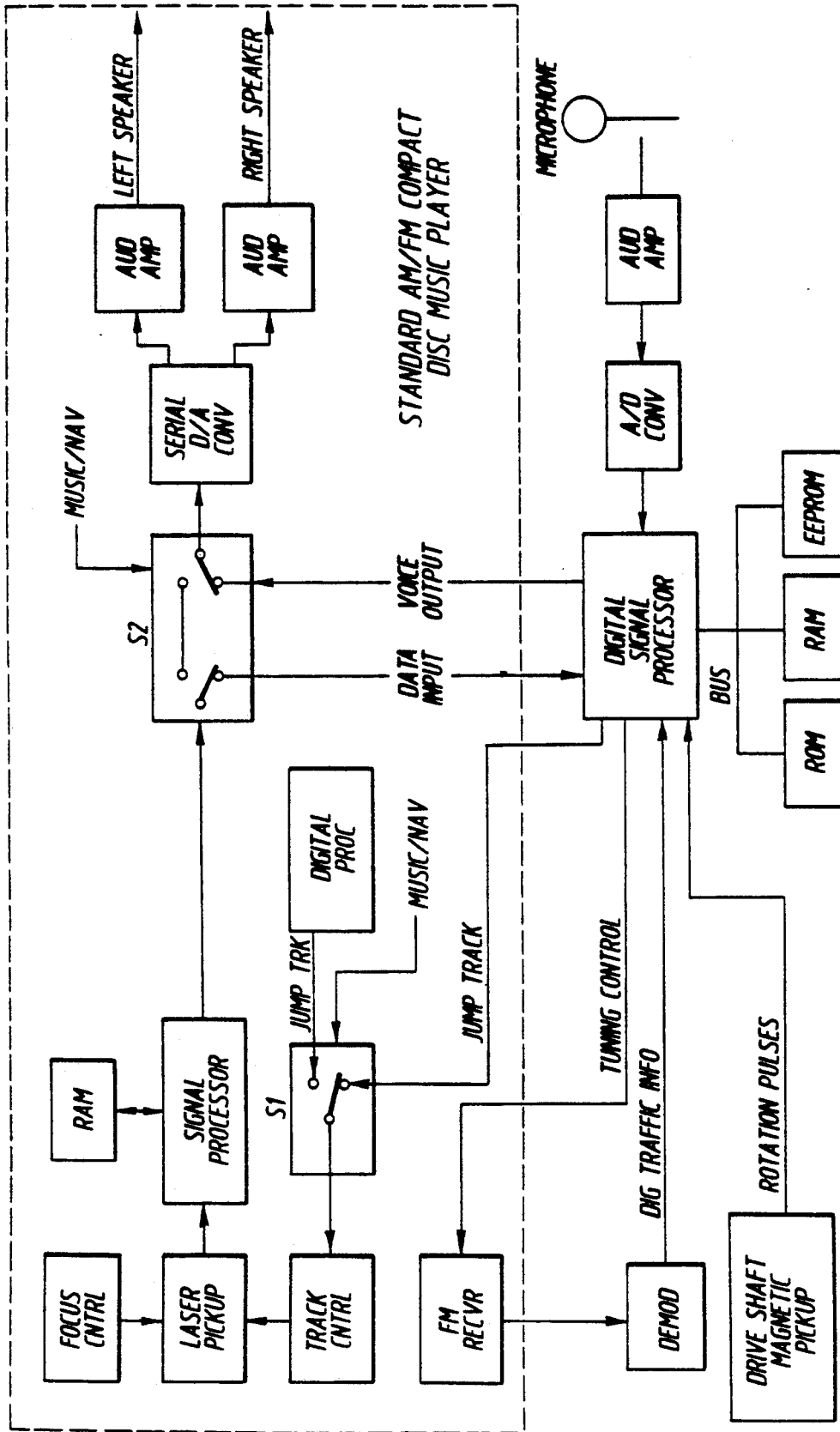


FIG. 1 SINGLE PROCESSOR NAVIGATOR WITH TRAFFIC UPDATE AND DRIVE SHAFT SENSOR

