(12) **United States Patent**
Breed

(10) **Patent No.:** US 6,738,697 B2
(45) **Date of Patent:** May 18, 2004

(54) **TELEMATICS SYSTEM FOR VEHICLE DIAGNOSTICS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 27 days.

(21) Appl. No.: **10/188,673**

(22) Filed: **Jul. 3, 2002**

(65) **Prior Publication Data**

US 2003/0009270 A1 Jan. 9, 2003

Related U.S. Application Data

(63) Continuation-in-part of application No. 09/753,186, filed on Jan. 2, 2001, now Pat. No. 6,484,080, which is a continuation-in-part of application No. 09/137,918, filed on Aug. 20, 1998, now Pat. No. 6,175,787, which is a continuation-in-part of application No. 08/476,077, filed on Jun. 7, 1995, now Pat. No. 5,809,437, application No. 10/188,673, application No. 10/079,065, filed on Feb. 19, 2002, which is a continuation-in-part of application No. 09/765,558, filed on Jan. 19, 2001, application No. 10/188,673, which is a continuation-in-part of application No. 10/174,709, filed on Jun. 19, 2002.

(60) Provisional application No. 60/304,013, filed on Jul. 9, 2001, provisional application No. 60/291,511, filed on May 16, 2001, provisional application No. 60/269,415, filed on Feb. 16, 2001, and provisional application No. 60/231,378, filed on Sep. 8, 2000.

(51) **Int. Cl.**[7] **G01N 17/00**; G06F 7/00

(52) **U.S. Cl.** **701/29**; 701/34

(58) **Field of Search** 701/29, 33, 34, 701/36; 340/438, 439

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(57) **ABSTRACT**

Vehicle diagnostic system which diagnoses the state of the vehicle or the state of a component of the vehicle and generates an output indicative or representative thereof. A communications device transmits the output of the diagnostic system to a remote location, possibly via a satellite or the Internet. The diagnostic system can include sensors mounted on the vehicle, each providing a measurement related to a state of the sensor or a measurement related to a state of the mounting location, and a processor coupled to the sensors and arranged to receive data from the sensors and process the data to generate the output indicative or representative of the state of the vehicle or its component. The processor may embody a pattern recognition algorithm trained to generate the output from the data received from the sensors and be arranged to control parts of the vehicle based on the output.

