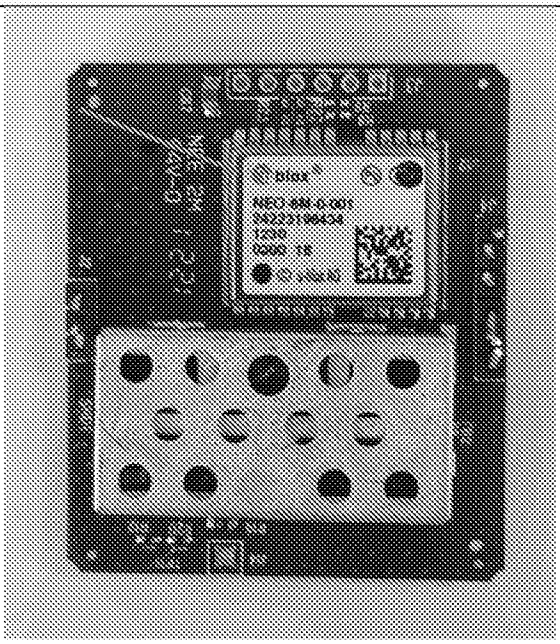
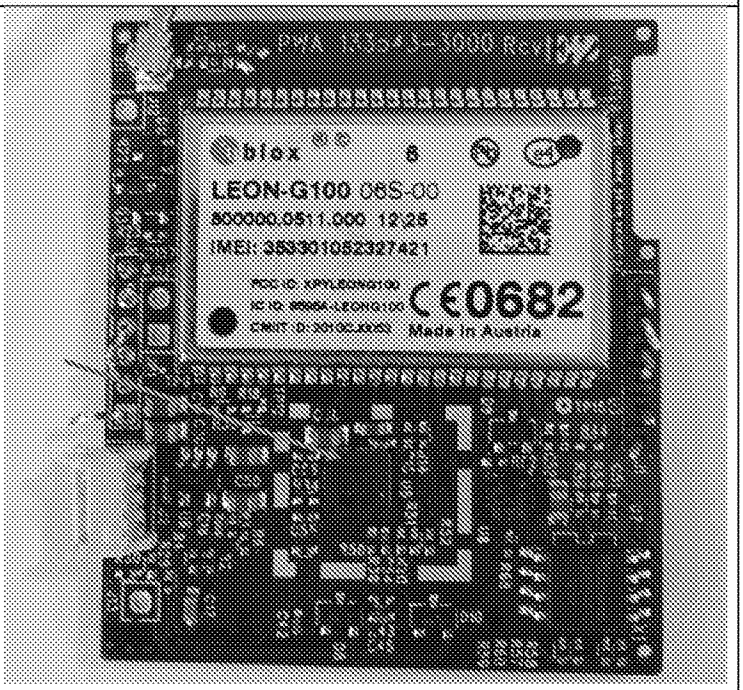
EXHIBIT A-5

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
1. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:	The LMU-3000 is a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.
a vehicle position determining device;	The LMU-3000 includes a vehicle position determining device. The LMU-3000 includes a GPS module.

[5] The LMU-3000 and LMU-3030 are advertised as having the same functionality and features described herein. Thus, references throughout these claim charts to the LMU-3000 are intended to apply equally to the LMU-3030.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
a wireless communications device;	The LMU-3000 includes a wireless communications device. The LMU-3000 includes a cellular module that allows transmission to and reception from a central station.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The LMU-3000 includes a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information.

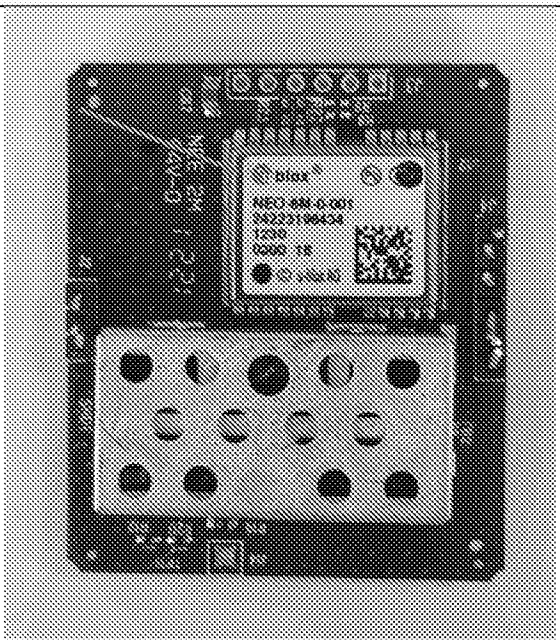
U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for	The LMU-3000 includes a said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles.

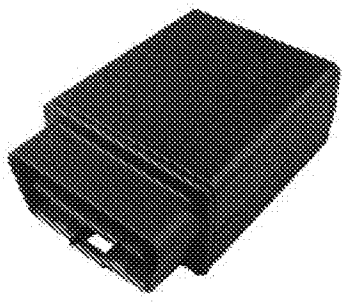
U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
different vehicles; and	The at least one vehicle device is the vehicle's ECM. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message.

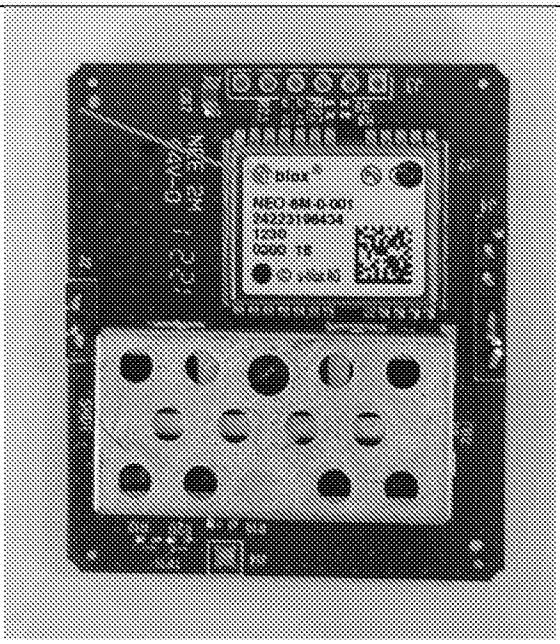
U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.	The LMU-3000 includes a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	The LMU-3000 includes a serial interface that can be used for downloading of enabling data. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download. Calamp provides its users the ability to update the VBUS VehicleDB Type I File and/or the firmware and Vehicle DB Type II Ext File.
2. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface comprises a wired signal downloading interface.	The LMU-3000 includes a wired signal downloading interface. The LMU-3000 includes a serial interface that can be used for downloading enabling data.
3. The multi-vehicle compatible tracking unit according to claim 2 wherein said wired signal downloading interface comprises a connector for temporary connection to a downloading device.	The LMU-3000 includes a wired signal downloading interface comprises a connector for temporary connection to a downloading device. The LMU-3000 includes a serial interface that can be used for downloading enabling data.
4. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface comprises a wireless signal downloading interface.	The LMU-3000 includes a downloading interface comprising a wireless signal downloading interface. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download.
5. The multi-vehicle compatible tracking unit according to claim 4 wherein said wireless signal downloading interface	The LMU-3000 includes a wireless signal downloading interface that comprises a wireless receiver for temporary connection to a downloading

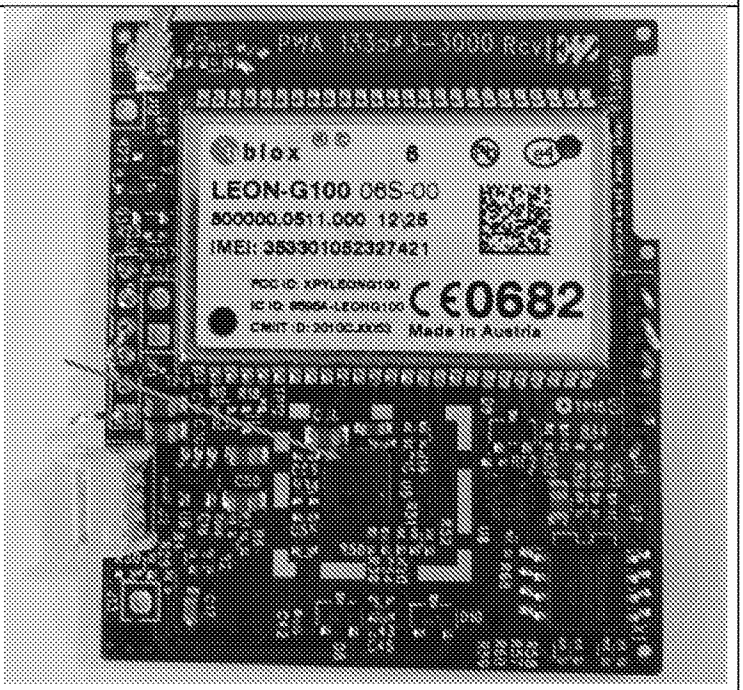
U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
comprises a wireless receiver for temporary connection to a downloading device.	device. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download.
6. The multi-vehicle compatible tracking unit according to claim 1 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	The LMU-3000 is a multi-vehicle compatible tracking unit wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message, which control and direct the at least one vehicle device to send a vehicle code that is read by the LMU-3000.
8. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.	The LMU-3000 includes a downloading interface for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller. The LMU-3000 includes a serial interface that can be used for downloading of enabling data. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download.
11. The multi-vehicle compatible tracking unit according to claim 1 wherein said wireless position determining device comprises a Global Positioning System (GPS) receiver.	The LMU-3000 includes a GPS module.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
12. The multi-vehicle compatible tracking unit according to claim 1 further comprising a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said downloading interface.	The LMU-3000 includes a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said downloading interface.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
13. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	The LMU-3000 is a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.
a vehicle position determining device;	The LMU-3000 includes a vehicle position determining device. The LMU-3000 includes a GPS module.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
a wireless communications device;	The LMU-3000 includes a wireless communications device. The LMU-3000 includes a cellular module that allows transmission to and reception from a central station.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The LMU-3000 includes a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information.

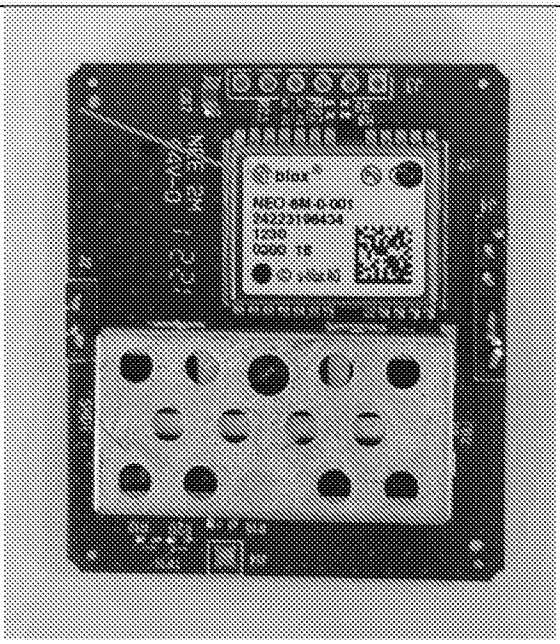
U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for	The LMU-3000 includes a said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
different vehicles; and	The at least one vehicle device is the vehicle's ECM. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	The LMU-3000 includes a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	The LMU-3000 includes a serial interface that can be used for downloading of enabling data. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download. Calamp provides its users the ability to update the VBUS VehicleDB Type I File and/or the firmware and Vehicle DB Type II Ext File.
said downloading interface comprising a connector for temporary connection to a downloading device.	The LMU-3000 includes a downloading interface comprising a connector for temporary connection to a downloading device. The LMU-3000 includes a serial interface that can be used for downloading enabling data. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download.
14. The multi-vehicle compatible tracking unit according to claim 13 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	The LMU-3000 is a multi-vehicle compatible tracking unit wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message, which control and direct the at least one vehicle device to send a vehicle code that is read by the LMU-3000.
16. The multi-vehicle compatible tracking unit according to claim 13 wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.	The LMU-3000 includes a downloading interface for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller. The LMU-3000 includes a serial interface that can be used for downloading of enabling data. The LMU-3000 is also advertised as having automatic, over the air unit configuration on

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	power up, as well as over the air firmware download.
18. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	The LMU-3000 is a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.
a vehicle position determining device;	The LMU-3000 includes a vehicle position determining device. The LMU-3000 includes a GPS module.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
a wireless communications device;	The LMU-3000 includes a wireless communications device. The LMU-3000 includes a cellular module that allows transmission to and reception from a central station.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The LMU-3000 includes a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for	The LMU-3000 includes a said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
different vehicles; and	The at least one vehicle device is the vehicle's ECM. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	The LMU-3000 includes a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	The LMU-3000 includes a serial interface that can be used for downloading of enabling data. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download. Calamp provides its users the ability to update the VBUS VehicleDB Type I File and/or the firmware and Vehicle DB Type II Ext File.
said downloading interface comprising a wireless receiver for temporary connection to a downloading device.	The LMU-3000 includes a downloading interface that comprises a wireless receiver for temporary connection to a downloading device. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download.
19. The multi-vehicle compatible tracking unit according to claim 18 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	The LMU-3000 is a multi-vehicle compatible tracking unit wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message, which control and direct the at least one vehicle device to send a vehicle code that is read by the LMU-3000.
21. The multi-vehicle compatible tracking unit according to claim 18 wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.	The LMU-3000 includes a downloading interface for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller. The LMU-3000 includes a serial interface that can be used for downloading of enabling data. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download.

Exhibit C

Page 677 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
1. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:	The Suman '537 patent discloses a multi-vehicle compatible tracking unit for a vehicle comprising a data bus, such as a multiplex bus. See, e.g., col. 8, line 58-col. 9, line 16; Figs. 3, 5, 44, 45; see also col. 36, line 53-col. 37, line 17. The Suman '537 patent notes that the multiplexing scheme for such a bus is set forth in SAE J1850. In addition to the teachings of the Suman '537 patent, it would have been obvious to one skilled in the art that a tracking unit compatible with an SAE standard bus would be compatible with multiple vehicles.
a vehicle position determining device;	The Suman '537 patent discloses a GPS or DGPS as a vehicle position determining device. See, e.g., Figs. 3, 5.
a wireless communications device;	The Suman '537 patent discloses a transmitter (see e.g., Figs. 1a, 1b, 2; col. 3, lines 1-3; col. 7, lines 26-30) and a receiver (see e.g., Figs. 1b, 3, 44; col. 3, lines 1-3; col. 7, lines 31-34) for wirelessly receiving signals from the transmitter. In one embodiment disclosed in the Suman '537 patent, the receiver is a cell phone (and thus also includes a transmitter) coupled to the vehicle bus. See, e.g., Figs. 5, 45; col. 36, line 53 – col. 37, line 17.
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The Suman '537 patent discloses a controller that cooperates with the GPS device and the wireless communication device to send vehicle position information. See, e.g., col. 2 lines 3-10; see also col. 6, lines 19-49; col. 11, lines 8-13; col. 12, lines 7-13; col. 14, lines 11-21.
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	The Suman '537 patent discloses that the controller is coupled to the vehicle data bus for communication thereover with at least one vehicle device, using a corresponding vehicle device code, from among a plurality of codes for different vehicles. See, e.g., Figs. 3, 5, 44, 45, 47; see also col. 43, lines 27-47 (including sensors and controls for doors, windows, ignition, speedometer, RPMs, fuel level, turn signals, lights, gears, temperature, oil pressure, defroster, headlights, etc.). The Suman '537 patent, col. 37, lines 15 – 17: "The multiplexing scheme is set forth in SAE standard J1850 and is universally used in the automotive industry." It is inherently disclosed that the J1850 bus described in the Suman '537 patent is included in a variety of different makes and models of vehicles per the federally mandated standard. Furthermore, as described in detail below, a J1850 bus implemented according to the SAE standards provides for communicating with at least one vehicle device using at least one corresponding vehicle device code from

OMEGA EXHIBIT 2036

Page 678 of 2498

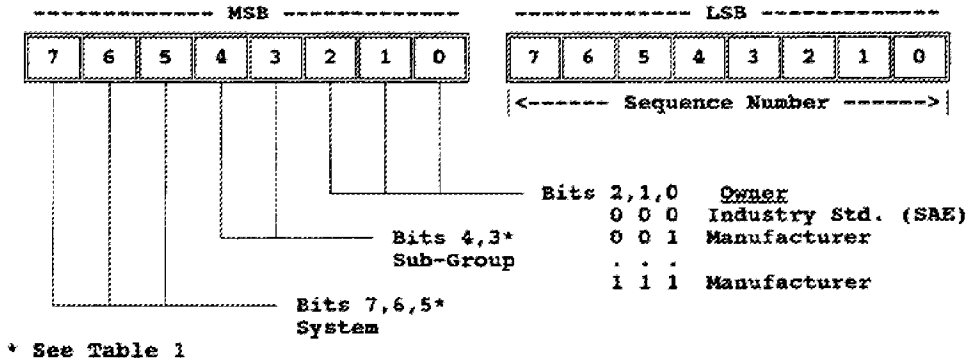
Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	among a plurality thereof for different vehicles, including at least one "SAE" defined device codes and up to seven "Reserved Manufacturer" defined device codes for a particular vehicle device, as described in detail below. In particular, the Society of Automotive Engineers (SAE) is a U.S. based standards organization that publishes the standards for implementing the SAE "J1850 bus" used by the Suman '537 patent to communicate with vehicle devices. Furthermore, the SAE standards provide the implementation details for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996. In particular, the SAE standard for implementation of the J1850 vehicle bus is documented in, among many other available publications, the Society of Automotive Engineers (SAE) HS-3000 Manual (1994 edition), entitled "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (SAE HS-3000 Manual). The SAE HS-3000 Manual sets forth the various standards for communicating with vehicle devices on the vehicle bus, each standard under a particular SAE heading number (e.g., J1850, J2178, among various other standards) related to various aspects of vehicle control systems, including vehicle busses (e.g. SAE J1850, starting on page 91) and communicating, using device codes, with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996 (e.g. SAE J1978 starting on page 33 , SAE J1979 starting on page 46 and SAE J2178/1-2178/2 starting on page 200). The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles, and provides details for hundreds of different device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. In particular, SAE J2178 which starts on page 211 of the SAE HS-3000 Manual and consists of four parts, 1 through 4, defines sets of vehicle device codes, or "messages", for hundreds of different types of vehicle devices. The specific vehicle device code will depend upon whether a particular manufacturer implements the SAE J2178 defined vehicle code or whether a vehicle supports a manufacturer specific vehicle code. Page 156, SAE J1850, Section 4.1 elaborates on the definition of the vehicle codes as follows: "Normal Vehicle

OMEGA EXHIBIT 2036

Page 679 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	Operation (Down the Road) Messages: The messages sent during non-diagnostic operations are called normal vehicle operation messages. These normal vehicle operation messages are used for communication from a transmitter to one or more receivers across this network. The normal operation messages have been developed by the SAE for this communication network and are defined in SAE-J2178. SAE defined messages and the 'Reserved' messages of SAE J2178 shall remain specific to those definitions. In SAE J2178, there is also a set-of 'Reserved-Manufacturer' messages which, if used, will have meanings specific to a vehicle manufacturer but are likely to be different between manufacturers." J2178/1, starting on page 200 of the SAE HS-3000 Manual, includes 10 tables defining vehicle device codes for a large variety of different categories of vehicle devices (the specific device codes are specified in J2178/2). Section 4 of SAE J2178/2 on page 213 specifies the Parameter Reference Number (PRN) Structure utilized within the SAE J2178 messages to use a particular device code from among a plurality thereof for different vehicles, which is illustrated below. Section 4 notes that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

OMEGA EXHIBIT 2036

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.  FIGURE 3—PRN STRUCTURE The first three bits define the system and the next two bits define the sub-group. For each sub-group, three additional bits specify which of eight possible device codes are being used for a particular vehicle device, representing the Industry Std. device code (000) or one of seven manufacturer specific device codes (001-111). Accordingly, the standard specifies at least eight vehicle device codes for each PRN (which include 1 Industry Standard, and 7 manufacturer specific device codes), and thus teaches "using at least one corresponding vehicle device code from among a plurality thereof for different vehicles". Furthermore, SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

Page 681 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.

TABLE 2—SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer specific device codes for that specific type of vehicle device.

Furthermore, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, including the two types of J1850 buses that may be utilized, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978, reproduced below as scanned from the SAE HS-3000 manual, that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. In particular, as many as three device codes may initially be sent, at least two of which will be non-working for the particular vehicle and one of which is a working device code for the vehicle. See page 37, SAE J1978 at 6.5.1. (" While there are three types of communication interfaces that could be used to

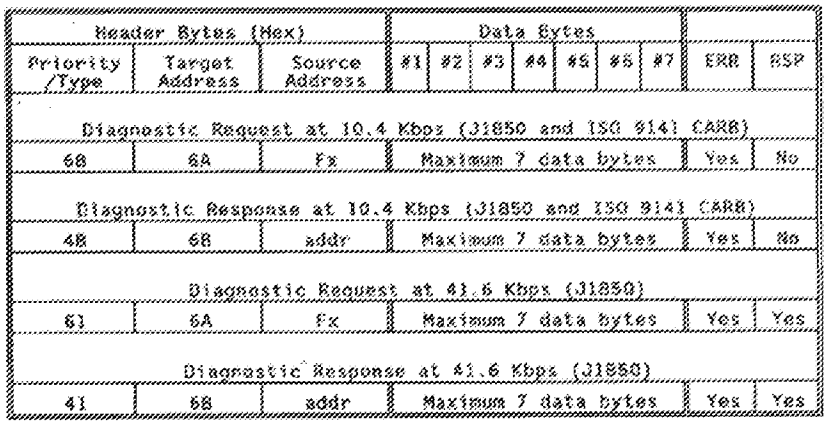
OMEGA EXHIBIT 2036

Page 682 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	access the OBD II functions in a given vehicle (i.e., SAE J1850 41.6 Kbps PWM, SAE J1850 10.4 Kbps VPW and ISO 9141-2), only one is allowed to be used in any one vehicle to access all supported OBD II functions.") a. Test for SAE J1850 41.6 Kbps PWM (1) Step 1—Enable the SAE J1850 41.6 Kbps PWM interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 41.6 Kbps PWM is the type of interface used in a vehicle for OBD II support. b. Test for SAE J1850 10.4 Kbps VPW (1) Step 1—Enable the SAE J1850 10.4 Kbps VPW interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 10.4 Kbps VPW is the type of interface used in a vehicle for OBD II support. c. Test for ISO 9141 CARB (1) Step 1—Enable the ISO 9141-2 interface (2) Step 2—If the initialization sequence defined in ISO 9141-2 is completed successfully, then ISO 9141-2 is the type of interface used in a vehicle for OBD II support. The previous tests may be performed in any order and where possible may be performed in parallel. The mode 1 PID 0 request and response messages are defined in SAE J1979. SAE J1978 indicates that the "mode 1 PID 0" request and response messages are defined in SAE J1979, which starts on page 46 of the SAE HS-3000 Manual. See page 37, SAE J1978, Section 6.5.2., "Initialization Details". Requester further notes that transmission of the mode 1 PID 0 device code has previously been asserted as satisfying this requirement of the claim. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45. SAE J1979, starting on page 46, elaborates on the device codes that are used by the controller during bus detection, including the different device codes utilized by vehicles that employ a 10.4 Kbps interface (i.e., a first device code that includes 686A (hex) in the header of the request message) and vehicles that employ a 41.6 Kbps interface (i.e. a second device code that includes

OMEGA EXHIBIT 2036

Page 683 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	616A (hex) in the header of the request message). See e.g., FIGURE 1 on page 51, reproduced below, of SAE J1979.  FIGURE 1—DIAGNOSTIC MESSAGE FORMAT
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.	The Suman '537 patent, col. 36, lines 31-52: "To achieve these aspects and other advantages, the vehicle accessory control system of the present invention includes a plurality of electrically-operated vehicle accessories, a receiver to be mounted in a vehicle for receiving RF signals from a land-based transmitter, and a control circuit coupled to the receiver and to the vehicle accessories for controlling the operation of the vehicle accessories in accordance with a control program. The RF signals include an address uniquely identifying the vehicle and a reprogramming signal for reprogramming the operation of at least one of the vehicle accessories. The control circuit includes an input interface for receiving information regarding a plurality of sensed conditions, control means for controlling the operation of the vehicle accessories in accordance with the control program and in response to sensed conditions received from the input interface. The control circuit further includes reprogramming means for selectively reprogramming the control program in response to the detection of an RF signal including an address identifying the vehicle and the reprogramming signal, to selectively change the manner in which the control means controls the operation of at least one of the vehicle accessories."

OMEGA EXHIBIT 2036

Page 684 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
13. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	The Suman '537 patent discloses a multi-vehicle compatible tracking unit for a vehicle comprising a data bus, such as a multiplex bus. See, e.g., col. 8, line 58-col. 9, line 16; Figs. 3, 5, 44, 45; see also col. 36, line 53-col. 37, line 17. The Suman '537 patent notes that the multiplexing scheme for such a bus is set forth in SAE J1850. In addition to the teachings of the Suman '537 patent, it would have been obvious to one skilled in the art that a tracking unit compatible with an SAE standard bus would be compatible with multiple vehicles.
a vehicle position determining device;	The Suman '537 patent discloses a GPS or DGPS as a vehicle position determining device. See, e.g., Figs. 3, 5.
a wireless communications device;	The Suman '537 patent discloses a transmitter (see e.g., Figs. 1a, 1b, 2; col. 3, lines 1-3; col. 7, lines 26-30) and a receiver (see e.g., Figs. 1b, 3, 44; col. 3, lines 1-3; col. 7, lines 31-34) for wirelessly receiving signals from the transmitter. In one embodiment disclosed in the Suman '537 patent, the receiver is a cell phone (and thus also includes a transmitter) coupled to the vehicle bus. See, e.g., Figs. 5, 45; col. 36, line 53 – col. 37, line 17.
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The Suman '537 patent discloses a controller that cooperates with the GPS device and the wireless communication device to send vehicle position information. See, e.g., col. 2 lines 3-10; see also col. 6, lines 19-49; col. 11, lines 8-13; col. 12, lines 7-13; col. 14, lines 11-21.
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles;	The Suman '537 patent discloses that the controller is coupled to the vehicle data bus for communication thereover with at least one vehicle device, using a corresponding vehicle device code, from among a plurality of codes for different vehicles. See, e.g., Figs. 3, 5, 44, 45, 47; see also col. 43, lines 27-47 (including sensors and controls for doors, windows, ignition, speedometer, RPMs, fuel level, turn signals, lights, gears, temperature, oil pressure, defroster, headlights, etc.). The Suman '537 patent, col. 37, lines 15 – 17: "The multiplexing scheme is set forth in SAE standard J1850 and is universally used in the automotive industry." It is inherently disclosed that the J1850 bus described in the Suman '537 patent is included in a variety of different makes and models of vehicles per the federally mandated standard. Furthermore, as described in detail below, a J1850 bus implemented according to the SAE standards provides for communicating with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles, including at least one "SAE" defined device

OMEGA EXHIBIT 2036

Page 685 of 2498

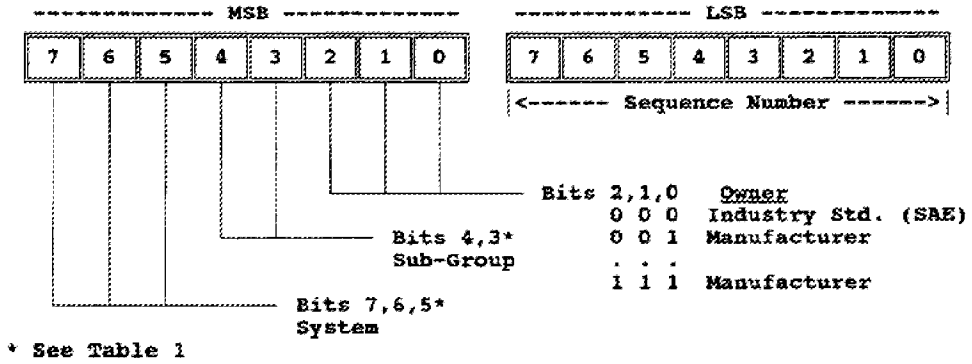
Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	codes and up to seven "Reserved Manufacturer" defined device codes for a particular vehicle device, as described in detail below. In particular, the Society of Automotive Engineers (SAE) is a U.S. based standards organization that publishes the standards for implementing the SAE "J1850 bus" used by the Suman '537 patent to communicate with vehicle devices. Furthermore, the SAE standards provide the implementation details for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996. In particular, the SAE standard for implementation of the J1850 vehicle bus is documented in, among many other available publications, the Society of Automotive Engineers (SAE) HS-3000 Manual (1994 edition), entitled "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (SAE HS-3000 Manual). The SAE HS-3000 Manual sets forth the various standards for communicating with vehicle devices on the vehicle bus, each standard under a particular SAE heading number (e.g., J1850, J2178, among various other standards) related to various aspects of vehicle control systems, including vehicle busses (e.g. SAE J1850, starting on page 91) and communicating, using device codes, with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996 (e.g. SAE J1978 starting on page 33 , SAE J1979 starting on page 46 and SAE J2178/1-2178/2 starting on page 200). The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles, and provides details for hundreds of different device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. In particular, SAE J2178 which starts on page 211 of the SAE HS-3000 Manual and consists of four parts, 1 through 4, defines sets of vehicle device codes, or "messages", for hundreds of different types of vehicle devices. The specific vehicle device code will depend upon whether a particular manufacturer implements the SAE J2178 defined vehicle code or whether a vehicle supports a manufacturer specific vehicle code. Page 156, SAE J1850, Section 4.1 elaborates on the definition of the vehicle codes as follows: "Normal Vehicle Operation (Down the Road) Messages: The messages sent during non-diagnostic operations are

OMEGA EXHIBIT 2036

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	called normal vehicle operation messages. These normal vehicle operation messages are used for communication from a transmitter to one or more receivers across this network. The normal operation messages have been developed by the SAE for this communication network and are defined in SAE-J2178. SAE defined messages and the 'Reserved' messages of SAE J2178 shall remain specific to those definitions. In SAE J2178, there is also a set-of 'Reserved-Manufacturer' messages which, if used, will have meanings specific to a vehicle manufacturer but are likely to be different between manufacturers." J2178/1, starting on page 200 of the SAE HS-3000 Manual, includes 10 tables defining vehicle device codes for a large variety of different categories of vehicle devices (the specific device codes are specified in J2178/2). Section 4 of SAE J2178/2 on page 213 specifies the Parameter Reference Number (PRN) Structure utilized within the SAE J2178 messages to use a particular device code from among a plurality thereof for different vehicles, which is illustrated below. Section 4 notes that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

OMEGA EXHIBIT 2036

Page 687 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.  FIGURE 3—PRN STRUCTURE The first three bits define the system and the next two bits define the sub-group. For each sub-group, three additional bits specify which of eight possible device codes are being used for a particular vehicle device, representing the Industry Std. device code (000) or one of seven manufacturer specific device codes (001-111). Accordingly, the standard specifies at least eight vehicle device codes for each PRN (which include 1 Industry Standard, and 7 manufacturer specific device codes), and thus teaches "using at least one corresponding vehicle device code from among a plurality thereof for different vehicles". Furthermore, SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

OMEGA EXHIBIT 2036

Page 688 of 2498

OMEGA EXHIBIT 2036

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.

TABLE 2—SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer specific device codes for that specific type of vehicle device.

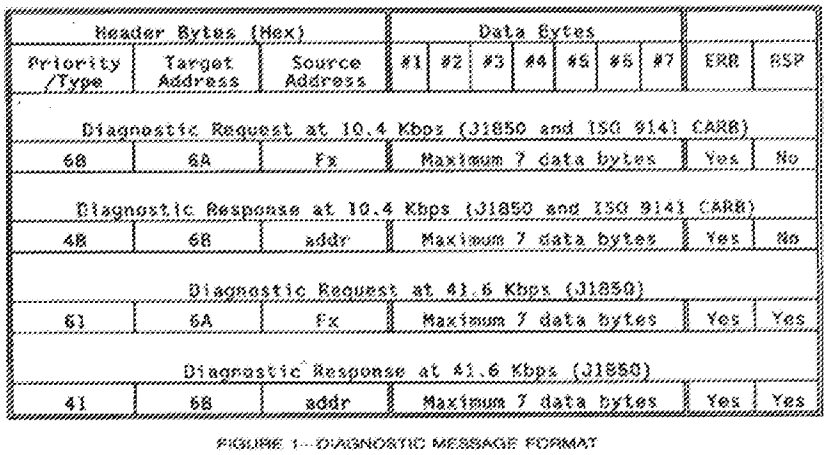
Furthermore, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, including the two types of J1850 buses that may be utilized, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978, reproduced below as scanned from the SAE HS-3000 manual, that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. In particular, as many as three device codes may initially be sent, at least two of which will be non-working for the particular vehicle and one of which is a working device code for the vehicle. See page 37, SAE J1978 at 6.5.1. (" While there are three types of communication interfaces that could be used to

Page 689 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	access the OBD II functions in a given vehicle (i.e., SAE J1850 41.6 Kbps PWM, SAE J1850 10.4 Kbps VPW and ISO 9141-2), only one is allowed to be used in any one vehicle to access all supported OBD II functions.") a. Test for SAE J1850 41.6 Kbps PWM (1) Step 1—Enable the SAE J1850 41.6 Kbps PWM interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 41.6 Kbps PWM is the type of interface used in a vehicle for OBD II support. b. Test for SAE J1850 10.4 Kbps VPW (1) Step 1—Enable the SAE J1850 10.4 Kbps VPW interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 10.4 Kbps VPW is the type of interface used in a vehicle for OBD II support. c. Test for ISO 9141 CARB (1) Step 1—Enable the ISO 9141-2 interface (2) Step 2—If the initialization sequence defined in ISO 9141-2 is completed successfully, then ISO 9141-2 is the type of interface used in a vehicle for OBD II support. The previous tests may be performed in any order and where possible may be performed in parallel. The mode 1 PID 0 request and response messages are defined in SAE J1979. SAE J1978 indicates that the "mode 1 PID 0" request and response messages are defined in SAE J1979, which starts on page 46 of the SAE HS-3000 Manual. See page 37, SAE J1978, Section 6.5.2., "Initialization Details". Requester further notes that transmission of the mode 1 PID 0 device code has previously been asserted as satisfying this requirement of the claim. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45. SAE J1979, starting on page 46, elaborates on the device codes that are used by the controller during bus detection, including the different device codes utilized by vehicles that employ a 10.4 Kbps interface (i.e., a first device code that includes 686A (hex) in the header of the request message) and vehicles that employ a 41.6 Kbps interface (i.e. a second device code that includes

OMEGA EXHIBIT 2036

Page 690 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	616A (hex) in the header of the request message). See e.g., FIGURE 1 on page 51, reproduced below, of SAE J1979.  FIGURE 1—DIAGNOSTIC MESSAGE FORMAT
and a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	the Suman '537 patent, col. 36, lines 31-52: "To achieve these aspects and other advantages, the vehicle accessory control system of the present invention includes a plurality of electrically-operated vehicle accessories, a receiver to be mounted in a vehicle for receiving RF signals from a land-based transmitter, and a control circuit coupled to the receiver and to the vehicle accessories for controlling the operation of the vehicle accessories in accordance with a control program. The RF signals include an address uniquely identifying the vehicle and a reprogramming signal for reprogramming the operation of at least one of the vehicle accessories. The control circuit includes an input interface for receiving information regarding a plurality of sensed conditions, control means for controlling the operation of the vehicle accessories in accordance with the control program and in response to sensed conditions received from the input interface. The control circuit further includes reprogramming means for selectively reprogramming the control program in response to the detection of an RF signal

OMEGA EXHIBIT 2036

Page 691 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	including an address identifying the vehicle and the reprogramming signal, to selectively change the manner in which the control means controls the operation of at least one of the vehicle accessories."
said downloading interface comprising a connector for temporary connection to a downloading device.	It is inherently disclosed that a cellular telephone connected to a RS-232 serial port can be connected and disconnected.
18. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	The Suman '537 patent discloses a multi-vehicle compatible tracking unit for a vehicle comprising a data bus, such as a multiplex bus. See, e.g., col. 8, line 58-col. 9, line 16; Figs. 3, 5, 44, 45; see also col. 36, line 53-col. 37, line 17. The Suman '537 patent notes that the multiplexing scheme for such a bus is set forth in SAE J1850. In addition to the teachings of the Suman '537 patent, it would have been obvious to one skilled in the art that a tracking unit compatible with an SAE standard bus would be compatible with multiple vehicles.
a vehicle position determining device;	The Suman '537 patent discloses a GPS or DGPS as a vehicle position determining device. See, e.g., Figs. 3, 5.
a wireless communications device;	The Suman '537 patent discloses a transmitter (see e.g., Figs. 1a, 1b, 2; col. 3, lines 1-3; col. 7, lines 26-30) and a receiver (see e.g., Figs. 1b, 3, 44; col. 3, lines 1-3; col. 7, lines 31-34) for wirelessly receiving signals from the transmitter. In one embodiment disclosed in the Suman '537 patent, the receiver is a cell phone (and thus also includes a transmitter) coupled to the vehicle bus. See, e.g., Figs. 5, 45; col. 36, line 53 – col. 37, line 17.
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The Suman '537 patent discloses a controller that cooperates with the GPS device and the wireless communication device to send vehicle position information. See, e.g., col. 2 lines 3-10; see also col. 6, lines 19-49; col. 11, lines 8-13; col. 12, lines 7-13; col. 14, lines 11-21.
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different	The Suman '537 patent discloses that the controller is coupled to the vehicle data bus for communication thereover with at least one vehicle device, using a corresponding vehicle device code, from among a plurality of codes for different vehicles. See, e.g., Figs. 3, 5, 44, 45, 47; see also col. 43, lines 27-47 (including sensors and controls for doors, windows, ignition, speedometer, RPMs, fuel level, turn signals, lights, gears, temperature, oil pressure, defroster, headlights, etc.).

