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Chun et al.

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(54) **VEHICLE NAVIGATION NETWORK,
APPARATUS AND METHOD FOR USE IN A
MOBILE TELECOMMUNICATION SYSTEM**

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(51) **Int. Cl.⁷** **G01C 21/00**

(52) **U.S. Cl.** **701/209**; 701/24; 342/357.09;
342/357.1

(58) **Field of Search** 701/201, 209,
701/211, 213, 24, 25; 342/357.06, 357.09,
357.1, 357.12, 357.13; 340/988, 990

(56) **References Cited**

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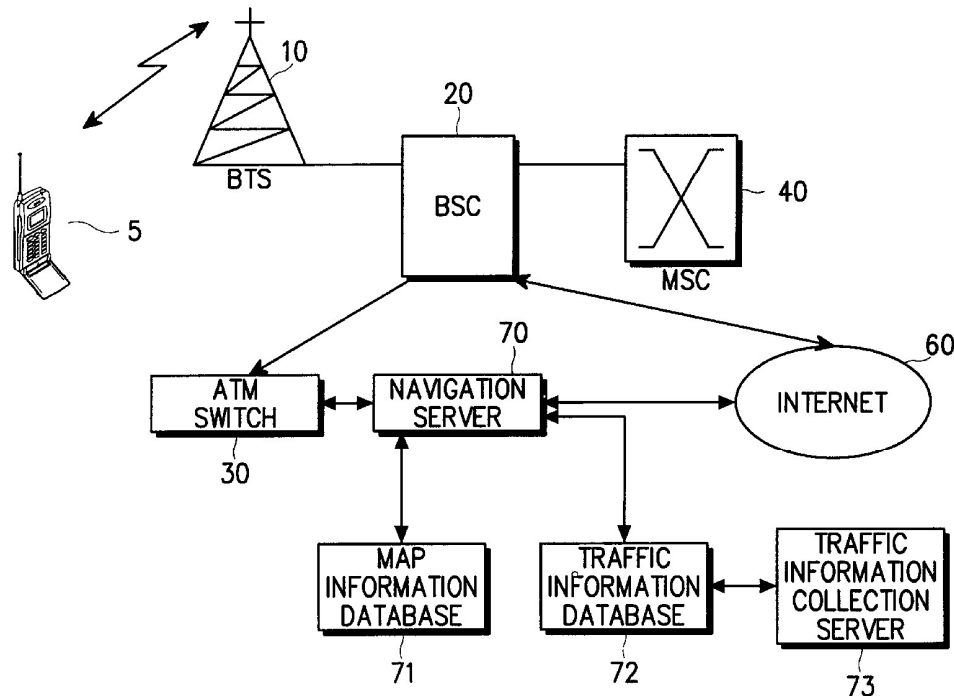
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(57) **ABSTRACT**

There is provided a vehicle navigation network using a mobile telecommunication system. In the vehicle navigation network, a vehicle navigation apparatus has a satellite signal receiver and a mileage calculator, which determines a current location of a vehicle based on a satellite signal and a mileage of the vehicle to its destination, and transmits information about the vehicle location from a mobile terminal to a base station transceiver system (BTS) periodically. The BTS receives a signal from the mobile terminal and transmits data to a base station controller (BSC), when a vehicle navigation service is requested. The BSC is connected to the BTS, which discriminates a call requesting the vehicle navigation service from a typical voice call and transmission of a text message. The BSC connects the voice call to a mobile switching center (MSC) in the case of the voice call, and connects the vehicle navigation service requesting call to one of a plurality of asynchronous transfer mode (ATM) switches when the vehicle navigation service requests the call. The ATM switches are connected to a navigation server, for a handoff and transmission of packet data when the BSC requests the vehicle navigation service. When the vehicle navigation service is requested from an ATM switch, the navigation server receives information about the current location and destination of a vehicle, road condition information, and map information and transmits route information to the navigation apparatus.

