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(12) **United States Patent**
Nix

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(45) **Date of Patent:** **Jan. 16, 2018**

(54) **METHOD, APPARATUS AND SYSTEM FOR RETROFITTING A VEHICLE**

USPC .. 455/404.1-2, 435.2, 435.3, 521, 445, 466, 455/527, 552.1
See application file for complete search history.

(71) Applicant: **Sucess LLC**, Birmingham, MI (US)

(56) **References Cited**

(72) Inventor: **Axel Nix**, Birmingham, MI (US)

U.S. PATENT DOCUMENTS

(73) Assignee: **Sucess LLC**, Birmingham, MI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

5,572,204	A	11/1996	Timm et al.	
6,028,537	A *	2/2000	Suman	B60K 35/00 340/426.14
6,330,499	B1	12/2001	Chou et al.	
6,493,629	B1	12/2002	Van Bosch	
6,535,743	B1 *	3/2003	Kennedy, III ...	G08G 1/096883 340/988
6,617,979	B2	9/2003	Yoshioka	
6,665,601	B1 *	12/2003	Nielsen	H04L 12/40 701/50
6,690,302	B1	2/2004	Inomata	
6,748,211	B1	6/2004	Isaac et al.	
6,812,832	B2	11/2004	Lobaza et al.	
7,016,656	B2	3/2006	Odashima et al.	
7,129,826	B2	10/2006	Nitz et al.	
7,206,672	B2	4/2007	Mueller	
7,398,082	B2	7/2008	Schwinke et al.	

(21) Appl. No.: **15/482,781**

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(65) **Prior Publication Data**

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Related U.S. Application Data

(63) Continuation of application No. 14/846,811, filed on Sep. 6, 2015, now Pat. No. 9,661,664, which is a continuation of application No. 11/742,574, filed on Apr. 30, 2007, now Pat. No. 9,161,195.

(Continued)

Primary Examiner — Cong Tran

(74) *Attorney, Agent, or Firm* — Smartpat PLC

(51) **Int. Cl.**

H04W 4/22 (2009.01)
H04L 12/40 (2006.01)
B60R 21/01 (2006.01)
B60T 7/12 (2006.01)
G06F 13/42 (2006.01)
B60R 21/00 (2006.01)

(57) **ABSTRACT**

A system, apparatus, and method for retrofitting a vehicle are presented. The method relates to a vehicle with a factory-installed first apparatus which communicates with a factory-installed second apparatus through a vehicle data bus using a first message. The method includes electrically disconnecting the vehicle data bus between the first apparatus and the second apparatus and electrically connecting a retrofit apparatus to the vehicle data bus. The method further includes transmitting a second message from the retrofit apparatus to the first apparatus which is indistinguishable from the first message.

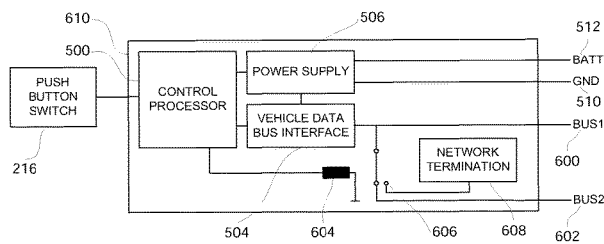
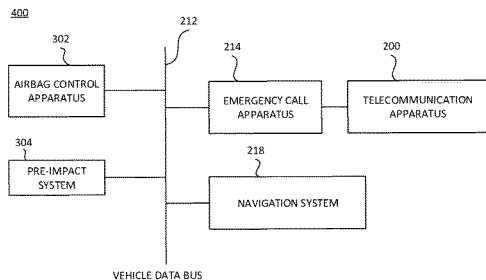
(52) **U.S. Cl.**

CPC **H04L 12/40** (2013.01); **B60R 21/01** (2013.01); **B60T 7/12** (2013.01); **G06F 13/4282** (2013.01); **B60R 2021/0027** (2013.01); **H04L 2012/40215** (2013.01)

