

(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**(75) Inventor: **David S. Breed**, Boonton Township,
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International Inc.**, Denville, NJ (US)(*) 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 contin-
uation-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, appli-
cation 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,
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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(56) **References Cited****U.S. PATENT DOCUMENTS**

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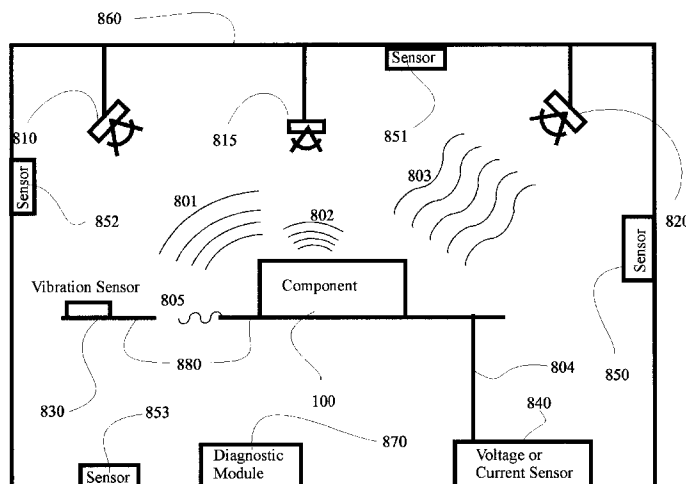
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Primary Examiner—Yonel Beaulieu(74) *Attorney, Agent, or Firm*—Brian Roffe(57) **ABSTRACT**

