

### US006028537A

## **United States Patent** [19]

### Suman et al.

[56]

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[54]	VEHICLE COMMUNICATION AND REMOTE CONTROL SYSTEM			
[75]	Inventors: Michael J. Suman; Thomas L. Welling; Mark L. Zeinstra; Ruskin T. Lhamon, all of Holland; Matthew T. Nichelson, Zeeland, all of Mich.			
[73]	Assignee: Prince Corporation, Holland, Mich.			
[21]	Appl. No.: <b>08/874,210</b>			
[22]	Filed: Jun. 13, 1997			
Related U.S. Application Data				
[60]	Provisional application No. 60/019,773, Jun. 14, 1996.			
[51]	Int. Cl. <sup>7</sup> G08G 1/123			
[52]	<b>U.S. Cl. 340/988</b> ; 340/426; 342/457;			
[58]	455/422 <b>Field of Search</b>			
[-0]	342/457, 357; 701/213; 455/422			

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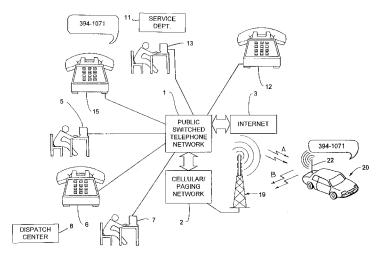
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Primary Examiner—Brent A. Swarthout Attorney, Agent, or Firm-Price, Heneveld, Cooper, DeWitt & Litton

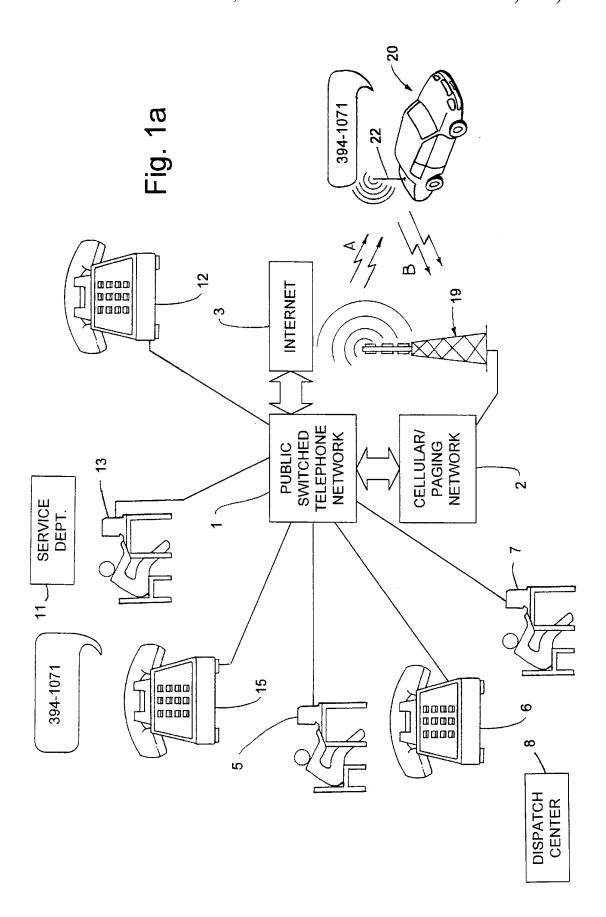
#### [57] **ABSTRACT**

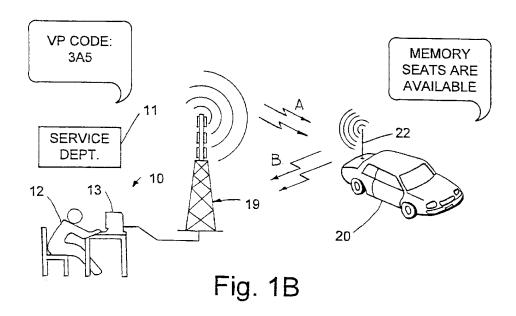
The vehicle communication and control system of the present invention includes a transceiver for sending and receiving RF signals, a processor coupled to the transceiver, a location identifying sensor coupled to the processor for supplying vehicle location data, a user interface coupled to the processor for providing information to a user and for enabling a user to input commands to be executed by the processor, and a vehicle accessory interface for coupling the processor to a vehicle accessory control circuit to enable the processor to issue commands to a vehicle accessory. The processor is preferably adapted to perform a wide variety of functions in response to user input commands, received RF signals, and other commands received from other vehicle accessories and components coupled to the system of the present invention through the vehicle system bus. Some of these functions include establishing a two-way communication link, requesting and providing location-specific information, enabling remote tracking of the vehicle, issuing an emergency request or a request for roadside assistance, requesting and receiving navigational information, remote control of vehicle functions, enabling remote diagnostics of the vehicle, and enabling reprogramming of various vehicle accessories and components.