(58) **Field of Classification Search**

CPC H04W 76/007; H04W 4/22; H04B 1/3822

19 Claims, 7 Drawing Sheets



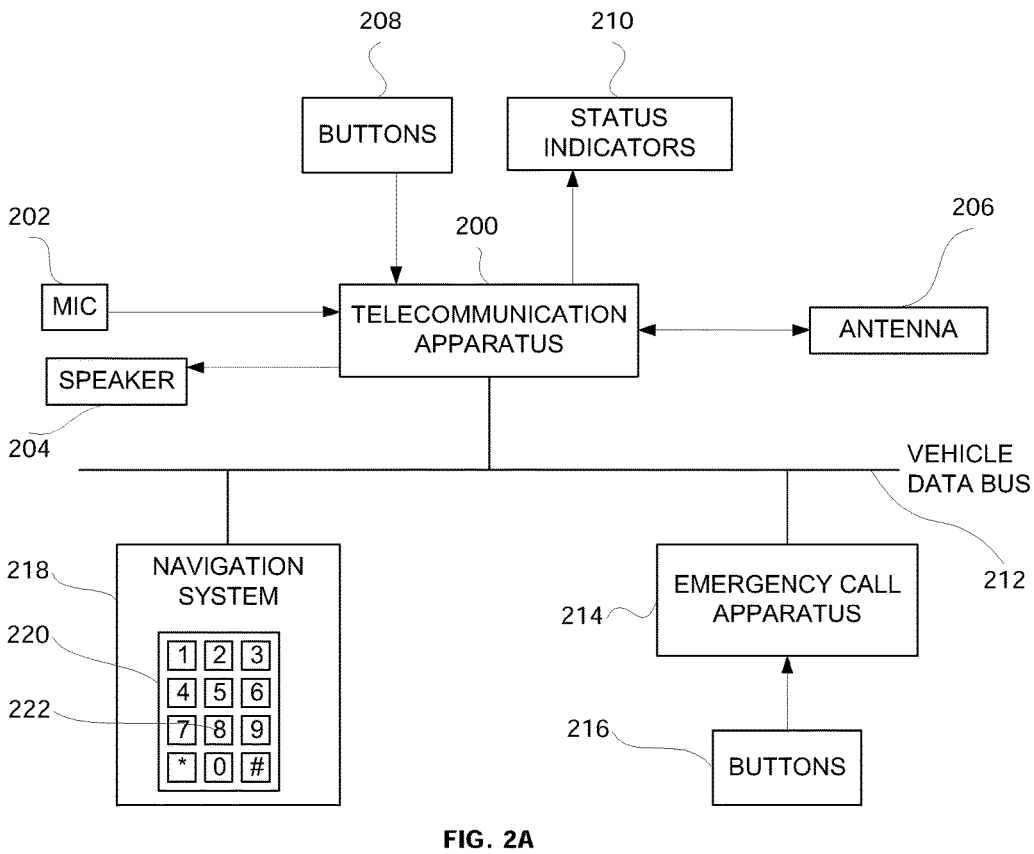
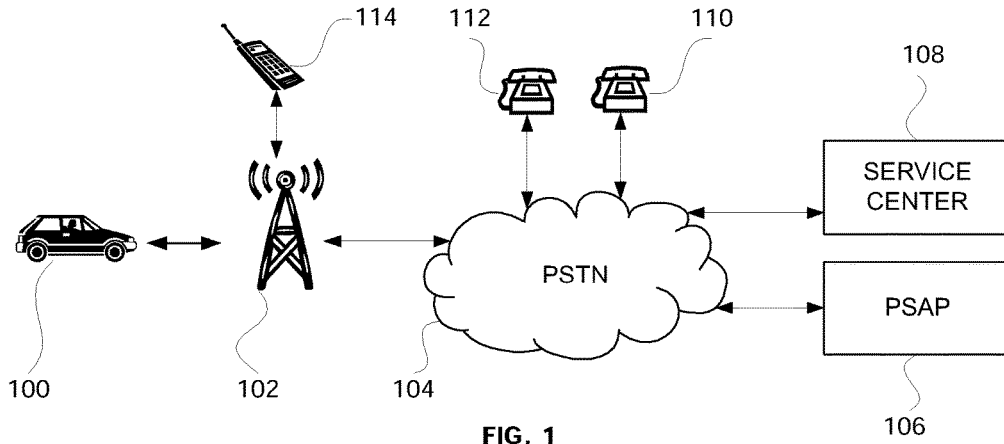
(56)