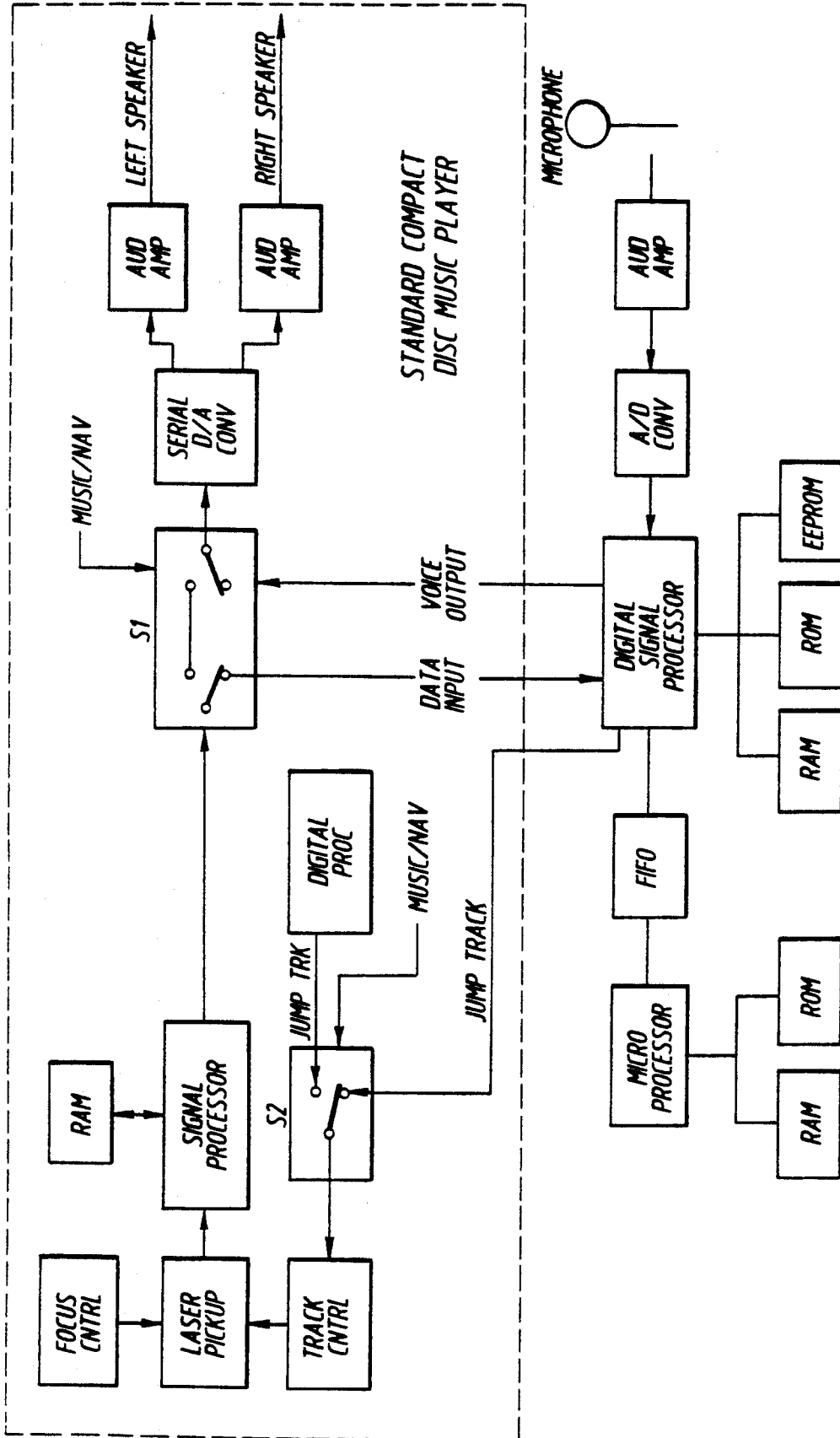


FIG. 2 DUAL PROCESSOR SENSOR FREE NAVIGATOR