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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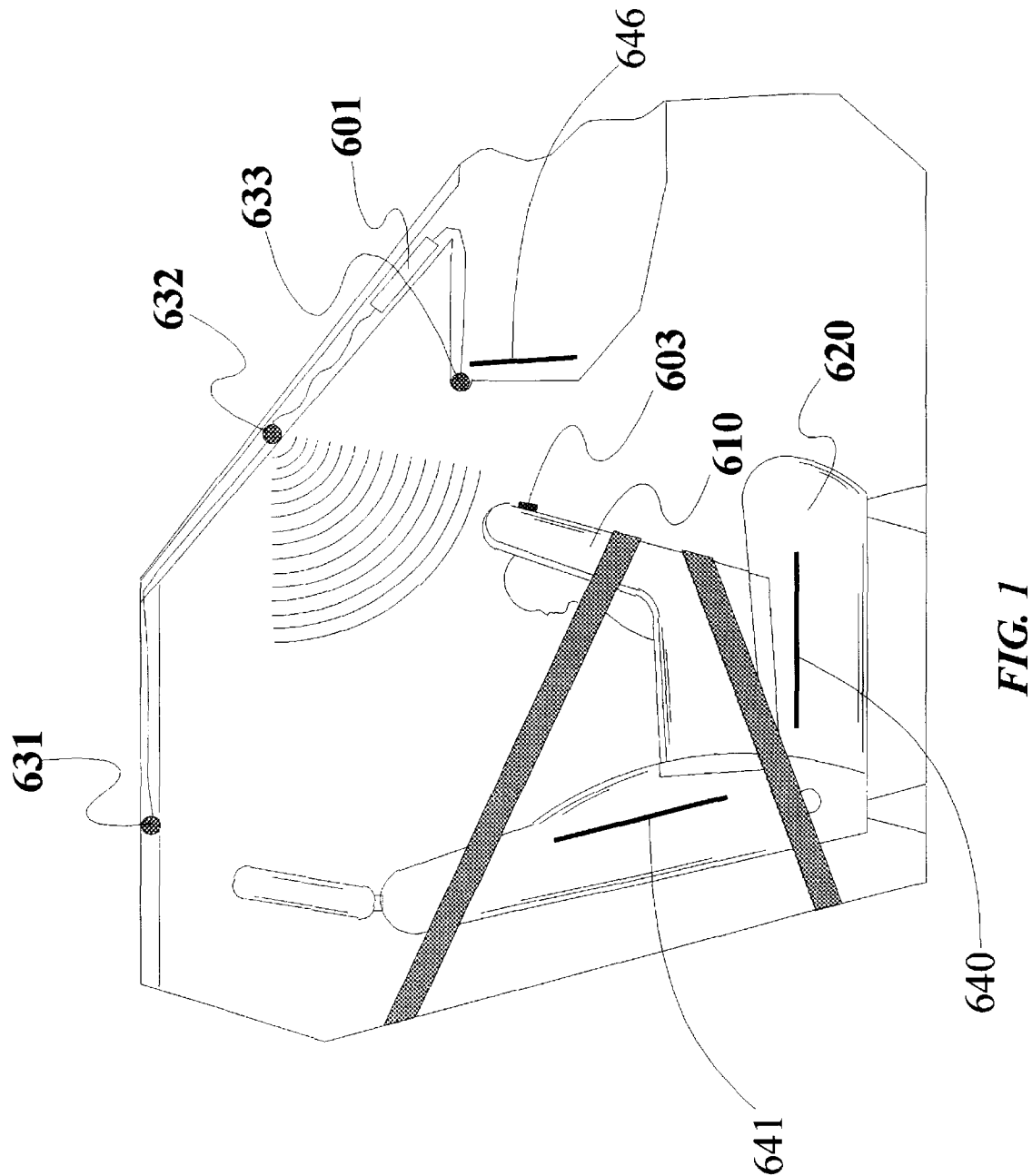
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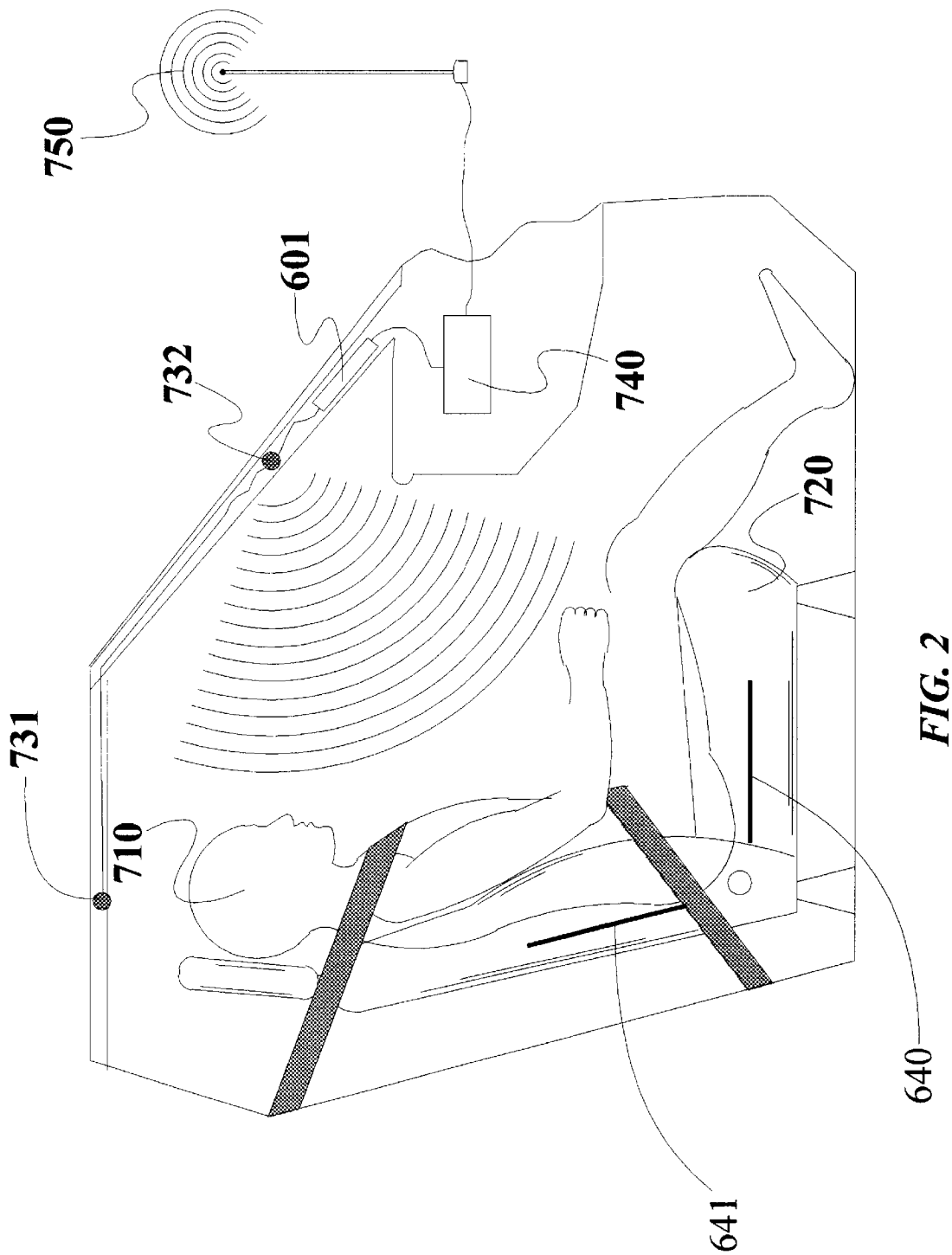
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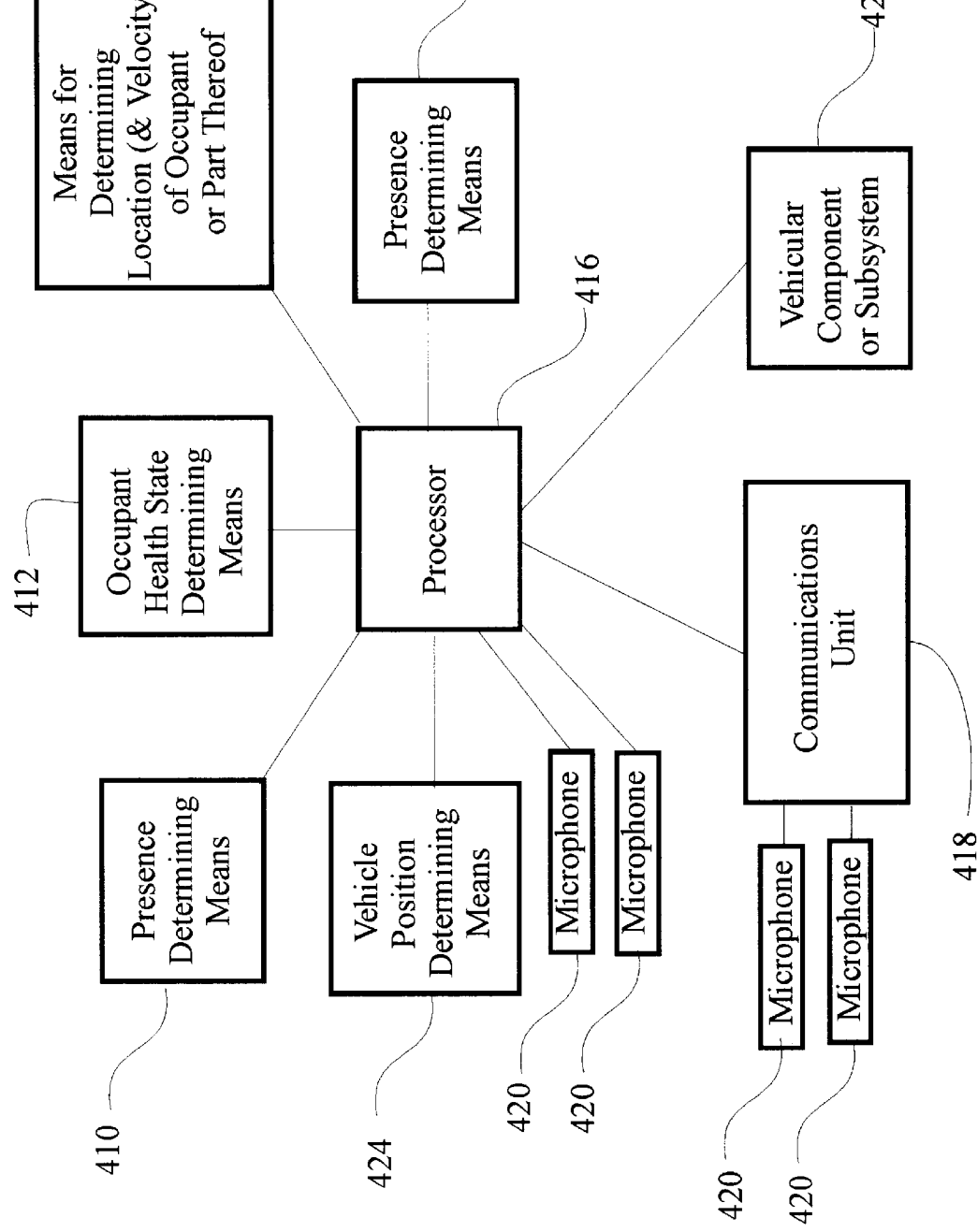


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