



US006812832B2

(12) **United States Patent**
Lobaza et al.

(10) **Patent No.:** **US 6,812,832 B2**
(45) **Date of Patent:** **Nov. 2, 2004**

(54) **VEHICLE COMMUNICATION SYSTEM WITH INTEGRATED PRE-IMPACT SENSING**

6,128,482 A	10/2000	Nixon et al.	455/414
6,211,777 B1	4/2001	Greenwood et al.	340/436
6,405,132 B1	6/2002	Breed et al.	701/301
6,741,168 B2 *	5/2004	Webb et al.	340/436

(75) Inventors: **Anthony Gerard Lobaza**, Bloomfield Hills, MI (US); **Allan J. Hoffman**, Berkley, MI (US); **Osman D. Altan**, Northville, MI (US)

OTHER PUBLICATIONS

U.S. patent application Publication, 2002/0103622, published Aug. 1, 2002.

U.S. patent application Publication, 2002/0137489, published Sep. 26, 2002.

“GM OnStar to Detect More Wrecks,” David Kiley, USA Today.

* cited by examiner

(73) Assignee: **General Motors Corporation**, Detroit, MI (US)

Primary Examiner—Anh V. La

(74) *Attorney, Agent, or Firm*—Kathryn A. Marra

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 150 days.

(21) Appl. No.: **10/305,382**

(22) Filed: **Nov. 26, 2002**

(65) **Prior Publication Data**

US 2004/0100368 A1 May 27, 2004

(51) **Int. Cl.**⁷ **B06Q 1/00**

(52) **U.S. Cl.** **340/436**; 340/539.18

(58) **Field of Search** 340/436, 539.18, 340/425.5, 435, 825.36, 825.49; 701/45, 30, 29; 280/735, 734; 455/404.1, 567

(56) **References Cited**

U.S. PATENT DOCUMENTS

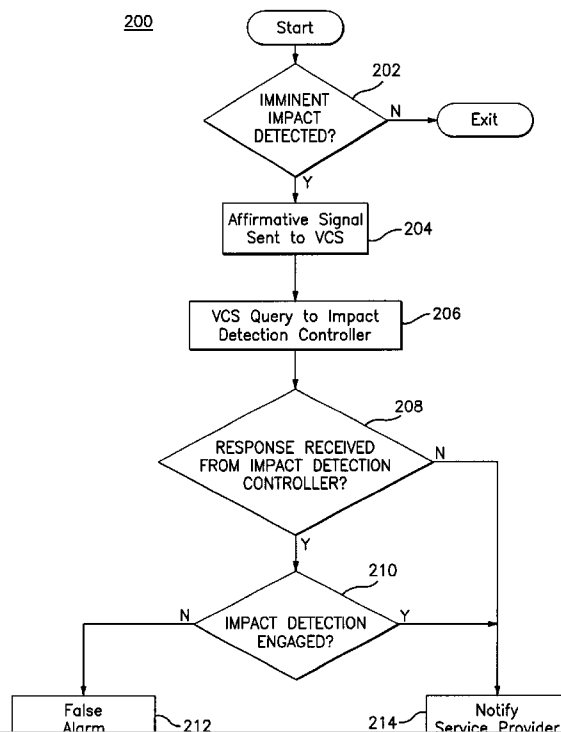
5,574,427 A	*	11/1996	Cavallaro	340/436
5,969,598 A	*	10/1999	Kimura	340/436

(57) **ABSTRACT**

An integrated vehicle communication system for a vehicle includes a telecommunication apparatus in communication with a vehicle data bus. A pre-impact system in also communication with the vehicle data bus, the pre-impact system further providing the telecommunication apparatus with a signal reflective of a determined imminent impact detected thereby. Upon receiving the signal reflective of the determined imminent impact, the telecommunication apparatus initiates a notification to a service provider if the telecommunication apparatus is not in communication with an impact detection system controller in the vehicle.