15 Claims, 8 Drawing Sheets



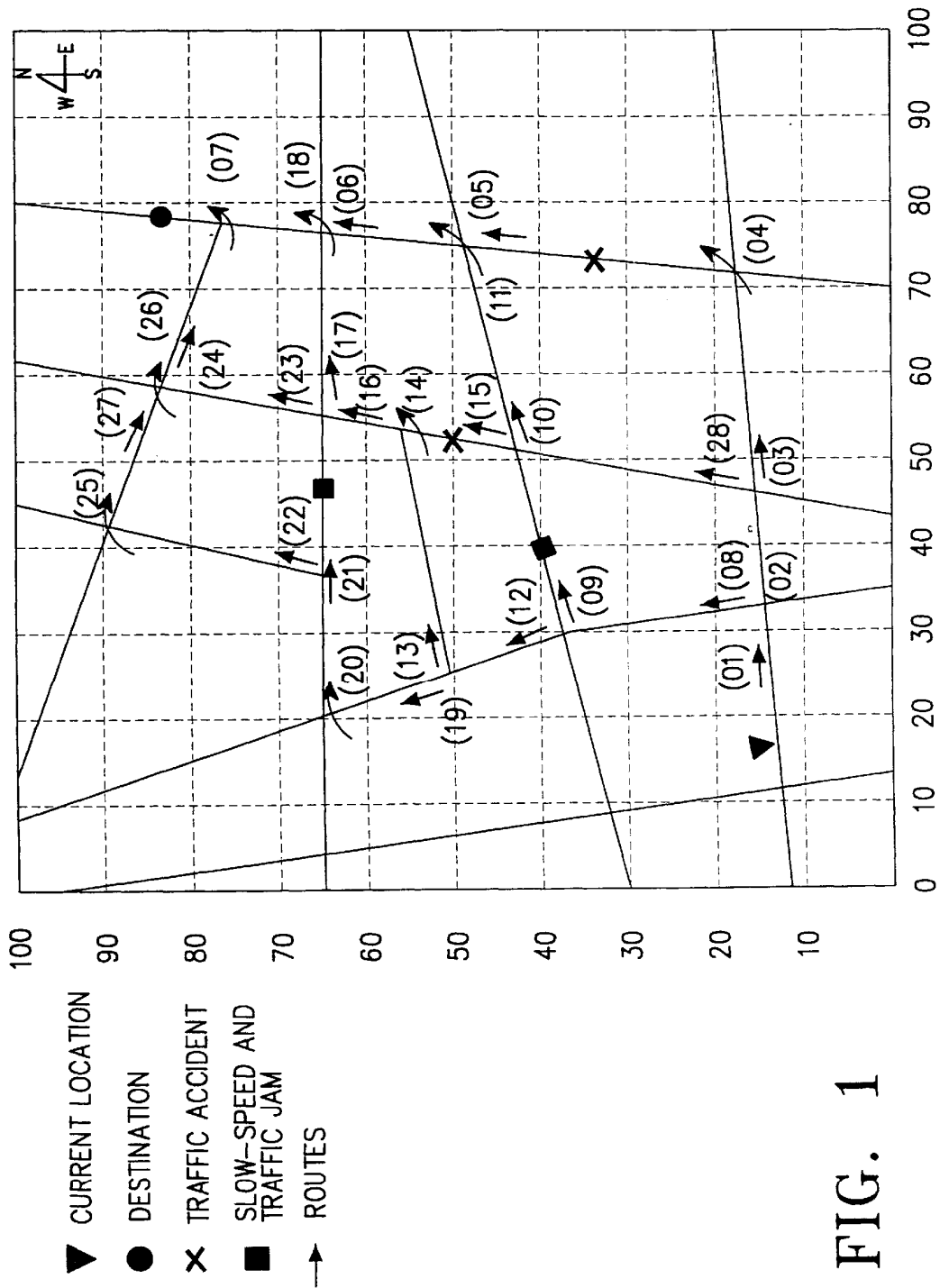


