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(54) **WIRELESS COMMUNICATIONS SYSTEMS AND METHOD**

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*H04M 1/00* (2006.01)
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See application file for complete search history.

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(57) **ABSTRACT**

A wireless communications system and method adapted for use in automotive applications for enabling automatic, high-speed, wireless voice and/or data communications link to be established between a wide variety of external devices and various electronic subsystems of a vehicle. The apparatus includes first and second RF transceivers which are operated in accordance with a communications specification to enable a seamless, automatic communications link to be created when the two RF transceivers come within a pre-determined proximity of one another, for example, within up to 100 meters of one another. Information from one device is then automatically transmitted over the wireless communications link to the other device. In various implementations the apparatus is used to obtain information from a home PC, a work PC, a notebook PC and various other electronic devices, as well as information from the Internet, which is displayed and/or played back for the user by various subsystems of the vehicle while traveling in the vehicle. Other applications involving retail and manufacturing applications are disclosed by which the apparatus is used to facilitate and/or expedite manufacturing processes or retail transactions via one or more high-speed, secure, wireless communications links which are created automatically and seamlessly between the RF transceivers of the apparatus of the invention.

**26 Claims, 13 Drawing Sheets**
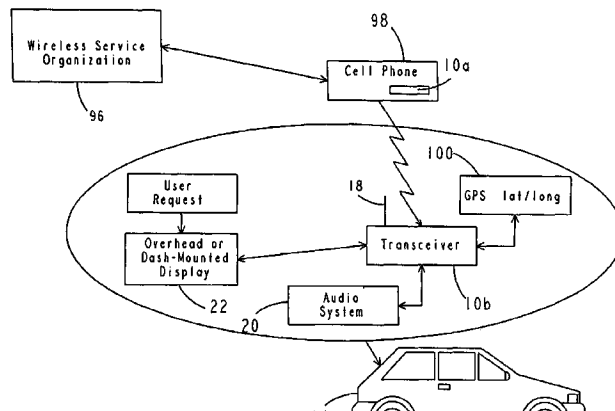