OMEGA EXHIBIT 2036

Page 692 of 2498

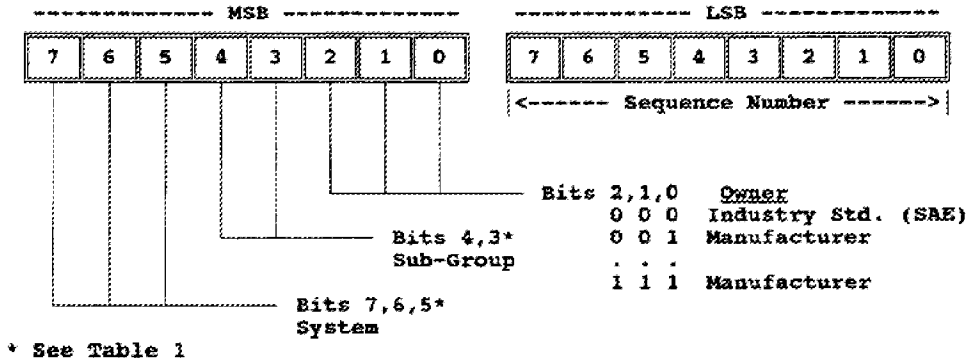
Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
vehicles; and	The Suman '537 patent, col. 37, lines 15 – 17: "The multiplexing scheme is set forth in SAE standard J1850 and is universally used in the automotive industry." It is inherently disclosed that the J1850 bus described in the Suman '537 patent is included in a variety of different makes and models of vehicles per the federally mandated standard. Furthermore, as described in detail below, a J1850 bus implemented according to the SAE standards provides for communicating with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles, including at least one "SAE" defined device codes and up to seven "Reserved Manufacturer" defined device codes for a particular vehicle device, as described in detail below. In particular, the Society of Automotive Engineers (SAE) is a U.S. based standards organization that publishes the standards for implementing the SAE "J1850 bus" used by the Suman '537 patent to communicate with vehicle devices. Furthermore, the SAE standards provide the implementation details for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996. In particular, the SAE standard for implementation of the J1850 vehicle bus is documented in, among many other available publications, the Society of Automotive Engineers (SAE) HS-3000 Manual (1994 edition), entitled "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (SAE HS-3000 Manual). The SAE HS-3000 Manual sets forth the various standards for communicating with vehicle devices on the vehicle bus, each standard under a particular SAE heading number (e.g., J1850, J2178, among various other standards) related to various aspects of vehicle control systems, including vehicle busses (e.g. SAE J1850, starting on page 91) and communicating, using device codes, with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996 (e.g. SAE J1978 starting on page 33 , SAE J1979 starting on page 46 and SAE J2178/1-2178/2 starting on page 200). The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles, and provides details for hundreds of different

OMEGA EXHIBIT 2036

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. In particular, SAE J2178 which starts on page 211 of the SAE HS-3000 Manual and consists of four parts, 1 through 4, defines sets of vehicle device codes, or "messages", for hundreds of different types of vehicle devices. The specific vehicle device code will depend upon whether a particular manufacturer implements the SAE J2178 defined vehicle code or whether a vehicle supports a manufacturer specific vehicle code. Page 156, SAE J1850, Section 4.1 elaborates on the definition of the vehicle codes as follows: "Normal Vehicle Operation (Down the Road) Messages: The messages sent during non-diagnostic operations are called normal vehicle operation messages. These normal vehicle operation messages are used for communication from a transmitter to one or more receivers across this network. The normal operation messages have been developed by the SAE for this communication network and are defined in SAE-J2178. SAE defined messages and the 'Reserved' messages of SAE J2178 shall remain specific to those definitions. In SAE J2178, there is also a set-of 'Reserved-Manufacturer' messages which, if used, will have meanings specific to a vehicle manufacturer but are likely to be different between manufacturers." J2178/1, starting on page 200 of the SAE HS-3000 Manual, includes 10 tables defining vehicle device codes for a large variety of different categories of vehicle devices (the specific device codes are specified in J2178/2). Section 4 of SAE J2178/2 on page 213 specifies the Parameter Reference Number (PRN) Structure utilized within the SAE J2178 messages to use a particular device code from among a plurality thereof for different vehicles, which is illustrated below. Section 4 notes that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

Page 693 of 2498 OMEGA EXHIBIT 2036

Page 694 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.  FIGURE 3—PRN STRUCTURE The first three bits define the system and the next two bits define the sub-group. For each sub-group, three additional bits specify which of eight possible device codes are being used for a particular vehicle device, representing the Industry Std. device code (000) or one of seven manufacturer specific device codes (001-111). Accordingly, the standard specifies at least eight vehicle device codes for each PRN (which include 1 Industry Standard, and 7 manufacturer specific device codes), and thus teaches "using at least one corresponding vehicle device code from among a plurality thereof for different vehicles". Furthermore, SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

OMEGA EXHIBIT 2036

Page 695 of 2498

OMEGA EXHIBIT 2036

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.

TABLE 2—SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer specific device codes for that specific type of vehicle device.

Furthermore, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, including the two types of J1850 buses that may be utilized, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978, reproduced below as scanned from the SAE HS-3000 manual, that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. In particular, as many as three device codes may initially be sent, at least two of which will be non-working for the particular vehicle and one of which is a working device code for the vehicle. See page 37, SAE J1978 at 6.5.1. (" While there are three types of communication interfaces that could be used to

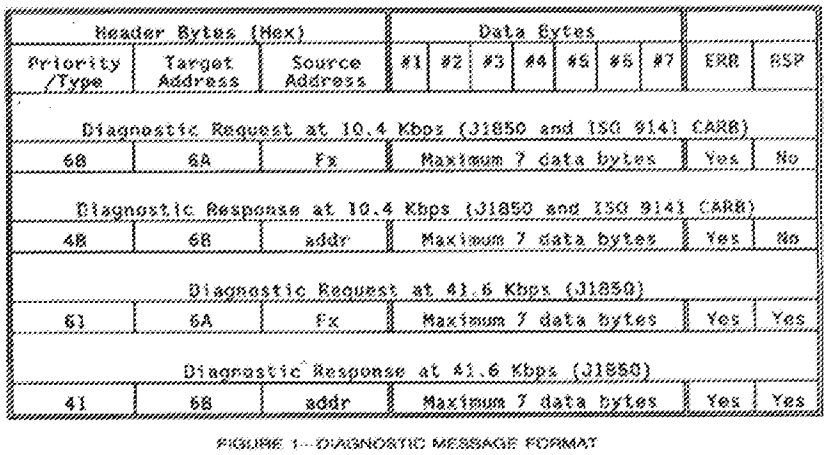
Page 696 of 2498

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	access the OBD II functions in a given vehicle (i.e., SAE J1850 41.6 Kbps PWM, SAE J1850 10.4 Kbps VPW and ISO 9141-2), only one is allowed to be used in any one vehicle to access all supported OBD II functions.") a. Test for SAE J1850 41.6 Kbps PWM (1) Step 1—Enable the SAE J1850 41.6 Kbps PWM interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 41.6 Kbps PWM is the type of interface used in a vehicle for OBD II support. b. Test for SAE J1850 10.4 Kbps VPW (1) Step 1—Enable the SAE J1850 10.4 Kbps VPW interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 10.4 Kbps VPW is the type of interface used in a vehicle for OBD II support. c. Test for ISO 9141 CARB (1) Step 1—Enable the ISO 9141-2 interface (2) Step 2—If the initialization sequence defined in ISO 9141-2 is completed successfully, then ISO 9141-2 is the type of interface used in a vehicle for OBD II support. The previous tests may be performed in any order and where possible may be performed in parallel. The mode 1 PID 0 request and response messages are defined in SAE J1979. SAE J1978 indicates that the "mode 1 PID 0" request and response messages are defined in SAE J1979, which starts on page 46 of the SAE HS-3000 Manual. See page 37, SAE J1978, Section 6.5.2., "Initialization Details". Requester further notes that transmission of the mode 1 PID 0 device code has previously been asserted as satisfying this requirement of the claim. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45. SAE J1979, starting on page 46, elaborates on the device codes that are used by the controller during bus detection, including the different device codes utilized by vehicles that employ a 10.4 Kbps interface (i.e., a first device code that includes 686A (hex) in the header of the request message) and vehicles that employ a 41.6 Kbps interface (i.e. a second device code that includes

OMEGA EXHIBIT 2036

Page 697 of 2498

OMEGA EXHIBIT 2036

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
	616A (hex) in the header of the request message). See e.g., FIGURE 1 on page 51, reproduced below, of SAE J1979.  FIGURE 1—DIAGNOSTIC MESSAGE FORMAT
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	the Suman '537 patent, col. 36, lines 31-52: "To achieve these aspects and other advantages, the vehicle accessory control system of the present invention includes a plurality of electrically-operated vehicle accessories, a receiver to be mounted in a vehicle for receiving RF signals from a land-based transmitter, and a control circuit coupled to the receiver and to the vehicle accessories for controlling the operation of the vehicle accessories in accordance with a control program. The RF signals include an address uniquely identifying the vehicle and a reprogramming signal for reprogramming the operation of at least one of the vehicle accessories. The control circuit includes an input interface for receiving information regarding a plurality of sensed conditions, control means for controlling the operation of the vehicle accessories in accordance with the control program and in response to sensed conditions received from the input interface. The control circuit further includes reprogramming means for selectively reprogramming the control program in response to the detection of an RF signal including an address identifying the vehicle and the reprogramming signal, to selectively change the manner in which the control means controls the operation of at least one of the vehicle accessories."

Flick '278 Claims	PRIOR ART – U.S. Pat. No. 6,028,537 to Suman et al.
said downloading interface comprising a wireless receiver for temporary connection to a downloading device.	See above. The receiver receiving RF signals is a wireless receiver. It is inherently disclosed that wireless communications include a temporary connection.

Page 698 of 2498

OMEGA EXHIBIT 2036

Exhibit D

Page 700 of 2498

The '278 Patent	PRIOR ART - US Patent 5,732,074 to Spaur et al.
1. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising, lines	The Spaur '074 patent teaches "The controller 30 is responsible for a number of functions related to understanding and acting on information received from one or more remote stations 10, obtaining and responding to 35 requested information and operatively functioning with information including data available from other elements in the vehicle. In that regard, the controller 30 communicates with a controller interface 34 that electrically links the controller 30 with a vehicle standardized network 40. The vehicle standardized network 40 includes a controller unit 44 that provides appropriate message and data handling functions associated with sending and receiving information including data from each of a plurality of physical vehicle devices 50 that are operatively connected to a bus 46 of the vehicle standardized network 40. Like the remote standardized network 14, the vehicle standardized network 40 is an established and previously developed network that interfaces with components in a vehicle, such as engine related components in order to provide desired or requested data concerning the operations or status of these components. (Spaur '074 patent, col. 6, lines 31-50) The Spaur '074 patent states: "In order to provide the necessary communications protocol between the controller 30 and the vehicle devices 50a-50n, another standardized network communications link is provided." "This further standardized communications network is responsible for handling the communication exchange functions associated with sending and receiving information relative to the vehicle devices 50." (Spaur '074 patent, col. 10, lines 10 – 18). The Spaur '074 patent further states: "In a preferred embodiment, this further standardized network is a network that has been previously devised and is commonly used in a number of makes and models of vehicles. This communications network is defined as the controller area network (CAN) 124. Although the CAN 124 has previously commonly been used in operative association with automotive electronics including engine control elements, sensors, lamps, electric windows etc., the present invention also enables the CAN 124 to be used with a variety of other devices contained in the vehicle, such as the previously described devices." (Spaur '074 patent, col. 10, lines 18-39) See also FIG. 1 and FIG. 2 of the Spaur '074 patent.
a vehicle position determining device;	The Spaur '074 patent discloses a GPS receiver (vehicle position determining device) at column 14, lines 4 – 9: "At block 300, vehicle positioning data is available from one of the vehicle devices 50, which might

OMEGA EXHIBIT 2036

Page 701 of 2498

	be a GPS. On a requested or regular input scheme, such vehicle device data is sent to the CAN bus 126 at block 304. The CAN controller 122 is responsible for controlling the receipt and transmitting of such data to the controller 30 at block 308." Additionally, the Spaur '074 patent discloses several wireless communication devices. For example, the wireless device 18 and remote air link transfer protocol modem 20 in Fig. 1, or the cellular phone 80 and vehicle CDPD network modem 82 in Fig. 2. It was notoriously well-known as of the earliest claimed priority date of the Spaur '074 patent that cellular telephones are capable of determining position information, both by the inclusion of GPS receivers in the cellular phone (see, e.g., Darnell in 1991) and by calculating position using cellular tower triangulation techniques (see e.g. Song in 1993).
a wireless communications device;	The Spaur '074 patent states: "In one embodiment, the cellular digitized packet data (CDPD) network provides the desired link including arrangement of information being communicated and where the destination site, namely the particular vehicle, is found in the network. If a channel is available to the particular vehicle, the CDPD link can proceed to transmit the Internet packets to the vehicle of interest. Instead of the CDPD network as the link, a communications interface could be employed that involves data only, such as a two way paging interface with the vehicle. (Spaur '074 patent, col. 2, lines 41-50) "In one embodiment, the communication information is formatted in accordance with a CDPD (cellular digitized packet data) configuration. At the vehicle, this information is received by a wireless device 18 that is able to transmit and receive information via the airlink. The wireless device 18 is operatively associated with a vehicle airlink transfer protocol modem 20 for the proper handling of the airlink formatted transmission. In one embodiment, the wireless device 18 includes a cellular phone that is selected from a plurality of conventional or commercially available cellular phones. The wireless device 18 bi-directionally communicates with a controller 30 contained in the vehicle through a network protocol converter 26 using a wireless device interface 22. The wireless device interface 22 establishes the necessary signal compatibilities and connections from the wireless device 18." (Spaur '074 patent, col. 6, lines 1-16) "The Internet 68 operatively communicates with a standardized network transmission protocol that permits information to be bi-directionally communicated over the airlink and, in one embodiment, includes a remote CDPD network modem 76 which prepares the information in a conventionally acceptable manner for transmission and communication with a cellular phone 80 which is contained in

OMEGA EXHIBIT 2036

Page 702 of 2498

	the vehicle. The cellular phone 80 can be any selected one of a number of conventional cellular phones that have the capability of properly communicating with the desired formatted or arranged information. In the illustrated embodiment of FIG. 2, the cellular phone 80 is operatively associated with a vehicle CDPD network modem 82 that demodulates the received information so that it is acceptable for further handling or processing. (Spaur '074 patent, col. 7, lines 40-54)
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The Spaur '074 patent states: "At block 300, vehicle positioning data is available from one of the vehicle devices 50, which might be a GPS. On a requested or regular input scheme, such vehicle device data is sent to the CAN bus 126 at block 304. The CAN controller 122 is responsible for controlling the receipt and transmitting of such data to the controller 30 at block 308. The vehicle data that is to be transmitted over the wire link, in accordance with the predetermined or determinable procedure, is appropriately processed, analyzed or otherwise acted on using the controller 30 at block 312. In one embodiment, vehicle device data, such as GPS data, do not rely on the web server 102 but may utilize a different communications pathway, such as E-mail. In any event, the controller 30 gates the vehicle location data to the cellular phone having the vehicle airlink transfer protocol modem 20, such as a CDPD network modem 82, at block 316. The vehicle location data is properly formatted and transmitted through the cellular phone over the airlink at block 320." (Spaur '074 patent, col. 14, lines 4-21)
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	The Spaur '074 patent states: "The controller 30 is responsible for a number of functions related to understanding and acting on information received from one or more remote stations 10, obtaining and responding to 35 requested information and operatively functioning with information including data available from other elements in the vehicle. In that regard, the controller 30 communicates with a controller interface 34 that electrically links the controller 30 with a vehicle standardized network 40. The vehicle standardized network 40 includes a controller unit 44 that provides appropriate message and data handling functions associated with sending and receiving information including data from each of a plurality of physical vehicle devices 50 that are operatively connected to a bus 46 of the vehicle standardized network 40. Like the remote standardized network 14, **the vehicle standardized network 40 is an established and previously developed network that interfaces with components in a vehicle**, such as engine related components in order to provide desired or requested data concerning the operations or status of these components." (Spaur '074 patent, col. 6, lines 31-50) "In interfacing with the CAN 124, the controller 30 also has device drivers 128 that are useful in

OMEGA EXHIBIT 2036

Page 703 of 2498

OMEGA EXHIBIT 2036

	achieving desired communications in both directions between the CAN 124 and the controller 30. For example, the processor 90 is able to obtain data or other information from the vehicle devices 50a-50n using the device drivers 128 and which information can be used by the processor 90 including, for example, storing data in the data memory 106 for subsequent access and transmission to a remote station 10." (Spaur '074 patent, col. 10, lines 55-64) The Society of Automotive Engineers (SAE) is a U.S. based standards organization that has published various standards related to vehicle standardized networks. Furthermore, the various SAE standards provide the implementation details for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996. In particular, the SAE standards are documented in, among many other available publications, the Society of Automotive Engineers (SAE) HS-3000 Manual (1994 edition), entitled "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (SAE HS-3000 Manual). The SAE HS-3000 includes various standards for communicating with vehicle devices on the vehicle bus, each standard under a particular SAE heading number (e.g., J1850, J2178, among various other standards) related to various aspects of vehicle control systems, including vehicle busses (e.g. SAE J1850, starting on page 91) and communicating, using device codes, with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996 (e.g. SAE J1978 starting on page 33 , SAE J1979 starting on page 46 and SAE J2178/1-2178/2 starting on page 200). The HS-3000 Manual provides details for hundreds of different device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. In particular, SAE J2178 which starts on page 211 of the SAE HS-3000 Manual and consists of four parts, 1 through 4, defines sets of vehicle device codes, or "messages", for hundreds of different types of vehicle devices. The specific vehicle device code will depend upon whether a particular manufacturer implements the SAE J2178 defined vehicle code or whether a vehicle supports a manufacturer specific vehicle code. Page 156, SAE J1850, Section 4.1 elaborates on the definition of the vehicle codes as follows: "Normal Vehicle Operation (Down the Road) Messages: The messages sent during non-diagnostic operations are called normal vehicle operation messages. These normal vehicle operation messages are used for communication from a transmitter to one or more receivers across this network. The normal operation messages have been developed by the SAE for this communication network and are defined in SAE-

J2178. SAE defined messages and the 'Reserved' messages of SAE J2178 shall remain specific to those definitions. In SAE J2178, there is also a set-of 'Reserved-Manufacturer' messages which, if used, will have meanings specific to a vehicle manufacturer but are likely to be different between manufacturers."

J2178/1, starting on page 200 of the SAE HS-3000 Manual, includes 10 tables defining vehicle device codes for a large variety of different categories of vehicle devices (the specific device codes are specified in J2178/2).

Section 4 of SAE J2178/2 on page 213 specifies the Parameter Reference Number (PRN) Structure utilized within the SAE J2178 messages to use a particular device code from among a plurality thereof for different vehicles, which is illustrated below. Section 4 notes that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.

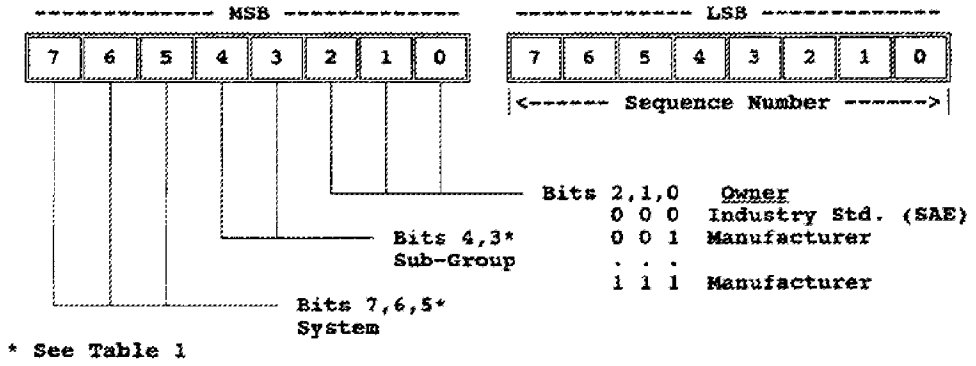


FIGURE 3--PRN STRUCTURE

The first three bits define the system and the next two bits define the sub-group. For each sub-group, three additional bits specify which of eight possible device codes are being used for a particular vehicle device, representing the Industry Std. device code (000) or one of seven manufacturer specific device

OMEGA EXHIBIT 2036

Page 705 of 2498

codes (001-111). Accordingly, the standard specifies at least eight vehicle device codes for each PRN (which include 1 Industry Standard, and 7 manufacturer specific device codes).

SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

TABLE 2—SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer specific device codes for that specific type of vehicle device.

OMEGA EXHIBIT 2036

Page 706 of 2498

The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. In particular, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978, reproduced below as scanned from the SAE HS-3000 manual, that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. In particular, as many as three device codes may initially be sent, at least two of which will be non-working for the particular vehicle and one of which is a working device code for the vehicle. See page 37, SAE J1978 at 6.5.1.(" While there are three types of communication interfaces that could be used to access the OBD II functions in a given vehicle (i.e., SAE J1850 41.6 Kbps PWM, SAE J1850 10.4 Kbps VPW and ISO 9141-2), only one is allowed to be used in any one vehicle to access all supported OBD II functions.")

a. Test for SAE J1850 41.6 Kbps PWM
   (1) Step 1—Enable the SAE J1850 41.6 Kbps PWM interface
   (2) Step 2—Send a mode 1 PID 0 request message
   (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 41.6 Kbps PWM is the type of interface used in a vehicle for OBD II support.

b. Test for SAE J1850 10.4 Kbps VPW
   (1) Step 1—Enable the SAE J1850 10.4 Kbps VPW interface
   (2) Step 2—Send a mode 1 PID 0 request message
   (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 10.4 Kbps VPW is the type of interface used in a vehicle for OBD II support.

c. Test for ISO 9141 CARB
   (1) Step 1—Enable the ISO 9141-2 interface
   (2) Step 2—If the initialization sequence defined in ISO 9141-2 is completed successfully, then ISO 9141-2 is the type of interface used in a vehicle for OBD II support.

The previous tests may be performed in any order and where possible may be performed in parallel.

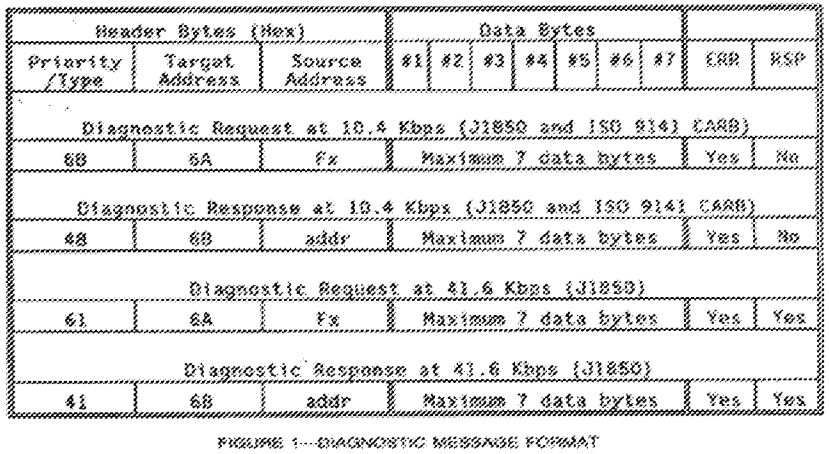
The mode 1 PID 0 request and response messages are defined in SAE J1979.

OMEGA EXHIBIT 2036

Page 707 of 2498

SAE J1978 indicates that the "mode 1 PID 0" request and response messages are defined in SAE J1979, which starts on page 46 of the SAE HS-3000 Manual. See page 37, SAE J1978, Section 6.5.2., "Initialization Details". Requester further notes that transmission of the mode 1 PID 0 device code has previously been asserted as satisfying this requirement of the claim. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45.

SAE J1979, starting on page 46, elaborates on the device codes that are used by the controller during bus detection, including the different device codes utilized by vehicles that employ a 10.4 Kbps interface (i.e., a first device code that includes 686A (hex) in the header of the request message) and vehicles that employ a 41.6 Kbps interface (i.e. a second device code that includes 616A (hex) in the header of the request message). See e.g., FIGURE 1 on page 51, reproduced below, of SAE J1979.



Header Bytes (Hex)			Data Bytes								
Priority /Type	Target Address	Source Address	#1	#2	#3	#4	#5	#6	#7	CRC	RSP
Diagnostic Request at 10.4 Kbps (J1850 and ISO 9141 CARB)											
68	6A	Fx	Maximum 7 data bytes							Yes	No
Diagnostic Response at 10.4 Kbps (J1850 and ISO 9141 CARB)											
48	6B	addr	Maximum 7 data bytes							Yes	No
Diagnostic Request at 41.6 Kbps (J1850)											
61	6A	Fx	Maximum 7 data bytes							Yes	Yes
Diagnostic Response at 41.6 Kbps (J1850)											
41	6B	addr	Maximum 7 data bytes							Yes	Yes

FIGURE 1—DIAGNOSTIC MESSAGE FORMAT

The Spaur '074 patent teaches communicating with vehicle devices via a "standardized network…commonly used in a number of makes and models of vehicles" (Spaur '074 patent, col. 10, lines 18-21). The SAE standards, including the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices via the "standardized networks". Accordingly, it would have been obvious to utilize the teachings described in SAE HS-3000 Manual to provide multi-vehicle compatibility because the Spaur '074 patent expressly directs using standards, such as the SAE standards, for the purpose for which the standards were

OMEGA EXHIBIT 2036

Page 708 of 2498

	created.
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.	The Spaur '074 patent teaches that the wireless communications device can be utilized to download enabling data: "since bi-directional communications involving a vehicle are conducted wirelessly for at least a portion of the communications link, it is necessary for the Internet to communicate with an appropriate interface or network that wirelessly links with the vehicle. In one embodiment, the cellular digitized packet data (CDPD) network provides the desired link including arrangement of information being communicated and where the destination site, namely the particular vehicle, is found in the network." (Spaur '074 patent, col. 2, lines 37 – 46). "A combination of controller related components are containable in a vehicle for responding to requests from remote sites, obtaining and storing information associated with vehicle devices and running executable software that may be available in the program memory of the controller or downloaded from the remote site, while handling and configuring information including data that is communicative with the remote site over an established network, such as the Internet." (Spaur '074 patent, col. 4, line 64 – col. 5, line 5). Furthermore, "Preferably, the controller in the vehicle is also associated with an interface for communication with one or more available systems, such as an RS232 connection, an Ethernet connection and/or a PCMCIA unit. In a related embodiment, the controller includes a direct communications port for receiving and sending information without requiring the wireless device and the Internet connection to the wireless device." (Spaur '074 patent, col. 4, lines 38 – 45).
13. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising, lines	As described in the Spaur '074 patent: "The controller 30 is responsible for a number of functions related to understanding and acting on information received from one or more remote stations 10, obtaining and responding to requested information and operatively functioning with information including data available from other elements in the vehicle. In that regard, the controller 30 communicates with a controller interface 34 that electrically links the controller 30 with a vehicle standardized network 40. The vehicle standardized network 40 includes a controller unit 44 that provides appropriate message and data handling functions associated with sending and receiving

OMEGA EXHIBIT 2036

Page 709 of 2498

	information including data from each of a plurality of physical vehicle devices 50 that are operatively connected to a bus 46 of the vehicle standardized network 40. Like the remote standardized network 14, the vehicle standardized network 40 is an established and previously developed network that interfaces with components in a vehicle, such as engine related components in order to provide desired or requested data concerning the operations or status of these components." (Spaur '074 patent, col. 6, lines 31-50) The Spaur '074 patent states: "In order to provide the necessary communications protocol between the controller 30 and the vehicle devices 50a-50n, another standardized network communications link is provided." "This further standardized communications network is responsible for handling the communication exchange functions associated with sending and receiving information relative to the vehicle devices 50." (Spaur '074 patent, col. 10, lines 10 – 18). "In a preferred embodiment, this further standardized network is a network that has been previously devised and is commonly used in a number of makes and models of vehicles. This communications network is defined as the controller area network (CAN) 124. Although the CAN 124 has previously commonly been used in operative association with automotive electronics including engine control elements, sensors, lamps, electric windows etc., the present invention also enables the CAN 124 to be used with a variety of other devices contained in the vehicle, such as the previously described devices." (Spaur '074 patent, col. 10, lines 18-39) See also FIG. 1 and FIG. 2 of the Spaur '074 patent.
a vehicle position determining device;	The Spaur '074 patent discloses a GPS receiver (vehicle position determining device) at column 14, lines 4 – 9: > At block 300, vehicle positioning data is available from one of the vehicle devices 50, which might be a GPS. On a requested or regular input scheme, such vehicle device data is sent to the CAN bus 126 at block 304. The CAN controller 122 is responsible for controlling the receipt and transmitting of such data to the controller 30 at block 308. Additionally, the Spaur '074 patent discloses several wireless communication devices. For example, the wireless device 18 and remote air link transfer protocol modem 20 in Fig. 1, or the cellular phone 80 and vehicle CDPD network modem 82 in Fig. 2. It was notoriously well-known as of the earliest claimed priority date of the Spaur '074 patent that cellular telephones are capable of determining position

OMEGA EXHIBIT 2036

Page 710 of 2498

	information, both by the inclusion of GPS receivers in the cellular phone (see, e.g., Darnell in 1991) and by calculating position using cellular tower triangulation techniques (see e.g. Song in 1993).
a wireless communications device;	The Spaur '074 patent states: "In one embodiment, the cellular digitized packet data (CDPD) network provides the desired link including arrangement of information being communicated and where the destination site, namely the particular vehicle, is found in the network. If a channel is available to the particular vehicle, the CDPD link can proceed to transmit the Internet packets to the vehicle of interest. Instead of the CDPD network as the link, a communications interface could be employed that involves data only, such as a two way paging interface with the vehicle." (Spaur '074 patent, col. 2, lines 41-50) "In one embodiment, the communication information is formatted in accordance with a CDPD (cellular digitized packet data) configuration. At the vehicle, this information is received by a wireless device 18 that is able to transmit and receive information via the airlink. The wireless device 18 is operatively associated with a vehicle airlink transfer protocol modem 20 for the proper handling of the airlink formatted transmission. In one embodiment, the wireless device 18 includes a cellular phone that is selected from a plurality of conventional or commercially available cellular phones. The wireless device 18 bi-directionally communicates with a controller 30 contained in the vehicle through a network protocol converter 26 using a wireless device interface 22. The wireless device interface 22 establishes the necessary signal compatibilities and connections from the wireless device 18." (Spaur '074 patent, col. 6, lines 1-16) "The Internet 68 operatively communicates with a standardized network transmission protocol that permits information to be bi-directionally communicated over the airlink and, in one embodiment, includes a remote CDPD network modem 76 which prepares the information in a conventionally acceptable manner for transmission and communication with a cellular phone 80 which is contained in the vehicle. The cellular phone 80 can be any selected one of a number of conventional cellular phones that have the capability of properly communicating with the desired formatted or arranged information. In the illustrated embodiment of FIG. 2, the cellular phone 80 is operatively associated with a vehicle CDPD network modem 82 that demodulates the received information so that it is acceptable for further handling or processing." (Spaur '074 patent, col. 7, lines 40-54)
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said	The Spaur '074 patent states: "At block 300, vehicle positioning data is available from one of the vehicle devices 50, which might be a GPS. On a requested or regular input scheme, such vehicle device data is sent to the CAN bus 126 at block 304. The CAN controller 122 is responsible for controlling the receipt

OMEGA EXHIBIT 2036

Page 711 of 2498

wireless communications device to send vehicle position information;	and transmitting of such data to the controller 30 at block 308. The vehicle data that is to be transmitted over the wire link, in accordance with the predetermined or determinable procedure, is appropriately processed, analyzed or otherwise acted on using the controller 30 at block 312. In one embodiment, vehicle device data, such as GPS data, do not rely on the web server 102 but may utilize a different communications pathway, such as E-mail. In any event, the controller 30 gates the vehicle location data to the cellular phone having the vehicle airlink transfer protocol modem 20, such as a CDPD network modem 82, at block 316. The vehicle location data is properly formatted and transmitted through the cellular phone over the airlink at block 320." (Spaur '074 patent, col. 14, lines 4-21)
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles;	The Spaur '074 patent states: "The controller 30 is responsible for a number of functions related to understanding and acting on information received from one or more remote stations 10, obtaining and responding to 35 requested information and operatively functioning with information including data available from other elements in the vehicle. In that regard, the controller 30 communicates with a controller interface 34 that electrically links the controller 30 with a vehicle standardized network 40. The vehicle standardized network 40 includes a controller unit 44 that provides appropriate message and data handling functions associated with sending and receiving information including data from each of a plurality of physical vehicle devices 50 that are operatively connected to a bus 46 of the vehicle standardized network 40. Like the remote standardized network 14, **the vehicle standardized network 40 is an established and previously developed network that interfaces with components in a vehicle**, such as engine related components in order to provide desired or requested data concerning the operations or status of these components." (Spaur '074 patent, col. 6, lines 31-50) "In interfacing with the CAN 124, the controller 30 also has device drivers 128 that are useful in achieving desired communications in both directions between the CAN 124 and the controller 30. For example, the processor 90 is able to obtain data or other information from the vehicle devices 50a-50n using the device drivers 128 and which information can be used by the processor 90 including, for example, storing data in the data memory 106 for subsequent access and transmission to a remote station 10." (Spaur '074 patent, col. 10, lines 55-64) The Society of Automotive Engineers (SAE) is a U.S. based standards organization that has published various standards related to vehicle standardized networks. Furthermore, the various SAE standards provide the implementation details for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996.

OMEGA EXHIBIT 2036

Page 712 of 2498

OMEGA EXHIBIT 2036

	In particular, the SAE standards are documented in, among many other available publications, the Society of Automotive Engineers (SAE) HS-3000 Manual (1994 edition), entitled "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (SAE HS-3000 Manual). The SAE HS-3000 includes various standards for communicating with vehicle devices on the vehicle bus, each standard under a particular SAE heading number (e.g., J1850, J2178, among various other standards) related to various aspects of vehicle control systems, including vehicle busses (e.g. SAE J1850, starting on page 91) and communicating, using device codes, with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996 (e.g. SAE J1978 starting on page 33 , SAE J1979 starting on page 46 and SAE J2178/1-2178/2 starting on page 200). The HS-3000 Manual provides details for hundreds of different device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. In particular, SAE J2178 which starts on page 211 of the SAE HS-3000 Manual and consists of four parts, 1 through 4, defines sets of vehicle device codes, or "messages", for hundreds of different types of vehicle devices. The specific vehicle device code will depend upon whether a particular manufacturer implements the SAE J2178 defined vehicle code or whether a vehicle supports a manufacturer specific vehicle code. Page 156, SAE J1850, Section 4.1 elaborates on the definition of the vehicle codes as follows: "Normal Vehicle Operation (Down the Road) Messages: The messages sent during non-diagnostic operations are called normal vehicle operation messages. These normal vehicle operation messages are used for communication from a transmitter to one or more receivers across this network. The normal operation messages have been developed by the SAE for this communication network and are defined in SAE-J2178. SAE defined messages and the 'Reserved' messages of SAE J2178 shall remain specific to those definitions. In SAE J2178, there is also a set-of 'Reserved-Manufacturer' messages which, if used, will have meanings specific to a vehicle manufacturer but are likely to be different between manufacturers." J2178/1, starting on page 200 of the SAE HS-3000 Manual, includes 10 tables defining vehicle device codes for a large variety of different categories of vehicle devices (the specific device codes are specified in J2178/2). Section 4 of SAE J2178/2 on page 213 specifies the Parameter Reference Number (PRN) Structure utilized within the SAE J2178 messages to use a particular device code from among a plurality thereof for different vehicles, which is illustrated below. Section 4 notes that "Some of the PRN numbers are

assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.