FIG. 1

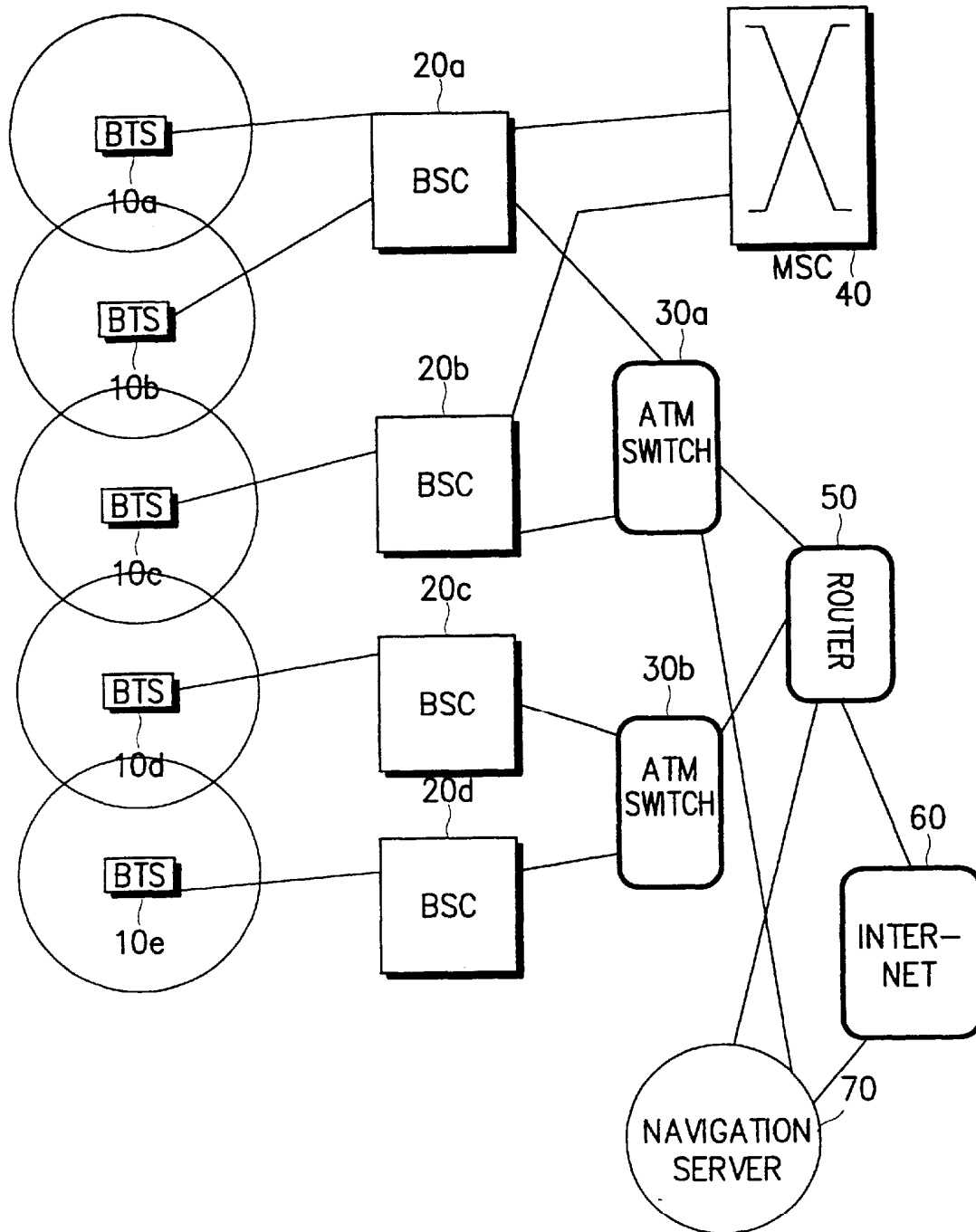


FIG. 2

FIG. 3

