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United States Patent [19]

Uchida et al.

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[54] **VEHICLE INFORMATION
 COMMUNICATION DEVICE AND VEHICLE
 INFORMATION COMMUNICATION SYSTEM**

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[30] **Foreign Application Priority Data**

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 Nov. 25, 1996 [JP] Japan 8-313908

[51] **Int. Cl.⁷** **B60Q 1/00**

[52] **U.S. Cl.** **340/999; 340/439; 340/539;
 701/24; 455/420**

[58] **Field of Search** **340/639, 539,
 340/531, 999; 73/116; 701/24; 770/338;
 455/420; 702/122**

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[57] **ABSTRACT**

A vehicle onboard device having characteristics capable of being changed communicates with a vehicle to set a characteristic value to an optimum value. Parameters for setting conditions of an electronic device are called out of an E²PROM 14_i of the vehicle 10_i and are transmitted to a technology center 40 via a dealer 20₁, and an information center 30₁. Each dealer 20₁, the information center 30₁, and the technology center 40 accumulate the parameters. The technology center 40 can collect the parameters of numerous vehicles and characteristic values for electronic control of each of the vehicles and can calculate newest and optimum parameters. The technology center 40 transmits this newest and optimum vehicle information to the vehicle 10_i, and each vehicle updates the parameters thereof to these newest and optimum parameters. Accordingly, the parameters of the vehicle are set as the newest parameters.