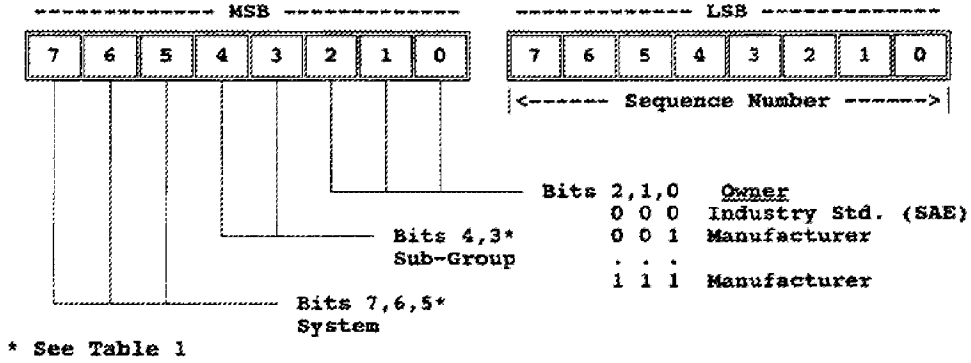


FIGURE 3--PRN STRUCTURE

The first three bits define the system and the next two bits define the sub-group. For each sub-group, three additional bits specify which of eight possible device codes are being used for a particular vehicle device, representing the Industry Std. device code (000) or one of seven manufacturer specific device codes (001-111). Accordingly, the standard specifies at least eight vehicle device codes for each PRN (which include 1 Industry Standard, and 7 manufacturer specific device codes).

SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

Page 714 of 2498

TABLE 2—SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer specific device codes for that specific type of vehicle device.

The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. In particular, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978, reproduced below as scanned from the SAE HS-3000 manual, that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. In particular, as many as three device codes may initially be sent, at least two of which will be non-working

OMEGA EXHIBIT 2036

Page 715 of 2498

for the particular vehicle and one of which is a working device code for the vehicle. See page 37, SAE J1978 at 6.5.1.(" While there are three types of communication interfaces that could be used to access the OBD II functions in a given vehicle (i.e., SAE J1850 41.6 Kbps PWM, SAE J1850 10.4 Kbps VPW and ISO 9141-2), only one is allowed to be used in any one vehicle to access all supported OBD II functions.")

a. Test for SAE J1850 41.6 Kbps PWM
   (1) Step 1—Enable the SAE J1850 41.6 Kbps PWM interface
   (2) Step 2—Send a mode 1 PID 0 request message
   (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 41.6 Kbps PWM is the type of interface used in a vehicle for OBD II support.

b. Test for SAE J1850 10.4 Kbps VPW
   (1) Step 1—Enable the SAE J1850 10.4 Kbps VPW interface
   (2) Step 2—Send a mode 1 PID 0 request message
   (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 10.4 Kbps VPW is the type of interface used in a vehicle for OBD II support.

c. Test for ISO 9141 CARB
   (1) Step 1—Enable the ISO 9141-2 interface
   (2) Step 2—If the initialization sequence defined in ISO 9141-2 is completed successfully, then ISO 9141-2 is the type of interface used in a vehicle for OBD II support.

The previous tests may be performed in any order and where possible may be performed in parallel.

The mode 1 PID 0 request and response messages are defined in SAE J1979.

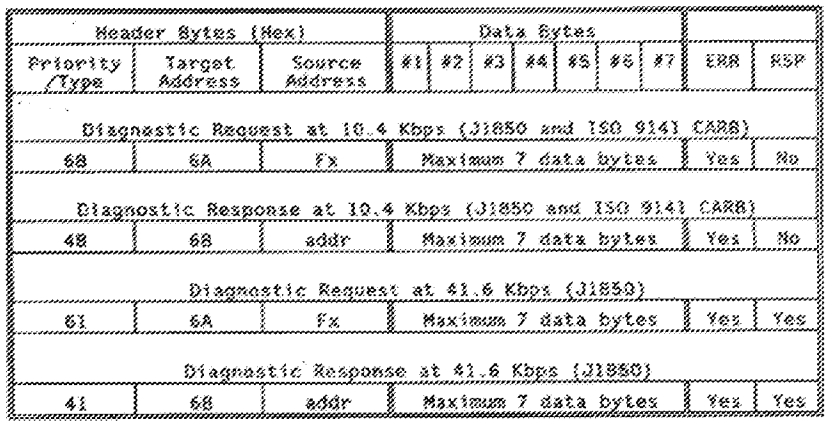
SAE J1978 indicates that the "mode 1 PID 0" request and response messages are defined in SAE J1979, which starts on page 46 of the SAE HS-3000 Manual. See page 37, SAE J1978, Section 6.5.2., "Initialization Details". Requester further notes that transmission of the mode 1 PID 0 device code has previously been asserted as satisfying this requirement of the claim. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45.

SAE J1979, starting on page 46, elaborates on the device codes that are used by the controller during bus detection, including the different device codes utilized by vehicles that employ a 10.4 Kbps interface (i.e., a first device code that includes 686A (hex) in the header of the request message) and vehicles that employ a 41.6 Kbps interface (i.e. a second device code that includes 616A (hex) in the header of the

OMEGA EXHIBIT 2036

Page 716 of 2498

OMEGA EXHIBIT 2036

	request message). See e.g., FIGURE 1 on page 51, reproduced below, of SAE J1979.  Header Bytes (Hex) | Data Bytes Priority /Type | Target Address | Source Address | #1 | #2 | #3 | #4 | #5 | #6 | #7 | CRC | ESP Diagnostic Request at 10.4 Kbps (J1850 and ISO 9141 CARB) 68 | 6A | Fx | Maximum 7 data bytes | Yes | No Diagnostic Response at 10.4 Kbps (J1850 and ISO 9141 CARB) 48 | 6B | addr | Maximum 7 data bytes | Yes | No Diagnostic Request at 41.6 Kbps (J1850) 61 | 6A | Fx | Maximum 7 data bytes | Yes | Yes Diagnostic Response at 41.6 Kbps (J1850) 41 | 6B | addr | Maximum 7 data bytes | Yes | Yes FIGURE 1—DIAGNOSTIC MESSAGE FORMAT The Spaur '074 patent teaches communicating with vehicle devices via a "standardized network…commonly used in a number of makes and models of vehicles" (Spaur '074 patent, col. 10, lines 18-21). The SAE standards, including the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices via the "standardized networks". Accordingly, it would have been obvious to utilize the teachings described in SAE HS-3000 Manual to provide multi-vehicle compatibility because the Spaur '074 patent expressly directs using standards, such as the SAE standards, for the purpose for which the standards were created.
and a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	The Spaur '074 patent teaches that the wireless communications device can be utilized to download enabling data: "since bi-directional communications involving a vehicle are conducted wirelessly for at least a portion of the communications link, it is necessary for the Internet to communicate with an appropriate interface or network that wirelessly links with the vehicle. In one embodiment, the cellular digitized packet data (CDPD) network provides the desired link including arrangement of information being communicated and where the destination site, namely the particular vehicle, is found in the network." (Spaur '074 patent, col. 2, lines 37 – 46). "A combination of controller related components are containable in a vehicle for responding to requests from remote sites, obtaining and storing information

Page 717 of 2498

	associated with vehicle devices and running executable software that may be available in the program memory of the controller or downloaded from the remote site, while handling and configuring information including data that is communicative with the remote site over an established network, such as the Internet." (Spaur '074 patent, col. 4, line 64 – col. 5, line 5). Furthermore, "Preferably, the controller in the vehicle is also associated with an interface for communication with one or more available systems, such as an RS232 connection, an Ethernet connection and/or a PCMCIA unit. In a related embodiment, the controller includes a direct communications port for receiving and sending information without requiring the wireless device and the Internet connection to the wireless device." (Spaur '074 patent, col. 4, lines 38 – 45).
said downloading interface comprising a connector for temporary connection to a downloading device.	One skilled in the art would understand that the Spaur '074 patent discloses a wireless downloading interface comprising of a wireless receiver for temporary connection to a downloading device. Therefore, it is inherently disclosed that the wireless connections can be temporary connections.
18. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising, lines	The Spaur '074 patent states: "The controller 30 is responsible for a number of functions related to understanding and acting on information received from one or more remote stations 10, obtaining and responding to 35 requested information and operatively functioning with information including data available from other elements in the vehicle. In that regard, the controller 30 communicates with a controller interface 34 that electrically links the controller 30 with a vehicle standardized network 40. The vehicle standardized network 40 includes a controller unit 44 that provides appropriate message and data handling functions associated with sending and receiving information including data from each of a plurality of physical vehicle devices 50 that are operatively connected to a bus 46 of the vehicle standardized network 40. Like the remote standardized network 14, the vehicle standardized network 40 is an established and previously developed network that interfaces with components in a vehicle, such as engine related components in order to provide desired or requested data concerning the operations or status of these components." (Spaur '074 patent, col. 6, lines 31-50) The Spaur '074 patent states: "In order to provide the necessary communications protocol between the controller 30 and the vehicle devices 50a-50n, another standardized network communications link is provided." "This further standardized communications network is responsible for handling the communication exchange functions associated with sending and receiving information relative to the vehicle devices 50." (Spaur '074 patent, col. 10, lines 10 – 18).

OMEGA EXHIBIT 2036

Page 718 of 2498

	"In a preferred embodiment, this further standardized network is a network that has been previously devised and is commonly used in a number of makes and models of vehicles. This communications network is defined as the controller area network (CAN) 124. Although the CAN 124 has previously commonly been used in operative association with automotive electronics including engine control elements, sensors, lamps, electric windows etc., the present invention also enables the CAN 124 to be used with a variety of other devices contained in the vehicle, such as the previously described devices." (Spaur '074 patent, col. 10, lines 18-39) See also FIG. 1 and FIG. 2 of the Spaur '074 patent.
a vehicle position determining device;	The Spaur '074 patent states: "At block 300, vehicle positioning data is available from one of the vehicle devices 50, which might be a GPS. On a requested or regular input scheme, such vehicle device data is sent to the CAN bus 126 at block 304. The CAN controller 122 is responsible for controlling the receipt and transmitting of such data to the controller 30 at block 308." (Spaur '074 patent, col. 14, lines 4 – 9). Additionally, the Spaur '074 patent discloses several wireless communication devices. For example, the wireless device 18 and remote air link transfer protocol modem 20 in Fig. 1, or the cellular phone 80 and vehicle CDPD network modem 82 in Fig. 2. It was notoriously well-known as of the earliest claimed priority date of the Spaur '074 patent that cellular telephones are capable of determining position information, both by the inclusion of GPS receivers in the cellular phone (see, e.g., Darnell in 1991) and by calculating position using cellular tower triangulation techniques (see e.g. Song in 1993).
a wireless communications device;	The Spaur '074 patent states: "In one embodiment, the cellular digitized packet data (CDPD) network provides the desired link including arrangement of information being communicated and where the destination site, namely the particular vehicle, is found in the network. If a channel is available to the particular vehicle, the CDPD link can proceed to transmit the Internet packets to the vehicle of interest. Instead of the CDPD network as the link, a communications interface could be employed that involves data only, such as a two way paging interface with the vehicle." (Spaur '074 patent, col. 2, lines 41-50) "In one embodiment, the communication information is formatted in accordance with a CDPD (cellular digitized packet data) configuration. At the vehicle, this information is received by a wireless device 18 that is able to transmit and receive information via the airlink. The wireless device 18 is operatively associated with a vehicle airlink transfer protocol modem 20 for the proper handling of the airlink

OMEGA EXHIBIT 2036

Page 719 of 2498

	formatted transmission. In one embodiment, the wireless device 18 includes a cellular phone that is selected from a plurality of conventional or commercially available cellular phones. The wireless device 18 bi-directionally communicates with a controller 30 contained in the vehicle through a network protocol converter 26 using a wireless device interface 22. The wireless device interface 22 establishes the necessary signal compatibilities and connections from the wireless device 18." (Spaur '074 patent, col. 6, lines 1-16) "The Internet 68 operatively communicates with a standardized network transmission protocol that permits information to be bi-directionally communicated over the airlink and, in one embodiment, includes a remote CDPD network modem 76 which prepares the information in a conventionally acceptable manner for transmission and communication with a cellular phone 80 which is contained in the vehicle. The cellular phone 80 can be any selected one of a number of conventional cellular phones that have the capability of properly communicating with the desired formatted or arranged information. In the illustrated embodiment of FIG. 2, the cellular phone 80 is operatively associated with a vehicle CDPD network modem 82 that demodulates the received information so that it is acceptable for further handling or processing." (Spaur '074 patent, col. 7, lines 40-54)
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The Spaur '074 patent states: "At block 300, vehicle positioning data is available from one of the vehicle devices 50, which might be a GPS. On a requested or regular input scheme, such vehicle device data is sent to the CAN bus 126 at block 304. The CAN controller 122 is responsible for controlling the receipt and transmitting of such data to the controller 30 at block 308. The vehicle data that is to be transmitted over the wire link, in accordance with the predetermined or determinable procedure, is appropriately processed, analyzed or otherwise acted on using the controller 30 at block 312. In one embodiment, vehicle device data, such as GPS data, do not rely on the web server 102 but may utilize a different communications pathway, such as E-mail. In any event, the controller 30 gates the vehicle location data to the cellular phone having the vehicle airlink transfer protocol modem 20, such as a CDPD network modem 82, at block 316. The vehicle location data is properly formatted and transmitted through the cellular phone over the airlink at block 320." (Spaur '074 patent, col. 14, lines 4-21)
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one	The Spaur '074 patent states: "The controller 30 is responsible for a number of functions related to understanding and acting on information received from one or more remote stations 10, obtaining and responding to 35 requested information and operatively functioning with information including data available from other elements in the vehicle. In that regard, the controller 30 communicates with a controller interface 34 that electrically links the controller 30 with a vehicle standardized network 40.

OMEGA EXHIBIT 2036

Page 720 of 2498

corresponding vehicle device code from among a plurality thereof for different vehicles;	The vehicle standardized network 40 includes a controller unit 44 that provides appropriate message and data handling functions associated with sending and receiving information including data from each of a plurality of physical vehicle devices 50 that are operatively connected to a bus 46 of the vehicle standardized network 40. Like the remote standardized network 14, **the vehicle standardized network 40 is an established and previously developed network that interfaces with components in a vehicle**, such as engine related components in order to provide desired or requested data concerning the operations or status of these components." (Spaur '074 patent, col. 6, lines 31-50) "In interfacing with the CAN 124, the controller 30 also has device drivers 128 that are useful in achieving desired communications in both directions between the CAN 124 and the controller 30. For example, the processor 90 is able to obtain data or other information from the vehicle devices 50a-50n using the device drivers 128 and which information can be used by the processor 90 including, for example, storing data in the data memory 106 for subsequent access and transmission to a remote station 10." (Spaur '074 patent, col. 10, lines 55-64) The Society of Automotive Engineers (SAE) is a U.S. based standards organization that has published various standards related to vehicle standardized networks. Furthermore, the various SAE standards provide the implementation details for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996. In particular, the SAE standards are documented in, among many other available publications, the Society of Automotive Engineers (SAE) HS-3000 Manual (1994 edition), entitled "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (SAE HS-3000 Manual). The SAE HS-3000 includes various standards for communicating with vehicle devices on the vehicle bus, each standard under a particular SAE heading number (e.g., J1850, J2178, among various other standards) related to various aspects of vehicle control systems, including vehicle busses (e.g. SAE J1850, starting on page 91) and communicating, using device codes, with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996 (e.g. SAE J1978 starting on page 33 , SAE J1979 starting on page 46 and SAE J2178/1-2178/2 starting on page 200). The HS-3000 Manual provides details for hundreds of different device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. In particular,

OMEGA EXHIBIT 2036

Page 721 of 2498

	SAE J2178 which starts on page 211 of the SAE HS-3000 Manual and consists of four parts, 1 through 4, defines sets of vehicle device codes, or "messages", for hundreds of different types of vehicle devices. The specific vehicle device code will depend upon whether a particular manufacturer implements the SAE J2178 defined vehicle code or whether a vehicle supports a manufacturer specific vehicle code. Page 156, SAE J1850, Section 4.1 elaborates on the definition of the vehicle codes as follows: "Normal Vehicle Operation (Down the Road) Messages: The messages sent during non-diagnostic operations are called normal vehicle operation messages. These normal vehicle operation messages are used for communication from a transmitter to one or more receivers across this network. The normal operation messages have been developed by the SAE for this communication network and are defined in SAE-J2178. SAE defined messages and the 'Reserved' messages of SAE J2178 shall remain specific to those definitions. In SAE J2178, there is also a set-of 'Reserved-Manufacturer' messages which, if used, will have meanings specific to a vehicle manufacturer but are likely to be different between manufacturers." J2178/1, starting on page 200 of the SAE HS-3000 Manual, includes 10 tables defining vehicle device codes for a large variety of different categories of vehicle devices (the specific device codes are specified in J2178/2). Section 4 of SAE J2178/2 on page 213 specifies the Parameter Reference Number (PRN) Structure utilized within the SAE J2178 messages to use a particular device code from among a plurality thereof for different vehicles, which is illustrated below. Section 4 notes that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

OMEGA EXHIBIT 2036

Page 722 of 2498

Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.

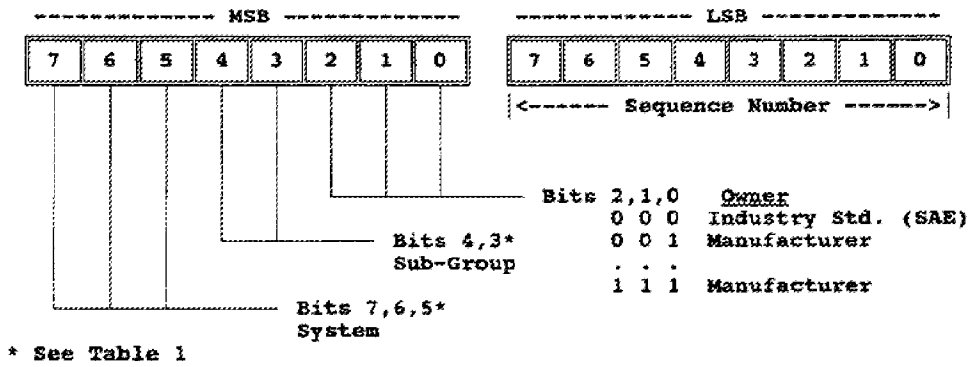


FIGURE 3--PRN STRUCTURE

The first three bits define the system and the next two bits define the sub-group. For each sub-group, three additional bits specify which of eight possible device codes are being used for a particular vehicle device, representing the Industry Std. device code (000) or one of seven manufacturer specific device codes (001-111). Accordingly, the standard specifies at least eight vehicle device codes for each PRN (which include 1 Industry Standard, and 7 manufacturer specific device codes).

SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

OMEGA EXHIBIT 2036

Page 723 of 2498

TABLE 2—SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer specific device codes for that specific type of vehicle device.

The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. In particular, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978, reproduced below as scanned from the SAE HS-3000 manual, that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. In particular, as many as three device codes may initially be sent, at least two of which will be non-working

OMEGA EXHIBIT 2036

Page 724 of 2498

for the particular vehicle and one of which is a working device code for the vehicle. See page 37, SAE J1978 at 6.5.1.(" While there are three types of communication interfaces that could be used to access the OBD II functions in a given vehicle (i.e., SAE J1850 41.6 Kbps PWM, SAE J1850 10.4 Kbps VPW and ISO 9141-2), only one is allowed to be used in any one vehicle to access all supported OBD II functions.")

a. Test for SAE J1850 41.6 Kbps PWM
   (1) Step 1—Enable the SAE J1850 41.6 Kbps PWM interface
   (2) Step 2—Send a mode 1 PID 0 request message
   (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 41.6 Kbps PWM is the type of interface used in a vehicle for OBD II support.

b. Test for SAE J1850 10.4 Kbps VPW
   (1) Step 1—Enable the SAE J1850 10.4 Kbps VPW interface
   (2) Step 2—Send a mode 1 PID 0 request message
   (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 10.4 Kbps VPW is the type of interface used in a vehicle for OBD II support.

c. Test for ISO 9141 CARB
   (1) Step 1—Enable the ISO 9141-2 interface
   (2) Step 2—If the initialization sequence defined in ISO 9141-2 is completed successfully, then ISO 9141-2 is the type of interface used in a vehicle for OBD II support.

The previous tests may be performed in any order and where possible may be performed in parallel.

The mode 1 PID 0 request and response messages are defined in SAE J1979.

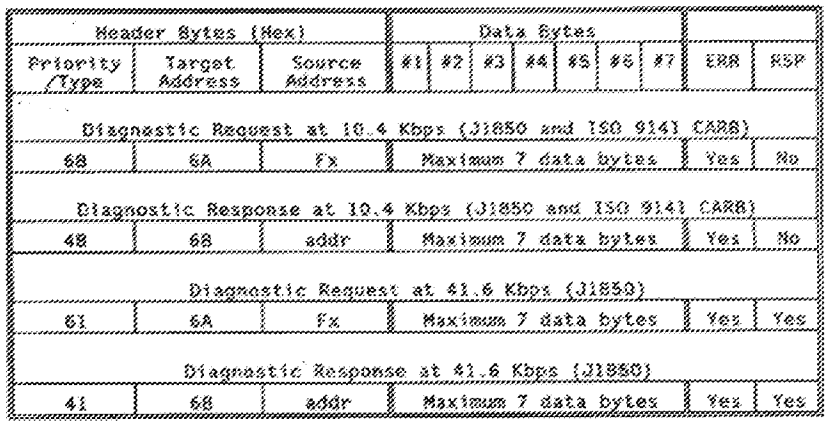
SAE J1978 indicates that the "mode 1 PID 0" request and response messages are defined in SAE J1979, which starts on page 46 of the SAE HS-3000 Manual. See page 37, SAE J1978, Section 6.5.2., "Initialization Details". Requester further notes that transmission of the mode 1 PID 0 device code has previously been asserted as satisfying this requirement of the claim. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45.

SAE J1979, starting on page 46, elaborates on the device codes that are used by the controller during bus detection, including the different device codes utilized by vehicles that employ a 10.4 Kbps interface (i.e., a first device code that includes 686A (hex) in the header of the request message) and vehicles that employ a 41.6 Kbps interface (i.e. a second device code that includes 616A (hex) in the header of the

OMEGA EXHIBIT 2036

Page 725 of 2498

request message). See e.g., FIGURE 1 on page 51, reproduced below, of SAE J1979.



Header Bytes (Hex)			Data Bytes								
Priority /Type	Target Address	Source Address	#1	#2	#3	#4	#5	#6	#7	ERR	RSP
Diagnostic Request at 10.4 Kbps (J1850 and ISO 9141 CARB)											
68	6A	Fx	Maximum 7 data bytes							Yes	No
Diagnostic Response at 10.4 Kbps (J1850 and ISO 9141 CARB)											
48	6B	addr	Maximum 7 data bytes							Yes	No
Diagnostic Request at 41.6 Kbps (J1850)											
61	6A	Fx	Maximum 7 data bytes							Yes	Yes
Diagnostic Response at 41.6 Kbps (J1850)											
41	6B	addr	Maximum 7 data bytes							Yes	Yes

FIGURE 1—DIAGNOSTIC MESSAGE FORMAT

The Spaur '074 patent teaches communicating with vehicle devices via a "standardized network…commonly used in a number of makes and models of vehicles" (Spaur '074 patent, col. 10, lines 18-21). The SAE standards, including the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices via the "standardized networks". Accordingly, it would have been obvious to utilize the teachings described in SAE HS-3000 Manual to provide multi-vehicle compatibility because the Spaur '074 patent expressly directs using standards, such as the SAE standards, for the purpose for which the standards were created.

and a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	The Spaur '074 patent teaches that the wireless communications device can be utilized to download enabling data: "since bi-directional communications involving a vehicle are conducted wirelessly for at least a portion of the communications link, it is necessary for the Internet to communicate with an appropriate interface or network that wirelessly links with the vehicle. In one embodiment, the cellular digitized packet data (CDPD) network provides the desired link including arrangement of information being communicated and where the destination site, namely the particular vehicle, is found in the network." (Spaur '074 patent, col. 2, lines 37 – 46). "A combination of controller related components are containable in a vehicle for responding to requests from remote sites, obtaining and storing information

OMEGA EXHIBIT 2036

Page 726 of 2498

	associated with vehicle devices and running executable software that may be available in the program memory of the controller or downloaded from the remote site, while handling and configuring information including data that is communicative with the remote site over an established network, such as the Internet." (Spaur '074 patent, col. 4, line 64 – col. 5, line 5). Furthermore, "Preferably, the controller in the vehicle is also associated with an interface for communication with one or more available systems, such as an RS232 connection, an Ethernet connection and/or a PCMCIA unit. In a related embodiment, the controller includes a direct communications port for receiving and sending information without requiring the wireless device and the Internet connection to the wireless device." (Spaur '074 patent, col. 4, lines 38 – 45).
said downloading interface comprising a wireless receiver for temporary connection to a downloading device.	"In one embodiment, the cellular digitized packet data (CDPD) network provides the desired link including arrangement of information being communicated and where the destination site, namely the particular vehicle, is found in the network. If a channel is available to the particular vehicle, the CDPD link can proceed to transmit the Internet packets to the vehicle of interest. Instead of the CDPD network as the link, a communications interface could be employed that involves data only, such as a two way paging interface with the vehicle." (Spaur '074 patent, col. 2, lines 41-50) "In accordance with the present invention, a system is provided in which communication of information, including requests, commands and data, is achieved between vehicle having physical vehicle devices and one or more sites that are remote from the vehicle." (Spaur '074 patent, col. 2, lines 11-15)

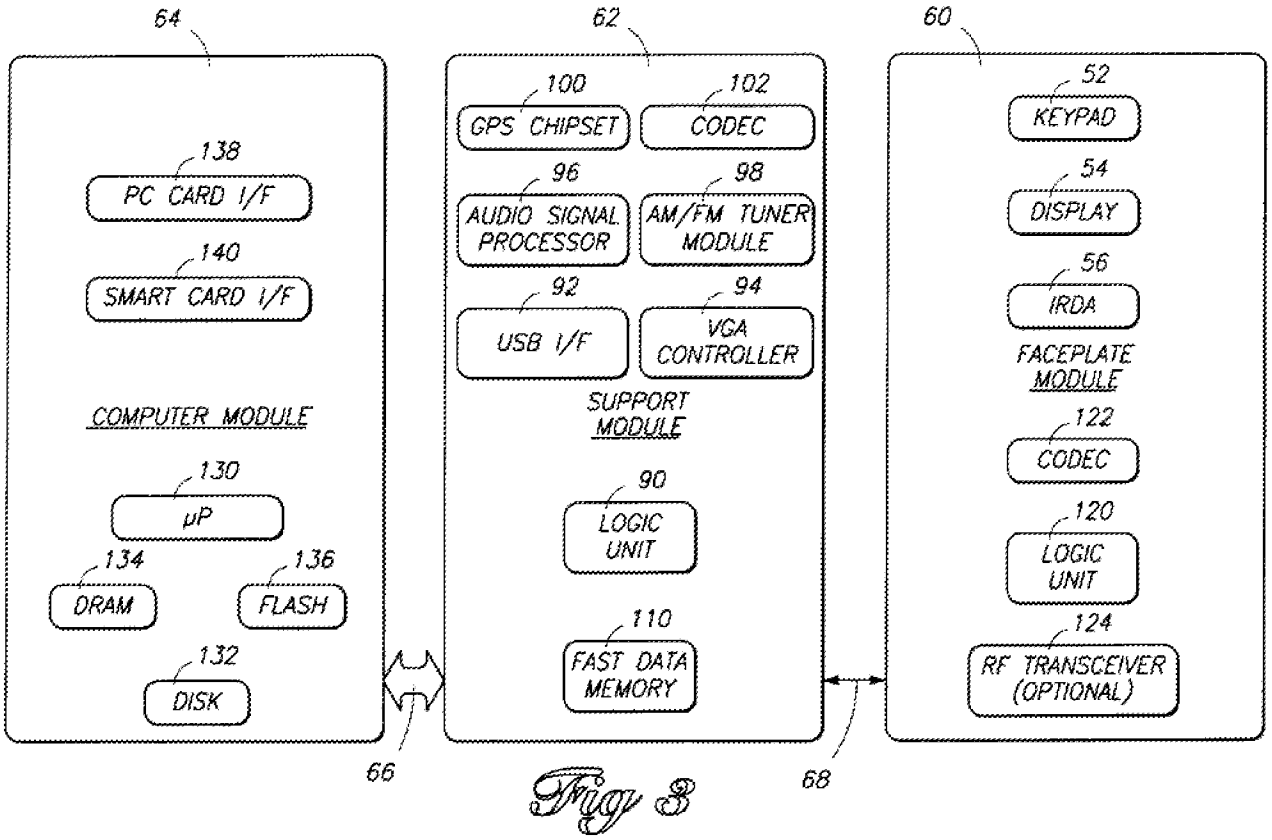
OMEGA EXHIBIT 2036

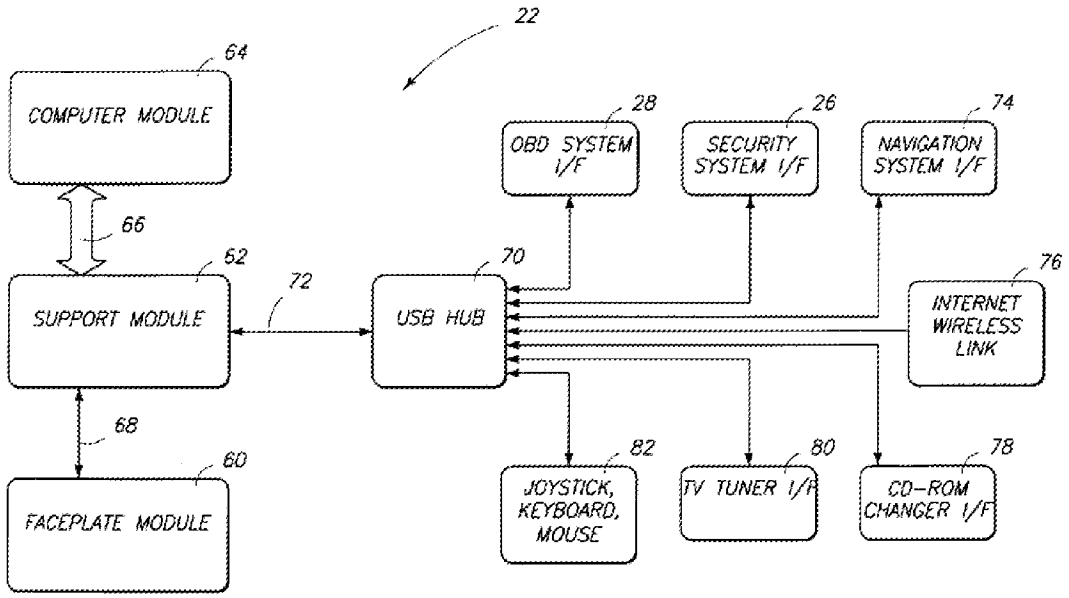
Exhibit B

Page 728 of 2498

The '278 Patent	PRIOR ART – U.S. Patent 6,009,363 to Beckert et al. (incorporates disclosure of U.S. Patent 5,794,164 to Beckert et al. by reference) and inherently the SAE HS-3000 Manual
1. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:	**The Beckert et al. '363 patent discloses a multi-vehicle compatible tracking unit in the form of a vehicle computer system** ("The vehicle computer system has a housing sized to be mounted in a vehicle dashboard or other convenient location. This system provides an open hardware architecture and supports an open platform operating system. The open platform operating system supports multiple different applications that can be supplied by a software vendor. For instance, the operating system can support applications pertaining to entertainment, navigation, communications, security, diagnostics, and others." Beckert et al. '363 patent, col. 2, lines 10-17) **for a vehicle comprising a vehicle data bus extending throughout the vehicle** ("Most late model (1996 or later for OBD II, 1993 or later for OBD I) vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine transmission and fuel system, and other components. The diagnostic system can be coupled to an external computer download or monitor diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle." Beckert et al. '363 patent, col. 1, lines 32 – 38) **the multi-vehicle compatible tracking unit comprising:**
a vehicle position determining device;	**The Beckert et al. '363 patent discloses a vehicle position determining device** in the form of a GPS chipset ("a GPS (global positioning system) chipset 100 to provide for satellite navigation such that the longitude, latitude, and altitude of the vehicle may be readily determined" Beckert et al. '363 patent, col. 6, lines 50–53). A block diagram of the vehicle computer system showing the GPS chipset 110 is included in the Beckert et al. '363 patent as FIG. 3 (reproduced below).

OMEGA EXHIBIT 2036

	 Fig. 3
a wireless communications device;	**The Beckert et al. '363 patent discloses a wireless communications device** in the form of a wireless Internet link 76 ("Another technique to load data or applications or transfer data with other computing devices is through … the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines 9 – 12, and FIGS. 1 and 3).

	 Fig 2
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	**The Beckert et al. '363 patent discloses a multi-vehicle compatible controller** in the form of the computer module 64 **for cooperating with said vehicle position determining device** ("The address/data bus structure 140 will also be driven for transfers between the host processor and peripheral registers such as the computer module reading the GPS receive registers." Beckert et al. '363 patent, col. 9, lines 6 – 9) **and said wireless communications device to send vehicle position information** ("Another technique to… transfer data with other computing devices is through… the wireless Internet link 76" Beckert et al. '363 patent, col. 5, lines 9 - 12; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The Beckert et al. '164 patent further discloses that vehicle computer system implements several application program interfaces (APIs) that can be accessed by remote computers. "Example APIs include a position and navigation API…" Beckert et al. '164 patent, col. 12, lines 25 - 30).