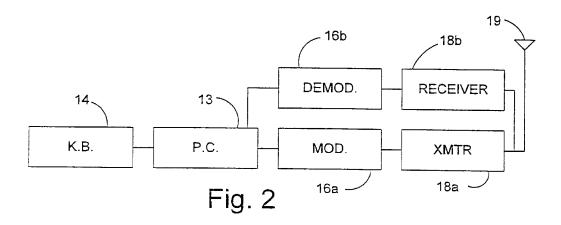
### 28 Claims, 62 Drawing Sheets

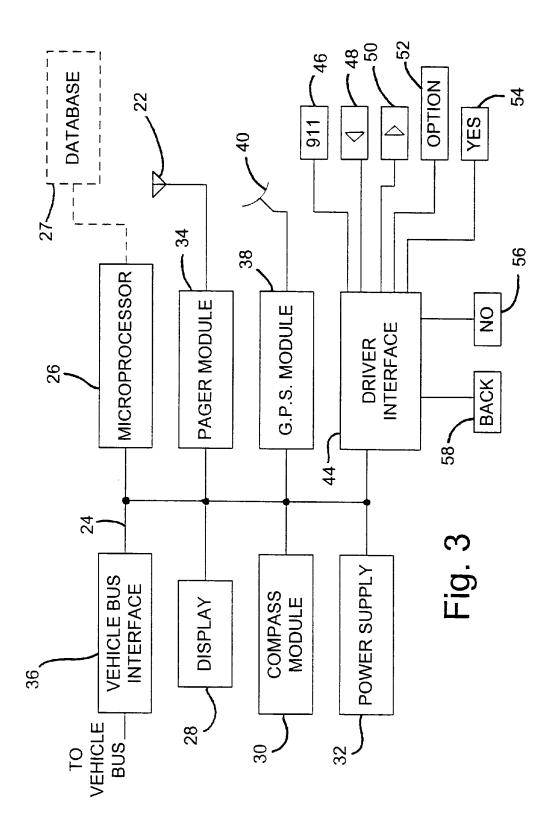




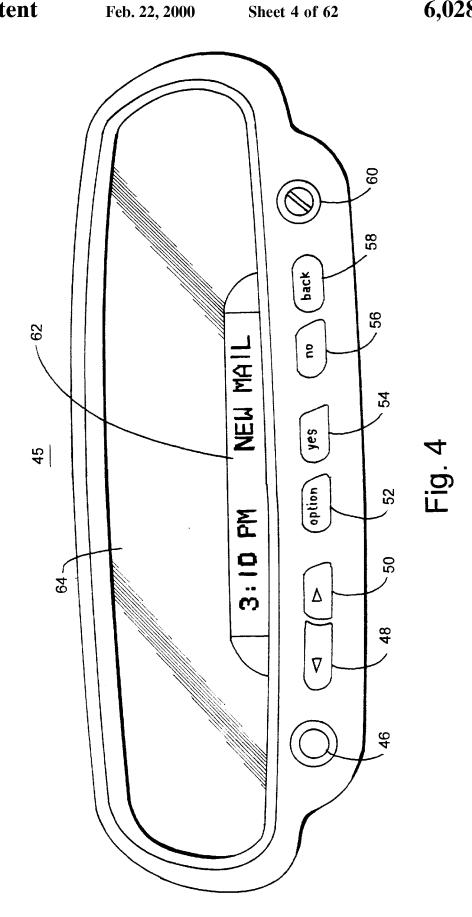












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