20 Claims, 4 Drawing Sheets

200



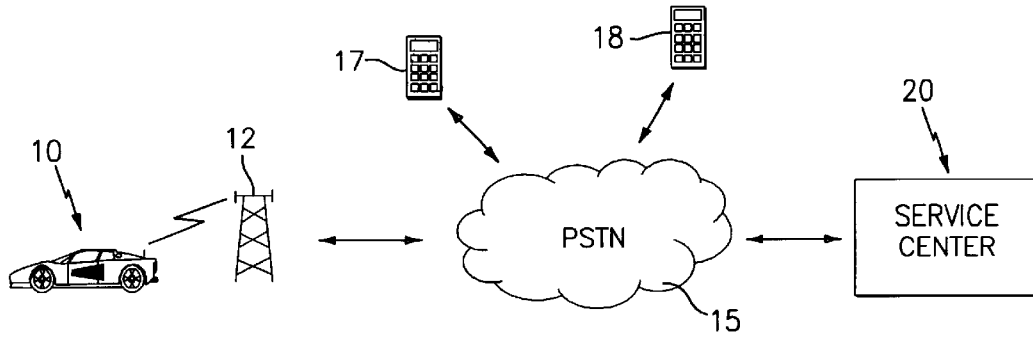


FIG. 1

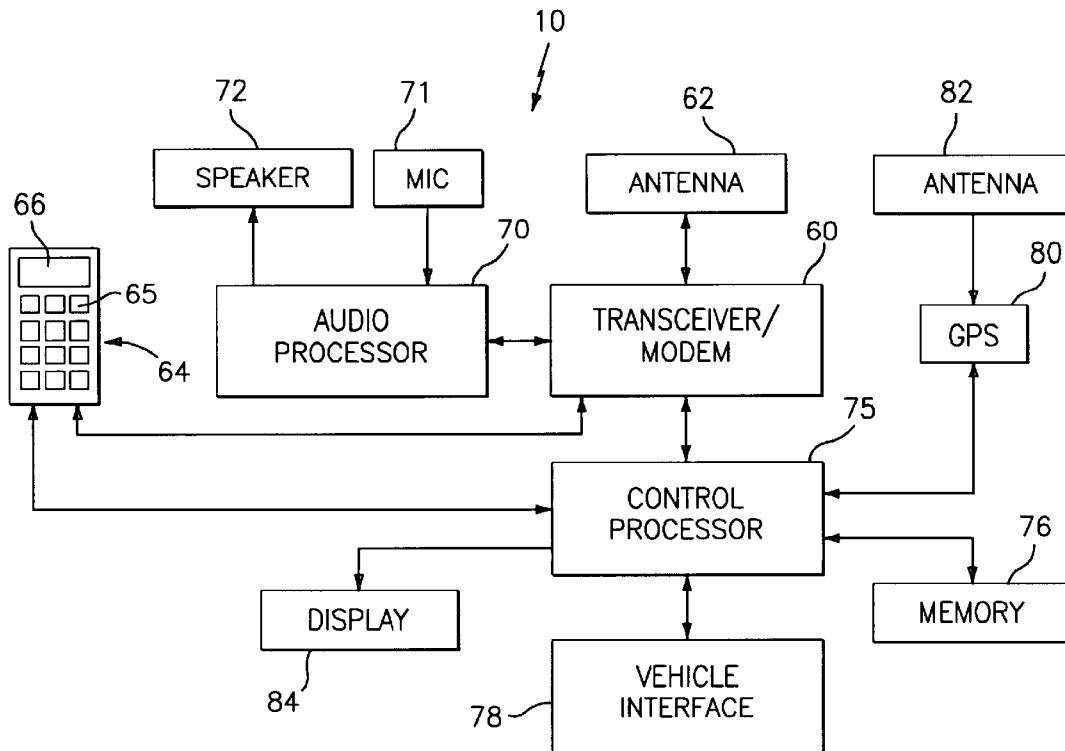