Page 731 of 2498

said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	**The Beckert et al. '363 patent discloses that said multi-vehicle compatible controller is coupled to the vehicle data bus for communication thereover** ("In FIG. 2, the support module 62 is also connected to a universal serial bus (USB) hub 70 via a multi-bit connector 72 (e.g., 8 bits). The USB hub 70 provides connections to… the OBD (On Board Diagnostic) system 28…" Beckert et al. '363 patent, col. 6, line 63 – col. 7, line 1); U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The Beckert et al. '164 patent further discloses that the computer module includes an OBD interpreter; "An OBD (On Board Diagnostic) interpreter 116 is provided in the computer module to communicate with the OBD system built into the vehicle by the manufacturer." Beckert et al. '164 patent, col. 9, lines 29 - 31) **with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles** ("Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system, and other components (1996 or later for OBD II, 1993 or later for OBD I)" Beckert et al. '363 patent, col. 1, lines 32 – 35; At the time of the filing of the Beckert et al. '363 patent three signaling protocols were permitted with the OBD II interface; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35; The status data interpreted by the OBD interpreter is transmitted using one of the three signaling protocols permitted by the OBD II interface). The Society of Automotive Engineers (SAE) has published various standards related to vehicle standardized networks mandated in every new vehicle sold in the United States since 1996. In particular, the SAE standards relate a for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector. In particular, the SAE standard is documented in, among many other available publications, the Society of Automotive Engineers (SAE) HS-3000 Manual (1994 edition), entitled "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (SAE HS-3000 Manual). The SAE HS-3000 includes various standards for communicating with vehicle devices on the vehicle

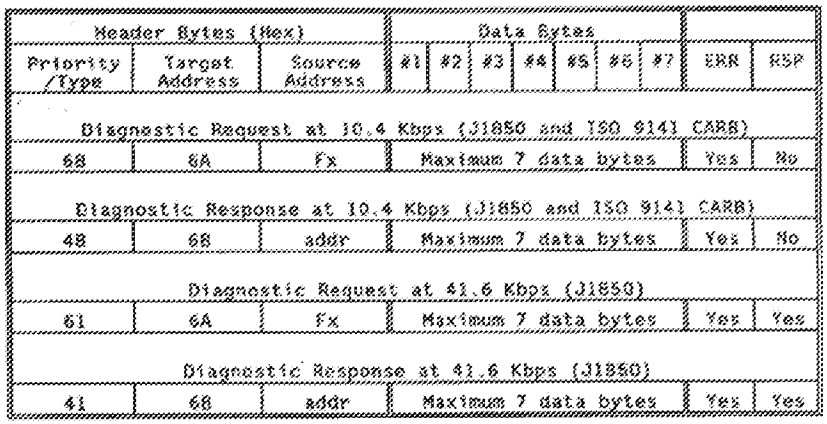
OMEGA EXHIBIT 2036

Page 732 of 2498

	bus, each standard under a particular SAE heading number (e.g., J1850, J2178, among various other standards) related to various aspects of vehicle control systems, including vehicle busses (e.g. SAE J1850, starting on page 91) and communicating, using device codes, with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996 (e.g. SAE J1978 starting on page 33 , SAE J1979 starting on page 46 and SAE J2178/1-2178/2 starting on page 200). The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. In particular, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978, reproduced below as scanned from the SAE HS-3000 manual, that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. In particular, as many as three device codes may initially be sent, at least two of which will be non-working for the particular vehicle and one of which is a working device code for the vehicle. See page 37, SAE J1978 at 6.5.1.(" While there are three types of communication interfaces that could be used to access the OBD II functions in a given vehicle (i.e., SAE J1850 41.6 Kbps PWM, SAE J1850 10.4 Kbps VPW and ISO 9141-2), only one is allowed to be used in any one vehicle to access all supported OBD II functions.")

OMEGA EXHIBIT 2036

	a. Test for SAE J1850 41.6 Kbps PWM (1) Step 1—Enable the SAE J1850 41.6 Kbps PWM interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 41.6 Kbps PWM is the type of interface used in a vehicle for OBD II support. b. Test for SAE J1850 10.4 Kbps VPW (1) Step 1—Enable the SAE J1850 10.4 Kbps VPW interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 10.4 Kbps VPW is the type of interface used in a vehicle for OBD II support. c. Test for ISO 9141 CARB (1) Step 1—Enable the ISO 9141-2 interface (2) Step 2—If the initialization sequence defined in ISO 9141-2 is completed successfully, then ISO 9141-2 is the type of interface used in a vehicle for OBD II support. The previous tests may be performed in any order and where possible may be performed in parallel. The mode 1 PID 0 request and response messages are defined in SAE J1979. SAE J1978 indicates that the "mode 1 PID 0" request and response messages are defined in SAE J1979, which starts on page 46 of the SAE HS-3000 Manual. See page 37, SAE J1978, Section 6.5.2., "Initialization Details". Requester further notes that transmission of the mode 1 PID 0 device code has previously been asserted as satisfying this requirement of the claim. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45. SAE J1979, starting on page 46, elaborates on the device codes that are used by the controller during bus detection, including the different device codes utilized by vehicles that employ a 10.4 Kbps interface (i.e., a first device code that includes 686A (hex) in the header of the request message) and vehicles that employ a 41.6 Kbps interface (i.e. a second device code that includes 616A (hex) in the header of the request message). See e.g., FIGURE 1 on page 51, reproduced below, of SAE J1979.



Header Bytes (Hex)			Data Bytes								
Priority /Type	Target Address	Source Address	#1	#2	#3	#4	#5	#6	#7	ERR	RSP
Diagnostic Request at 10.4 Kbps (J1850 and ISO 9141 CARB)											
68	6A	Fx	Maximum 7 data bytes							Yes	No
Diagnostic Response at 10.4 Kbps (J1850 and ISO 9141 CARB)											
48	6B	addr	Maximum 7 data bytes							Yes	No
Diagnostic Request at 41.6 Kbps (J1850)											
61	6A	Fx	Maximum 7 data bytes							Yes	Yes
Diagnostic Response at 41.6 Kbps (J1850)											
41	6B	addr	Maximum 7 data bytes							Yes	Yes

FIGURE 1—DIAGNOSTIC MESSAGE FORMAT

The HS-3000 Manual further provides details for hundreds of different device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. In particular,, SAE J2178 which starts on page 211 of the SAE HS-3000 Manual and consists of four parts, 1 through 4, defines sets of vehicle device codes, or "messages", for hundreds of different types of vehicle devices. The specific vehicle device code will depend upon whether a particular manufacturer implements the SAE J2178 defined vehicle code or whether a vehicle supports a manufacturer specific vehicle code. Page 156, SAE J1850, Section 4.1 elaborates on the definition of the vehicle codes as follows: "Normal Vehicle Operation (Down the Road) Messages: The messages sent during non-diagnostic operations are called normal vehicle operation messages. These normal vehicle operation messages are used for communication from a transmitter to one or more receivers across this network. The normal operation messages have been developed by the SAE for this communication network and are defined in SAE-J2178. SAE defined messages and the 'Reserved' messages of SAE J2178 shall remain specific to those definitions. In SAE J2178, there is also a set-of 'Reserved-Manufacturer' messages which, if used, will have meanings specific to a vehicle manufacturer but are likely to be different between manufacturers."

J2178/1, starting on page 200 of the SAE HS-3000 Manual, includes 10 tables defining vehicle device codes for a large variety of different categories of vehicle devices (the specific device codes are

specified in J2178/2).

Section 4 of SAE J2178/2 on page 213 specifies the Parameter Reference Number (PRN) Structure utilized within the SAE J2178 messages to use a particular device code from among a plurality thereof for different vehicles, which is illustrated below. Section 4 notes that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.

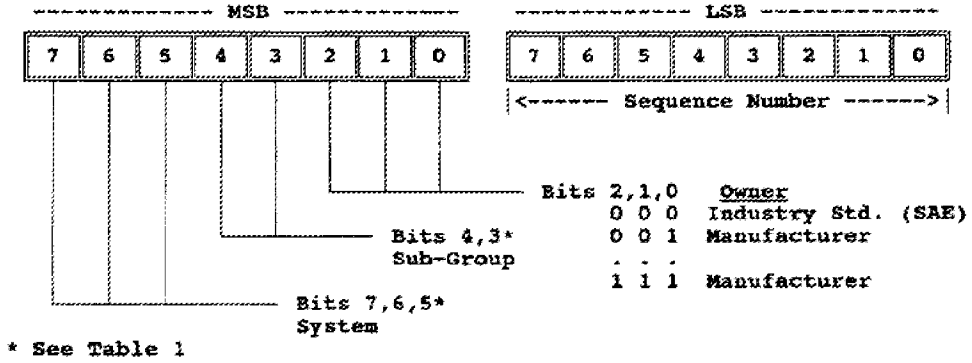


FIGURE 3—PRN STRUCTURE

The first three bits define the system and the next two bits define the sub-group. For each sub-group, three additional bits specify which of eight possible device codes are being used for a particular vehicle device, representing the Industry Std. device code (000) or one of seven manufacturer specific device codes (001-111). Accordingly, the standard specifies at least eight vehicle device codes for each PRN (which include 1 Industry Standard, and 7 manufacturer specific device codes).

SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized

Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

TABLE 2—SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer specific device codes for that specific type of vehicle device.

The Beckert et al. '363 patent states that "Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system,

OMEGA EXHIBIT 2036

Page 737 of 2498

	and other components (1006 or later for OBD II, 1993 or later for OBD I)." (Beckert '363 patent, col. 1, lines 35-26). The SAE standards, including the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices using the vehicle bus via an OBD II diagnostic connector. Accordingly, it would have been both inherent and obvious to utilize the teachings described in SAE HS-3000 Manual because the Beckert et al. '363 patent expressly directs using the OBD II diagnostic system.
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.	**The Beckert et al. '363 patent discloses multiple downloading interfaces** ("To load an application or data onto the computer 22, the vehicle user inserts a CD or other media (if the application is not already contained on the hard disk) into the appropriate drive and the operating system downloads the application or data therefrom. The installation process can be automatically handled by the operating system, or with the assistance of commands input from the user in the form of keyed sequences on the keypad 52 or verbal instructions using the voice recognition device. Another technique to load data or applications or transfer data with other computing devices is through the use of the IrDA transceiver port 56, or the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines 1 – 12; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "It is further noted that the complete vehicle system can be removed from the base unit for security reasons, or to plug the computer into a docking station at the user's residence or office. With a docking station, the user can install or configure various programs for vehicle usage…" Beckert et al. '164 patent, col. 12, lines 5 - 11) **for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller in the form of vehicle diagnostics applications downloaded via a wireless Internet connection** ("The microprocessor runs an open platform operating system, such as Windows 95® or Windows NT™, or Windows® derivative operating systems from Microsoft Corporation… The computer module 64 supports any variety of applications that the vehicle user might desire. These applications can… downloaded from an optional wireless Internet connection." Beckert et al. '363 patent, col. 7, lines 20-33; "… the operating system can support applications pertaining to… diagnostics" Beckert et al. '363 patent, col. 2, lines 15-17; "For instance, the vehicle computer system 20 can serve as… a diagnostic system" Beckert et al. '363 patent, col. 5, lines 36-41; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The

OMEGA EXHIBIT 2036

Page 738 of 2498

	Beckert et al. '164 patent further discloses that "[T]here are several applications that are supported by the operating system… The vehicle computer system also implements several application program interfaces (APIs) that offer specific functionality to support the various applications. Example APIs include… a diagnostics API… These applications and APIs are vehicle related… Essentially, the vehicle computer system can support any applications that run on the open platform operating system, which are many and varied" Beckert et al. '164 patent, col. 12, lines 12 – 40).
2. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface comprises a wired signal downloading interface.	**The Beckert et al. '363 patent discloses multiple downloading interfaces including wired signal downloading interfaces** ("To load an application or data onto the computer 22, the vehicle user inserts a CD or other media (if the application is not already contained on the hard disk) into the appropriate drive and the operating system downloads the application or data therefrom. The installation process can be automatically handled by the operating system, or with the assistance of commands input from the user in the form of keyed sequences on the keypad 52 or verbal instructions using the voice recognition device. Another technique to load data or applications or transfer data with other computing devices is through the use of the IrDA transceiver port 56, or the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines 1 – 12; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "It is further noted that the complete vehicle system can be removed from the base unit for security reasons, or to plug the computer into a docking station at the user's residence or office. With a docking station, the user can install or configure various programs for vehicle usage…" Beckert et al. '164 patent, col. 12, lines 5 - 11).
3. The multi-vehicle compatible tracking unit according to claim 2 wherein said wired signal downloading interface comprises a connector for temporary connection to a downloading device.	**The Beckert et al. '363 patent discloses that the wired signal downloading interface comprises a connector for temporary connection to a downloading device** ("It is further noted that the complete vehicle system can be removed from the base unit for security reasons, or to plug the computer into a docking station at the user's residence or office. With a docking station, the user can install or configure various programs for vehicle usage…" Beckert et al. '164 patent, col. 12, lines 5 - 11).

OMEGA EXHIBIT 2036

Page 739 of 2498

4. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface comprises a wireless signal downloading interface.	**The Beckert et al. '363 patent discloses that said downloading interface comprises a wireless signal downloading interface in the form of a wireless Internet link** ("To load an application or data onto the computer 22, the vehicle user inserts a CD or other media (if the application is not already contained on the hard disk) into the appropriate drive and the operating system downloads the application or data therefrom. The installation process can be automatically handled by the operating system, or with the assistance of commands input from the user in the form of keyed sequences on the keypad 52 or verbal instructions using the voice recognition device. Another technique to load data or applications or transfer data with other computing devices is through the use of the IrDA transceiver port 56, or the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines 1 – 12).
5. The multi-vehicle compatible tracking unit according to claim 4 wherein said wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device.	**The Beckert et al. '363 patent discloses that said wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device** ("Additionally, the faceplate module contains a slot for an optional plug-in RF transceiver 124 such as a cellphone, two-way pager, or point-to-point spread spectrum transceiver", Beckert et al. '363 patent, col. 7, lines 10-13).
6. The multi-vehicle compatible tracking unit according to claim 1 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	**The Beckert et al. '363 patent discloses that wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device by describing reading status data from the vehicle's OBD system** ("Most late model (1996 or later for OBD II, 1993 or later for OBD I) vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine transmission and fuel system, and other components. The diagnostic system can be coupled to an external computer download or monitor diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle." Beckert et al. '363 patent, col. 1, lines 32 – 38; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be

OMEGA EXHIBIT 2036

Page 740 of 2498

	controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35)
7. The multi-vehicle compatible tracking unit according to claim 1 wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device.	**The Beckert et al. '363 patent discloses writing to the at least one vehicle device via an OBD-II port by disclosing providing commands that allow non-critical car systems to be controlled** ("Most late model (1996 or later for OBD II, 1993 or later for OBD I) vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine transmission and fuel system, and other components. The diagnostic system can be coupled to an external computer download or monitor diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle." Beckert et al. '363 patent, col. 1, lines 32 – 38; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35)
8. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.	**The Beckert et al. '363 patent discloses that said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller** ("The microprocessor runs an open platform operating system, such as Windows 95® or Windows NT™, or Windows® derivative operating systems from Microsoft Corporation… The computer module 64 supports any variety of applications that the vehicle user might desire. These applications can… downloaded from an optional wireless Internet connection." Beckert et al. '363 patent, col. 7, lines 20-33; "… the operating system can support applications pertaining to… diagnostics" Beckert et al. '363 patent, col. 2, lines 15-17; "For instance, the vehicle computer system 20 can serve as… a diagnostic system" Beckert et al. '363 patent, col. 5, lines 36-41; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The Beckert et al. '164 patent further discloses that "[T]here are several applications that are supported by the operating system… The vehicle computer system also implements several application program interfaces (APIs) that offer specific functionality to support the various applications. Example APIs include… a diagnostics API… These applications and APIs are vehicle related… Essentially, the vehicle computer system can support any applications that run on

OMEGA EXHIBIT 2036

Page 741 of 2498

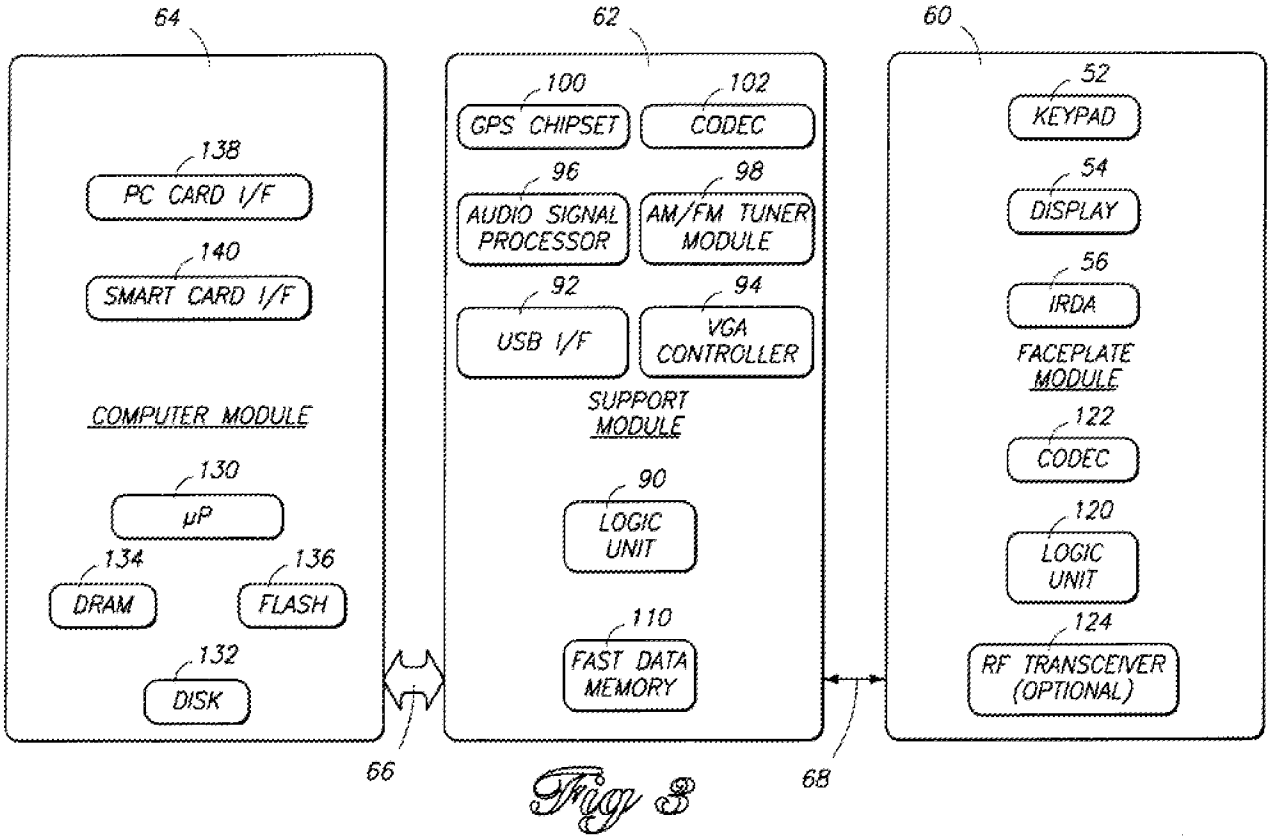
	the open platform operating system, which are many and varied" Beckert et al. '164 patent, col. 12, lines 12 – 40)
9. The multi-vehicle compatible tracking unit according to claim 1 further comprising a remote transmitter;	**The Beckert et al. '363 patent discloses a remote transmitter in the form of other computing devices that communicate with the vehicle computer system via the wireless Internet link** ("Another technique to… transfer data with other computing devices is through… the wireless Internet link 76" Beckert et al. '363 patent, col. 5, lines 9 – 12).
and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter.	**The Beckert et al. '363 patent discloses performing at least one vehicle remote control function responsive to the remote transmitter by incorporating U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) by reference to disclose the full capabilities of the vehicle computer system that include a number of APIs that can be accessed by the remote computing devices including a diagnostic API that can be used to control the functions of the vehicle** ("Example APIs include… a diagnostics API" Beckert et al. '164 patent, col. 12, lines 25 – 30; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35).
10. The multi-vehicle compatible tracking unit according to claim 9 wherein the at least one vehicle remote control function comprises at least one of a vehicle security function, a remote keyless entry function, and a remote engine starting function.	**The Beckert et al. '363 patent discloses that security systems control actuators to lock/unlock doors or windows, and an alarm or siren and the controlling of the security system via the wireless Internet link** ("Security System also controls actuators to lock/unlock doors or windows, and an alarm or siren" Beckert et al. '363 patent, col. 1, lines 35 – 31; "The open platform operating system supports multiple different applications that can be supplied by a software vendor. For instance, the operating system can support applications pertaining to entertainment, navigation, communications, security, diagnostics, and others." Beckert et al. '363 patent, col. 2, lines 13–18; "It is desirable that the computer system remain operative to maintain security and communication features even though the system can no longer draw power from the vehicle battery." Beckert et al. '363 patent, col. 14, lines 6-9)
11. The multi-vehicle compatible tracking unit	**The Beckert et al. '363 patent discloses that said wireless position determining device comprises a Global Positioning System (GPS) receiver** ("a GPS (global positioning system) chipset 100 to provide

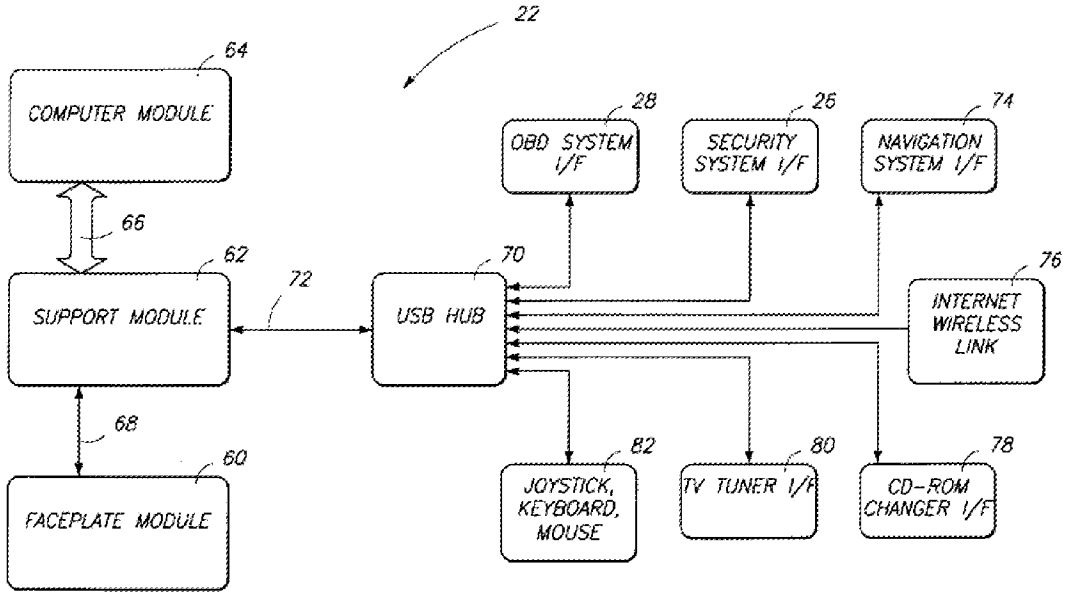
OMEGA EXHIBIT 2036

Page 742 of 2498

according to claim 1 wherein said wireless position determining device comprises a Global Positioning System (GPS) receiver.	for satellite navigation such that the longitude, latitude, and altitude of the vehicle may be readily determined" Beckert et al. '363 patent, col. 6, lines 50–53).
12. The multi-vehicle compatible tracking unit according to claim 1 further comprising a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said downloading interface.	**The Beckert et al. '363 patent discloses a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said downloading interface** ("The vehicle computer system has a housing sized to be mounted in a vehicle dashboard or other convenient location." Beckert et al. 363 patent, col. 2, lines 9 – 11; "The computer 22 is assembled in a housing 36 that is sized to be mounted in a vehicle dashboard, similar to a conventional automobile stereo. Preferably, the housing 36 has a form factor of a single DIN (Deutsche Industry Normen). But, it possibly could be housed in a 2 DIN unit or other special form factor for an OEM." Beckert et al. patent, col. 4, lines 4-9).
13. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	**The Beckert et al. '363 patent discloses a multi-vehicle compatible tracking unit in the form of a vehicle computer system** ("The vehicle computer system has a housing sized to be mounted in a vehicle dashboard or other convenient location. This system provides an open hardware architecture and supports an open platform operating system. The open platform operating system supports multiple different applications that can be supplied by a software vendor. For instance, the operating system can support applications pertaining to entertainment, navigation, communications, security, diagnostics, and others." Beckert et al. '363 patent, col. 2, lines 10-17) **for a vehicle comprising a vehicle data bus extending throughout the vehicle** ("Most late model (1996 or later for OBD II, 1993 or later for OBD I) vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine transmission and fuel system, and other components. The diagnostic system can be coupled to an external computer download or monitor diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle." Beckert et al. '363 patent, col. 1, lines 32 – 38) **the multi-vehicle compatible tracking unit comprising:**
a vehicle position	**The Beckert et al. '363 patent discloses a vehicle position determining device** in the form of a GPS

OMEGA EXHIBIT 2036

determining device;	chipset ("a GPS (global positioning system) chipset 100 to provide for satellite navigation such that the longitude, latitude, and altitude of the vehicle may be readily determined" Beckert et al. '363 patent, col. 6, lines 50–53). A block diagram of the vehicle computer system showing the GPS chipset 110 is included in the Beckert et al. '363 patent as FIG. 3 (reproduced below).  Fig. 3
a wireless communications device;	**The Beckert et al. '363 patent discloses a wireless communications device** in the form of a wireless Internet link 76 ("Another technique to load data or applications or transfer data with other computing devices is through … the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines

	9 – 12, and FIGS. 1 and 3).  Fig. 2
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	**The Beckert et al. '363 patent discloses a multi-vehicle compatible controller** in the form of the computer module 64 **for cooperating with said vehicle position determining device** ("The address/data bus structure 140 will also be driven for transfers between the host processor and peripheral registers such as the computer module reading the GPS receive registers." Beckert et al. '363 patent, col. 9, lines 6 – 9) **and said wireless communications device to send vehicle position information** ("Another technique to… transfer data with other computing devices is through… the wireless Internet link 76" Beckert et al. '363 patent, col. 5, lines 9 - 12; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The Beckert et al. '164 patent further discloses that vehicle computer system implements several application program interfaces (APIs) that can be accessed by remote computers. "Example APIs include a position and navigation API…" Beckert et al. '164 patent, col.

Page 745 of 2498

	12, lines 25 - 30).
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	**The Beckert et al. '363 patent discloses that said multi-vehicle compatible controller is coupled to the vehicle data bus for communication thereover** ("In FIG. 2, the support module 62 is also connected to a universal serial bus (USB) hub 70 via a multi-bit connector 72 (e.g., 8 bits). The USB hub 70 provides connections to… the OBD (On Board Diagnostic) system 28…" Beckert et al. '363 patent, col. 6, line 63 – col. 7, line 1); U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The Beckert et al. '164 patent further discloses that the computer module includes an OBD interpreter; "An OBD (On Board Diagnostic) interpreter 116 is provided in the computer module to communicate with the OBD system built into the vehicle by the manufacturer." Beckert et al. '164 patent, col. 9, lines 29 - 31) **with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles** ("Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system, and other components (1996 or later for OBD II, 1993 or later for OBD I)" Beckert et al. '363 patent, col. 1, lines 32 – 35; At the time of the filing of the Beckert et al. '363 patent three signaling protocols were permitted with the OBD II interface; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35; The status data interpreted by the OBD interpreter is transmitted using one of the three signaling protocols permitted by the OBD II interface). The Society of Automotive Engineers (SAE) has published various standards related to vehicle standardized networks mandated in every new vehicle sold in the United States since 1996. In particular, the SAE standards relate a for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector. In particular, the SAE standard is documented in, among many other available publications, the Society of Automotive Engineers (SAE) HS-3000 Manual (1994 edition), entitled "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (SAE HS-3000 Manual).

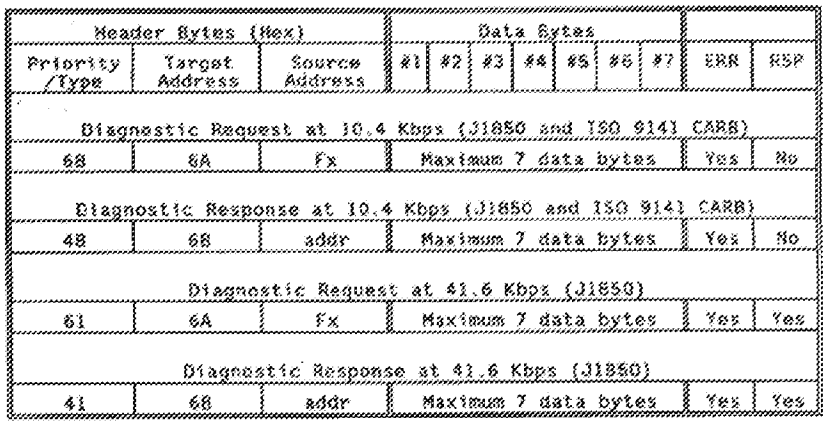
OMEGA EXHIBIT 2036

Page 746 of 2498

	The SAE HS-3000 includes various standards for communicating with vehicle devices on the vehicle bus, each standard under a particular SAE heading number (e.g., J1850, J2178, among various other standards) related to various aspects of vehicle control systems, including vehicle busses (e.g. SAE J1850, starting on page 91) and communicating, using device codes, with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996 (e.g. SAE J1978 starting on page 33 , SAE J1979 starting on page 46 and SAE J2178/1-2178/2 starting on page 200). The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. In particular, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978, reproduced below as scanned from the SAE HS-3000 manual, that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. In particular, as many as three device codes may initially be sent, at least two of which will be non-working for the particular vehicle and one of which is a working device code for the vehicle. See page 37, SAE J1978 at 6.5.1.(" While there are three types of communication interfaces that could be used to access the OBD II functions in a given vehicle (i.e., SAE J1850 41.6 Kbps PWM, SAE J1850 10.4 Kbps VPW and ISO 9141-2), only one is allowed to be used in any one vehicle to access all supported OBD II functions.")

OMEGA EXHIBIT 2036

	a. Test for SAE J1850 41.6 Kbps PWM (1) Step 1—Enable the SAE J1850 41.6 Kbps PWM interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 41.6 Kbps PWM is the type of interface used in a vehicle for OBD II support. b. Test for SAE J1850 10.4 Kbps VPW (1) Step 1—Enable the SAE J1850 10.4 Kbps VPW interface (2) Step 2—Send a mode 1 PID 0 request message (3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 10.4 Kbps VPW is the type of interface used in a vehicle for OBD II support. c. Test for ISO 9141 CARB (1) Step 1—Enable the ISO 9141-2 interface (2) Step 2—If the initialization sequence defined in ISO 9141-2 is completed successfully, then ISO 9141-2 is the type of interface used in a vehicle for OBD II support. The previous tests may be performed in any order and where possible may be performed in parallel. The mode 1 PID 0 request and response messages are defined in SAE J1979. SAE J1978 indicates that the "mode 1 PID 0" request and response messages are defined in SAE J1979, which starts on page 46 of the SAE HS-3000 Manual. See page 37, SAE J1978, Section 6.5.2., "Initialization Details". Requester further notes that transmission of the mode 1 PID 0 device code has previously been asserted as satisfying this requirement of the claim. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45. SAE J1979, starting on page 46, elaborates on the device codes that are used by the controller during bus detection, including the different device codes utilized by vehicles that employ a 10.4 Kbps interface (i.e., a first device code that includes 686A (hex) in the header of the request message) and vehicles that employ a 41.6 Kbps interface (i.e. a second device code that includes 616A (hex) in the header of the request message). See e.g., FIGURE 1 on page 51, reproduced below, of SAE J1979.



Header Bytes (Hex)			Data Bytes								
Priority /Type	Target Address	Source Address	#1	#2	#3	#4	#5	#6	#7	ERR	RSP
Diagnostic Request at 10.4 Kbps (J1850 and ISO 9141 CARB)											
68	6A	Fx	Maximum 7 data bytes							Yes	No
Diagnostic Response at 10.4 Kbps (J1850 and ISO 9141 CARB)											
48	6B	addr	Maximum 7 data bytes							Yes	No
Diagnostic Request at 41.6 Kbps (J1850)											
61	6A	Fx	Maximum 7 data bytes							Yes	Yes
Diagnostic Response at 41.6 Kbps (J1850)											
41	6B	addr	Maximum 7 data bytes							Yes	Yes

FIGURE 1—DIAGNOSTIC MESSAGE FORMAT

The HS-3000 Manual further provides details for hundreds of different device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. In particular,, SAE J2178 which starts on page 211 of the SAE HS-3000 Manual and consists of four parts, 1 through 4, defines sets of vehicle device codes, or "messages", for hundreds of different types of vehicle devices. The specific vehicle device code will depend upon whether a particular manufacturer implements the SAE J2178 defined vehicle code or whether a vehicle supports a manufacturer specific vehicle code. Page 156, SAE J1850, Section 4.1 elaborates on the definition of the vehicle codes as follows: "Normal Vehicle Operation (Down the Road) Messages: The messages sent during non-diagnostic operations are called normal vehicle operation messages. These normal vehicle operation messages are used for communication from a transmitter to one or more receivers across this network. The normal operation messages have been developed by the SAE for this communication network and are defined in SAE-J2178. SAE defined messages and the 'Reserved' messages of SAE J2178 shall remain specific to those definitions. In SAE J2178, there is also a set-of 'Reserved-Manufacturer' messages which, if used, will have meanings specific to a vehicle manufacturer but are likely to be different between manufacturers."

J2178/1, starting on page 200 of the SAE HS-3000 Manual, includes 10 tables defining vehicle device codes for a large variety of different categories of vehicle devices (the specific device codes are

specified in J2178/2).

Section 4 of SAE J2178/2 on page 213 specifies the Parameter Reference Number (PRN) Structure utilized within the SAE J2178 messages to use a particular device code from among a plurality thereof for different vehicles, which is illustrated below. Section 4 notes that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.

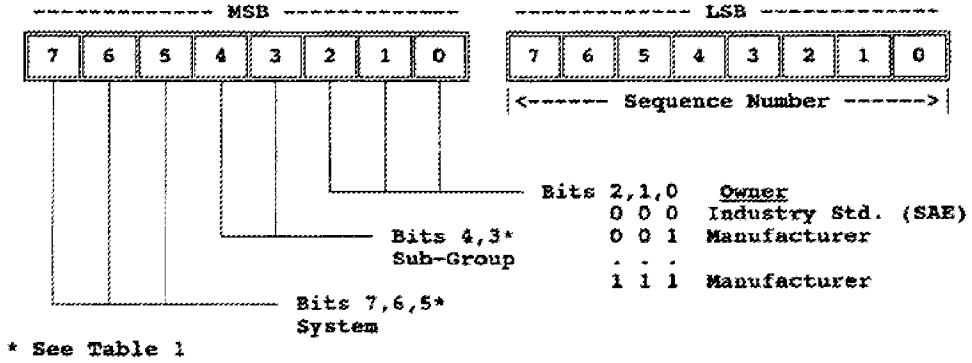


FIGURE 3—PRN STRUCTURE

The first three bits define the system and the next two bits define the sub-group. For each sub-group, three additional bits specify which of eight possible device codes are being used for a particular vehicle device, representing the Industry Std. device code (000) or one of seven manufacturer specific device codes (001-111). Accordingly, the standard specifies at least eight vehicle device codes for each PRN (which include 1 Industry Standard, and 7 manufacturer specific device codes).

SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized

Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

TABLE 2—SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer specific device codes for that specific type of vehicle device.