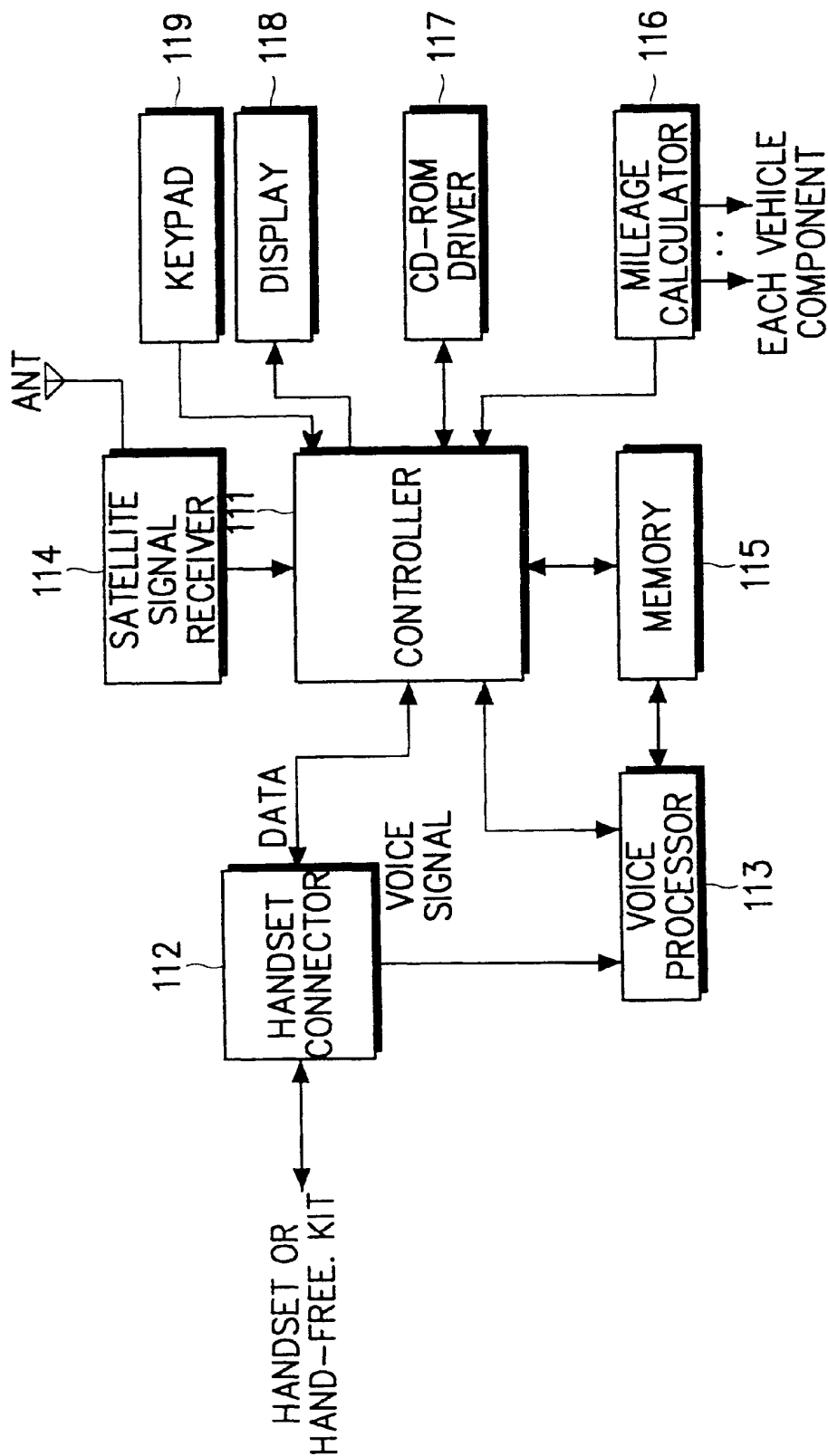
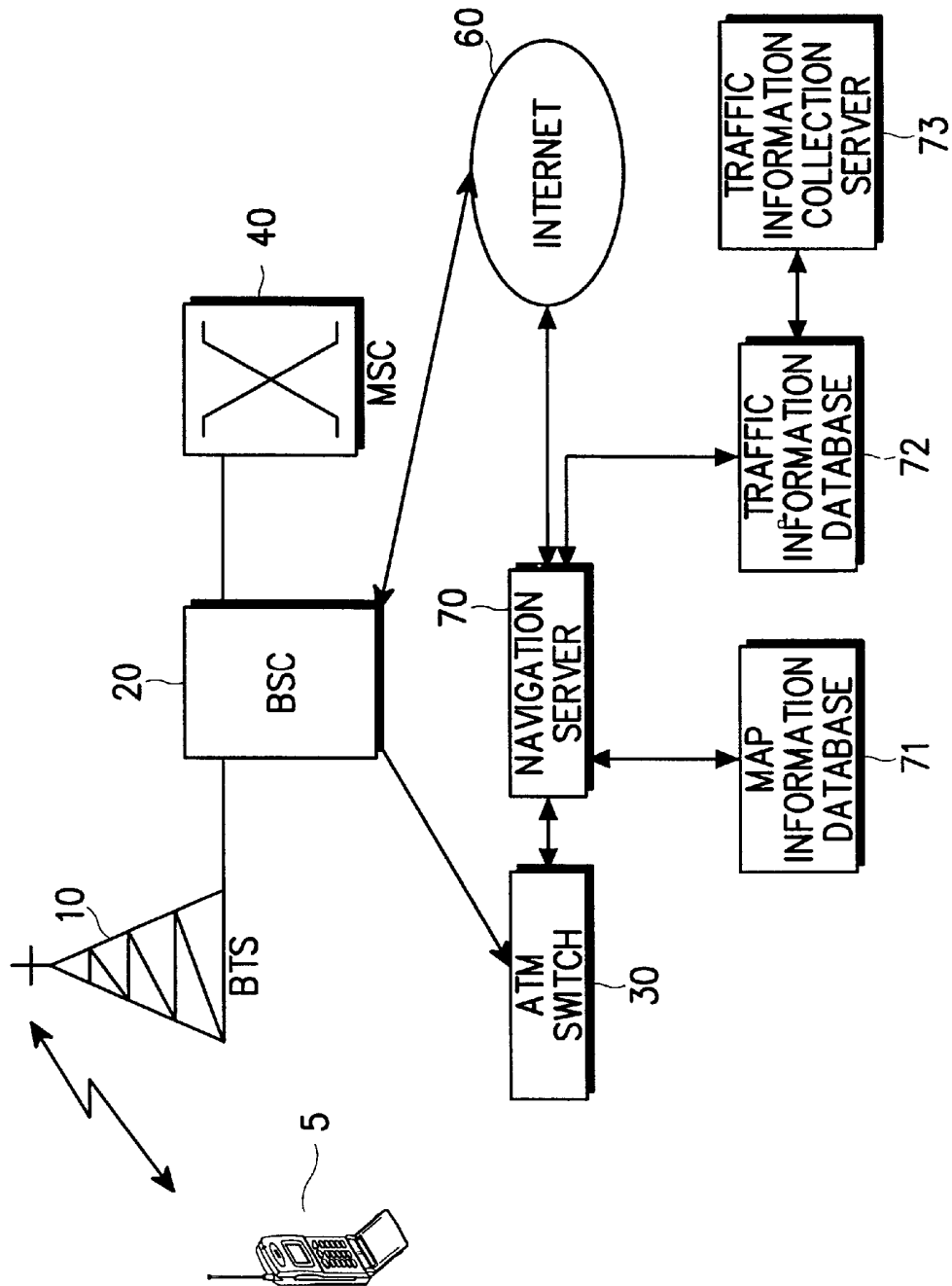


FIG. 4



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