FIG. 2

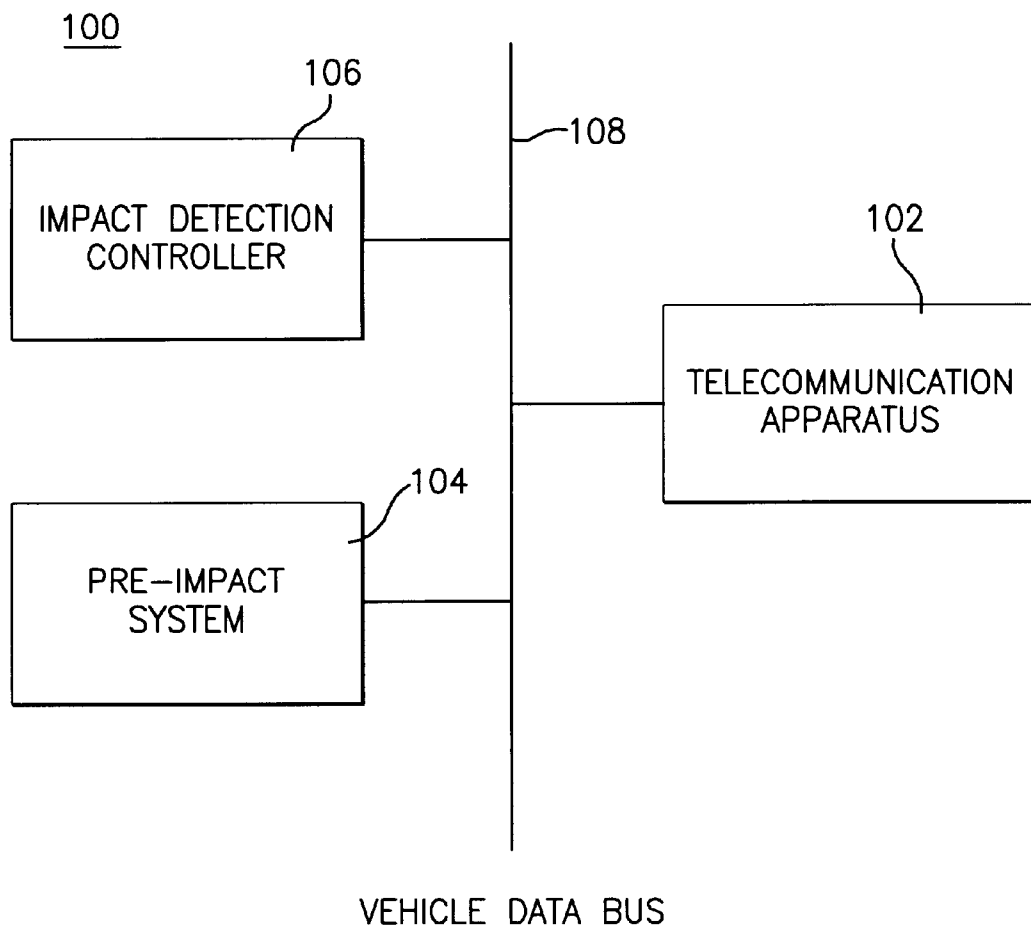


FIG. 3

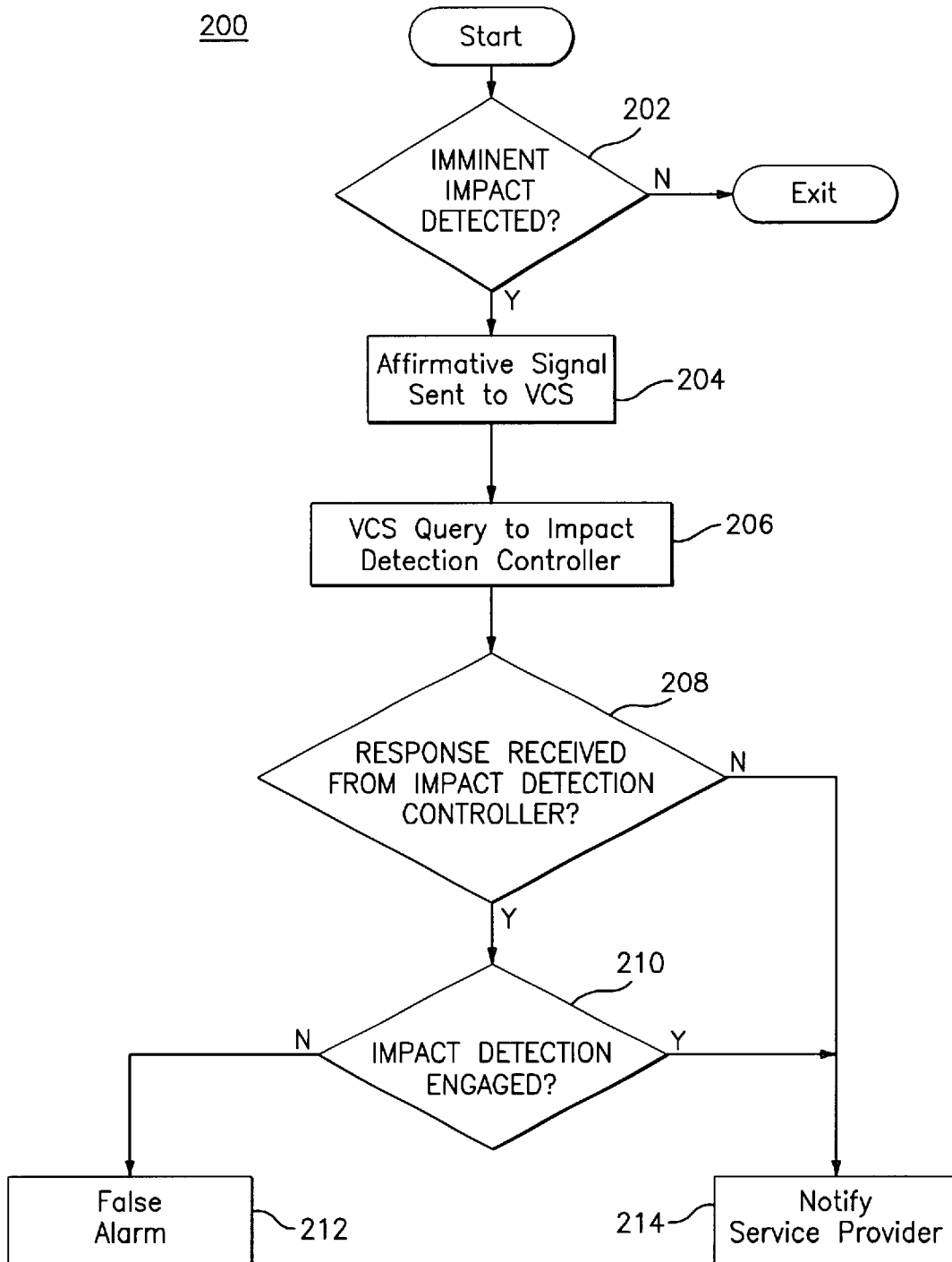