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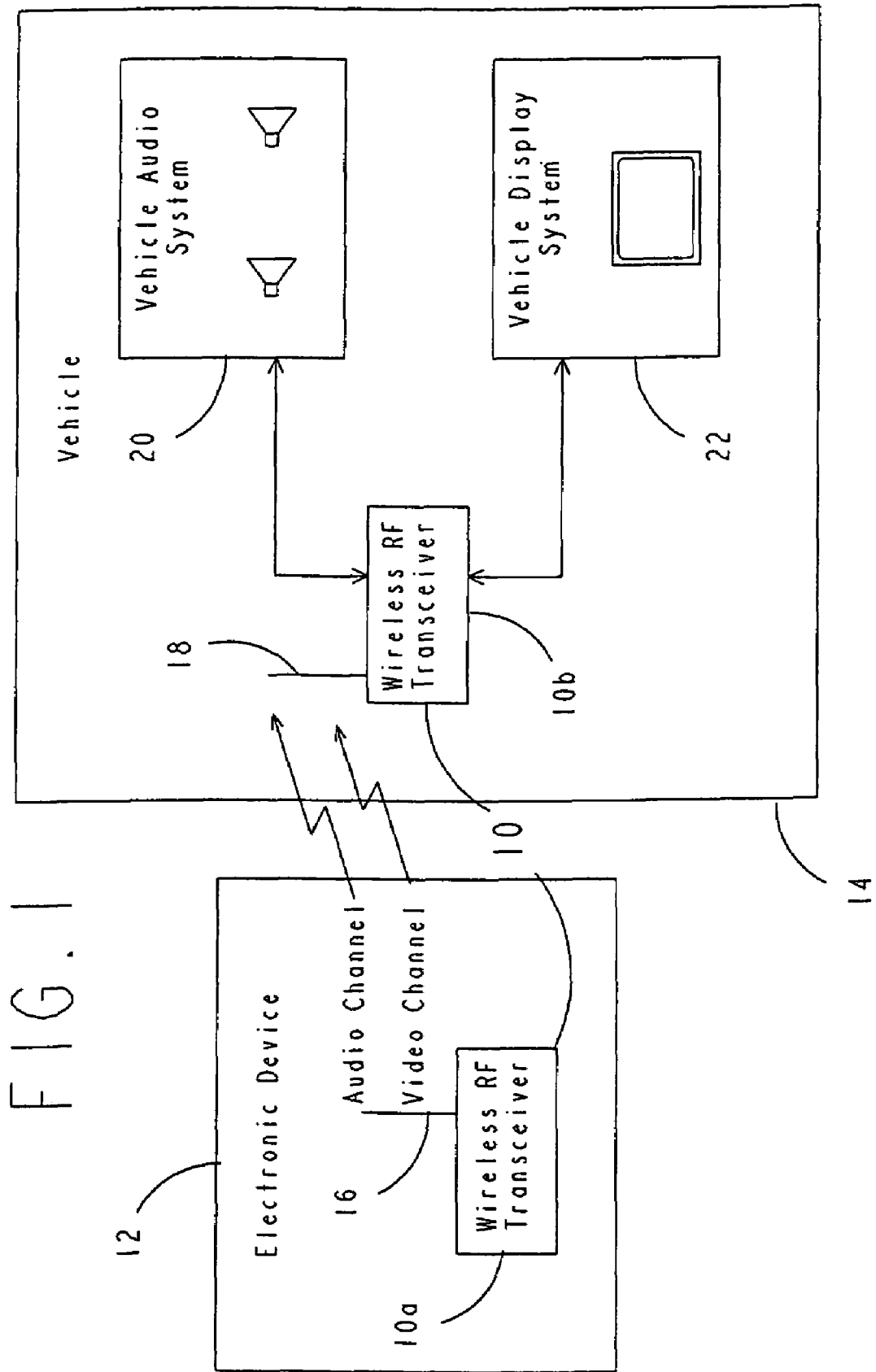
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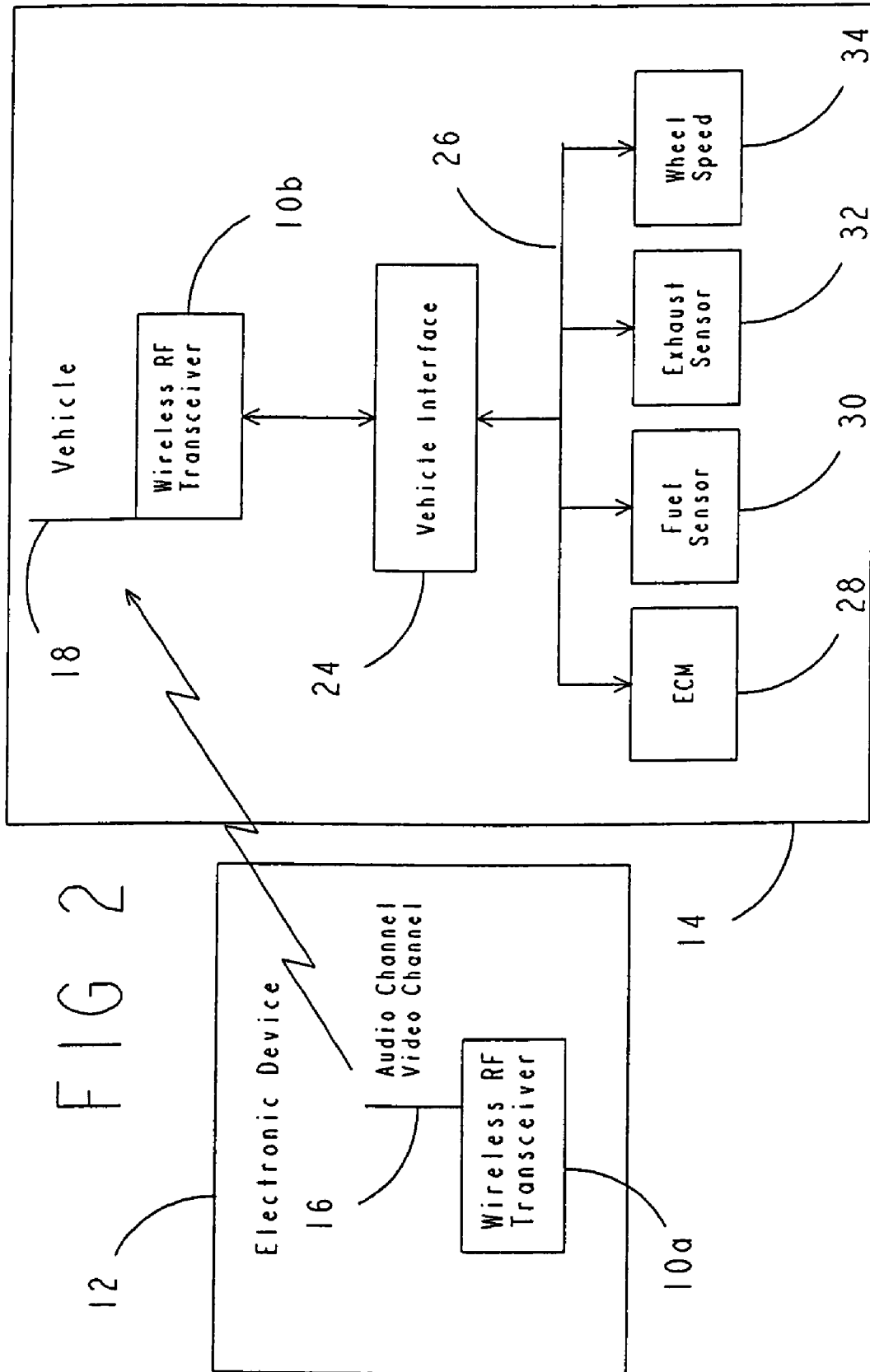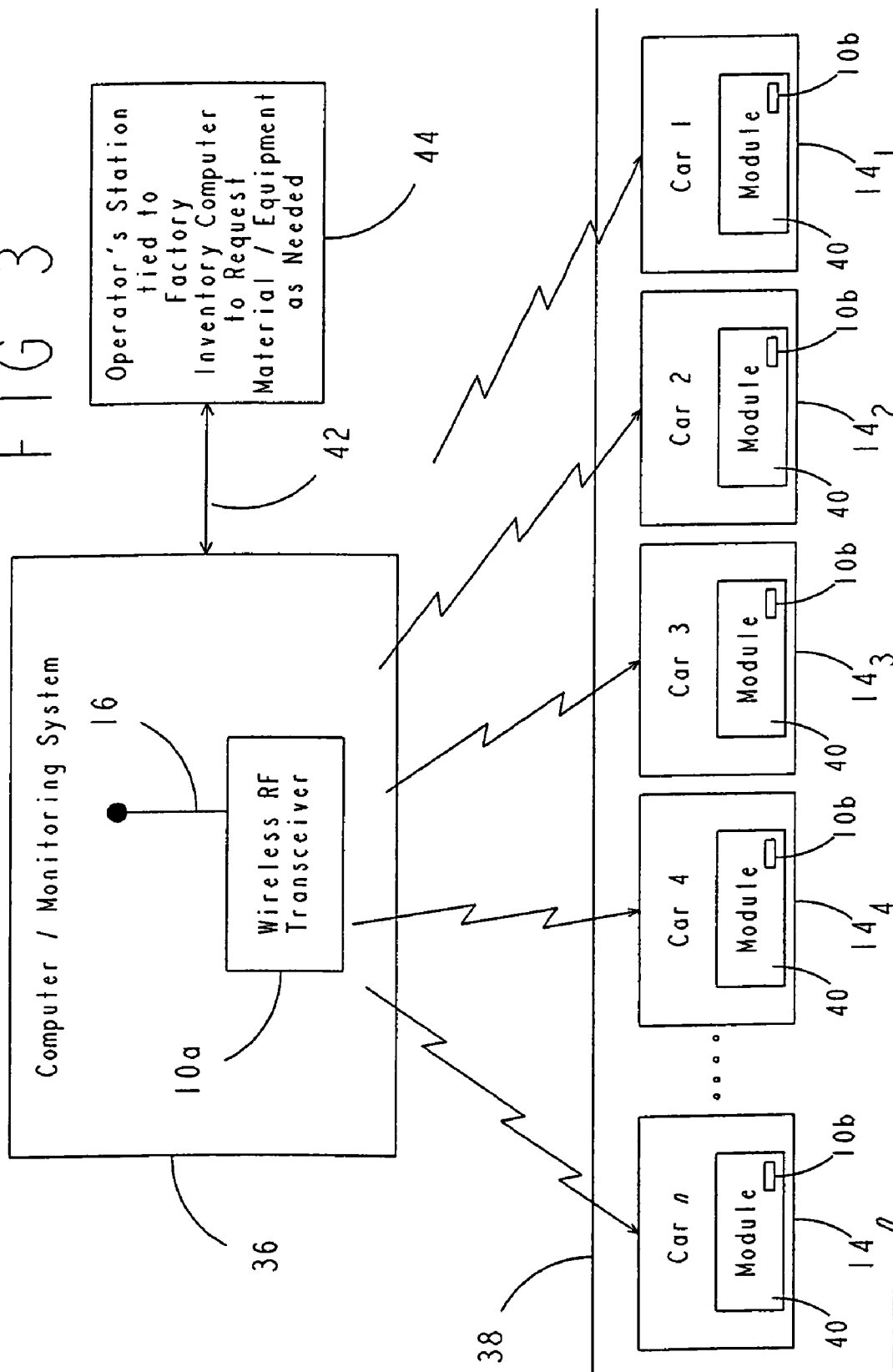
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FIG. 1

FIG 2

Vehicle

Wireless RF
Transceiver          10b

18

Vehicle Interface          26

24

ECM          28

Fuel
Sensor          30

Exhaust
Sensor          32

Wheel
Speed          34

14

Electronic Device          12

Audio Channel
Video Channel

16

Wireless RF
Transceiver          10a

FIG 3

Operator's Station tied to Factory Inventory Computer to Request Material / Equipment as Needed

44

42

Computer / Monitoring System

16

Wireless RF Transceiver

10a

36

38

Car 1

Module

10b

14₁

40

Car 2

Module

10b

14₂

40

Car 3

Module

10b

14₃

40

Car 4

Module

10b

14₄

40

Car n

Module

10b

14ₙ

40

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