13 Claims, 15 Drawing Sheets

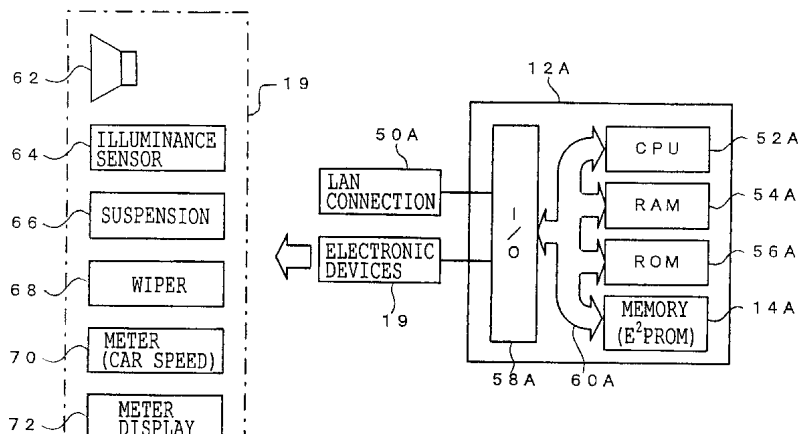


FIG. 1

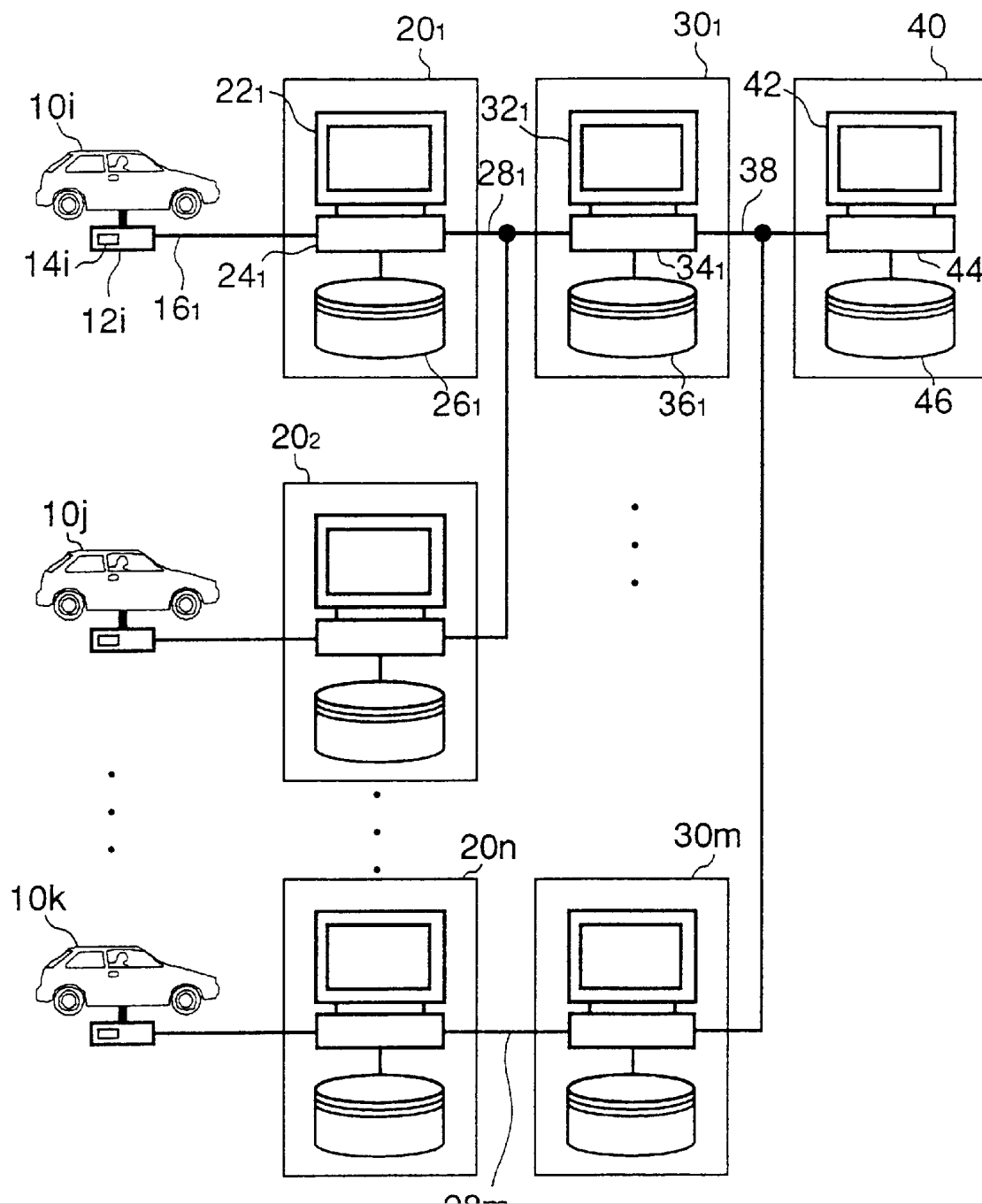
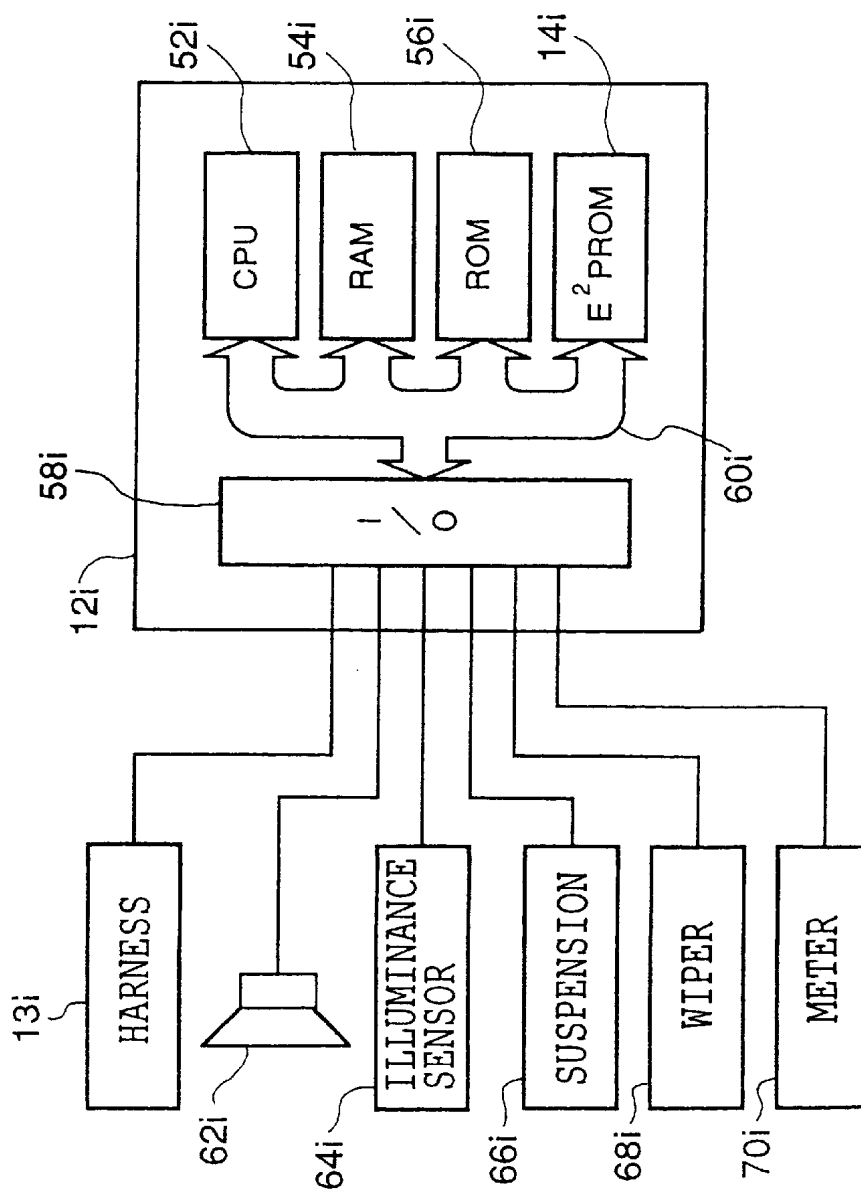