References Cited

U.S. PATENT DOCUMENTS

2002/0022489 A1* 2/2002 Odashima H04W 88/02
455/456.1
2002/0046285 A1 4/2002 Yasushi et al.
2002/0103622 A1 8/2002 Burge
2002/0115423 A1 8/2002 Hatae et al.
2004/0091085 A1 5/2004 Suganuma et al.
2004/0198466 A1 10/2004 Walby et al.
2004/0233045 A1* 11/2004 Mays B60K 35/00
340/425.5
2004/0260458 A1* 12/2004 Park G01C 21/36
701/428
2006/0017612 A1* 1/2006 Nagatani G01S 5/0027
342/357.64
2006/0136291 A1* 6/2006 Morita G06Q 30/02
705/13
2006/0220806 A1 10/2006 Nguyen
2007/0075919 A1 4/2007 Breed
2007/0086579 A1 4/2007 Lorello et al.
2007/0112476 A1* 5/2007 Obradovich B60R 16/0231
701/1
2007/0174467 A1* 7/2007 Ballou, Jr. H04L 63/0838
709/227
2007/0207772 A1 9/2007 Huber et al.
2007/0298765 A1 12/2007 Dickinson et al.
2008/0093150 A1* 4/2008 Schramm B60R 21/0134
180/274
2008/0143497 A1 6/2008 Wasson et al.
2008/0162042 A1 7/2008 Huber et al.
2013/0159586 A1* 6/2013 Kessler G06F 13/38
710/305

* cited by examiner



BEFORE RETROFIT

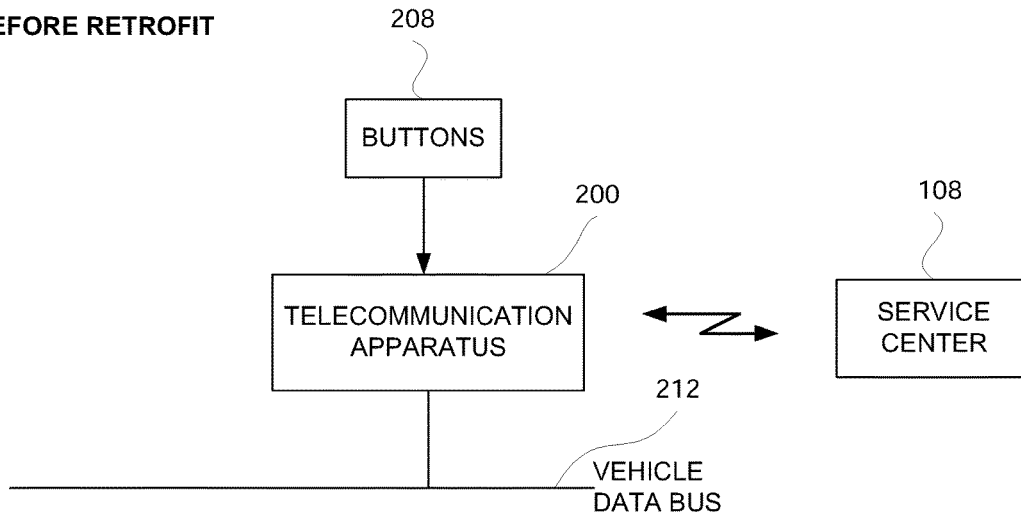


FIG. 2B (PRIOR ART)