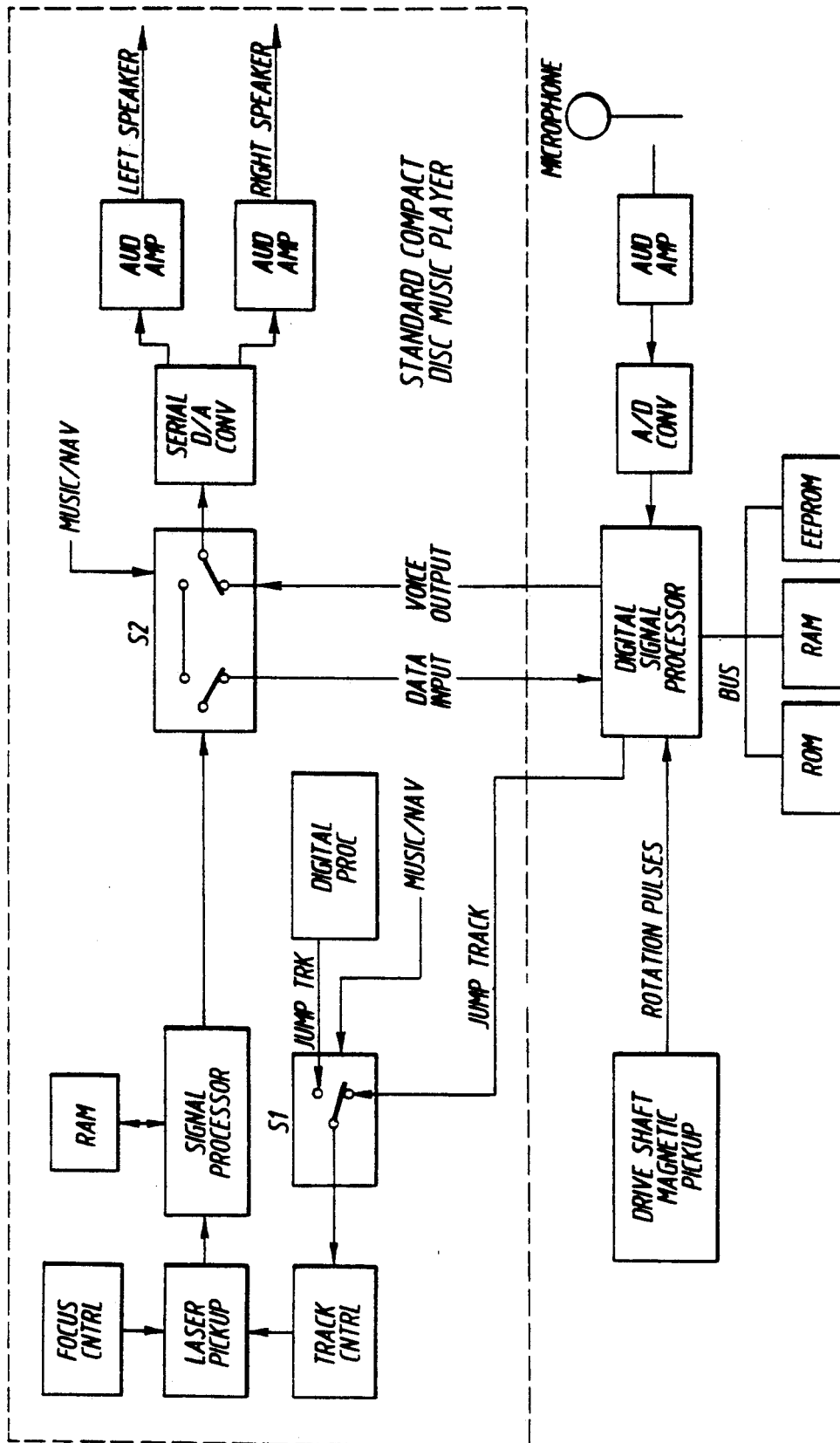


FIG. 3 SINGLE PROCESSOR - ONE SENSOR NAVIGATOR

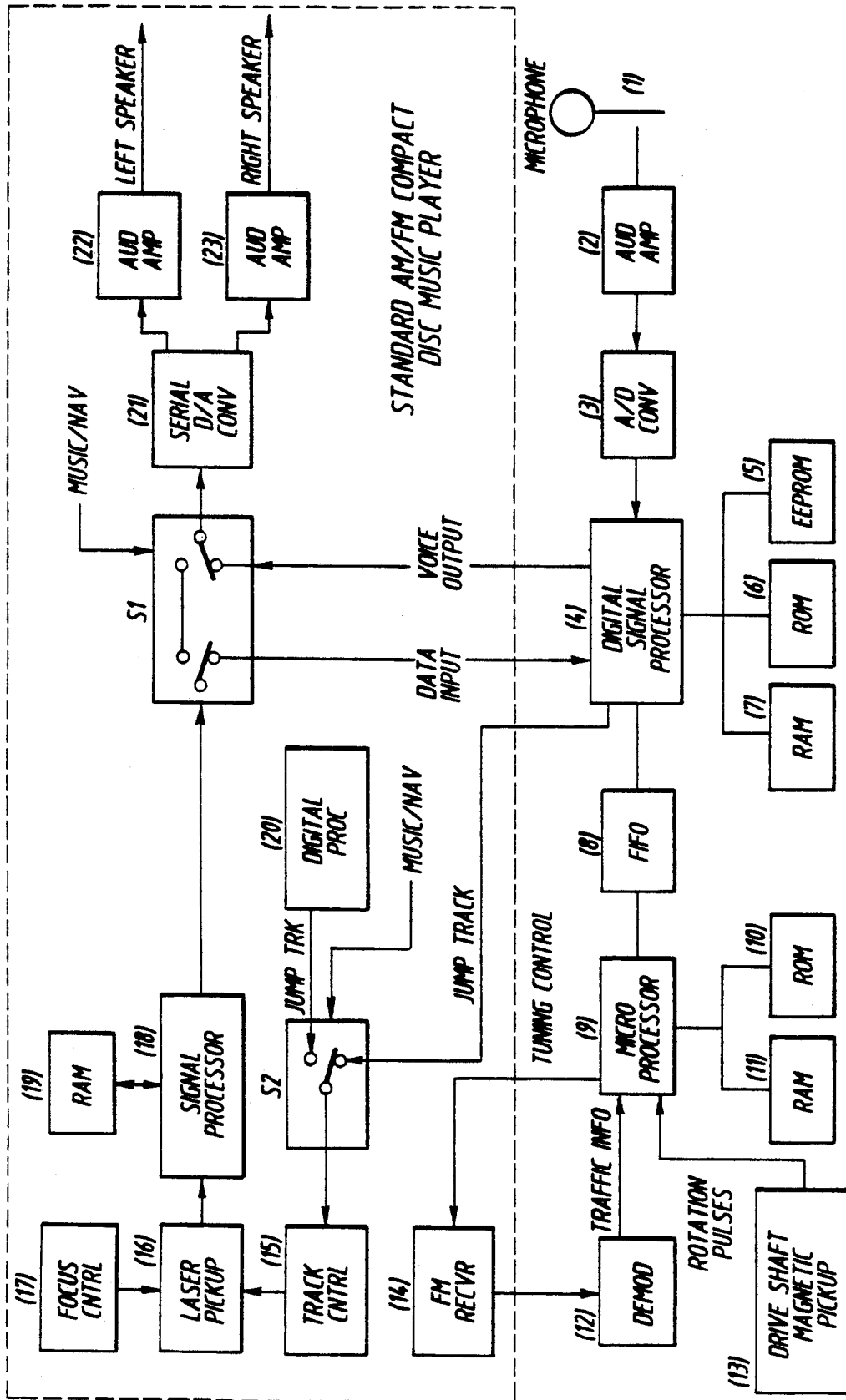


FIG. 4 DUAL PROCESSOR, TRAFFIC UPDATE, ONE SENSOR NAVIGATOR

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