FIG. 2



F I G . 3

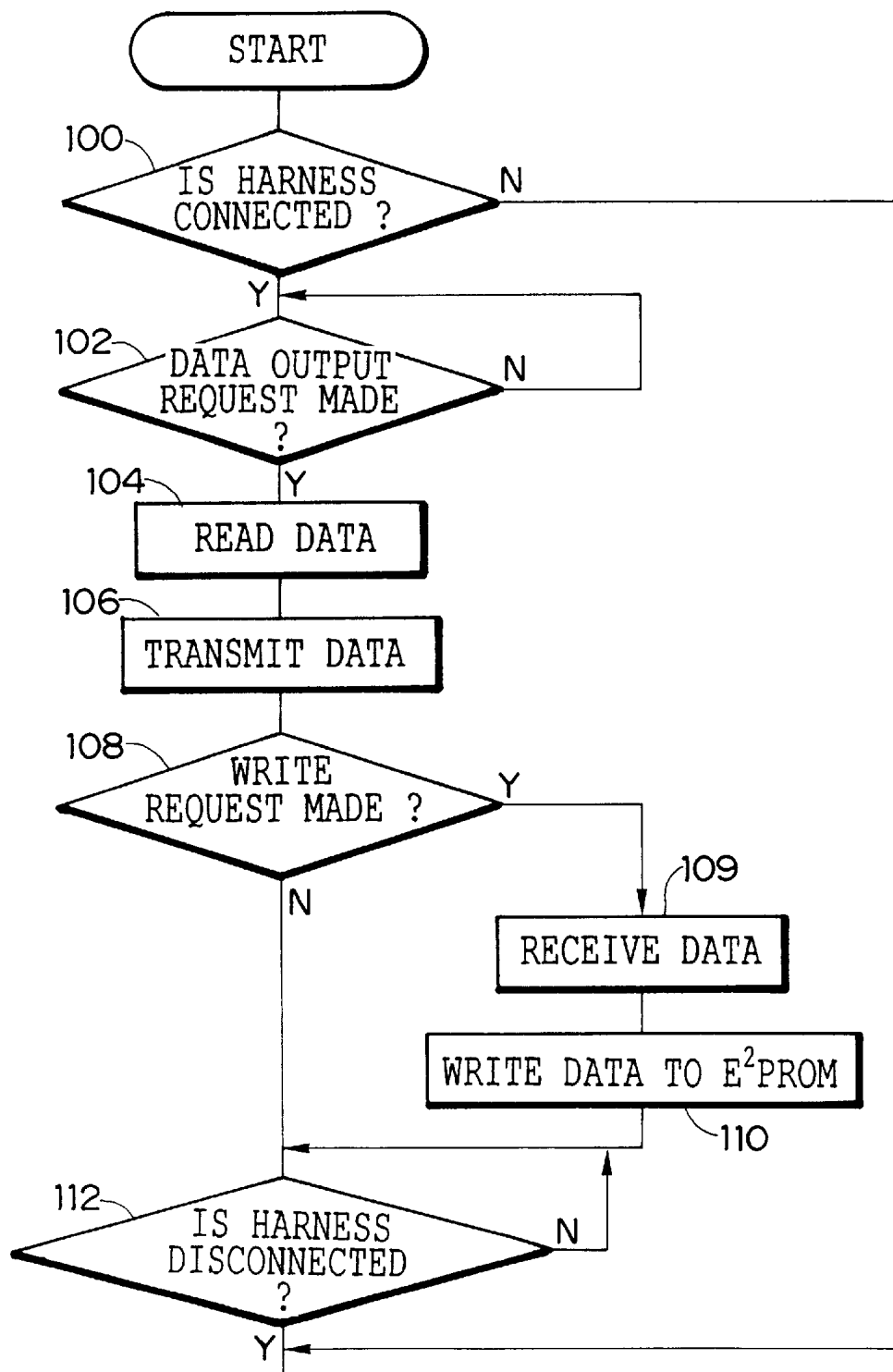
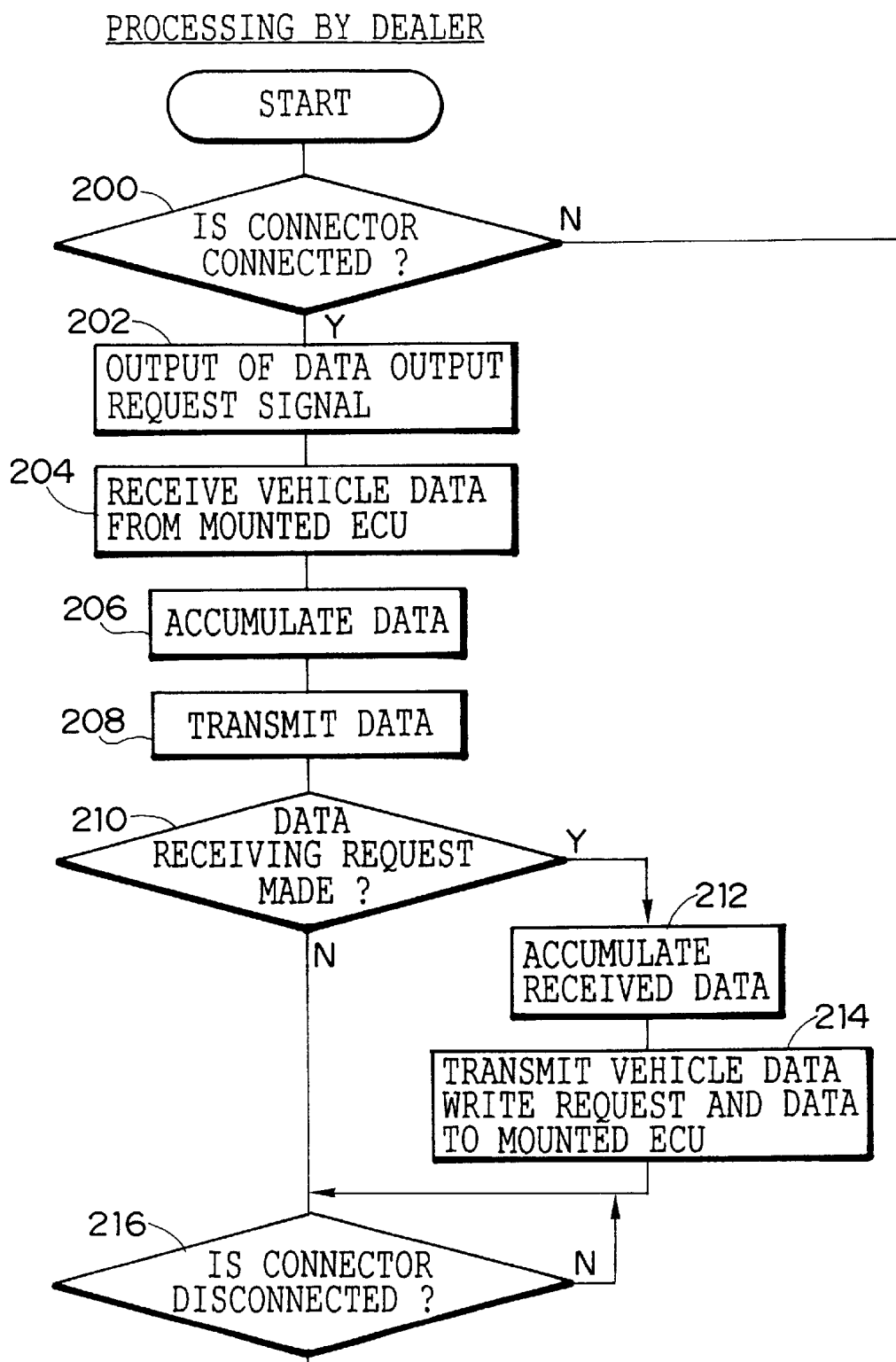
PROCESSING IN VEHICLE ECU

FIG. 4



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