FIG. 4

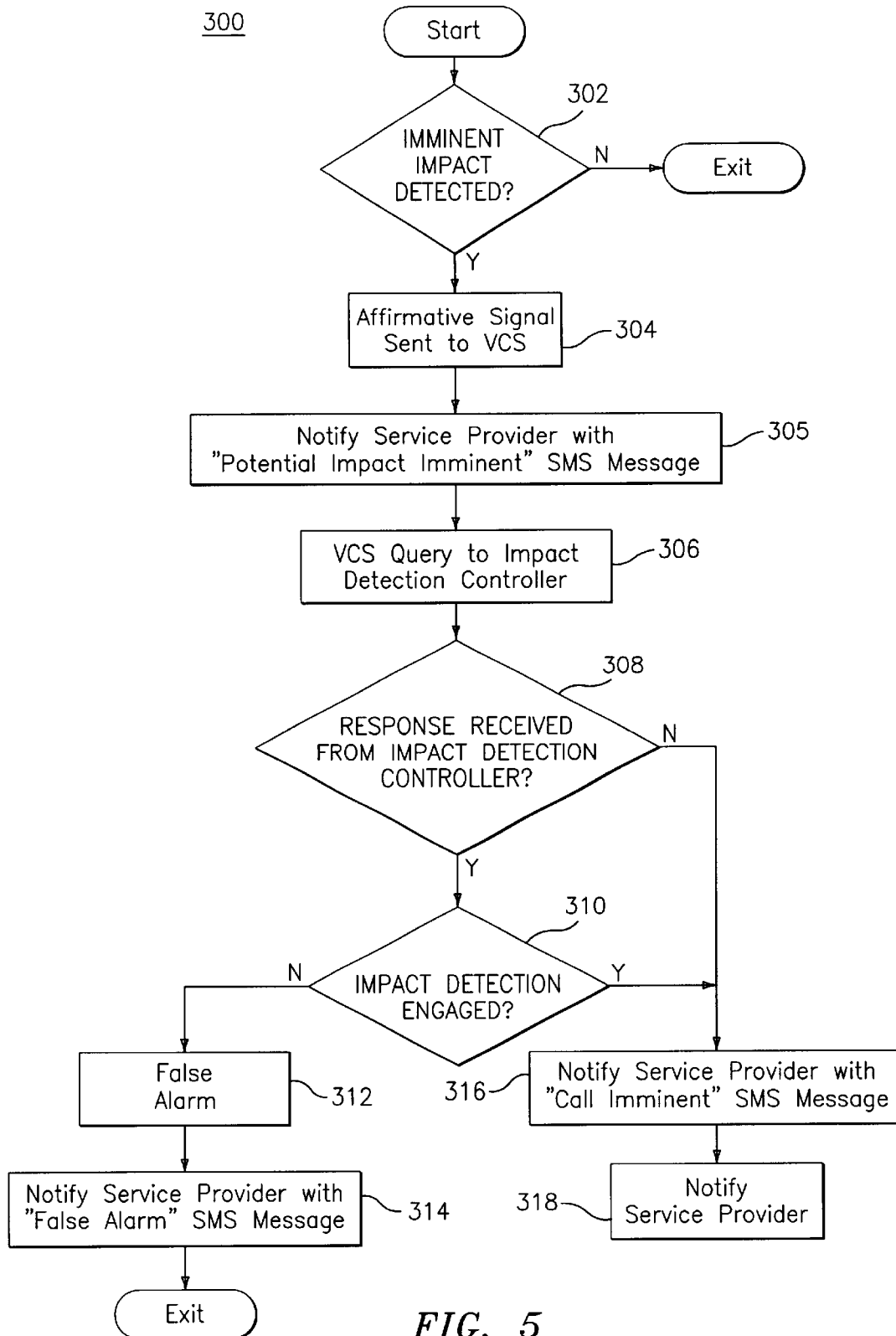


FIG. 5

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.