The Beckert et al. '363 patent states that "Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system,

OMEGA EXHIBIT 2036

Page 751 of 2498

	and other components (1006 or later for OBD II, 1993 or later for OBD I)." (Beckert '363 patent, col. 1, lines 35-26). The SAE standards, including the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices using the vehicle bus via an OBD II diagnostic connector. Accordingly, it would have been obvious to utilize the teachings described in SAE HS-3000 Manual because the Beckert et al. '363 patent expressly directs using the OBD II diagnostic system.
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	**The Beckert et al. '363 patent discloses multiple downloading interfaces** ("To load an application or data onto the computer 22, the vehicle user inserts a CD or other media (if the application is not already contained on the hard disk) into the appropriate drive and the operating system downloads the application or data therefrom. The installation process can be automatically handled by the operating system, or with the assistance of commands input from the user in the form of keyed sequences on the keypad 52 or verbal instructions using the voice recognition device. Another technique to load data or applications or transfer data with other computing devices is through the use of the IrDA transceiver port 56, or the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines 1 – 12; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "It is further noted that the complete vehicle system can be removed from the base unit for security reasons, or to plug the computer into a docking station at the user's residence or office. With a docking station, the user can install or configure various programs for vehicle usage…" Beckert et al. '164 patent, col. 12, lines 5 - 11) **for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller in the form of vehicle diagnostics applications downloaded via a wireless Internet connection** ("The microprocessor runs an open platform operating system, such as Windows 95® or Windows NT™, or Windows® derivative operating systems from Microsoft Corporation… The computer module 64 supports any variety of applications that the vehicle user might desire. These applications can… downloaded from an optional wireless Internet connection." Beckert et al. '363 patent, col. 7, lines 20-33; "… the operating system can support applications pertaining to… diagnostics" Beckert et al. '363 patent, col. 2, lines 15-17; "For instance, the vehicle computer system 20 can serve as… a diagnostic system" Beckert et al. '363 patent, col. 5, lines 36-41; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The

OMEGA EXHIBIT 2036

Page 752 of 2498

	Beckert et al. '164 patent further discloses that "[T]here are several applications that are supported by the operating system… The vehicle computer system also implements several application program interfaces (APIs) that offer specific functionality to support the various applications. Example APIs include… a diagnostics API… These applications and APIs are vehicle related… Essentially, the vehicle computer system can support any applications that run on the open platform operating system, which are many and varied" Beckert et al. '164 patent, col. 12, lines 12 – 40)
said downloading interface comprising a connector for temporary connection to a downloading device.	**The Beckert et al. '363 patent discloses that the wired signal downloading interface comprises a connector for temporary connection to a downloading device** ("It is further noted that the complete vehicle system can be removed from the base unit for security reasons, or to plug the computer into a docking station at the user's residence or office. With a docking station, the user can install or configure various programs for vehicle usage…" Beckert et al. '164 patent, col. 12, lines 5 - 11) **The Beckert et al. '363 patent also discloses a wireless signal downloading interface for temporary connection to a downloading device** ("Additionally, the faceplate module contains a slot for an optional plug-in RF transceiver 124 such as a cellphone, two-way pager, or point-to-point spread spectrum transceiver", Beckert et al. '363 patent, col. 7, lines 10-13).
14. The multi-vehicle compatible tracking unit according to claim 13 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	**The Beckert et al. '363 patent discloses that wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device by describing reading status data from the vehicle's OBD system** ("Most late model (1996 or later for OBD II, 1993 or later for OBD I) vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine transmission and fuel system, and other components. The diagnostic system can be coupled to an external computer download or monitor diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle." Beckert et al. '363 patent, col. 1, lines 32 – 38; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be

OMEGA EXHIBIT 2036

Page 753 of 2498

	controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35)
15. The multi-vehicle compatible tracking unit according to claim 13 wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device.	**The Beckert et al. '363 patent discloses writing to the at least one vehicle device via an OBD-II port by disclosing providing commands that allow non-critical car systems to be controlled** ("Most late model (1996 or later for OBD II, 1993 or later for OBD I) vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine transmission and fuel system, and other components. The diagnostic system can be coupled to an external computer download or monitor diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle." Beckert et al. '363 patent, col. 1, lines 32 – 38; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35)
16. The multi-vehicle compatible tracking unit according to claim 13 wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.	**The Beckert et al. '363 patent discloses that said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller** ("The microprocessor runs an open platform operating system, such as Windows 95® or Windows NT™, or Windows® derivative operating systems from Microsoft Corporation… The computer module 64 supports any variety of applications that the vehicle user might desire. These applications can… downloaded from an optional wireless Internet connection." Beckert et al. '363 patent, col. 7, lines 20-33; "… the operating system can support applications pertaining to… diagnostics" Beckert et al. '363 patent, col. 2, lines 15-17; "For instance, the vehicle computer system 20 can serve as… a diagnostic system" Beckert et al. '363 patent, col. 5, lines 36-41; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The Beckert et al. '164 patent further discloses that "[T]here are several applications that are supported by the operating system… The vehicle computer system also implements several application program interfaces (APIs) that offer specific functionality to support the various applications. Example APIs include… a diagnostics API… These applications and APIs are vehicle related… Essentially, the vehicle computer system can support any applications that run on

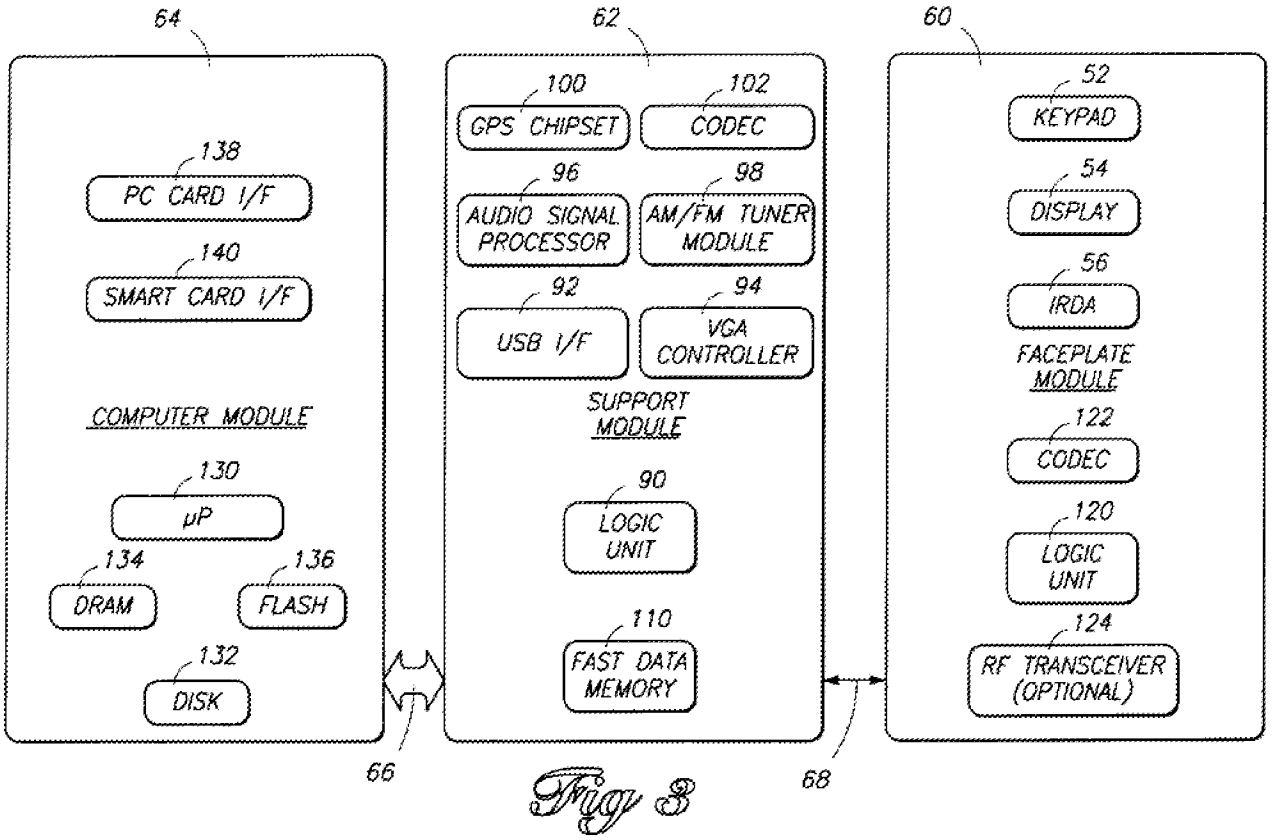
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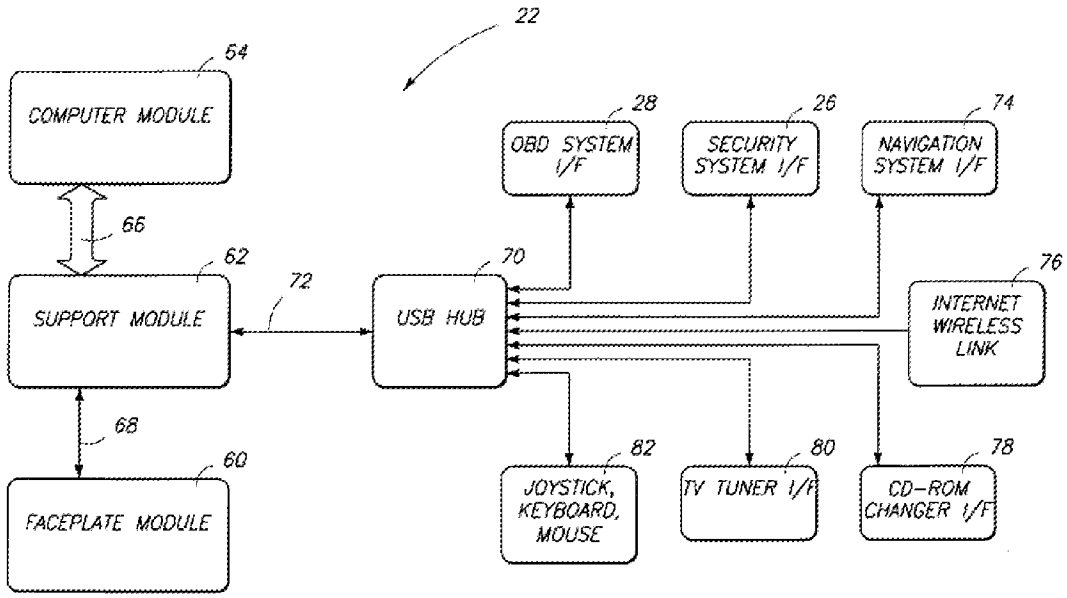
	the open platform operating system, which are many and varied" Beckert et al. '164 patent, col. 12, lines 12 – 40)
17. The multi-vehicle compatible tracking unit according to claim 13 further comprising a remote transmitter;	**The Beckert et al. '363 patent discloses a remote transmitter in the form of other computing devices that communicate with the vehicle computer system via the wireless Internet link** ("Another technique to… transfer data with other computing devices is through… the wireless Internet link 76" Beckert et al. '363 patent, col. 5, lines 9 – 12).
and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter.	**The Beckert et al. '363 patent discloses performing at least one vehicle remote control function responsive to the remote transmitter by incorporating U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) by reference to disclose the full capabilities of the vehicle computer system that include a number of APIs that can be accessed by the remote computing devices including a diagnostic API that can be used to control the functions of the vehicle** ("Example APIs include… a diagnostics API" Beckert et al. '164 patent, col. 12, lines 25 – 30; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35).
18. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	**The Beckert et al. '363 patent discloses a multi-vehicle compatible tracking unit in the form of a vehicle computer system** ("The vehicle computer system has a housing sized to be mounted in a vehicle dashboard or other convenient location. This system provides an open hardware architecture and supports an open platform operating system. The open platform operating system supports multiple different applications that can be supplied by a software vendor. For instance, the operating system can support applications pertaining to entertainment, navigation, communications, security, diagnostics, and others." Beckert et al. '363 patent, col. 2, lines 10-17) **for a vehicle comprising a vehicle data bus extending throughout the vehicle** ("Most late model (1996 or later for OBD II, 1993 or later for OBD I) vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine transmission and fuel system, and other components. The diagnostic system can be coupled to an external computer download or monitor

OMEGA EXHIBIT 2036

	diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle." Beckert et al. '363 patent, col. 1, lines 32 – 38) **the multi-vehicle compatible tracking unit comprising:**
a vehicle position determining device;	**The Beckert et al. '363 patent discloses a vehicle position determining device** in the form of a GPS chipset ("a GPS (global positioning system) chipset 100 to provide for satellite navigation such that the longitude, latitude, and altitude of the vehicle may be readily determined" Beckert et al. '363 patent, col. 6, lines 50–53). A block diagram of the vehicle computer system showing the GPS chipset 110 is included in the Beckert et al. '363 patent as FIG. 3 (reproduced below).

OMEGA EXHIBIT 2036

	 Fig. 3
a wireless communications device;	**The Beckert et al. '363 patent discloses a wireless communications device** in the form of a wireless Internet link 76 ("Another technique to load data or applications or transfer data with other computing devices is through … the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines 9 – 12, and FIGS. 1 and 3).

	 Fig 2
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	**The Beckert et al. '363 patent discloses a multi-vehicle compatible controller** in the form of the computer module 64 **for cooperating with said vehicle position determining device** ("The address/data bus structure 140 will also be driven for transfers between the host processor and peripheral registers such as the computer module reading the GPS receive registers." Beckert et al. '363 patent, col. 9, lines 6 – 9) **and said wireless communications device to send vehicle position information** ("Another technique to… transfer data with other computing devices is through… the wireless Internet link 76" Beckert et al. '363 patent, col. 5, lines 9 - 12; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The Beckert et al. '164 patent further discloses that vehicle computer system implements several application program interfaces (APIs) that can be accessed by remote computers. "Example APIs include a position and navigation API…" Beckert et al. '164 patent, col. 12, lines 25 - 30).

Page 758 of 2498

said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	**The Beckert et al. '363 patent discloses that said multi-vehicle compatible controller is coupled to the vehicle data bus for communication thereover** ("In FIG. 2, the support module 62 is also connected to a universal serial bus (USB) hub 70 via a multi-bit connector 72 (e.g., 8 bits). The USB hub 70 provides connections to… the OBD (On Board Diagnostic) system 28…" Beckert et al. '363 patent, col. 6, line 63 – col. 7, line 1); U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The Beckert et al. '164 patent further discloses that the computer module includes an OBD interpreter; "An OBD (On Board Diagnostic) interpreter 116 is provided in the computer module to communicate with the OBD system built into the vehicle by the manufacturer." Beckert et al. '164 patent, col. 9, lines 29 - 31) **with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles** ("Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system, and other components (1996 or later for OBD II, 1993 or later for OBD I)" Beckert et al. '363 patent, col. 1, lines 32 – 35; At the time of the filing of the Beckert et al. '363 patent three signaling protocols were permitted with the OBD II interface; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35; The status data interpreted by the OBD interpreter is transmitted using one of the three signaling protocols permitted by the OBD II interface). The Society of Automotive Engineers (SAE) has published various standards related to vehicle standardized networks mandated in every new vehicle sold in the United States since 1996. In particular, the SAE standards relate a for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector. In particular, the SAE standard is documented in, among many other available publications, the Society of Automotive Engineers (SAE) HS-3000 Manual (1994 edition), entitled "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (SAE HS-3000 Manual). The SAE HS-3000 includes various standards for communicating with vehicle devices on the vehicle

OMEGA EXHIBIT 2036

Page 759 of 2498

	bus, each standard under a particular SAE heading number (e.g., J1850, J2178, among various other standards) related to various aspects of vehicle control systems, including vehicle busses (e.g. SAE J1850, starting on page 91) and communicating, using device codes, with vehicle devices using the vehicle bus via an OBD II diagnostic connector mandated in every new vehicle sold since 1996 (e.g. SAE J1978 starting on page 33 , SAE J1979 starting on page 46 and SAE J2178/1-2178/2 starting on page 200). The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. In particular, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978, reproduced below as scanned from the SAE HS-3000 manual, that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. In particular, as many as three device codes may initially be sent, at least two of which will be non-working for the particular vehicle and one of which is a working device code for the vehicle. See page 37, SAE J1978 at 6.5.1.(" While there are three types of communication interfaces that could be used to access the OBD II functions in a given vehicle (i.e., SAE J1850 41.6 Kbps PWM, SAE J1850 10.4 Kbps VPW and ISO 9141-2), only one is allowed to be used in any one vehicle to access all supported OBD II functions.")

OMEGA EXHIBIT 2036

a. Test for SAE J1850 41.6 Kbps PWM
(1) Step 1—Enable the SAE J1850 41.6 Kbps PWM interface
(2) Step 2—Send a mode 1 PID 0 request message
(3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 41.6 Kbps PWM is the type of interface used in a vehicle for OBD II support.

b. Test for SAE J1850 10.4 Kbps VPW
(1) Step 1—Enable the SAE J1850 10.4 Kbps VPW interface
(2) Step 2—Send a mode 1 PID 0 request message
(3) Step 3—If a mode 1 PID 0 response message is received then SAE J1850 10.4 Kbps VPW is the type of interface used in a vehicle for OBD II support.

c. Test for ISO 9141 CARB
(1) Step 1—Enable the ISO 9141-2 interface
(2) Step 2—If the initialization sequence defined in ISO 9141-2 is completed successfully, then ISO 9141-2 is the type of interface used in a vehicle for OBD II support.

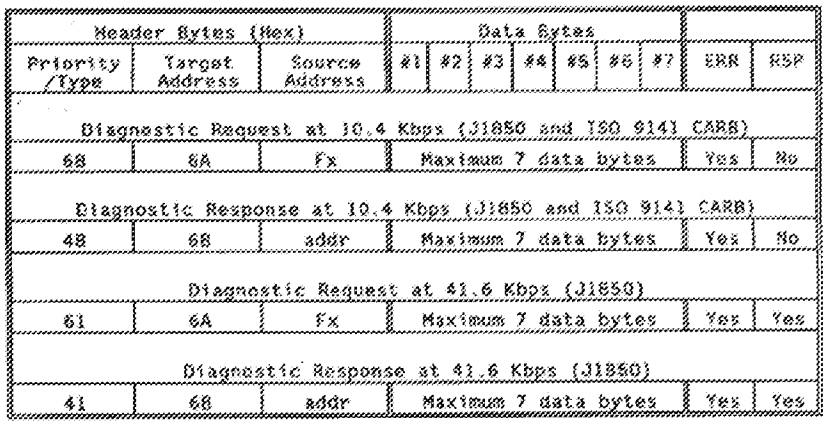
The previous tests may be performed in any order and where possible may be performed in parallel.

The mode 1 PID 0 request and response messages are defined in SAE J1979.

SAE J1978 indicates that the "mode 1 PID 0" request and response messages are defined in SAE J1979, which starts on page 46 of the SAE HS-3000 Manual. See page 37, SAE J1978, Section 6.5.2., "Initialization Details". Requester further notes that transmission of the mode 1 PID 0 device code has previously been asserted as satisfying this requirement of the claim. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45.

SAE J1979, starting on page 46, elaborates on the device codes that are used by the controller during bus detection, including the different device codes utilized by vehicles that employ a 10.4 Kbps interface (i.e., a first device code that includes 686A (hex) in the header of the request message) and vehicles that employ a 41.6 Kbps interface (i.e. a second device code that includes 616A (hex) in the header of the request message). See e.g., FIGURE 1 on page 51, reproduced below, of SAE J1979.

OMEGA EXHIBIT 2036



Header Bytes (Hex)			Data Bytes								
Priority /Type	Target Address	Source Address	#1	#2	#3	#4	#5	#6	#7	ERR	RSP
Diagnostic Request at 10.4 Kbps (J1850 and ISO 9141 CARB)											
68	6A	Fx	Maximum 7 data bytes							Yes	No
Diagnostic Response at 10.4 Kbps (J1850 and ISO 9141 CARB)											
48	6B	addr	Maximum 7 data bytes							Yes	No
Diagnostic Request at 41.6 Kbps (J1850)											
61	6A	Fx	Maximum 7 data bytes							Yes	Yes
Diagnostic Response at 41.6 Kbps (J1850)											
41	6B	addr	Maximum 7 data bytes							Yes	Yes

FIGURE 1—DIAGNOSTIC MESSAGE FORMAT

The HS-3000 Manual further provides details for hundreds of different device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. In particular,, SAE J2178 which starts on page 211 of the SAE HS-3000 Manual and consists of four parts, 1 through 4, defines sets of vehicle device codes, or "messages", for hundreds of different types of vehicle devices. The specific vehicle device code will depend upon whether a particular manufacturer implements the SAE J2178 defined vehicle code or whether a vehicle supports a manufacturer specific vehicle code. Page 156, SAE J1850, Section 4.1 elaborates on the definition of the vehicle codes as follows: "Normal Vehicle Operation (Down the Road) Messages: The messages sent during non-diagnostic operations are called normal vehicle operation messages. These normal vehicle operation messages are used for communication from a transmitter to one or more receivers across this network. The normal operation messages have been developed by the SAE for this communication network and are defined in SAE-J2178. SAE defined messages and the 'Reserved' messages of SAE J2178 shall remain specific to those definitions. In SAE J2178, there is also a set-of 'Reserved-Manufacturer' messages which, if used, will have meanings specific to a vehicle manufacturer but are likely to be different between manufacturers."

J2178/1, starting on page 200 of the SAE HS-3000 Manual, includes 10 tables defining vehicle device codes for a large variety of different categories of vehicle devices (the specific device codes are

specified in J2178/2).

Section 4 of SAE J2178/2 on page 213 specifies the Parameter Reference Number (PRN) Structure utilized within the SAE J2178 messages to use a particular device code from among a plurality thereof for different vehicles, which is illustrated below. Section 4 notes that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.

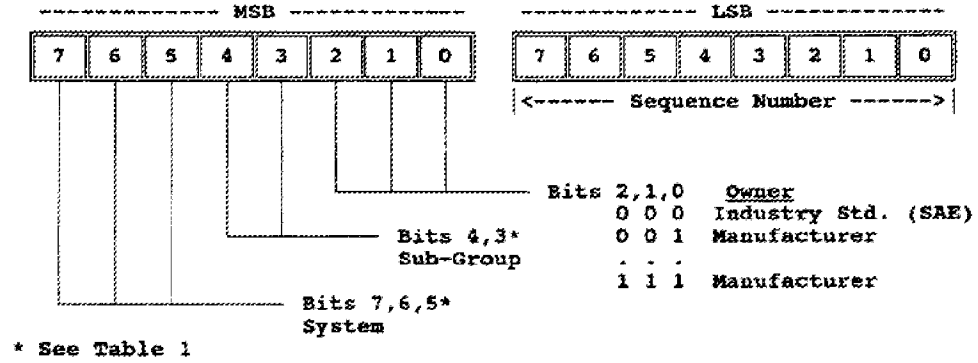


FIGURE 3—PRN STRUCTURE

The first three bits define the system and the next two bits define the sub-group. For each sub-group, three additional bits specify which of eight possible device codes are being used for a particular vehicle device, representing the Industry Std. device code (000) or one of seven manufacturer specific device codes (001-111). Accordingly, the standard specifies at least eight vehicle device codes for each PRN (which include 1 Industry Standard, and 7 manufacturer specific device codes).

SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized

Page 763 of 2498

Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

TABLE 2—SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer specific device codes for that specific type of vehicle device.

The Beckert et al. '363 patent states that "Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system,

OMEGA EXHIBIT 2036

Page 764 of 2498

	and other components (1006 or later for OBD II, 1993 or later for OBD I)." (Beckert '363 patent, col. 1, lines 35-26). The SAE standards, including the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices using the vehicle bus via an OBD II diagnostic connector. Accordingly, it would have been obvious to utilize the teachings described in SAE HS-3000 Manual because the Beckert et al. '363 patent expressly directs using the OBD II diagnostic system.
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	**The Beckert et al. '363 patent discloses multiple downloading interfaces** ("To load an application or data onto the computer 22, the vehicle user inserts a CD or other media (if the application is not already contained on the hard disk) into the appropriate drive and the operating system downloads the application or data therefrom. The installation process can be automatically handled by the operating system, or with the assistance of commands input from the user in the form of keyed sequences on the keypad 52 or verbal instructions using the voice recognition device. Another technique to load data or applications or transfer data with other computing devices is through the use of the IrDA transceiver port 56, or the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines 1 – 12; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "It is further noted that the complete vehicle system can be removed from the base unit for security reasons, or to plug the computer into a docking station at the user's residence or office. With a docking station, the user can install or configure various programs for vehicle usage…" Beckert et al. '164 patent, col. 12, lines 5 - 11) **for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller in the form of vehicle diagnostics applications downloaded via a wireless Internet connection** ("The microprocessor runs an open platform operating system, such as Windows 95® or Windows NT™, or Windows® derivative operating systems from Microsoft Corporation… The computer module 64 supports any variety of applications that the vehicle user might desire. These applications can… downloaded from an optional wireless Internet connection." Beckert et al. '363 patent, col. 7, lines 20-33; "… the operating system can support applications pertaining to… diagnostics" Beckert et al. '363 patent, col. 2, lines 15-17; "For instance, the vehicle computer system 20 can serve as… a diagnostic system" Beckert et al. '363 patent, col. 5, lines 36-41; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The

OMEGA EXHIBIT 2036

Page 765 of 2498

	Beckert et al. '164 patent further discloses that "[T]here are several applications that are supported by the operating system… The vehicle computer system also implements several application program interfaces (APIs) that offer specific functionality to support the various applications. Example APIs include… a diagnostics API… These applications and APIs are vehicle related… Essentially, the vehicle computer system can support any applications that run on the open platform operating system, which are many and varied" Beckert et al. '164 patent, col. 12, lines 12 – 40)
said downloading interface comprising a wireless receiver for temporary connection to a downloading device.	**The Beckert et al. '363 patent discloses that said downloading interface comprises a wireless signal downloading interface in the form of a wireless Internet link** ("To load an application or data onto the computer 22, the vehicle user inserts a CD or other media (if the application is not already contained on the hard disk) into the appropriate drive and the operating system downloads the application or data therefrom. The installation process can be automatically handled by the operating system, or with the assistance of commands input from the user in the form of keyed sequences on the keypad 52 or verbal instructions using the voice recognition device. Another technique to load data or applications or transfer data with other computing devices is through the use of the IrDA transceiver port 56, or the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines 1 – 12) **The Beckert et al. '363 patent discloses that said wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device in the form of a plug-in RF transceiver that can be a cellphone or a two-way pager** ("Additionally, the faceplate module contains a slot for an optional plug-in RF transceiver 124 such as a cellphone, two-way pager, or point-to-point spread spectrum transceiver", Beckert et al. '363 patent, col. 7, lines 10-13).
19. The multi-vehicle compatible tracking unit according to claim 18 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	**The Beckert et al. '363 patent discloses that wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device by describing reading status data from the vehicle's OBD system** ("Most late model (1996 or later for OBD II, 1993 or later for OBD I) vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine transmission and fuel system, and other components. The diagnostic system can be coupled to an external computer download or monitor diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle." Beckert et al. '363 patent, col. 1, lines 32 – 38; U.S. Patent No.

OMEGA EXHIBIT 2036

Page 766 of 2498

	5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35)
20. The multi-vehicle compatible tracking unit according to claim 18 wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device.	**The Beckert et al. '363 patent discloses writing to the at least one vehicle device via an OBD-II port by disclosing providing commands that allow non-critical car systems to be controlled** ("Most late model (1996 or later for OBD II, 1993 or later for OBD I) vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine transmission and fuel system, and other components. The diagnostic system can be coupled to an external computer download or monitor diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle." Beckert et al. '363 patent, col. 1, lines 32 – 38; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35)
21. The multi-vehicle compatible tracking unit according to claim 18 wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.	**The Beckert et al. '363 patent discloses that said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller** ("The microprocessor runs an open platform operating system, such as Windows 95® or Windows NT™, or Windows® derivative operating systems from Microsoft Corporation… The computer module 64 supports any variety of applications that the vehicle user might desire. These applications can… downloaded from an optional wireless Internet connection." Beckert et al. '363 patent, col. 7, lines 20-33; "… the operating system can support applications pertaining to… diagnostics" Beckert et al. '363 patent, col. 2, lines 15-17; "For instance, the vehicle computer system 20 can serve as… a diagnostic system" Beckert et al. '363 patent, col. 5, lines 36-41; U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) is incorporated by reference in the Beckert et al. '363 patent at col. 7, lines 44-51; The Beckert et al. '164 patent further discloses that "[T]here are

OMEGA EXHIBIT 2036

Page 767 of 2498

	several applications that are supported by the operating system… The vehicle computer system also implements several application program interfaces (APIs) that offer specific functionality to support the various applications. Example APIs include… a diagnostics API… These applications and APIs are vehicle related… Essentially, the vehicle computer system can support any applications that run on the open platform operating system, which are many and varied" Beckert et al. '164 patent, col. 12, lines 12 – 40)53 – 55).
22. The multi-vehicle compatible tracking unit according to claim 18 further comprising a remote transmitter;	**The Beckert et al. '363 patent discloses a remote transmitter in the form of other computing devices that communicate with the vehicle computer system via the wireless Internet link** ("Another technique to… transfer data with other computing devices is through… the wireless Internet link 76" Beckert et al. '363 patent, col. 5, lines 9 – 12).
and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter.	**The Beckert et al. '363 patent discloses performing at least one vehicle remote control function responsive to the remote transmitter by incorporating U.S. Patent No. 5,794,164 (Beckert et al. '164 patent) by reference to disclose the full capabilities of the vehicle computer system that include a number of APIs that can be accessed by the remote computing devices including a diagnostic API that can be used to control the functions of the vehicle** ("Example APIs include… a diagnostics API" Beckert et al. '164 patent, col. 12, lines 25 – 30; "The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled." Beckert et al. '164 patent, col. 9, lines 31 – 35).

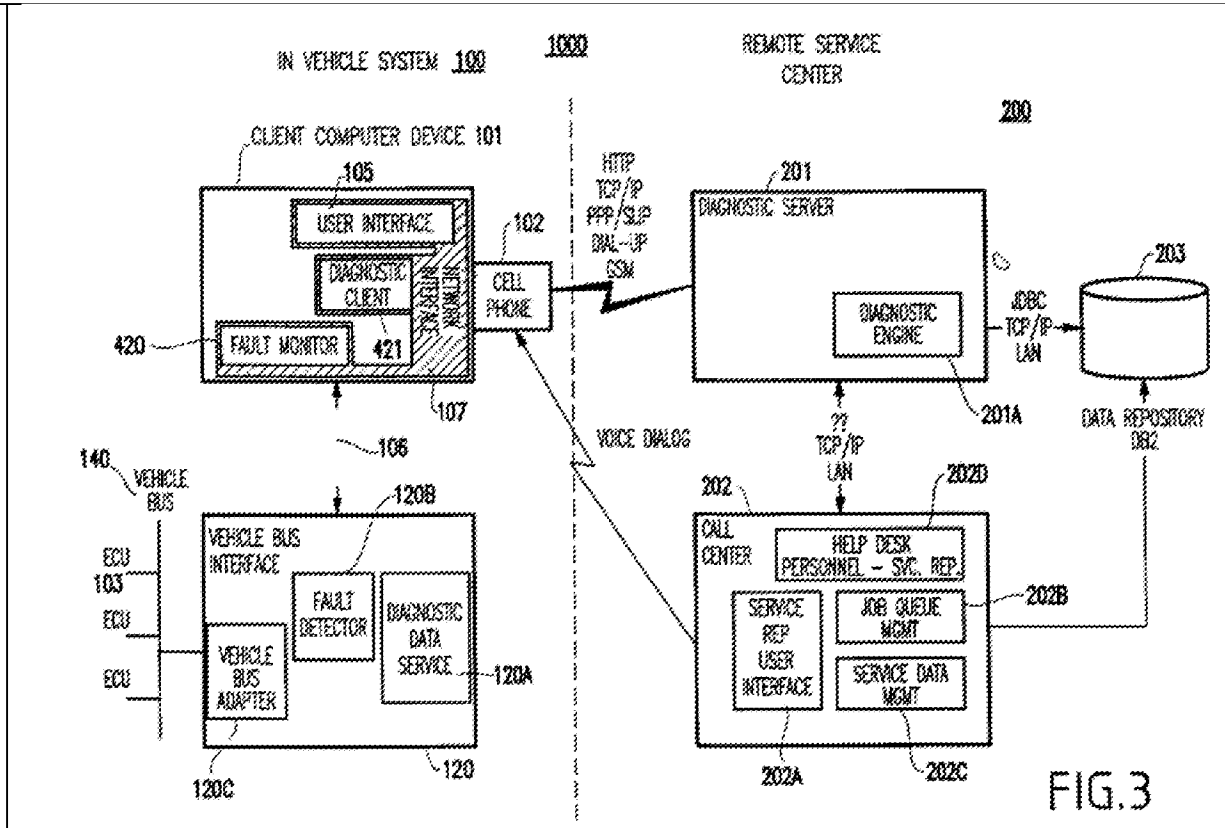
OMEGA EXHIBIT 2036

Exhibit E

Page 769 of 2498

The '278 Patent	PRIOR ART – U.S. Patent 6,330,499 to Chou et al. (Chou)
1. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:	Chou discloses a multi-vehicle tracking unit for a vehicle comprising a vehicle data bus. See e.g., Fig. 3, reproduced below and col. 3 lines 33-46: "The processor 300 is coupled to a vehicle bus 335 through a vehicle bus interface 330. The coupling between the client computer device and the vehicle bus interface 106 of FIG. 3, may be one of RS-232, USB (Universal Serial Bus), IDB (ITS Data Bus), Ethernet, and the like. The vehicle bus interface may support one of vehicle bus standards such as CAN (Controller Area Network) and the Society of Automotive Engineers' SAE J1850 - Class B Data Communication Network Interface. Alternatively, the processor supports some or all of the functions of the vehicle bus interface and connects directly to the vehicle bus 335. The vehicle bus shown in FIG. 2 is an inherent part of all new automobiles. The dotted line is used as an indication that the vehicle bus is built into the vehicle."

OMEGA EXHIBIT 2036

	 FIG.3
a vehicle position determining device;	Chou discloses a vehicle position determining device. See e.g., col. 3, lines 54-56: "Optionally, the processor 300 may be coupled to a location sensing device such as a GPS receiver 317 (FIG. 1) to provide vehicle location information."
a wireless communications device;	Chou discloses a wireless communication device. See e.g. col. 2, lines 30-37:, "As shown in FIG. 1, the system 1000 includes a vehicle 10 with a vehicle driver or user 140, having an in-vehicle computing system 100, a client computer device 101 installed to enable vehicle health checkup and remote diagnostics, a communication link 150 (e.g., via wireless base stations 150B, or the like) for communicating vehicle information (e.g., vehicle identification number, (VIN), diagnostic data, and the like).

a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	Chou discloses a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information. See .e.g., col. 3, lines 54-56: Optionally, the processor 300 may be coupled to a location sensing device such as a GPS receiver 317 (FIG. 1) to provide vehicle location information. See also, e.g., col. 2, lines 30-37: "As shown in FIG. 1, the system 1000 includes a vehicle 10 with a vehicle driver or user 140, having an in-vehicle computing system 100, a client computer device 101 installed to enable vehicle health checkup and remote diagnostics, a communication link 150 (e.g., via wireless base stations 150B, or the like) for communicating vehicle information (e.g., vehicle identification number, (VIN), diagnostic data, and the like)."
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	Chou discloses communicating with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. See e.g. Fig. 3 reproduced above, item 120c vehicle bus adaptor and col. 4, lines 20-38: "The vehicle bus interface 120 is responsible for replying to requests for parametric data. It is also responsible for continuously monitoring the vehicle bus 104 for any fault reported by the ECUs 103, in terms of diagnostic trouble codes (DTCs). The vehicle bus interface 120 includes the following modules: vehicle bus adapter 120C, fault detector 120B, and diagnostic data service 120A. The fault detector 120B polls the vehicle bus 104 through the vehicle bus adapter 120C checking for fault codes reported by the vehicle ECUs 103. The vehicle bus adapter 120C translates the messages received from the vehicle bus into the language of the fault detector. It also translates messages from the fault detector into the language of the vehicle bus. ***The fault code specifications and protocols of the vehicle may be Original Equipment Manufacturer (OEM) and model dependent***. The term 'vehicle fault codes' is meant to be synonymous with the term 'trouble code' or 'diagnostic trouble code'. A listing of such codes may be found in the publication of the Society of Automotive Engineers, 'SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual'. The diagnostic data service 120A accepts request for vehicle parametric data and retrieves the data using the vehicle bus adapter." (emphasis added). The "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" is the SAE HS-3000 Manual, a copy of which is attached as Exhibit G. The SAE HS-3000 Manual discloses that translating messages into the language of the vehicle data bus involves selecting between an SAE standard and/or one of seven manufacturer specific version of the device code. See e.g., SAE HS-3000 Manual, page 213, Section

Page 772 of 2498

	4 of SAE J2178/2. Furthermore, the SAE HS-3000 Manual discloses a bus discovery process involving sending different verions of the mode 1 PID 0 device code. See e.g,. SAE HS-3000 Manual, page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978. Patent Owner has previously asserted that sending different versions of the mode 1 PID 0 message during bus discovery satisfies this claim limitation. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45.
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.	Chou discloses a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code. See e.g., Fig. 2, item 320 network interface. See e.g., col. 3, lines 15-32: "The processor is integrated with a network interface 320 to provide communication capability with the remote service center 200. Preferably, the network interface comprises a removable wireless telephone such as the Motorola i1000+ and a docking facility for the wireless phone integrated with the client computer device. Both voice and data connections can be supported by interfacing the processor 300 and the wireless phone. The telephone integration provides basic communication functions. It establishes a data (e.g. TCP/IP) connection with a remote service center (e.g., remote service center 200). Wireless technologies such as GSM (Global System for Mobile Communications), CDMA (Code Division Multiple Access), TDMA (Time Division Multiple Access), iDEN™ (a TDMA-based Motorola technology), and AMPS (Advanced Mobile Phone System) can all be supported. The phone may also be used for wireless voice communications." Chou discloses that the remote health monitoring application can be bundled with other applications, such as "vehicle parameter update/change" application. See e.g., col. 10, lines 5-11: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: … vehicle parameter update/change..."
2. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface comprises a wired signal downloading interface.	Chou discloses a docking facility for the network interface. One skilled in the art would recognize that using a docking facility interface is a wired interface to the controller and would enable downloading to the controller. See e.g., Fig. 3, item 102 cell phone attached to network interface 107 and col. 3, lines 17-21: "The processor is integrated with a network interface 320 to provide communication capability with the remote service center 200. Preferably, the network interface comprises a removable wireless telephone such as the Motorola i1000+ and a docking facility for

OMEGA EXHIBIT 2036

Page 773 of 2498

	the wireless phone integrated with the client computer device."
3. The multi-vehicle compatible tracking unit according to claim 2 wherein said wired signal downloading interface comprises a connector for temporary connection to a downloading device.	Chou discloses a docking facility for the network interface that includes a removable wireless telephone. One skilled in the art would understand that the docking facility could be used temporarily as the cell phone is removable to thereby provide a connector for temporary connection to a downloading device. See e.g., Fig. 3, item 102 cell phone attached to network interface 107 and col. 3, lines 17-21: "The processor is integrated with a network interface 320 to provide communication capability with the remote service center 200. Preferably, the network interface comprises a removable wireless telephone such as the Motorola i1000+ and a docking facility for the wireless phone integrated with the client computer device."
4. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface comprises a wireless signal downloading interface.	Chou discloses the downloading interface comprises a wireless signal downloading interface. See e.g., Chou Fig. 3, network interface 107 and cell phone 102 together forming the downloading interface. See also e.g., col. 3, lines 15-32: "The processor is integrated with a network interface 320 to provide communication capability with the remote service center 200. Preferably, the network interface comprises a removable wireless telephone such as the Motorola i1000+ and a docking facility for the wireless phone integrated with the client computer device. Both voice and data connections can be supported by interfacing the processor 300 and the wireless phone. The telephone integration provides basic communication functions. It establishes a data (e.g. TCP/IP) connection with a remote service center (e.g., remote service center 200). Wireless technologies such as GSM (Global System for Mobile Communications), CDMA (Code Division Multiple Access), TDMA (Time Division Multiple Access), iDEN™ (a TDMA-based Motorola technology), and AMPS (Advanced Mobile Phone System) can all be supported. The phone may also be used for wireless voice communications."
5. The multi-vehicle compatible tracking unit according to claim 4 wherein said wireless signal downloading interface	Chou discloses the wireless signal downloading interface (e.g., network interface 107 and cell phone 102) comprises a wireless receiver (e.g., removable cell phone 102) for temporary connection to a downloading device. It is inherently disclosed that the wireless connections can be temporary connections.