62 Claims, 38 Drawing Sheets
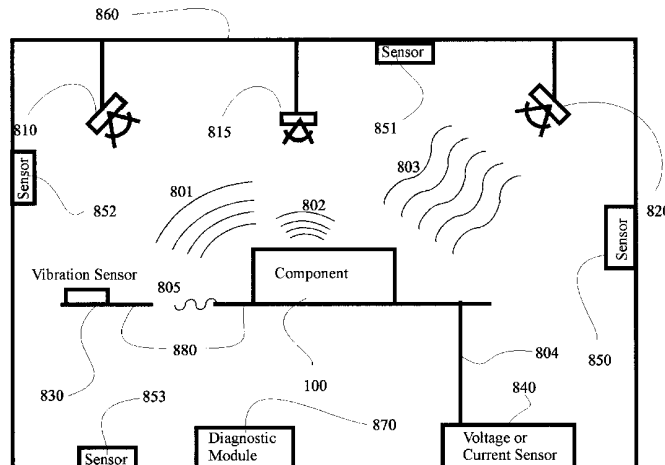
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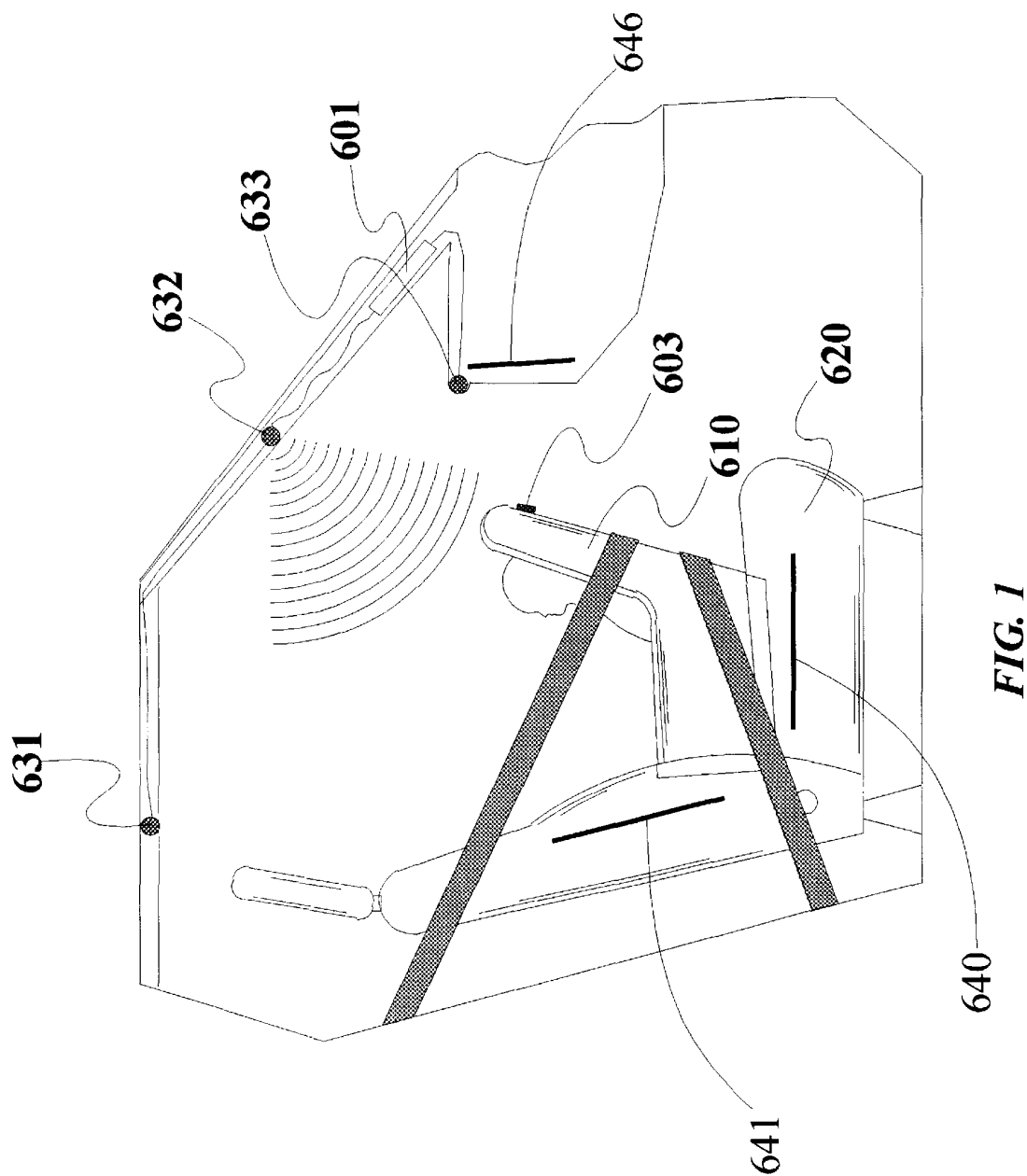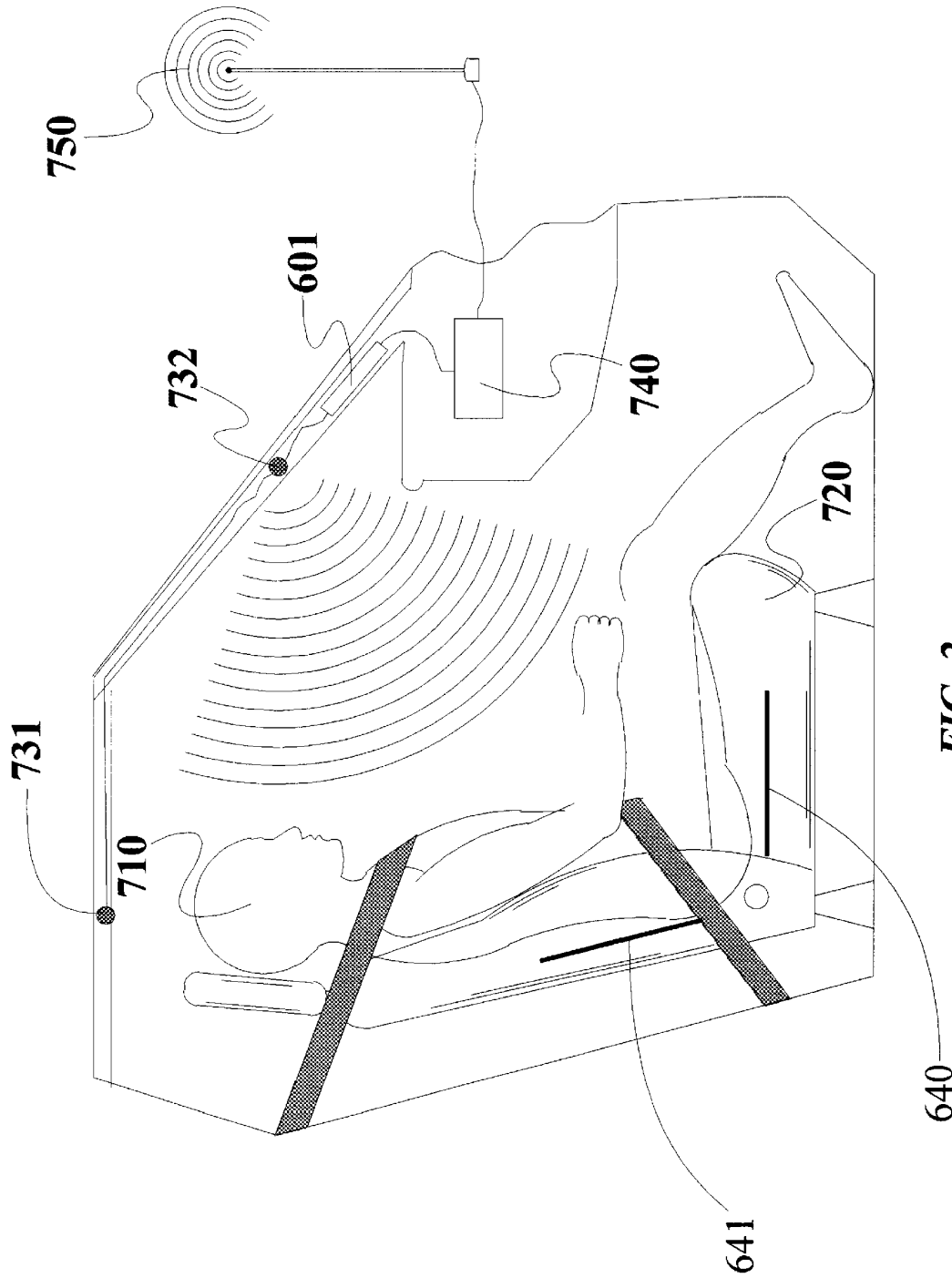
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FIG. 1