AFTER RETROFIT

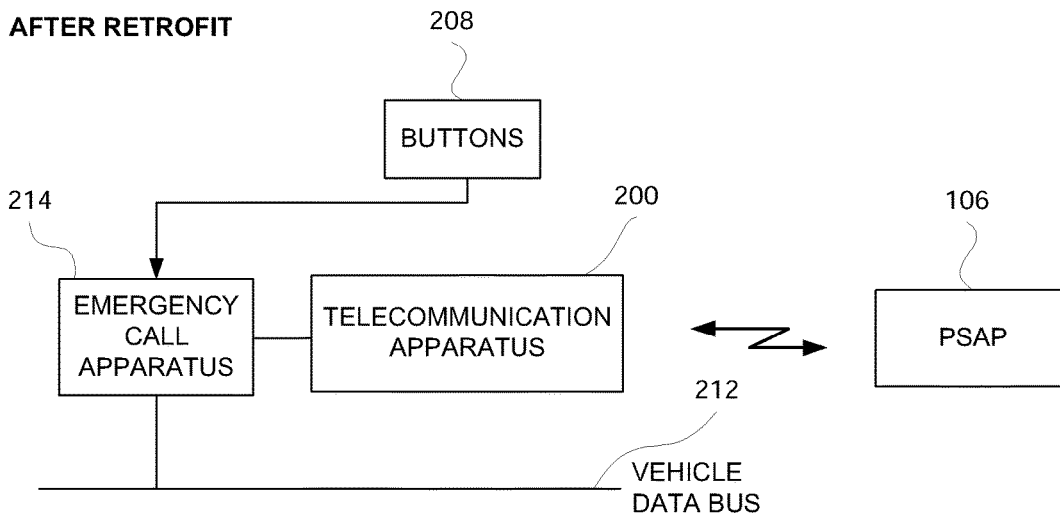


FIG. 2C

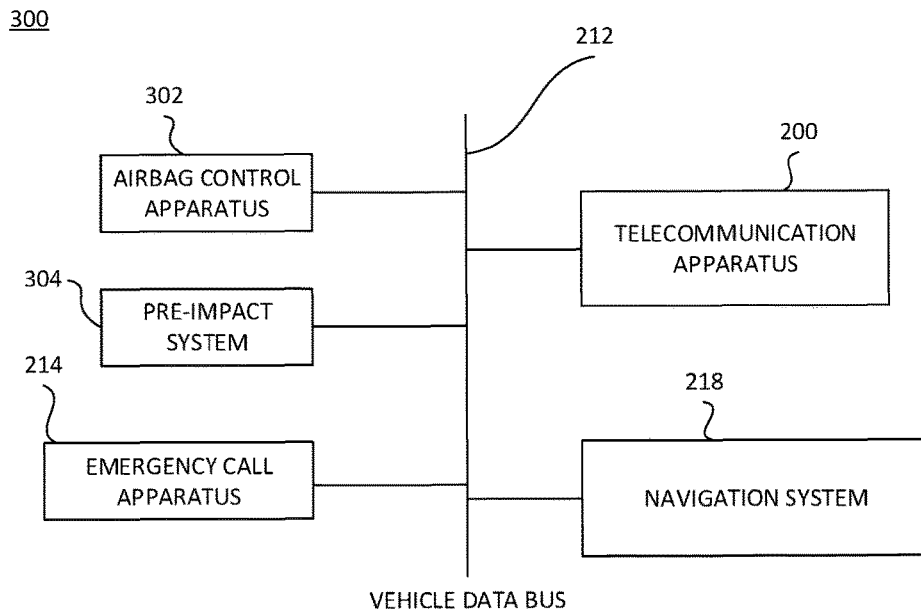


FIG. 3

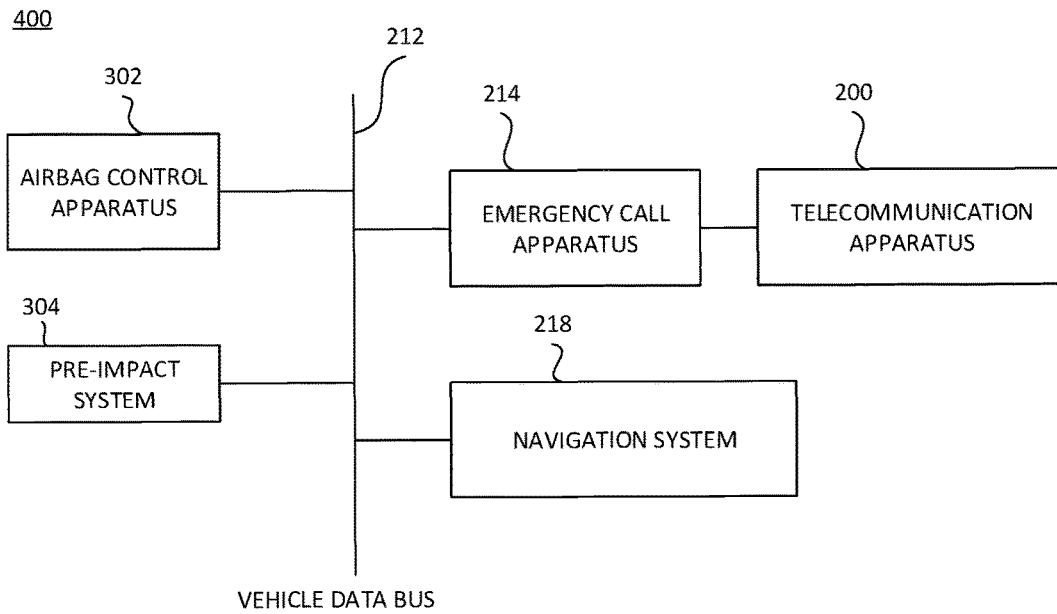


FIG. 4

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