OMEGA EXHIBIT 2036

Page 774 of 2498

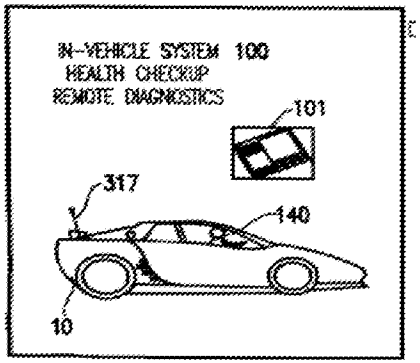
comprises a wireless receiver for temporary connection to a downloading device.	See e.g., col. 5, lines 1-5: "The in-vehicle system establishes a data connection, using a cellular phone 102, with a diagnostic server 201 at the service center 200, collects diagnostic data using the diagnostic data service 120A, and uploads a snapshot of the vehicle data (e.g. VIN, test data with time-stamp) to the diagnostic server 201".
6. The multi-vehicle compatible tracking unit according to claim 1 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	Chou discloses the at least one vehicle code is for reading from the at least one vehicle device. See e.g., col. 9, lines 35-48: "Then in step 2, the diagnostic client 421 initiates a health checkup session with the diagnostic server 201, and in step 3, the diagnostic server instructs the diagnostic client to gather vehicle data, such as VIN, malfunction codes, and/or a snapshot of the vehicle data. Then in step 4, the diagnostic client 421 requests the data from the diagnostic data service 120A at the vehicle bus interface 120. Then, in step 5, the diagnostic data service interrogates the ECUs 103 via the vehicle bus adapter 120C for the requested data. In step 6, th***e ECUs 103 provide the requested data, and in step 7, the data is returned to the diagnostic client 421***. Then, in step 8, the data is in turn transmitted to the diagnostic server 201." (emphasis added).
7. The multi-vehicle compatible tracking unit according to claim 1 wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device.	Chou discloses the at least one vehicle code is for writing to the at least one vehicle device. See e.g., col. 9, lines 35-48: "Then in step 2, the diagnostic client 421 initiates a health checkup session with the diagnostic server 201, and in step 3, the diagnostic server instructs the diagnostic client to gather vehicle data, such as VIN, malfunction codes, and/or a snapshot of the vehicle data. Then in step 4, the diagnostic client ***421 requests the data from the diagnostic data service 120A at the vehicle bus interface 120***. Then, in step 5, the diagnostic data service interrogates the ECUs 103 via the vehicle bus adapter 120C for the requested data. In step 6, the ECUs 103 provide the requested data, and in step 7, the data is returned to the diagnostic client 421. Then, in step 8, the data is in turn transmitted to the diagnostic server 201." (emphasis added).
8. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface is also for permitting downloading of at least one	Chou discloses downloading of at least one programming instruction (e.g. vehicle parameter update/change). See e.g., col. 10 lines 5-11: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: … vehicle parameter update/change.."

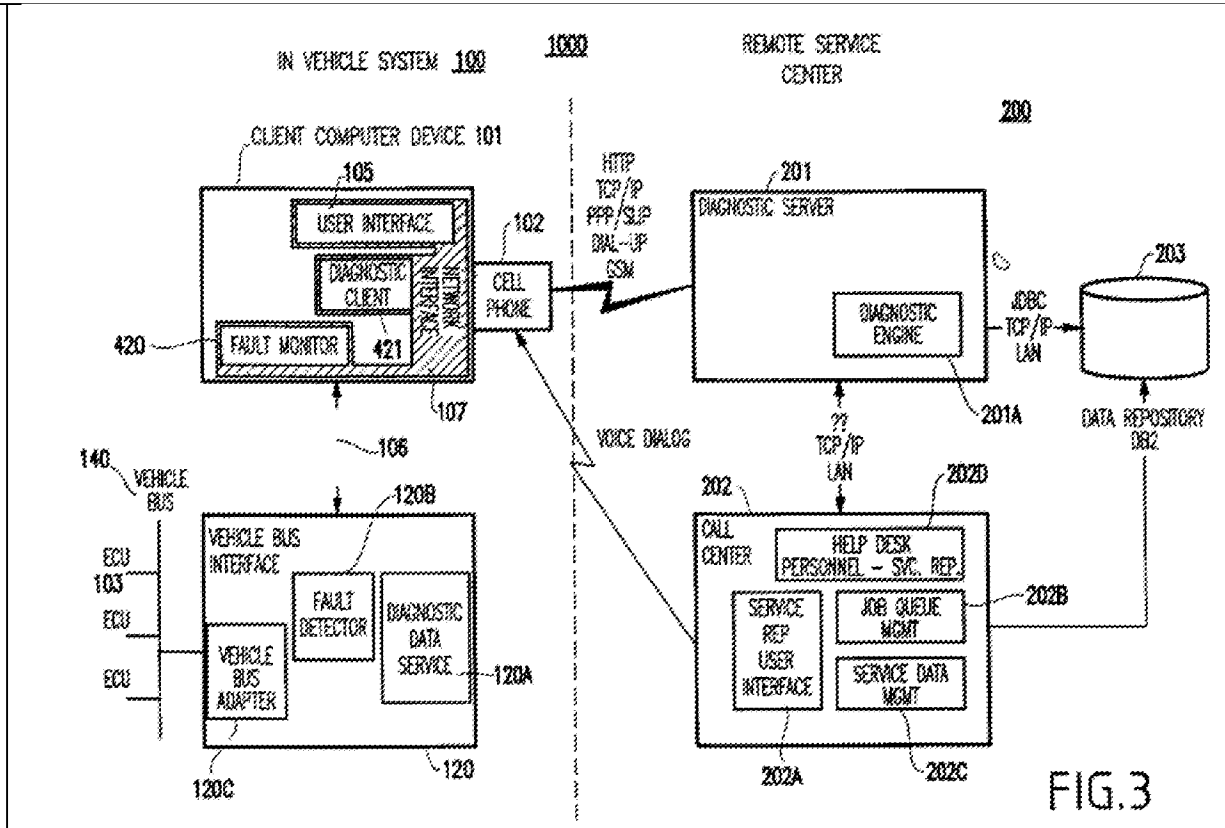
OMEGA EXHIBIT 2036

Page 775 of 2498

programming instruction for said multi-vehicle compatible controller.	
9. The multi-vehicle compatible tracking unit according to claim 1 further comprising a remote transmitter;	Chou discloses a remote transmitter (e.g., cel phone 102). See e.g., col. 4, lines 39-42: "The client computer device 101 performs several functions including communicating to the remote service center 200 by means of the network interface 107 using the cell phone 102."
and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter.	Chou discloses remote vehicle access. See e.g., col. 10, lines 5-10: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: … remote vehicle access." One of ordinary skill in the art would readily appreciate that the remote vehicle access involves performing the function of unlocking the car doors based on a response from the cell phone 102 communicating with the remote service center 200.
10. The multi-vehicle compatible tracking unit according to claim 9 wherein the at least one vehicle remote control function comprises at least one of a vehicle security function, a remote keyless entry function, and a remote engine starting function.	Chou discloses the at least one remote control function includes a vehicle security function, a remote keyless entry function, and a remote engine starting function. See e.g., col. 10, lines 5-11: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: …theft prevention, … remote vehicle access, etc."
11. The multi-vehicle compatible tracking unit according to claim 1 wherein said wireless position	Chou discloses a GPS receiver. See e.g., col. 3, lines 54-56: "Optionally, the processor 300 may be coupled to a location sensing device such as a GPS receiver 317 (FIG. 1) to provide vehicle location information,"

OMEGA EXHIBIT 2036

determining device comprises a Global Positioning System (GPS) receiver.	
12. The multi-vehicle compatible tracking unit according to claim 1 further comprising a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said downloading interface.	Chou discloses the client computer device 101 is stored in a housing. See e.g., Fig. 1, partially reproduced below, and Fig. 3, client computer device 101 illustrated within a housing. 
13. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	Chou discloses a multi-vehicle tracking unit for a vehicle comprising a vehicle data bus. See e.g., Fig. 3, reproduced below and col. 3 lines 33-46: "The processor 300 is coupled to a vehicle bus 335 through a vehicle bus interface 330. The coupling between the client computer device and the vehicle bus interface 106 of FIG. 3, may be one of RS-232, USB (Universal Serial Bus), IDB (ITS Data Bus), Ethernet, and the like. The vehicle bus interface may support one of vehicle bus standards such as CAN (Controller Area Network) and the Society of Automotive Engineers' SAE J1850 - Class B Data Communication Network Interface. Alternatively, the processor supports some or all of the functions of the vehicle bus interface and connects directly to the vehicle bus 335. The vehicle bus shown in FIG. 2 is an inherent part of all new automobiles. The dotted line is used as an indication that the vehicle bus is built into the vehicle."

	 FIG.3
a vehicle position determining device;	Chou discloses a vehicle position determining device. See e.g., col. 3, lines 54-56: "Optionally, the processor 300 may be coupled to a location sensing device such as a GPS receiver 317 (FIG. 1) to provide vehicle location information."
a wireless communications device;	Chou discloses a wireless communication device. See e.g. col. 2, lines 30-37:, "As shown in FIG. 1, the system 1000 includes a vehicle 10 with a vehicle driver or user 140, having an in-vehicle computing system 100, a client computer device 101 installed to enable vehicle health checkup and remote diagnostics, a communication link 150 (e.g., via wireless base stations 150B, or the like) for communicating vehicle information (e.g., vehicle identification number, (VIN), diagnostic data, and the like).

Page 778 of 2498

a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	Chou discloses a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information. See .e.g., col. 3, lines 54-56: Optionally, the processor 300 may be coupled to a location sensing device such as a GPS receiver 317 (FIG. 1) to provide vehicle location information. See also, e.g., col. 2, lines 30-37: "As shown in FIG. 1, the system 1000 includes a vehicle 10 with a vehicle driver or user 140, having an in-vehicle computing system 100, a client computer device 101 installed to enable vehicle health checkup and remote diagnostics, a communication link 150 (e.g., via wireless base stations 150B, or the like) for communicating vehicle information (e.g., vehicle identification number, (VIN), diagnostic data, and the like)."
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	hou discloses communicating with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. See e.g. Fig. 3 reproduced above, item 120c vehicle bus adaptor and col. 4, lines 20-38: "The vehicle bus interface 120 is responsible for replying to requests for parametric data. It is also responsible for continuously monitoring the vehicle bus 104 for any fault reported by the ECUs 103, in terms of diagnostic trouble codes (DTCs). The vehicle bus interface 120 includes the following modules: vehicle bus adapter 120C, fault detector 120B, and diagnostic data service 120A. The fault detector 120B polls the vehicle bus 104 through the vehicle bus adapter 120C checking for fault codes reported by the vehicle ECUs 103. The vehicle bus adapter 120C translates the messages received from the vehicle bus into the language of the fault detector. It also translates messages from the fault detector into the language of the vehicle bus. ***The fault code specifications and protocols of the vehicle may be Original Equipment Manufacturer (OEM) and model dependent***. The term 'vehicle fault codes' is meant to be synonymous with the term 'trouble code' or 'diagnostic trouble code'. A listing of such codes may be found in the publication of the Society of Automotive Engineers, 'SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual'. The diagnostic data service 120A accepts request for vehicle parametric data and retrieves the data using the vehicle bus adapter." (emphasis added). The "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" is the SAE HS-3000 Manual, a copy of which is attached as Exhibit G. The SAE HS-3000 Manual discloses that translating messages into the language of the vehicle data bus involves selecting between an SAE standard and/or one of seven manufacturer specific version of the device code. See e.g., SAE HS-3000 Manual, page 213, Section

OMEGA EXHIBIT 2036

Page 779 of 2498

	4 of SAE J2178/2. Furthermore, the SAE HS-3000 Manual discloses a bus discovery process involving sending different verions of the mode 1 PID 0 device code. See e.g,. SAE HS-3000 Manual, page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978. Patent Owner has previously asserted that sending different versions of the mode 1 PID 0 message during bus discovery satisfies this claim limitation. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45.
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	Chou discloses a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code. See e.g., Fig. 2, item 320 network interface. See e.g., col. 3, lines 15-32: "The processor is integrated with a network interface 320 to provide communication capability with the remote service center 200. Preferably, the network interface comprises a removable wireless telephone such as the Motorola i1000+ and a docking facility for the wireless phone integrated with the client computer device. Both voice and data connections can be supported by interfacing the processor 300 and the wireless phone. The telephone integration provides basic communication functions. It establishes a data (e.g. TCP/IP) connection with a remote service center (e.g., remote service center 200). Wireless technologies such as GSM (Global System for Mobile Communications), CDMA (Code Division Multiple Access), TDMA (Time Division Multiple Access), iDEN™ (a TDMA-based Motorola technology), and AMPS (Advanced Mobile Phone System) can all be supported. The phone may also be used for wireless voice communications." Chou discloses that the remote health monitoring application can be bundled with other applications, such as "vehicle parameter update/change" application. See e.g., col. 10, lines 5-11: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: … vehicle parameter update/change..."
said downloading interface comprising a connector for temporary connection to a downloading device.	See e.g., col. 3, lines 15-32: "The processor is integrated with a network interface 320 to provide communication capability with the remote service center 200. Preferably, the network interface comprises a removable wireless telephone such as the Motorola i1000+ and a docking facility for the wireless phone integrated with the client computer device. Both voice and data connections can be supported by interfacing the processor 300 and the wireless phone. The telephone integration provides basic communication functions. It establishes a data (e.g. TCP/IP) connection with a remote service center (e.g., remote service center 200). Wireless technologies such as GSM (Global

OMEGA EXHIBIT 2036

Page 780 of 2498

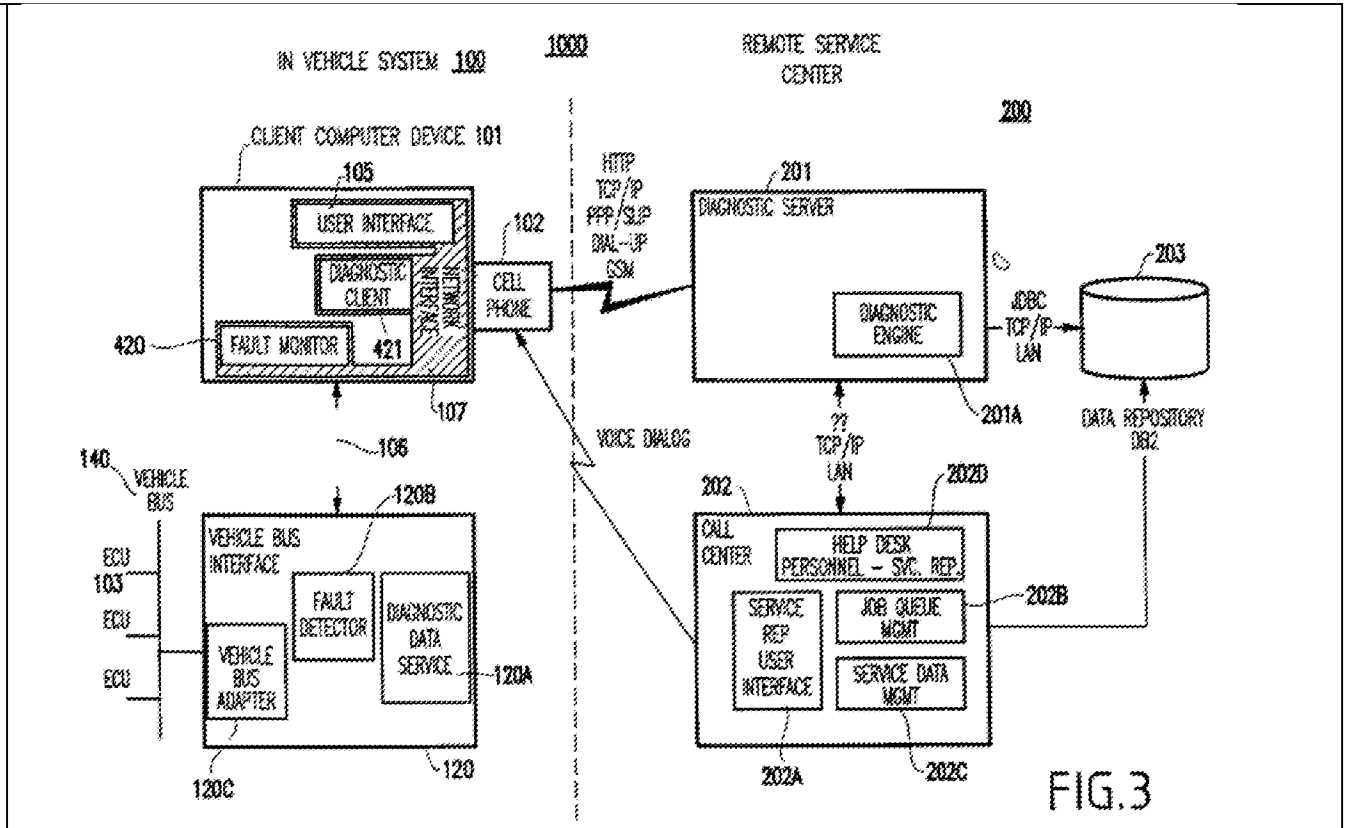
	System for Mobile Communications), CDMA (Code Division Multiple Access), TDMA (Time Division Multiple Access), iDEN™ (a TDMA-based Motorola technology), and AMPS (Advanced Mobile Phone System) can all be supported. The phone may also be used for wireless voice communications."
14. The multi-vehicle compatible tracking unit according to claim 13 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	Chou discloses the at least one vehicle code is for reading from the at least one vehicle device. See e.g., col. 9, lines 35-48: "Then in step 2, the diagnostic client 421 initiates a health checkup session with the diagnostic server 201, and in step 3, the diagnostic server instructs the diagnostic client to gather vehicle data, such as VIN, malfunction codes, and/or a snapshot of the vehicle data. Then in step 4, the diagnostic client 421 requests the data from the diagnostic data service 120A at the vehicle bus interface 120. Then, in step 5, the diagnostic data service interrogates the ECUs 103 via the vehicle bus adapter 120C for the requested data. In step 6, th***e ECUs 103 provide the requested data, and in step 7, the data is returned to the diagnostic client 421***. Then, in step 8, the data is in turn transmitted to the diagnostic server 201." (emphasis added).
15. The multi-vehicle compatible tracking unit according to claim 13 wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device.	Chou discloses the at least one vehicle code is for writing to the at least one vehicle device. See e.g., col. 9, lines 35-48: "Then in step 2, the diagnostic client 421 initiates a health checkup session with the diagnostic server 201, and in step 3, the diagnostic server instructs the diagnostic client to gather vehicle data, such as VIN, malfunction codes, and/or a snapshot of the vehicle data. Then in step 4, the diagnostic client ***421 requests the data from the diagnostic data service 120A at the vehicle bus interface 120***. Then, in step 5, the diagnostic data service interrogates the ECUs 103 via the vehicle bus adapter 120C for the requested data. In step 6, the ECUs 103 provide the requested data, and in step 7, the data is returned to the diagnostic client 421. Then, in step 8, the data is in turn transmitted to the diagnostic server 201." (emphasis added).
16. The multi-vehicle compatible tracking unit according to claim 13 wherein said downloading interface is also for permitting downloading of at	Chou discloses downloading of at least one programming instruction (e.g. vehicle parameter update/change). See e.g., col. 10 lines 5-11: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: … vehicle parameter update/change.."

OMEGA EXHIBIT 2036

Page 781 of 2498

least one programming instruction for said multi-vehicle compatible controller.	
17. The multi-vehicle compatible tracking unit according to claim 13 further comprising a remote transmitter;	Chou discloses a remote transmitter (e.g., cel phone 102). See e.g., col. 4, lines 39-42: "The client computer device 101 performs several functions including communicating to the remote service center 200 by means of the network interface 107 using the cell phone 102."
and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter.	Chou discloses remote vehicle access. See e.g., 10, lines 5-10: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: … remote vehicle access." One of ordinary skill in the art would readily appreciate that the remote vehicle access involves performing the function of unlocking the car doors based on a response from the cell phone 102 communicating with the remote service center 200.
18. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	Chou discloses a multi-vehicle tracking unit for a vehicle comprising a vehicle data bus. See e.g., Fig. 3, reproduced below and col. 3 lines 33-46: "The processor 300 is coupled to a vehicle bus 335 through a vehicle bus interface 330. The coupling between the client computer device and the vehicle bus interface 106 of FIG. 3, may be one of RS-232, USB (Universal Serial Bus), IDB (ITS Data Bus), Ethernet, and the like. The vehicle bus interface may support one of vehicle bus standards such as CAN (Controller Area Network) and the Society of Automotive Engineers' SAE J1850 - Class B Data Communication Network Interface. Alternatively, the processor supports some or all of the functions of the vehicle bus interface and connects directly to the vehicle bus 335. The vehicle bus shown in FIG. 2 is an inherent part of all new automobiles. The dotted line is used as an indication that the vehicle bus is built into the vehicle."

OMEGA EXHIBIT 2036

	 FIG.3
a vehicle position determining device;	Chou discloses a vehicle position determining device. See e.g., col. 3, lines 54-56: "Optionally, the processor 300 may be coupled to a location sensing device such as a GPS receiver 317 (FIG. 1) to provide vehicle location information."
a wireless communications device;	Chou discloses a wireless communication device. See e.g. col. 2, lines 30-37:, "As shown in FIG. 1, the system 1000 includes a vehicle 10 with a vehicle driver or user 140, having an in-vehicle computing system 100, a client computer device 101 installed to enable vehicle health checkup and remote diagnostics, a communication link 150 (e.g., via wireless base stations 150B, or the like) for communicating vehicle information (e.g., vehicle identification number, (VIN), diagnostic data, and the like).

a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	Chou discloses a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information. See .e.g., col. 3, lines 54-56: Optionally, the processor 300 may be coupled to a location sensing device such as a GPS receiver 317 (FIG. 1) to provide vehicle location information. See also, e.g., col. 2, lines 30-37: "As shown in FIG. 1, the system 1000 includes a vehicle 10 with a vehicle driver or user 140, having an in-vehicle computing system 100, a client computer device 101 installed to enable vehicle health checkup and remote diagnostics, a communication link 150 (e.g., via wireless base stations 150B, or the like) for communicating vehicle information (e.g., vehicle identification number, (VIN), diagnostic data, and the like)."
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	Chou discloses communicating with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. See e.g. Fig. 3 reproduced above, item 120c vehicle bus adaptor and col. 4, lines 20-38: "The vehicle bus interface 120 is responsible for replying to requests for parametric data. It is also responsible for continuously monitoring the vehicle bus 104 for any fault reported by the ECUs 103, in terms of diagnostic trouble codes (DTCs). The vehicle bus interface 120 includes the following modules: vehicle bus adapter 120C, fault detector 120B, and diagnostic data service 120A. The fault detector 120B polls the vehicle bus 104 through the vehicle bus adapter 120C checking for fault codes reported by the vehicle ECUs 103. The vehicle bus adapter 120C translates the messages received from the vehicle bus into the language of the fault detector. It also translates messages from the fault detector into the language of the vehicle bus. ***The fault code specifications and protocols of the vehicle may be Original Equipment Manufacturer (OEM) and model dependent***. The term 'vehicle fault codes' is meant to be synonymous with the term 'trouble code' or 'diagnostic trouble code'. A listing of such codes may be found in the publication of the Society of Automotive Engineers, 'SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual'. The diagnostic data service 120A accepts request for vehicle parametric data and retrieves the data using the vehicle bus adapter." (emphasis added). The "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" is the SAE HS-3000 Manual, a copy of which is attached as Exhibit G. The SAE HS-3000 Manual discloses that translating messages into the language of the vehicle data bus involves selecting between an SAE standard and/or one of seven manufacturer specific version of the device code. See e.g., SAE HS-3000 Manual, page 213, Section

OMEGA EXHIBIT 2036

	4 of SAE J2178/2. Furthermore, the SAE HS-3000 Manual discloses a bus discovery process involving sending different verions of the mode 1 PID 0 device code. See e.g,. SAE HS-3000 Manual, page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978. Patent Owner has previously asserted that sending different versions of the mode 1 PID 0 message during bus discovery satisfies this claim limitation. See Exhibit F, Plaintiff's Disclosure of Initial Infringement Contentions, starting on page A-45.
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	Chou discloses a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code. See e.g., Fig. 2, item 320 network interface. See e.g., col. 3, lines 15-32: "The processor is integrated with a network interface 320 to provide communication capability with the remote service center 200. Preferably, the network interface comprises a removable wireless telephone such as the Motorola i1000+ and a docking facility for the wireless phone integrated with the client computer device. Both voice and data connections can be supported by interfacing the processor 300 and the wireless phone. The telephone integration provides basic communication functions. It establishes a data (e.g. TCP/IP) connection with a remote service center (e.g., remote service center 200). Wireless technologies such as GSM (Global System for Mobile Communications), CDMA (Code Division Multiple Access), TDMA (Time Division Multiple Access), iDEN™ (a TDMA-based Motorola technology), and AMPS (Advanced Mobile Phone System) can all be supported. The phone may also be used for wireless voice communications." Chou discloses that the remote health monitoring application can be bundled with other applications, such as "vehicle parameter update/change" application. See e.g., col. 10, lines 5-11: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: … vehicle parameter update/change..."
said downloading interface comprising a wireless receiver for temporary connection to a downloading device.	See e.g., col. 3, lines 15-32: "The processor is integrated with a network interface 320 to provide communication capability with the remote service center 200. Preferably, the network interface comprises a removable wireless telephone such as the Motorola i1000+ and a docking facility for the wireless phone integrated with the client computer device. Both voice and data connections can be supported by interfacing the processor 300 and the wireless phone. The telephone integration provides basic communication functions. It establishes a data (e.g. TCP/IP) connection with a remote service center (e.g., remote service center 200). Wireless technologies such as GSM (Global

OMEGA EXHIBIT 2036

Page 785 of 2498

	System for Mobile Communications), CDMA (Code Division Multiple Access), TDMA (Time Division Multiple Access), iDEN™ (a TDMA-based Motorola technology), and AMPS (Advanced Mobile Phone System) can all be supported. The phone may also be used for wireless voice communications."
19. The multi-vehicle compatible tracking unit according to claim 18 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	Chou discloses the at least one vehicle code is for reading from the at least one vehicle device. See e.g., col. 9, lines 35-48: "Then in step 2, the diagnostic client 421 initiates a health checkup session with the diagnostic server 201, and in step 3, the diagnostic server instructs the diagnostic client to gather vehicle data, such as VIN, malfunction codes, and/or a snapshot of the vehicle data. Then in step 4, the diagnostic client 421 requests the data from the diagnostic data service 120A at the vehicle bus interface 120. Then, in step 5, the diagnostic data service interrogates the ECUs 103 via the vehicle bus adapter 120C for the requested data. In step 6, th***e ECUs 103 provide the requested data, and in step 7, the data is returned to the diagnostic client 421***. Then, in step 8, the data is in turn transmitted to the diagnostic server 201." (emphasis added).
20. The multi-vehicle compatible tracking unit according to claim 18 wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device.	Chou discloses the at least one vehicle code is for writing to the at least one vehicle device. See e.g., col. 9, lines 35-48: "Then in step 2, the diagnostic client 421 initiates a health checkup session with the diagnostic server 201, and in step 3, the diagnostic server instructs the diagnostic client to gather vehicle data, such as VIN, malfunction codes, and/or a snapshot of the vehicle data. Then in step 4, the diagnostic client ***421 requests the data from the diagnostic data service 120A at the vehicle bus interface 120***. Then, in step 5, the diagnostic data service interrogates the ECUs 103 via the vehicle bus adapter 120C for the requested data. In step 6, the ECUs 103 provide the requested data, and in step 7, the data is returned to the diagnostic client 421. Then, in step 8, the data is in turn transmitted to the diagnostic server 201." (emphasis added).
21. The multi-vehicle compatible tracking unit according to claim 18 wherein said downloading interface is also for permitting downloading of at	Chou discloses downloading of at least one programming instruction (e.g. vehicle parameter update/change). See e.g., col. 10 lines 5-11: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: … vehicle parameter update/change…"

OMEGA EXHIBIT 2036

Page 786 of 2498

least one programming instruction for said multi-vehicle compatible controller.	
22. The multi-vehicle compatible tracking unit according to claim 18 further comprising a remote transmitter;	Chou discloses a remote transmitter (e.g., cel phone 102). See e.g., col. 4, lines 39-42: "The client computer device 101 performs several functions including communicating to the remote service center 200 by means of the network interface 107 using the cell phone 102."
and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter.	Chou discloses remote vehicle access. See e.g., 10, lines 5-10: "Other applications and services that can be developed or bundled as extensions of the diagnostics services include: … remote vehicle access." One of ordinary skill in the art would readily appreciate that the remote vehicle access involves performing the function of unlocking the car doors based on a response from the cell phone 102 communicating with the remote service center 200.

OMEGA EXHIBIT 2036

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No. 8,032,278

Issued:	October 4, 2011	Reexamination Control No.:	Not Yet Assigned
Filed:	July 3, 2007	Examiner:	Not Yet Assigned
Applicant:	Kenneth FLICK	Art Unit:	Not Yet Assigned
Title:	Vehicle Tracking Unit with Downloadable Codes and Associated Methods		

Mail Stop "Ex Parte Re Examination"
Office of Patent Legal Affairs
ATTN: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Request for *Ex Parte* Reexamination of U.S. Patent 8,032,278

TABLE OF CONTENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE i

I. INTRODUCTION 1

II. REEXAMINATION REQUEST SATISFIES REQUIREMENTS OF 37 C.F.R. § 1.510(B) 2

III. RELATED LITIGATION: 2

IV. NOTIFICATION OF EXISTENCE OF CONCURRENT REEXAMINATION PROCEEDINGS AND REQUEST TO MERGE PROCEEDINGS 3

V. CITATION OF PERTINENT AND APPLICABLE PRIOR ART BELIEVED TO HAVE BEARING ON PATENTABILITY 3

VI. STATEMENTS POINTING OUT EACH SUBSTANTIAL NEW QUESTION OF PATENTABILITY 7

A. U.S. Patent No. 6,009,363 to Beckert (inherently disclosing the SAE HS-3000 Manual) 7

1. No Reasons Provided Why Beckert '363 Patent Withdrawn From Rejection in the Flick '587 Reexam --- Examiner Interview Summary filed 6-21-2016 in the Flick '587 Reexam 8

2. Technological Teaching: Transmitting Location Data, Communicating Via an OBD II Vehicle Data Bus, and Downloading Means Downloading Enabling Data 11

3. The Beckert '363 Patent and the SAE HS-3000 Manual are Analogous to the Flick '278 patent 13

4. Substantial New Question of Patentability as to Claims 1 – 22 because the Beckert '363 Patent in view of the SAE HS-3000 Manual Teaches all Claim Elements....13

B. U.S. Patent No. 5,732,074 to Spaur in view of the SAE HS-3000 Manual....14

1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus and Vehicle Device Codes for Different Vehicles....14

2. The Spaur '074 Patent and the SAE HS-3000 Manual are Analogous to the Flick '278 patent....17

3. Substantial New Question of Patentability as to Claims 1 – 22 Because Spaur '074 in view of the SAE HS-3000 Manual Teaches all Claim Elements....18

C. U.S. Patent No. 6,028,537 to Suman (inherently disclosing the SAE HS-3000 Manual)....18

1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus and Multi-Vehicle Compatibility....19

2. The Suman '537 Patent and the SAE HS-3000 Manual are Analogous Art to the Flick '278 Patent....22

3. Substantial New Question of Patentability as to Claims 1 – 22 because the Suman '537 patent, including the SAE HS-3000 Manual, Teaches all Claim Elements....22

D. U.S. Patent No. 6,330,499 to Chou et al....23

1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus and using model dependent codes 24

2. The Chou '499 patent is Analogous Art to the Flick '278 patent 25

3. Substantial New Question of Patentability as to Claims 1 – 22 because the Chou '499 Patent Teaches all Claim Elements 25

VII. PROCEEDINGS IN PENDING RE-EXAMINATION OF FLICK '278 PATENT WITH CONTROL NO. 90/013,587 (THE '587 REEXAM) 26

A. Patent Owner was aware of and failed to provide material evidence in reply to the Examiner's request for evidence related to use of device codes in Flick '587 Reexam 26

B. Misleading Declaration Evidence Submitted By Patent Owner 27

C. Mr. Suman's 132 Declaration with Respect to Multi-Vehicle Compatibility is Irrelevant – "Inherency rejections may be proper even when the inherent properties were not appreciated by the inventor" 29

VIII. *SUBMISSION UNDER 37 CFR 1.501 - PATENT OWNER'S STATEMENTS FILED IN FEDERAL COURT PROCEEDING RELATING TO CLAIM SCOPE* 32

IX. PROPOSED REJECTIONS AND DETAILED EXPLANATIONS OF THE PERTINENCY AND MANNER OF APPLYING THE CITED PRIOR ART TO EVERY CLAIM FOR WHICH REEXAMINATION IS REQUESTED 36

A. Claims 1 – 22 are Anticipated by the Beckert '363 Patent 37

1. Proposed rejection 37

B. Claims 1 – 22 are Unpatentable over the Beckert '363 Patent in view of the SAE HS-3000 Manual 40

1. Proposed rejection 40

C. Claims 1 – 22 are Anticipated by the Suman '537 Patent 41

1. Proposed rejection 41

D. Claims 1 – 22 are Unpatentable over the Suman '537 Patent in view of the SAE HS-3000 Manual 44

1. Proposed rejection 44

E. Claims 1 – 22 are Unpatentable over the Spaur '074 Patent in view of the SAE HS-3000 Manual 45

1. Proposed rejection 45

F. Claims 1 – 22 are Anticipated by the Chou '499 Patent 47

1. Proposed rejection 47

X. CONCLUSION 52

I. INTRODUCTION

CalAmp Corp., ("Requester") requests reexamination under 35 U.S.C. §§ 301-307 and 37 C.F.R. § 1.510 *et seq.* of claims 1 – 22 of U.S. Patent No. 8,032,278 ("Flick '278 patent"), a copy of which is attached as Exhibit A. The Flick '278 patent issued on October 4, 2011, lists Kenneth E. Flick as the sole inventor. The Flick '278 patent is believed to be currently assigned to Omega Patents, LLC ("Applicant"). This is a second reexamination request being submitted by Requester with respect to the Flick '278 patent. The Flick '278 patent is currently undergoing ex parte reexamination in Ex Parte Reexamination Control No. 90/013,587 (the Flick '587 Reexam).