FIG. 2

FIG. 3

Means for
Determining
Location (& Velocity)
of Occupant
or Part Thereof

Presence
Determining
Means

416

Vehicular
Component
or Subsystem

422

Occupant
Health State
Determining
Means

412

Processor

Presence
Determining
Means

410

Vehicle
Position
Determining
Means

424

Microphone

Microphone

420

420

Communications
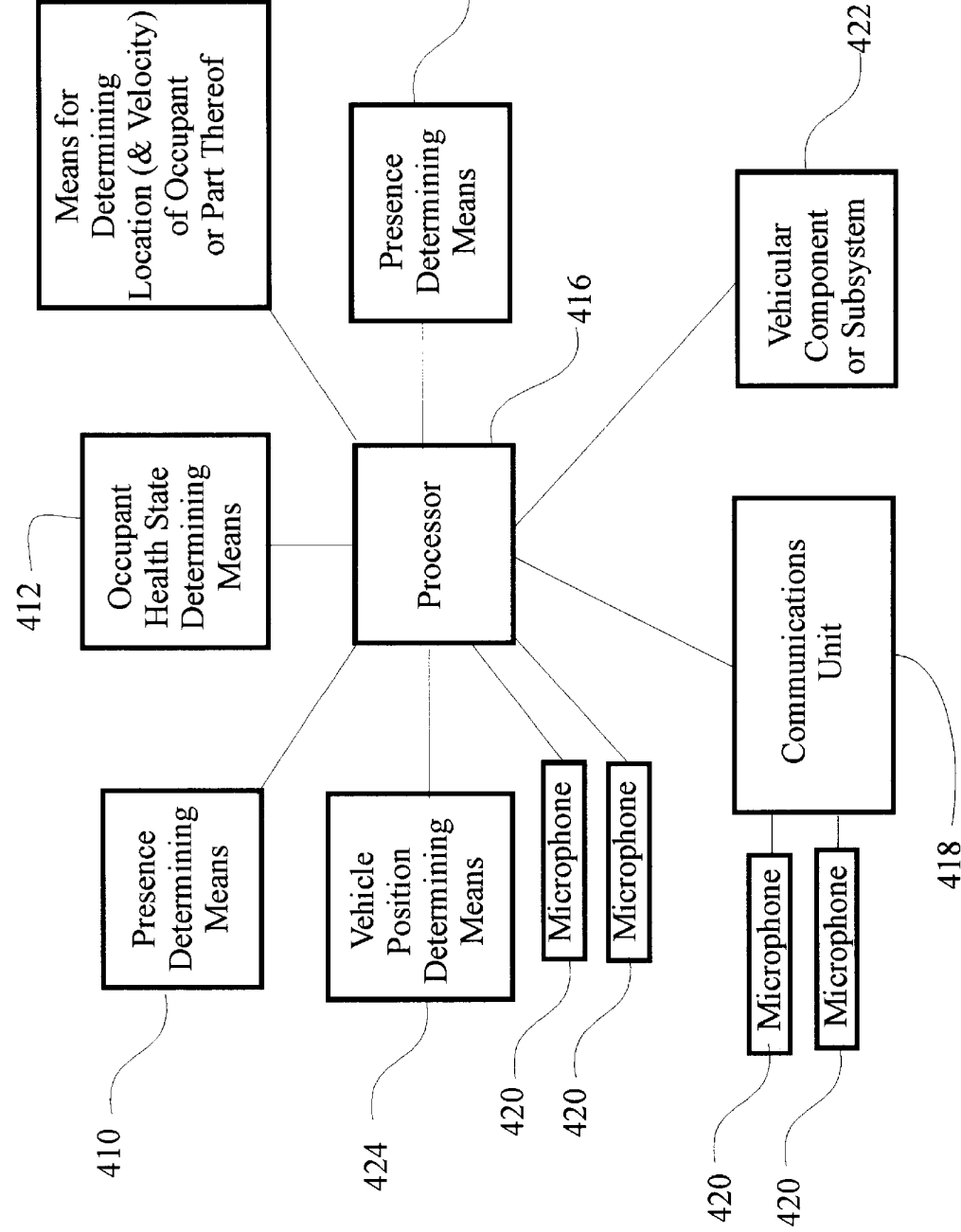Unit

418

Microphone

Microphone

420

420

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