For the reasons explained in detail below, there is significant prior art which Patent Owner is aware of but which was not provided to the Patent Office in response to a direct request for information from the Examiner in the currently pending Flick '587 Reexam (in particular, evidence related to the use of device codes). Accordingly, Requester is submitting this second Request for ex parte reexamination of the Flick '278 patent in part to bring this material prior art evidence to the attention of the Patent Office. The prior art that Patent Owner failed to submit has not previously been considered by the Patent Office and raises substantial new questions of patentability with respect to the claims of the Flick '278 patent by presenting prior art that was the basis for granting the initial ex parte reexamination of the Flick '278 patent (i.e., the Flick '587 Reexam) in a new light.

Requester has also identified additional prior art references that independently raise substantial new questions of patentability with respect to the claims of the Flick '278 patent.

II. REEXAMINATION REQUEST SATISFIES REQUIREMENTS OF 37 C.F.R. § 1.510(B)

37 C.F.R. § 1.510(b)(1): A statement of each substantial new question of patentability with respect to the relevant prior patents and printed publications is provided in Section VI of this Request.

37 C.F.R. § 1.510(b)(2): Reexamination of claims 1 – 22 of the Flick '278 patent is requested as discussed in Section VI. A detailed explanation of the proper application of the prior art to each claim element, and a set of proposed rejections based on such application, is provided in Section IX by reference to the claim charts attached as Exhibits B – E.

37 C.F.R. § 1.510(b)(3): This reexamination Request is based on the prior art references listed below and attached as Exhibits listed in Section IX of this Request. A copy of every patent or printed publication relied upon is attached as an Exhibit and are listed in a PTO/SB/42 form submitted herewith, with the exception of U.S. Patents which are listed in the PTO/SB/42 form only per "Best Practices and FAQs for filing requests for reexamination complaint with 37 C.F.R. 1.510 and 1.915" dated May 2010.

37 C.F.R. § 1.510(b)(4): A copy of the Flick '278 patent is attached as Exhibit A.

37 C.F.R. § 1.510(b)(5): A certificate of service confirming service of this reexamination Request in its entirety on the attorney of record is provided on the last page of this reexamination Request.

The fee for this Request for Ex Parte Reexamination has been paid by credit card as part of the EFS-WEB submission.

III. RELATED LITIGATION:

To the best of Requester's knowledge, Applicant has asserted the Flick '278 patent in the following related prior or co-pending litigation:

- Omega Patents, LLC v. Enfora, Inc., Northern District of Georgia, Case No. 1:13-cv-00646-TWT; and
- Omega Patents, LLC v. CalAmp Corp., Middle District of Florida, Orlando Division, Case No. 6:13-cv-1950-PGB-DAB (the CalAmp litigation).

IV. NOTIFICATION OF EXISTENCE OF CONCURRENT REEXAMINATION PROCEEDINGS AND REQUEST TO MERGE PROCEEDINGS

The Flick '278 patent is currently in ex parte reexamination. See Ex Parte Reexamination with Control No. 90/013,587 (the Flick '587 Reexam). This Flick '587 Reexam had been requested by Requester. To the best of Requester's knowledge, there are no other reexaminations of this patent. Requester has addressed in detail below in Section VII certain issues raised by the Patent Owner's failure to submit relevant prior art of which it was aware in the pending Flick '587 Reexam. In view of the fact that the Flick '587 Reexam is still pending and many of the prior art references relied upon in the rejection of all of the claims of the Flick '278 patent also form the basis of this ex parte reexamination request, Requester requests that the Flick '587 Reexam and this Request be merged.

V. CITATION OF PERTINENT AND APPLICABLE PRIOR ART BELIEVED TO HAVE BEARING ON PATENTABILITY

As explained in detail below in this Request, the following prior art references, as they would have been understood by one of ordinary skill in the art at the time of the invention of the Flick '278 patent, raise substantial new questions of patentability with respect to claims 1 – 22. Reexamination of Claims 1 – 22 is therefore respectfully requested. The prior art references relied upon in this Request that raise new questions of patentability are as follows:

Title	Hereinafter
U.S. Patent No. 6,009,363 to Beckert et al. (issued December 28, 1999),	"Beckert '363 patent"
U.S. Patent No. 5,732,074 to Spaur et al. (issued March 24, 1998)	"Spaur '074 patent"
U.S. Patent No. 6,028,537 to Suman et al. (issued February 22, 2000)	"Suman '537 patent"
U.S. Patent No. 6,330,499 to Chou et al. (issued Dec. 11, 2001)	"Chou '499 patent"
SAE HS-3000, "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (1994 Edition)	(SAE HS-3000 Manual) –Exhibit G

Requester notes that these references were not previously considered during the original prosecution of the Flick '278 patent, but that the Beckert '363 patent, the Spaur '074 patent and the Suman '537 patent are being considered in the pending Flick '587 Reexam. However, these references are being presented in a new light in this Request. In particular, the Examiner in the Flick '587 Reexam had requested "evidence relating to the use of device codes" as related to their inherent use in the Spaur '074 patent and the Suman '537 patent. However, Patent Owner, in responding to this Request, failed to provide highly material prior art specifically related to the use of device codes, including any of a number of various SAE publications that were known to the Patent Owner and that relate specifically to device codes. Accordingly, Requester is submitting this material prior art evidence in the form of the SAE HS-3000 Manual published in 1994.

The SAE HS-3000 Manual is one of numerous publications published by the Society of Automotive Engineers ("SAE") that set forth the standards for communicating with vehicle

devices via a vehicle data bus using various device codes, as was used in the Spaur '074 patent, the Suman '537 patent, and the Beckert '363 patent in order to communicate with the vehicle devices. Requester also notes that these communications standards have been federally mandated for all new vehicles sold in the United States since 1996.

As detailed in the accompanying claim charts, the SAE HS-3000 Manual provides details regarding hundreds of device codes, or "PRN" device codes, for communicating with vehicle devices, including standard codes and up to seven manufacturer specified vehicle device codes. For example, SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle. For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

TABLE 2--SAE/MFG PRN RANGES

System	Subgroup	Address Map	Size
Powertrain	J1979 Compatible - SAE	0000 - 00FF	0.25K
	Reserved - MFG	0100 - 07FF	1.75K
	Reserved - SAE	0800 - 08FF	0.25K
	Reserved - MFG	0900 - 0FFF	1.75K
	Engine - SAE	1000 - 10FF	0.25K
	Engine - MFG	1100 - 17FF	1.75K
	Transmission - SAE	1800 - 18FF	0.25K
	Transmission - MFG	1900 - 1FFF	1.75K
Chassis	Reserved - SAE	2000 - 20FF	0.25K
	Reserved - MFG	2100 - 27FF	1.75K
	Brakes/Tires/Wheels - SAE	2800 - 28FF	0.25K
	Brakes/Tires/Wheels - MFG	2900 - 2FFF	1.75K
	Steering - SAE	3000 - 30FF	0.25K
	Steering - MFG	3100 - 37FF	1.75K
	Suspension - SAE	3800 - 38FF	0.25K
	Suspension - MFG	3900 - 3FFF	1.75K

SAE J2178/2 provides the details of device codes for hundreds of different vehicle devices within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer reserved device codes for that particular vehicle device.

Furthermore, the SAE HS-3000 Manual teaches a bus discovery procedure that can be used by systems interfacing with a vehicle bus, which involves communicating with vehicle devices using at least one vehicle device code from among a plurality thereof for different vehicles. In particular, the bus discovery procedure sends a plurality of device codes, referred to as "mode 1 PID 0 response message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2 in order to determine a type of bus used in a vehicle. (See SAE HS-3000 Manual section 6.5.1 on page 37).

Accordingly, the Beckert '363 patent, Spaur '074 patent, and the Suman '537 patent are each being presented in a new light in view of the SAE HS-3000 Manual and continue to raise substantial new questions of patentability with respect to the Flick '278 patent. Requester also notes that the Chou '499 patent was not previously considered in either the original prosecution of the Flick '278 patent or the currently pending Fick '587 Reexam and that this prior art reference presents a substantial new question of patentability with respect to the Flick '278 patent.

VI. STATEMENTS POINTING OUT EACH SUBSTANTIAL NEW QUESTION OF PATENTABILITY

Requester notes that the earliest effective filing date to which the Flick '278 patent is entitled to is July 3, 2007. The currently pending Flick '587 ex parte reexamination of the Flick '278 patent issued a Non-Final Action on May 6, 2016 whereby the Examiner affirmed that the earliest effective filing date to which the Flick '278 patent is entitled is July 3, 2007. Accordingly, as explained in greater detail below, A) the Beckert '363 patent; B) the Spaur '074 patent; C) the Suman '537 patent; and D) the Chou '499 patent either alone or in combination with the SAE HS-3000 Manual, all of which were published more than a year prior to the earliest priority date to which the Flick '278 patent is entitled to, raise substantial new questions of patentability with respect to the Flick '278 patent.

A. U.S. Patent No. 6,009,363 to Beckert (inherently disclosing the SAE HS-3000 Manual)

The Beckert '363 patent issued Dec. 28, 1999 and the SAE HS-3000 Manual published in 1994 and therefore are prior art to the Flick '278 patent under 35 U.S.C. §§ 102(a), 102(b),

and 102(e). These references were not considered during the original prosecution of the Flick '278 patent. However, the Beckert '363 patent was considered during the Flick '587 Reexam, but was inexplicably withdrawn from the Flick '587 Reexam with no reasons being made on the record as to why this rejection was being withdrawn. Accordingly, Requester is again resubmitting this reference for at least the following reasons:

1. No Reasons Provided Why Beckert '363 Patent Withdrawn From Rejection in the Flick '587 Reexam --- Examiner Interview Summary filed 6-21-2016 in the Flick '587 Reexam

The Examiner Interview Summary Record (PTOL – 413) filed on 6-21-2016 in the Fick '587 Reexam states: "Examiner agreed to drop the 102 rejection based upon Beckert." (Reproduced below).

Description of the general nature of what was agreed to if an agreement was reached, or any other comments:
Spaur and Suman references were discussed. Examiner agreed to drop the 102 rejection based upon Beckert. Examiner suggested that the Patent Owner provide evidence relating to the use of device codes in vehicles at the time of the invention in relation to their inherent use in Suman and Spaur. The scope of the claims was also discussed. Patent Owner's representative provided the attached agenda and various documents pertaining to related court proceedings.

MPEP 713.04 requires that "[t]he complete and proper recordation of the substance of any interview should include at least the following applicable items:... E) the general thrust of the principal arguments of the applicant and the examiner should also be identified, even where the interview is initiated by the examiner. The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. ***The identification of the arguments is sufficient if the general nature or thrust of the principal arguments can be understood in the context of the application file***. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner...". (emphasis added).

However, no reasons were provided on the record to indicate why the Beckert '363 patent was withdrawn. Likewise, Patent Owner's Applicant Summary of Interview with Examiner filed on July 7, 2016 is void of any discussion regarding the reasons why the Beckert '363 patent was withdrawn. The Patent Owner's interview agenda (filed within the same document) did include the following summary of the Beckert '363 patent:

VII. Anticipation Rejection over Beckert et al. :

Cited Beckert et al. provides:

In FIG. 2, the support module 62 is also connected to a universal serial bus (USB) hub 70 via a multi-bit connector 72 (e.g., 8 bits). The USB hub 70 provides connections to many peripheral devices (e.g., 128 devices). Example peripheral devices include the OBD (On Board Diagnostic) system 28, the security system 26, navigation system 74, a wireless link 76 to the Internet, a CD-ROM changer 78, a TV tuner 80, and user I/O devices such as a joystick, keyboard or a mouse 82. This USB hub could be separate as shown in FIG. 2 or it could be integrated into one or more of the USB peripherals.

Incorporated by reference Beckert et al. '164 provides:

An OBD (On Board Diagnostic) interpreter 116 is provided in the computer module to communicate with the OBD system built into the vehicle by the manufacturer. The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled.

No multi-vehicle compatible controller and no downloading interface.

However, no reasons are provided as to why this reference was withdrawn. To the extent that the Patent Owner may have argued that the Beckert '363 patent involves only "reading" diagnostic data, and thus does not "control" vehicle devices as could be stated under a broadest reasonable interpretation standard with respect to a "multi-vehicle compatible **controller**" as recited in the claims, Requester notes that solely "reading" diagnostic data in accordance with the bus discovery procedure specified within the SAE standards for connecting to a vehicle via its OBD II connection has been previously asserted as sufficient by

Patent Owners to satisfy the claim limitation of the "multi-vehicle compatible controller" (See Patent Owner's Infringement Contentions provided below in Section VIII). Thus, if Patent Owner seeks to take an interpretation that is different from this interpretation, Requester respectfully requests such interpretation be made of record in the file wrapper.

Patent Owner's Applicant Summary of Interview, reproduced above, also asserts that the Beckert' 363 patent does not disclose a downloading interface. Requester respectfully disagrees. On the contrary, as detailed in the attached Exhibit B, the Beckert '363 patent explicitly discloses a downloading interface, and states: "[a]nother technique to load data or applications or transfer data with other computing devices is through the use of the IrDA transceiver port 56, or the wireless Internet link 76." Beckert et al. '363 patent, col. 5, lines 1 – 12. Furthermore, Requester has provided Patent Owner's Infringement Contentions below in Section VIII, which illustrate that a standard firmware update has been asserted by Patent Owner as sufficient for satisfying this claim limitation.

Accordingly, Requester is re-submitting the Beckert '363 patent, including the SAE HS-3000 Manual which is inherently disclosed by the OBD II interface being used in the Beckert '363 patent (see e.g., Beckert '363 col. 1, lines 32 – 35 stating: "Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system, and other components (1996 or later for OBD II, 1993 or later for OBD I)…". While Requester believes it unlikely that any of the rejections proposed herein will be withdrawn, Requester respectfully requests that any future reasons for withdrawing any proposed rejections be made of record so that the public has notice both as to the meaning and scope of the claims and regarding the basis under which prior art fails to render the claims

anticipated and/or obvious. These references provide new technological teachings that raise a substantial new question of patentability with respect to the Flick '278 patent.

2. Technological Teaching: Transmitting Location Data, Communicating Via an OBD II Vehicle Data Bus, and Downloading Means Downloading Enabling Data

The Beckert '363 patent teaches a vehicle computer system including a wireless communications device, a vehicle location determination device, a downloading interface, and a controller capable of communicating with a variety of vehicle devices via the OBD II standardized vehicle data bus mandated for inclusion in 1996 or later model vehicles. An illustration of the components of the Beckert '363 patent is conceptually shown n FIG. 3:

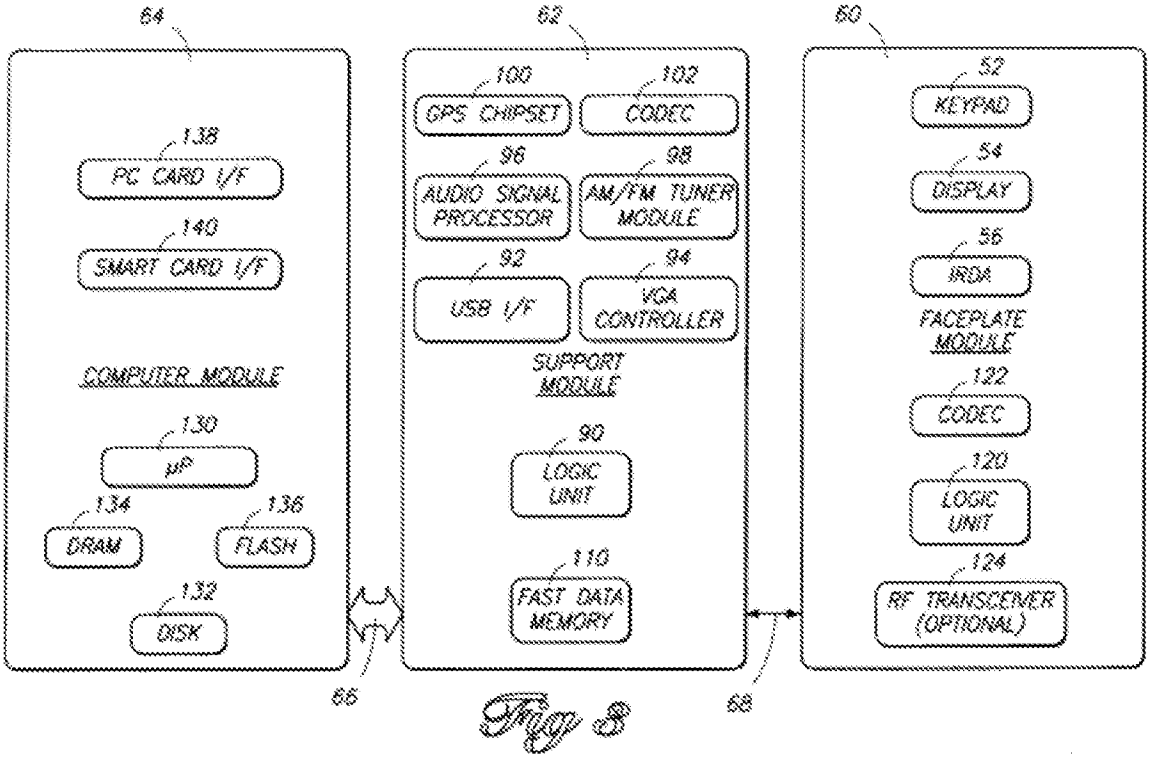


Fig. 3

The Beckert '363 patent also incorporated by reference the disclosure of U.S. Patent 5,794,164 to Beckert et al. (the Beckert '164 patent) in its entirety at col. 7, lines 44-51. The

Beckert '164 patent provides additional detail concerning the modules of the vehicle computer system disclosed in the Beckert '363 patent and specific detail concerning the OBD interpreter and APIs that are exposed to remote devices by the vehicle computer system, including a diagnostic API (amongst others). The SAE standards, and in particular the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices via the OBD II interface. In particular, the SAE HS-3000 Manual teaches a bus discovery procedure that can be used by systems interfacing with a vehicle bus via an OBD II diagnostic connector, which involves communicating with vehicle devices using at least one vehicle device code from among a plurality thereof for different vehicles. In particular, the bus discovery procedure sends a plurality of device codes, each a different form of the "mode 1 PID 0 response message", in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J185 10.4 Kbps VPW, and ISO 9141-2 in order to determine a type of bus used in a vehicle. (See SAE HS-3000 Manual section 6.5.1 on page 37). Indeed, it was Requester's implementation of the most current version of this standard that was pointed to by Patent Owner as satisfying the requirements of the Flick '278 patent (See Patent Owner's Infringement Contentions, page A-50, provided in Section VIII below, where the series of device codes are as follows: "On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message."

Accordingly, the Beckert '363 patent teaches that the modules inherently disclose the use of the bus discovery protocols that involve sending a plurality of device codes for different

vehicles required by the SAE standards as that specify the implementation details for the OBD II interface. Furthermore, it would have been obvious to utilize the teachings described in the SAE HS-3000 Manual because the Beckert '363 patent expressly directs communicating with the OBD system built into the vehicle using the OBD interface. Thus, the Beckert '363 patent is being presented in a new light in view of the SAE HS-3000 Manual that raises a substantial new question of patentability.

3. The Beckert '363 Patent and the SAE HS-3000 Manual are Analogous to the Flick '278 patent

The Beckert '363 patent and the SAE HS-3000 Manual are analogous art because they are in the same field of endeavor as the Flick '278 patent, namely vehicle monitoring and tracking units, and more specifically location tracking devices that can be installed in vehicles and communicate with vehicle devices using a vehicle data bus. *See In re Klein, 647 F.3d 1343, 1349 (Fed. Cir. 2011)* (Noting that a reference is analogous when "the art is from the same field of endeavor, regardless of the problem addressed...").

4. Substantial New Question of Patentability as to Claims 1 – 22 because the Beckert '363 Patent in view of the SAE HS-3000 Manual Teaches all Claim Elements

Each of claims 1 – 22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit B, the Beckert '363 patent in view of the SAE HS-3000 Manual disclose this and all other required limitations, explicitly disclosing communicating via a "vehicle data bus" and a "downloading interface". Accordingly, all

aspects of claims 1-22 are disclosed by the Beckert '363 patent and the SAE HS-3000 Manual. A reasonable examiner would consider the teachings important in deciding whether or not claims 1-22 of the Flick '278 patent are patentable. For these reasons, the Beckert '363 patent, including the SAE HS-3000 Manual, raises a substantial new question of patentability as to claims 1-22.

B. U.S. Patent No. 5,732,074 to Spaur in view of the SAE HS-3000 Manual

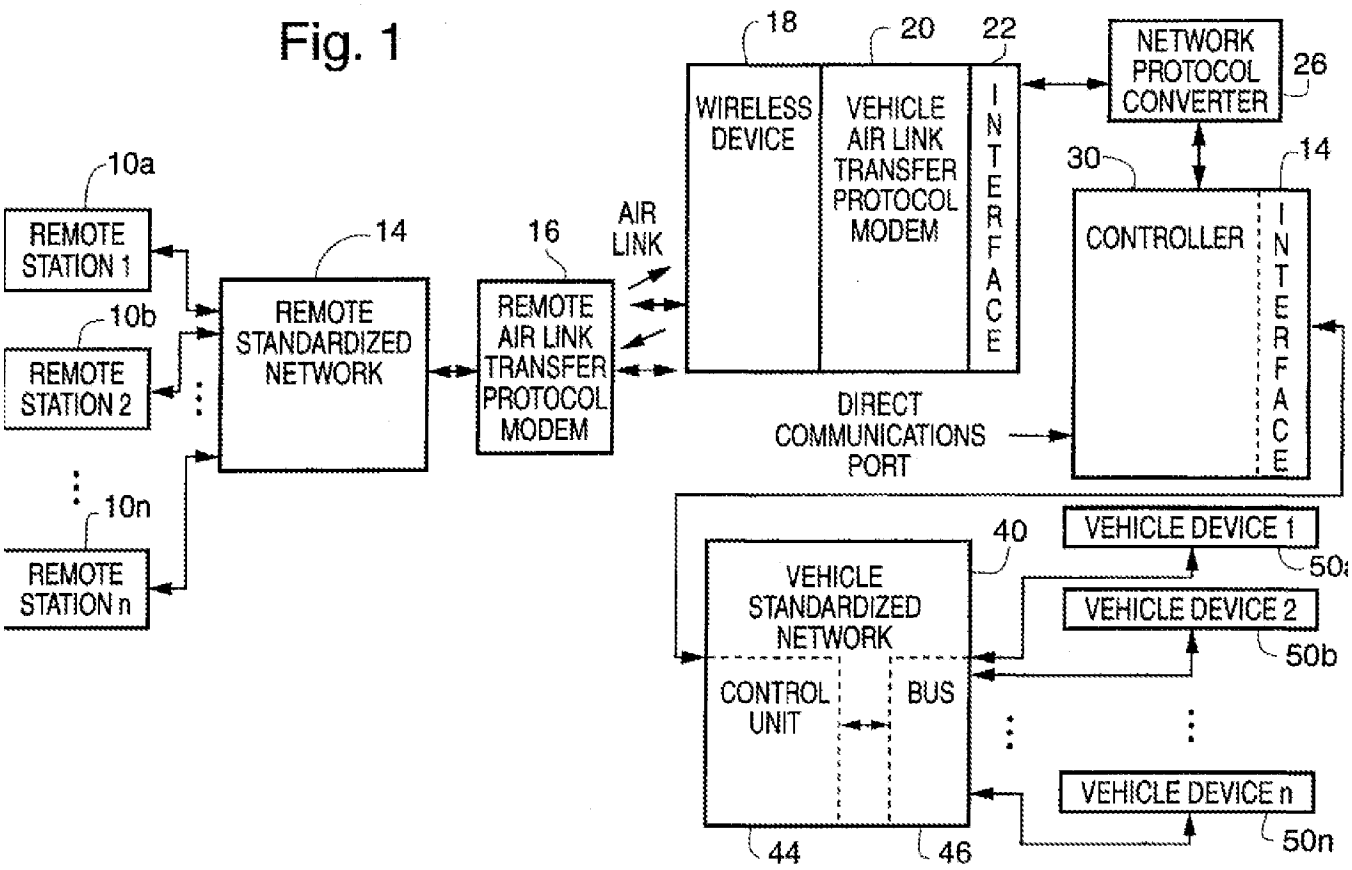
The Spaur '074 patent issued March 24, 1998 and the SAE HS-3000 Manual published in 1994 and therefore are prior art to the Flick '278 patent under 35 U.S.C. §§ 102(a), 102(b), and 102(e). These references were not considered during the original prosecution of the Flick '278 patent, but the Spaur '074 patent is currently being considered in the Flick '587 Reexam. Furthermore, as noted above and described in detail below in Section VII, the Examiner in the Flick '587 Reexam had requested evidence related to the use of device codes as related to the Spaur' 074 patent, and Patent Owner failed to provide any of the various SAE publications of which it was aware and that relate specifically to device codes. Accordingly, Requester is submitting the SAE HS-3000 Manual which provides material evidence related to the use of device codes as related to the Spaur '074 patent. Accordingly, the Spaur '074 patent is being presented in a new light in view of the SAE HS-3000 Manual and continues to raise a substantial new question of patentability.

1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus and Vehicle Device Codes for Different Vehicles

The Spaur '074 patent teaches a controller having a wireless device, a direct communications port, and a connection to a vehicle standardized network that can be utilized

to read data from vehicle devices and transmit that data via the wireless device. An illustration of the system taught by the Spaur '074 patent is illustrated in FIG. 1:

Fig. 1



The Spaur '074 patent teaches communicating with vehicle devices via a "standardized network ... commonly used in a number of makes and models of vehicles" (Spaur '074 patent, col. 10, lines 18-21). The SAE standards, and in particular the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices via one of the "standardized networks" present within a vehicle.

In particular, the SAE HS-3000 manual provides details of communicating with a plurality of vehicle devices using the SAE messaging protocols defined in SAE J2178 (Class B

Data Communication Network Messages), which provides details of the various device codes that may be utilized to communicate with hundreds of vehicle devices, and the device codes for a particular vehicle device include at least one SAE standard device code and up to seven manufacturer specific or "reserved" device codes. See Fig. 3, reproduced below, whereby MSB bits 2,1,0 that correspond to binary "000" are set as the "Industry Std. (SAE)", and binary "001" to "111" as reserved "Manufacturer".

Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.

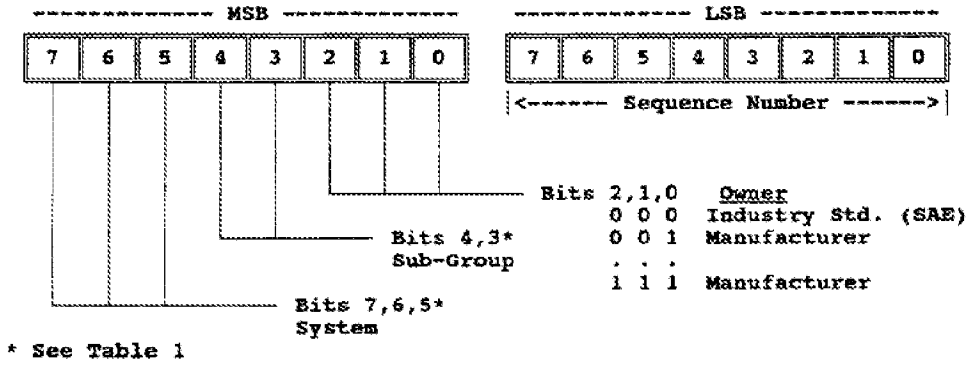


FIGURE 3—PRN STRUCTURE

Furthermore, SAE J2178/2, on page 213 of the SAE HS-3000 Manual, states that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign" thereby teaching multi-vehicle compatibility, with manufacturer specific device codes and SAE standard codes.

Furthermore, the SAE HS-3000 Manual teaches a bus discovery procedure that can be used by systems interfacing with a vehicle bus via an OBD II diagnostic connector, which involves communicating with vehicle devices using at least one vehicle device code from among a plurality thereof for different vehicles. In particular, the bus discovery procedure sends a plurality of device codes, referred to as "mode 1 PID 0 response message" in a

manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2 in order to determine a type of bus used in a vehicle. (See SAE HS-3000 Manual section 6.5.1 on page 37). Accordingly, it would have been obvious to utilize the teachings described in the SAE HS-3000 Manual because the Spaur '074 patent expressly directs using standards, such as the SAE standards as described by the SAE HS-3000 Manual, for the purpose for which the standards were created. Thus, the Spaur '074 patent in view of the SAE HS-3000 Manual disclose technological teachings that the Examiner previously found to be missing from the prior art of record disclosed in the Flick '278 patent.

2. The Spaur '074 Patent and the SAE HS-3000 Manual are Analogous to the Flick '278 patent

The Spaur '074 patent is analogous art because it is in the same field of endeavor as the Flick '278 patent, namely location tracking units, and more specifically location tracking devices that can be installed in vehicles and communicate with vehicle devices using a vehicle bus. The SAE HS-3000 Manual is analogous art because the publications relate to the same field of endeavor as the Flick '278 patent, namely vehicle communications systems and methods for communicating with vehicle devices, and more specifically, communicating with vehicle devices using at least one corresponding vehicle device code from among a plurality thereof for different vehicles using a vehicle bus. *See In re Klein, 647 F.3d 1343, 1349 (Fed. Cir. 2011)* (Noting that a reference is analogous when "the art is from the same field of endeavor, regardless of the problem addressed...").

3. Substantial New Question of Patentability as to Claims 1 – 22 Because Spaur '074 in view of the SAE HS-3000 Manual Teaches all Claim Elements

Each of claims 1 – 22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit D, the Spaur '074 patent in view of the SAE HS-3000 Manual discloses this and all other required limitations, explicitly disclosing communicating via a "vehicle data bus", "using at least one corresponding device code from among a plurality thereof for different vehicles", and "downloading interface". In particular, the limitation "using at least one corresponding vehicle device code from among a plurality thereof for different vehicles" is discussed in greater detail in the SAE HS-3000 Manual, which provides the implementation details for communicating via the standardized vehicle network described in the Spaur '074 patent.

Accordingly, it would have been obvious to one skilled in the art that all aspect of claims 1 – 22 are disclosed by the Spaur '074 patent in view of the SAE HS-3000 Manual. A reasonable examiner would consider the teachings important in deciding whether or not claims 1 – 22 of the Flick '278 patent are patentable. For these reasons, the Spaur '074 patent in view of the SAE HS-3000 Manual raises a substantial new question of patentability as to claims 1 – 22.

C. U.S. Patent No. 6,028,537 to Suman (inherently disclosing the SAE HS-3000 Manual)

The Suman '537 patent issued February 22, 2000 and the SAE HS-3000 Manual published in 1994 and therefore are prior art to the Flick '278 patent under 35 U.S.C. §§

102(a), 102(b) and 102(e). These references were not considered during the original prosecution of the Flick '278 patent, but the Suman '537 patent is currently being considered in the Flick '587 Reexam. Furthermore, as noted above and described in detail below in Section VII, the Examiner in the Flick '587 Reexam had requested evidence related to the use of device codes as related to the Suman '537 patent, however, Patent Owner failed to provide the Patent Office with significant prior art to which Patent Owner is aware and that relates specifically to the use of device codes as used in the Suman '537 patent. Accordingly, Requester is submitting material prior art, in particular, the SAE HS-3000 Manual which provides material evidence related to the use of device codes as related to the Suman '537 patent. Accordingly, the Suman '537 patent is being presented in a new light in view of the SAE HS-3000 Manual and continues to raise a substantial new question of patentability.

1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus and Multi-Vehicle Compatibility

The Suman '537 patent teaches a vehicle communication and control system including a wireless communications device, a vehicle location determination device, and a controller capable of communicating with a variety of vehicle devices via a standardized vehicle data bus. An illustration of the components of the Suman '537 patent is conceptually shown in FIG. 44:

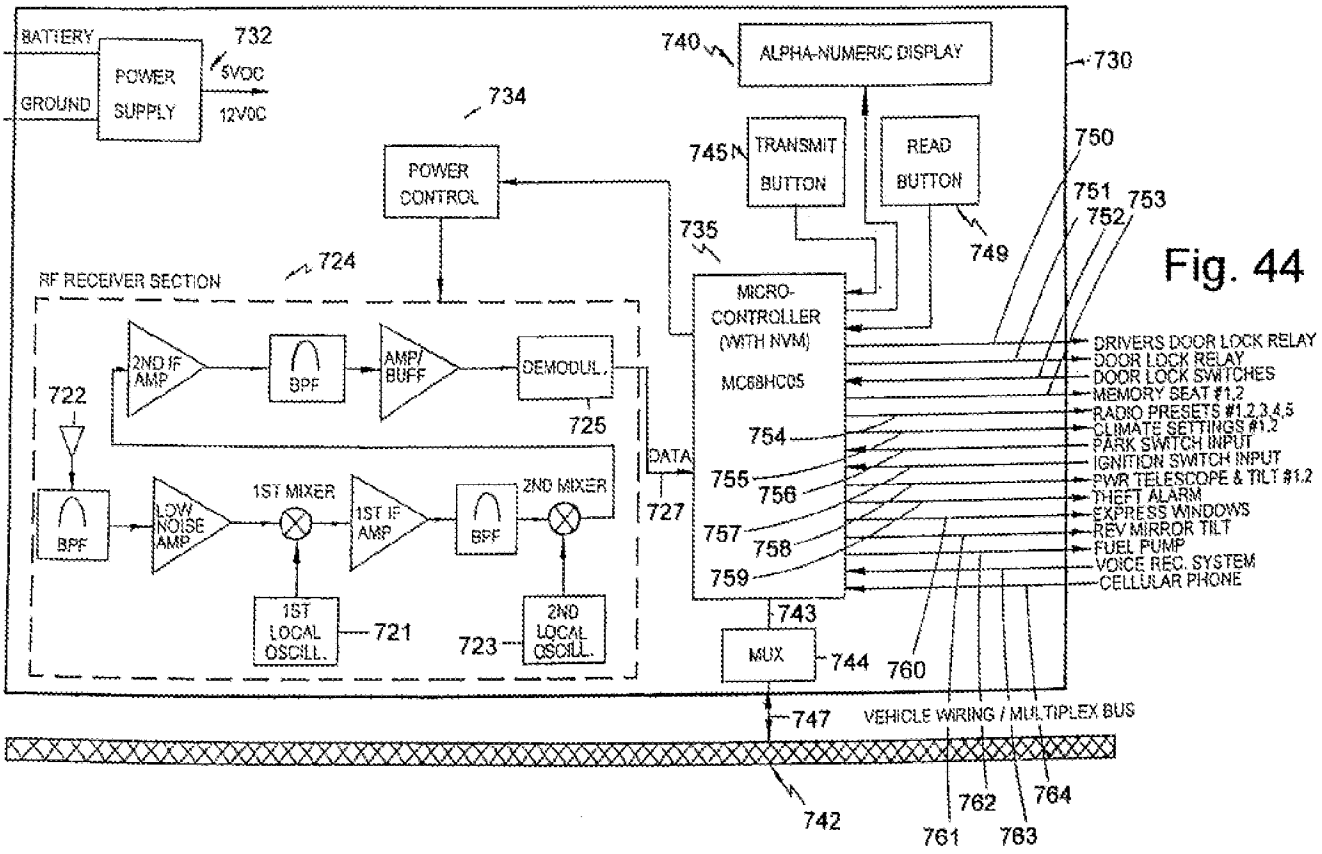


Fig. 44

The Suman '537 patent notes that the multiplexing scheme (e.g., item 744 illustrated in Fig. 44 above) is set forth in SAE standard J1850 and "is universally used in the automotive industry." The SAE HS-3000 Manual is a publication that provides details regarding the SAE J1850 standard, and provides implementation details for communicating with vehicle devices on a plurality of different makes and models of vehicles via an SAE J1850 bus.

Accordingly, a vehicle controller (as illustrated in Fig. 44 above) implemented according to the SAE J1850 standard would communicate with a plurality of vehicle devices using the SAE messaging protocols defined in SAE J2178 (Class B Data Communication Network Messages) as required by the SAE J1850 standard, which provides details of the various

device codes that may be utilized to communicate with hundreds of vehicle devices, and the device codes for a given device would include at least one SAE standard device code and up to seven manufacturer specific or "reserved" device codes. See Fig. 3, reproduced below, bits 2,1,0 that illustrated binary "000" as the "Industry Std." SAE device codes, and binary "001" to "111" as reserved "Manufacturer" device codes.

Figure 3 shows the basic structure of PRNs and Tables 1 and 2 show bit assignments and address ranges based on these assignments.

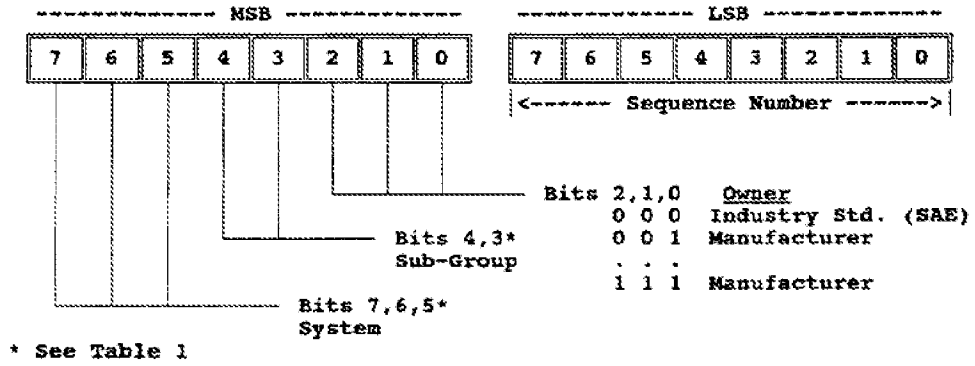


FIGURE 3 – PRN STRUCTURE

SAE J2178/2 notes, on page 213 of the SAE HS-3000 Manual, that "Some of the PRN numbers are assigned or reserved for SAE definitions but the majority are reserved for individual motor vehicle manufacturers to coordinate and assign."

Furthermore, a vehicle controller (as illustrated in Fig. 44 above) implemented according to the SAE HS-3000 Manual also performs a bus discovery procedure when interfacing with the vehicle bus that involves communicating with a vehicle device using at least one corresponding vehicle device code from a plurality thereof for different vehicles. In particular, the bus discovery procedure sends a plurality of device codes, referred to as "mode 1 PID 0 response message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2 in order to determine a type of bus used in a

vehicle. (See SAE HS-3000 Manual section 6.5.1 on page 37). As noted above, vehicle data busses, such as those described by the SAE HS-3000 Manual have been federally mandated for inclusion in all vehicles sold in the United States since at least 1996.

Thus, the Suman '537 patent is being presented in a new light in view of the SAE HS-3000 Manual that raises a substantial new question of patentability with respect to the Flick '278 patent

2. The Suman '537 Patent and the SAE HS-3000 Manual are Analogous Art to the Flick '278 Patent

The Suman '537 patent, which inherently implements the J1850 bus according to the SAE HS-3000 Manual are analogous art because they are in the same field of endeavor as the Flick '278 patent, namely location tracking units, and more specifically location tracking devices that can be installed in vehicles and communicate with vehicle devices using a vehicle bus. *See In re Klein, 647 F.3d 1343, 1349 (Fed. Cir. 2011)* (Noting that a reference is analogous when "the art is from the same field of endeavor, regardless of the problem addressed...").

3. Substantial New Question of Patentability as to Claims 1 – 22 because the Suman '537 patent, including the SAE HS-3000 Manual, Teaches all Claim Elements

Each of claims 1 – 22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit D, the Suman '537 patent, which inherently discloses communicating with vehicle devices in accordance with the manner

disclosed in the SAE HS-3000 Manual, discloses this and all other required limitations, explicitly disclosing communicating via a "vehicle data bus", "using at least one corresponding device code from among a plurality thereof for different vehicles", and "downloading interface". In particular, the manner in which the Suman '537 patent's disclosure requires "using at least one corresponding vehicle device code from among a plurality thereof for different vehicles" can be appreciated by reviewing the details of the disclosed processes as set out in the SAE HS-3000 Manual, which provides the implementation requirements for the multiplexing communication circuit 744 described in the Suman '537 patent. Accordingly, it is submitted that all aspects of claims 1 – 22 are disclosed by the Suman '537 patent, which inherently discloses use of the processes required by the standards contained in the SAE HS-3000 Manual, in at least as complete detail as contained in the claims. A reasonable examiner would consider the teachings important in deciding whether or not claims 1 – 22 of the Flick '278 patent are patentable. For these reasons, the Suman '537 patent in view of the SAE HS-3000 Manual raises a substantial new question of patentability as to claims 1 – 22.

D. U.S. Patent No. 6,330,499 to Chou et al.

The Chou '499 patent issued December 11, 2001 and therefore is prior art to the Flick '278 patent under 35 U.S.C. §§ 102(a), 102(b), and 102(e). This reference was not considered during the prosecution of the Flick '278 patent or the currently pending Flick '587 Reexam. This reference provides a new technological teaching that raises a substantial new question of patentability.

1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus and using model dependent codes

The Chou '499 patent teaches a vehicle information system including a wireless communication device, a vehicle location determining device, and a controller capable of communicating with a variety of vehicle devices via a standardized vehicle data bus using a vehicle bus interface that may support different vehicle bus standards such as CAN (Controller Area Network) and the Society of Automotive Engineers' SAE J1850 – Class B Data Communications Network Interface. (Chou, col. 3, lines 33-40). An illustration of the components of the Chou '499 patent is conceptually shown in FIG. 2:

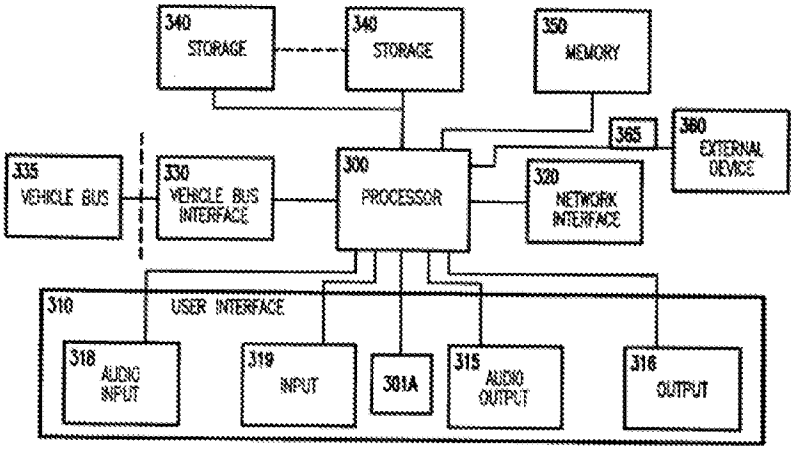


FIG.2

The Chou '499 patent further teaches multi-vehicle compatibility, whereby a vehicle bus adaptor (120C) "translates messages from the fault detector into the language of the vehicle bus. The fault code specifications and protocols of the vehicle may be ***Original Equipment Manufacturer (OEM) and model dependent***....A listing of such codes may be found in the publication of the Society of Automotive Engineers, "SAE On-Board Diagnostics for Light and Medium Duty Vehicle Standards Manual". (Chou, col. 4, lines 25-35, emphasis added).

Thus, the Chou '499 patent discloses technological teaching that the Examiner previously found to be missing from the prior art of record disclosed in the Flick '278 patent.

2. The Chou '499 patent is Analogous Art to the Flick '278 patent

The Chou '499 patent is analogous art because it is in the same field of endeavor as the Flick '278 patent, namely vehicle monitoring and tracking units, and more specifically vehicle tracking devices that can be installed in vehicles and communicate with vehicle devices using a vehicle bus. *See In re Klein, 647 F.3d 1343, 1349 (Fed. Cir. 2011)* (Noting that a reference is analogous when "the art is from the same field of endeavor, regardless of the problem addressed...").

3. Substantial New Question of Patentability as to Claims 1 – 22 because the Chou '499 Patent Teaches all Claim Elements

Each of claims 1 – 22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit E, the Chou '499 patent discloses this and all other required limitations, explicitly disclosing communicating via a "vehicle data bus", translating "messages from the fault detector into the language of the vehicle bus" where the fault code specifications may be "Original Equipment Manufacturer (OEM) and model dependent" and a downloading interface for permitting downloading of enabling data.

Accordingly, it is submitted that all aspect of claims 1 – 22 are disclosed by the Chou '499 patent. A reasonable examiner would consider the teachings important in deciding whether or not claims 1 – 22 of the Flick '278 patent are patentable. For these reasons, the Chou '499 patent raises a substantial new question of patentability as to claims 1 – 22.

VII. PROCEEDINGS IN PENDING RE-EXAMINATION OF FLICK '278 PATENT WITH CONTROL NO. 90/013,587 (THE '587 REEXAM)

As noted above, the Flick '278 patent is currently under Ex Parte Reexamination with Control No. 90/013,587 (the Flick '587 Reexam). This Flick '587 Reexam had been requested by Requester. Requester believes that the SAE HS-3000 Manual presents the prior art that forms the basis of the Flick '587 Reexam in a new light. Patent Owner's failure to submit the SAE HS-3000 Manual in the Flick '587 Reexam and submission of declarations that are misleading in view of the SAE standards described in the SAE HS-3000 Manual are described further below.

A. Patent Owner was aware of and failed to provide material evidence in reply to the Examiner's request for evidence related to use of device codes in Flick '587 Reexam

The Ex Parte Reexamination Interview Summary mailed June 21, 2016 states that the "Examiner suggested that the Patent Owner provide ***evidence relating to the use of device codes in vehicles*** at the time of the invention ***in relation to their inherent use in Suman and Spaur***." (emphasis added). As detailed above, Suman describes communicating with vehicle devices via an SAE "J1850" bus, while Spaur describes using "standardized vehicle networks", which clearly references the SAE standardized networks federally mandated for use in all new vehicles sold in the U.S. since 1996.

In response to the Examiner's request, Patent Owner filed a "Response to the Office Action Mailed May 6, 2016 in Ex-Parte Reexamination" on July 6, 2016 that included, among various other items, a Rule 132 Declaration by Joseph C. McAlexander, III (the McAlexander 132 Declaration) and a Rule 132 Declaration by Michael J. Suman (the Suman 132

Declaration), however, Patent Owner failed to provide any of the various relevant SAE publications that were published for the express purpose of providing multivehicle compatibility to devices such as those disclosed in the Spaur '074 patent, the Suman '537 patent, and the Beckert '363 patent that communicate via the vehicle data communications bus.

Due to concurrent proceedings in which these SAE publications have been relied upon by the USPTO in initiating *ex parte* reexaminations of Patent Owner's other patents related to the use of device codes in multi-vehicle compatible controllers, Patent Owner is clearly aware of the SAE standards and the fact that they provide material evidence related to the use of device codes as inherently used by the Spaur '074 patent and the Suman '537 patent.

Accordingly, Requester cannot determine why Patent Owner failed to provide to the Patent Office this material evidence as Patent Owner was aware of the teachings of this and numerous other SAE publications, including the specific teachings related to device codes, as these publications had been submitted in at least two other pending *ex parte* reexaminations with respect to Patent Owner's patents that relate to communication with vehicle devices using device codes. In particular, Requester had previously provided this SAE HS-3000 Manual to the Patent Owner in pending Re-examination Control No. 90/013,659 for U.S. Patent Number 6,346,876 to Flick; and pending Re-examination Control No. 90/013,741 for U.S. Patent No. 6,756,885 to Flick. Furthermore, Mr. McAlexander read from the SAE HS-3000 Manual while on the witness stand in Federal Court during the trial of the Omega Patents, LLC v. CalAmp Corp. dispute earlier this year.

B. Misleading Declaration Evidence Submitted By Patent Owner

The declarations submitted by Mr. Suman (an inventor on the Suman et al. patent) and Mr. McAlexander (a technical consultant) assert that the device codes were "difficult to obtain",

"proprietary" and "not made freely available". In particular, the Rule 132 Declaration of Mr. McAlexander states on page 3 that "...Mr. Suman confirms my understanding that...the vehicle device codes were proprietary to different manufacturers, and even different model lines offered by manufacturers; and that the device codes were not made freely available, and were quite difficult to obtain." Likewise, the Rule 132 Declaration by Michael J. Suman states on pages 4-5 that "...the vehicle device codes were proprietary to different manufacturers, and even different model lines offered by manufacturers. Moreover, the device codes were not made freely available, and were quite difficult to obtain."

However, the SAE standards and the SAE HS-3000 Manual were readily available for purchase for relatively modest fees. Furthermore, Requester submits herewith a 1997 version of the SAE HS-3000 Manual that has also been previously provided to the Patent Owner in the above referenced ex parte reexaminations and was obtained by Requester from a public library. Given that these standards are explicitly referenced within the Spaur '074 patent the Suman '537 patent, it is misleading to suggest that the information was unobtainable. The information was clearly relied upon in the implementation of the described systems. Furthermore, contrary to the assertions made by Mr. Suman and Mr. McAlexander, the device codes were in fact available and not "difficult to obtain" as the device codes had been published by the Society of Automotive Engineers in numerous publicly available publications including the SAE HS-3000 Manual. Finally, Requester notes that if the assertions of Mr. Suman and Mr. McAlexander that the device codes were "difficult to obtain" etc. were in fact accurate, then it would logically follow that the invention disclosed by the Suman et al. '537 patent could not have been implemented with respect to even a single vehicle.

Accordingly, in this Request, Requester is submitting the SAE HS-3000 Manual, published in 1994 that provide details regarding hundreds of different device codes (as listed in, for example, SAE J2178/2 starting on page 211 of the HS-3000 Manual), available at the time of the invention as had been requested by the Examiner. In view of the misleading manner in which the Suman and McAlexander declarations present the Spaur '074 patent and the Suman '537 patent, Requester respectfully submits that the SAE HS-3000 Manual presents at least the Spaur '074 patent and the Suman '537 patent in a new light.

C. Mr. Suman's 132 Declaration with Respect to Multi-Vehicle Compatibility is Irrelevant – "Inherency rejections may be proper even when the inherent properties were not appreciated by the inventor"

The Suman '537 patent states "***[t]he multiplexing scheme is set forth in SAE standard J1850*** and is universally used in the automotive industry." (Col. 37, lines 15-17) and the Official Action correctly notes that "it is also inherent that the J1850 bus described in the Suman '537 patent is included in a variety of different makes and models of vehicles per the federally mandated standard." (Official Action, pages 6-7).

Patent Owner's "Response to the Office Action Mailed May 6, 2016 in Ex-Parte Reexamination" argues that the Suman '537 patent fails to disclose multi-vehicle compatible controller, and submits as supporting evidence the Suman 132 Declaration, which states:

> "…I respectfully disagree with these contentions with respect to the characterization of a multi-vehicle compatible controller. The embodiments contemplated by me at the time of my '537 patent, the disclosure in my '537 patent, and the related commercial developments within my work responsibilities

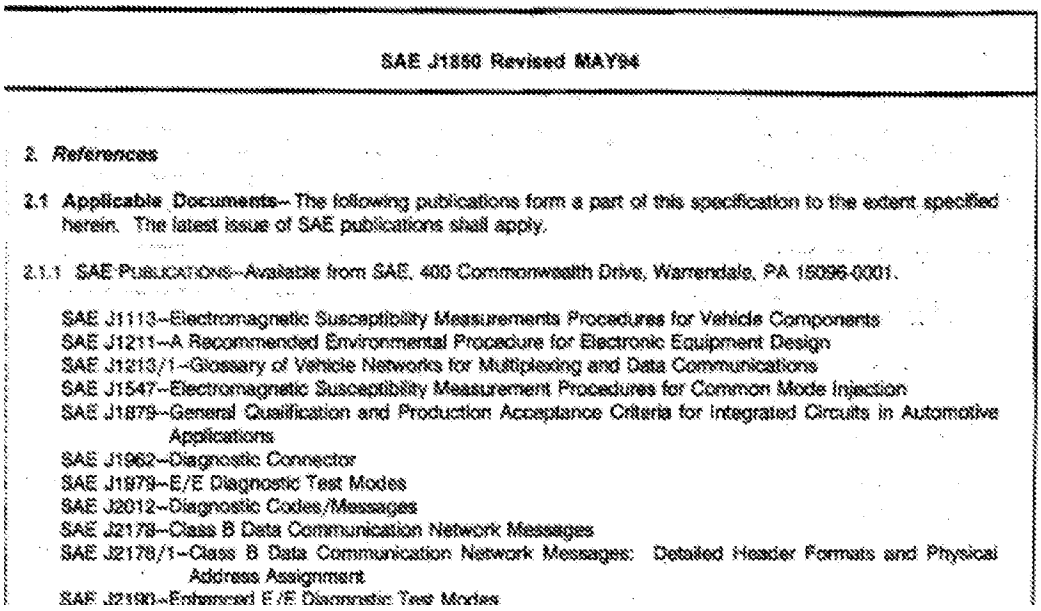
> were not directed to a multi-vehicle compatible controller and downloading interface as in the '278 patent claims. The embodiments contemplated by me at the time of my '537 patent did not include multi-vehicle compatibility, and at the time I left Johnson Controls in 2002 I never contemplated or worked with any multi-vehicle compatible controller as described in the '278 patent." (Suman Declaration, page 4, item 12).

These statements only provide evidence that Mr. Suman personally was unaware of or did not appreciate the multi-vehicle compatibility provided by the SAE J1850 multiplexing scheme that was being used by the Suman '537 patent.

However, ***"inherency rejections may be proper even when inherent properties were not appreciated by the inventor or author of the cited prior art reference."*** (See American Intellectual Property Law Association ("AIPLA"), "Practical Prosecution Training for New Lawyers", August 27, 2009, page 38). Rather, the evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that ***it would be so recognized by persons of ordinary skill".*** (emphasis added) (See Continental Can Co. USA v. Monsanto Co., 948 F.2d 1264 (Fed. Cir.1991). (The court went on to explain that "this modest flexibility in the rule that 'anticipation' requires that every element of the claims appear in a single reference accommodates situations in which the **common knowledge of technologists** is not recorded in the reference; that is, where technological facts are known to those in the field of the invention, albeit not known to judges." (emphasis added, 948 F.2d at 1268, 20 USPQ at 1749-50.).

Accordingly, the statements by Mr. Suman in the Suman 132 Declaration are only evidence that Mr. Suman did not appreciate that using the standardized SAE J1850

multiplexing scheme would necessarily provide multi-vehicle compatibility. However, as described in detail below, the SAE standards that define communications via a J1850 vehicle bus clearly provides multi-vehicle compatibility as was appreciated by one of ordinary skill in the art, as the messaging protocol used to communicate on the J1850 bus specifically sets forth device codes that include both "standard SAE" device codes supported in many different makes and models of vehicles as well as "reserved manufacturer" specified device codes. In particular, the J1850 bus communicates with vehicle devices according to the J2178 messaging standards (See J1850, Section 2, page 153 of HS-3000 Manual, partially reproduced below), and the J2178 messaging standards set forth at least one SAE standard device code and seven manufacturer reserved device codes for each vehicle device (as described in detail above).



SAE J1850 Revised MAY94

2. References

2.1 Applicable Documents—The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1113—Electromagnetic Susceptibility Measurements Procedures for Vehicle Components
SAE J1211—A Recommended Environmental Procedure for Electronic Equipment Design
SAE J1213/1—Glossary of Vehicle Networks for Multiplexing and Data Communications
SAE J1547—Electromagnetic Susceptibility Measurement Procedures for Common Mode Injection
SAE J1879—General Qualification and Production Acceptance Criteria for Integrated Circuits in Automotive Applications
SAE J1962—Diagnostic Connector
SAE J1979—E/E Diagnostic Test Modes
SAE J2012—Diagnostic Codes/Messages
SAE J2178—Class B Data Communication Network Messages
SAE J2178/1—Class B Data Communication Network Messages: Detailed Header Formats and Physical Address Assignment
SAE J2190—Enhanced E/E Diagnostic Test Modes

Likewise, Mr. Suman in his Rule 132 Declaration asserts that "[i]t was expected that the vehicles in a given fleet would be the same type vehicle having the same device codes" although the Suman '537 patent explicitly describes that the fleet of vehicles could include

"taxis, police cars, trucks, or other delivery vehicles…" (Col. 2, lines 3-10). While this may be Mr. Suman's recollection, the patent clearly conveys to a person of ordinary skill in the art that the disclosed system could be used on different vehicles.

Accordingly, even though Mr. Suman did not appreciate the inherent properties of using the SAE J1850 bus to provide multi-vehicle compatibility, these inherent properties would have been recognized by a person of ordinary skill in the art and thus, the statements made by Mr. Suman in the Suman 132 Declaration are irrelevant with respect to the multi-vehicle compatibility of the Suman '537 patent.

VIII. ***SUBMISSION UNDER 37 CFR 1.501 - PATENT OWNER'S STATEMENTS FILED IN FEDERAL COURT PROCEEDING RELATING TO CLAIM SCOPE***

35 U.S.C. 301(a)(2) permits a submission under 35 U.S.C. 301 to contain written "statements of the patent owner filed in a proceeding before a federal court or the Office in which the patent owner took a position on the scope of any claim of a particular patent".

Accordingly, pursuant to 37 CFR 1.501, Requester is submitting Plaintiff's (Patent Owner's) Disclosure of Initial Infringement Contentions (Infringement Contentions), attached as Exhibit F, with respect to the Flick '278 patent from the litigation in the case of Omega Patents, LLC (the '278 Patent Owner) v. CalAmp Corp. (the Requester) in the Middle District of Florida, Case No. 6:13-cv-1950-Orl-31DAB (the CalAmp litigation).

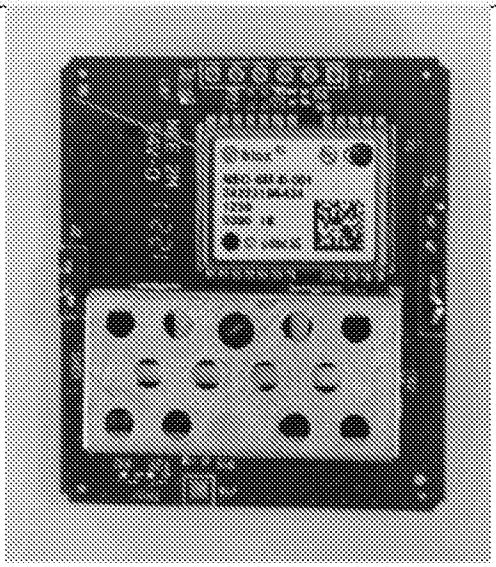
In particular, Patent Owner's Infringement Contention for claim 1, starting on page A-45, states: (partially reproduced below) "*said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and*", cites to: "**On initial installation, the multi-vehicle compatible controller**

generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message." (See e.g., Infringement Contentions, page A-50). Thus, implementing the updated version of the bus-discovery procedure utilized by vehicle standardized networks as originally detailed in the SAE HS-3000 Manual, published in 1994 and cited to in the accompanying claim charts, is the basis under which Patent Owner asserted infringement of this limitation of the patent. Specifically, the requirement in the standard to transmit a sequence of device codes to determine which of a number of different bus types is being used within a particular vehicle is asserted to satisfy the claim limitation.

Likewise, with respect to the claim 1 limitation "*a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller",* Patent Owner states, starting on page A-51 (reproduced below): *"The LMU-3000 includes a serial interface that can be used for downloading of enabling data. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air* ***firmware download****. CalAmp provides its users the ability to update the VBUS VehicleDB Type I File and/or the firmware and Vehicle DB Type II Ext File." (emphasis added).* Accordingly, Patent Owner acknowledges that a standard firmware update would satisfy this claim limitation. Thus, as described in detail in the accompanying claim charts, the cited references, including Suman '537 patent and the Spaur '074 patent clearly teach the downloading interface limitation of the claim.

Partially reproduced below is Patent Owner's Infringement Contentions with respect to claim 1 as provided in the CalAmp litigation (the entirety of which is attached as Exhibit F):

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]
1. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:	The LMU-3000 is a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.
a vehicle position determining device;	The LMU-3000 includes a vehicle position determining device. The LMU-3000 includes a GPS module.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
	
a wireless communications device;	The LMU-3000 includes a wireless communications device. The LMU-3000 includes a cellular module that allows transmission to and reception from a central station.
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The LMU-3000 includes a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
	
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication therewith at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for	The LMU-3000 includes a said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication therewith at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
different vehicles; and	The at least one vehicle device is the vehicle's ECM. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message.

a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller	The LMU-3000 includes a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	The LMU-3000 includes a serial interface that can be used for downloading of enabling data. The LMU-3000 is also advertised as having automatic, over the air unit configuration on power up, as well as over the air firmware download. Calamp provides its users the ability to update the VBUS VehicleDB Type I File and/or the firmware and Vehicle DB Type II Ext File.

IX. PROPOSED REJECTIONS AND DETAILED EXPLANATIONS OF THE PERTINENCY AND MANNER OF APPLYING THE CITED PRIOR ART TO EVERY CLAIM FOR WHICH REEXAMINATION IS REQUESTED

The above-referenced prior art raises substantial new questions of patentability with respect to claims 1 – 22 of the Flick '278 patent. Below, Requester sets out proposed rejections that provide a detailed explanation of the pertinency and manner of applying these patents and to each of these claims. Consistent with Patent Office practice, this detailed explanation gives "each term in the claim its broadest reasonable construction consistent with the specification," unless otherwise indicated. *See* MPEP §§ 2111, 2280; *In re Morris,* 127 F.3d 1048, 1054-55 (Fed. Cir. 1997).

SUMMARY OF PROPOSED REJECTIONS	SUPPORTING CLAIM CHART
Claims 1 – 22 are rejected under 35 U.S.C. § 102 as being anticipated by the Beckert '363 patent.	**Exhibit B**

SUMMARY OF PROPOSED REJECTIONS	**SUPPORTING CLAIM CHART**
Claims 1 – 22 are rejected under 35 U.S.C. § 103 as unpatentable over the Beckert '363 patent in view of the SAE HS-3000 Manual	**Exhibit B**
Claims 1 – 22 are rejected under 35 U.S.C. § 102 as anticipated by the Suman '537 patent.	**Exhibit C**
Claims 1 – 22 are rejected under 35 U.S.C. § 103 as unpatentable over the Suman '537 patent in view of the SAE HS-3000 Manual.	**Exhibit C**
Claims 1 – 22 are rejected under 35 U.S.C. § 103 as unpatentable over the Spaur '074 patent in view of the SAE HS-3000 Manual	**Exhibit D**
Claims 1 – 22 are rejected under 35 U.S.C. § 102 as being anticipated by the Chou '499 patent.	**Exhibit E**

A. Claims 1 – 22 are Anticipated by the Beckert '363 Patent

Each and every limitation of claims 1 – 22 is disclosed by the Beckert '363 patent as shown in detail in the claim chart attached as Exhibit B. Accordingly, the following proposed rejection is appropriate.

1. Proposed rejection

Claims 1 – 22 are rejected under 35 U.S.C. § 102(a), (b), and 35 U.S.C. § 102(e) as being unpatentable over the Beckert '363 patent.

With regard to claim 1, as set out in detail in Exhibit B, the Beckert '363 patent teaches:

- *a multi vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.* See e.g., col. 2, lines 10-17, col. 1, lines 32-28.
- *a vehicle position determining device*. See e.g., col. 6, lines 50-53, and FIG. 3.
- *a wireless communication device*. See e.g., wireless Internet link 76, col. 5, lines 9-12 and FIGS. 1 and 3.
- *a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information.* See e.g., col. 5, lines 9-12 and disclosure from Beckert et al. '164 patent col. 12, lines 25-30, which is incorporated by reference at col. 7, lines 44-51.
- *said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles.* See col. 6, lines 63 to col. 7, line 1, and disclosure from Beckert et al. '164 patent, col. 9, lines 29-31 which is incorporated by reference at col 7, lines 44-51, with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. The Beckert et al. '363 patent states that "Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system, and other components (1006 or later for OBD II,

1993 or later for OBD I)." (Beckert '363 patent, col. 1, lines 35-26). The SAE standards, including the SAE HS-3000 Manual, provide the implementation details for communicating with vehicle devices using the vehicle bus via an OBD II diagnostic connector. The SAE HS-3000 Manual discloses using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. In particular, in order to allow a controller to be compatible with various busses that are used on a plurality of different vehicles, the controller uses a bus discovery procedure that is described on page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978 that involves sending different device codes or "messages", in the form of signals referred to as a "mode 1 PID 0 request message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2. Accordingly, it is inherent that the teachings, including the bus discovery protocol, described in SAE HS-3000 Manual form part of the system described in the Beckert et al. '363 patent as the Beckert et al. 363 patent uses the OBD II interface to communicate with vehicle device.

- *a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller*. See e.g., col. 5, lines 1-12, and disclosure from Beckert et al. '164 patent, col. 12, lines 5-11, which is incorporated by reference at col. 7, lines 44-51. See also e.g., col. 2, lines 15-17, col. 5, lines 36-41, col. 7, lines 20-33, and disclosure from Beckert et al. '164 patent, col. 12, lines 12-40, which is incorporate by reference at col. 7, lines 44-51.

With regard to claim 13, as set out above with respect to claim 1 and in detail in Exhibit B, the Beckert '363 patent teaches all limitations of claim 13. Additionally, with respect to the limitation *"the wired signal downloading interface comprising a connector for temporary connection to a downloading device",* see e.g., Beckert '164 patent, col. 12, lines 5-11, which is incorporated by reference at col. 7, lines 44-51.

With regard to claim 18, as set out above with respect to claim 1 and in detail in Exhibit B, the Beckert '363 patent teaches all limitations of claim 18. Additionally, with respect to the limitation *"said wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device",* see e.g., col. 7, lines 10-13.

With regard to claims 2-12, 14-17, and 19-22, see Proposed Rejections submitted in 'Flick 587 Reexam, Requester's Reply in Ex Parte Reexamination of U.S. Patent 8,032,278 filed on March 8, 2016, starting on page 36.

B. Claims 1 – 22 are Unpatentable over the Beckert '363 Patent in view of the SAE HS-3000 Manual

Each and every limitation of claims 1 – 22 is disclosed by the Beckert '363 patent in view of the SAE HS-3000 Manual as shown in detail in the claim chart attached as Exhibit B. Accordingly, the following proposed rejection is appropriate.

1. Proposed rejection

Claims 1 – 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Beckert '363 patent in view of the SAE HS-3000 Manual.

With regard to claim 1, 13 and 18, as set out in detail in Exhibit B, and described in detail above, the Beckert '363 Patent in view of the SAE HS-3000 Manual teaches all of the claim limitations. The Beckert et al. '363 patent states that "[M]ost late model vehicles are also

constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system, and other components (1006 or later for OBD II, 1993 or later for OBD I)." (Beckert '363 patent, col. 1, lines 35-26). The SAE standards, including the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices using the vehicle bus via an OBD II diagnostic connector. Accordingly, it would have been obvious to utilize the teachings described in the SAE HS-3000 Manual because the Beckert '363 patent expressly directs communicating with the OBD system built into the vehicle using the OBD interface

With regard to claims 2-12, 14-17, and 19-22, see Proposed Rejections submitted in 'Flick 587 Reexam, Requester's Reply in Ex Parte Reexamination of U.S. Patent 8,032,278 filed on March 8, 2016, starting on page 36.

C. Claims 1 – 22 are Anticipated by the Suman '537 Patent

Each and every limitation of claims 1 – 22 is disclosed by the Suman '537 patent as shown in detail in the claim chart attached as Exhibit C. Accordingly, the following proposed rejection is appropriate.

1. Proposed rejection

Claims 1 – 22 are rejected under 35 U.S.C. § 102(a), (b), and 35 U.S.C. § 102(e) as being unpatentable over the Suman '537 patent.

With regard to claim 1, as set out in detail in Exhibit C, the Suman '537 patent teaches:

- *a multi vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.* See, e.g., col. 8, line 58-col. 9, line 16; Figs. 3, 5, 44, 45; see also col. 36, line 53-col. 37, line 17.

- *a vehicle position determining device.* See e.g., GPS or DGPS illustrated in Figs. 3, 5.
- *a wireless communication device.* See e.g., transmitter (see e.g., Figs. 1a, 1b, 2; col. 3, lines 1-3; col. 7, lines 26-30) and receiver (see e.g., Figs. 1b, 3, 44; col. 3, lines 1-3; col. 7, lines 31-34) for wirelessly receiving signals from the transmitter.
- *a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information.* See, e.g., col. 2 lines 3-10; see also col. 6, lines 19-49; col. 11, lines 8-13; col. 12, lines 7-13; col. 14, lines 11-21.
- *said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. The Suman '537 patent discloses that the controller is coupled to the vehicle data bus for communication thereover with at least one vehicle device, using a corresponding vehicle device code, from among a plurality of codes for different vehicles.* See, e.g., Figs. 3, 5, 44, 45, 47; see also col. 43, lines 27-47 (including sensors and controls for doors, windows, ignition, speedometer, RPMs, fuel level, turn signals, lights, gears, temperature, oil pressure, defroster, headlights, etc.). The Suman '537 patent, col. 37, lines 15 – 17: "The multiplexing scheme is set forth in SAE standard J1850 and is universally used in the automotive industry." It is inherently disclosed that the J1850 bus described in the Suman '537 patent is included in a variety of different makes

and models of vehicles per the federally mandated standard. Furthermore, as described in detail below, a J1850 bus implemented according to the SAE standards provides for communicating with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles, including at least one "SAE" defined device codes and up to seven "Reserved Manufacturer" defined device codes for a particular vehicle device, as described in detail in Exhibit B.

- *a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller*. See e.g., col. 36, lines 31-52.

With regard to claim 13, as set out above with respect to claim 1 and in detail in Exhibit C, the Suman '537 patent teaches all limitations of claim 13. Additionally, a cellular telephone transceiver constitutes a downloading interface and it is inherently discloses that cellular connections are temporary connections.

With regard to claim 18, as set out above with respect to claim 1 and in detail in Exhibit C, the Suman '537 patent teaches all limitations of claim 18. Additionally, a cellular telephone transceiver constitutes a wireless downloading interface and it is inherently discloses that cellular connections are temporary connections.

With regard to claims 2-12, 14-17, and 19-22, see Proposed Rejections submitted in 'Flick 587 Reexam, Ex Parte Request by Third Party filed on September 14, 2015, starting on page 21.

D. Claims 1 – 22 are Unpatentable over the Suman '537 Patent in view of the SAE HS-3000 Manual

Each and every limitation of claims 1 – 22 is disclosed by the Suman '537 patent in view of the SAE HS-3000 Manual as shown in detail in the claim chart attached as Exhibit B. Accordingly, the following proposed rejection is appropriate.

1. Proposed rejection

Claims 1 – 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Suman '537 patent in view of the SAE HS-3000 Manual.

With regard to claim 1, 13 and 18, as set out in detail in Exhibit C, and described in detail above, the Suman '537 Patent in view of the SAE HS-3000 Manual teaches all of the claim limitations. Furthermore, the Suman '537 patent, col. 37, lines 15 – 17: "The multiplexing scheme is set forth in SAE standard J1850 and is universally used in the automotive industry." Accordingly, at the time of the filing and at the time of the earliest priority date of the '278 patent, a person of ordinary skill the art would have considered it obvious to implement the J1850 bus according to the SAE standards since the standards were specifically published to provide the implementation details of the J1850 bus, as described by the SAE HS-3000 Manual.

With regard to claims 2-12, 14-17, and 19-22, see Proposed Rejections submitted in 'Flick 587 Reexam, Ex Parte Request by Third Party filed on September 14, 2015, starting on page 21.

E. Claims 1 – 22 are Unpatentable over the Spaur '074 Patent in view of the SAE HS-3000 Manual

Each and every limitation of claims 1 – 22 is disclosed by the Spaur '074 patent in view of the SAE HS-3000 Manual as shown in detail in the claim chart attached as Exhibit C. Accordingly, the following proposed rejection is appropriate.

1. Proposed rejection

Claims 1 – 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Spaur '074 patent in view of the SAE HS-3000 Manual.

With regard to claim 1, as set out in detail in Exhibit D, the Spaur '074 patent teaches:

- *a multi vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.* See e.g., col. 6, lines 31-50.
- *a vehicle position determining device.* See e.g., GPS col. 14, lines 4-9.
- *a wireless communication device.* See e.g., col. 2, lines 41-50, col. 6, lines 1-16, and col. 7, lines 40-54.
- *a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information.* See e.g., col. 14, lines 4-21.
- *said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles.* The Spaur '074 patent teaches communicating with vehicle devices via a "standardized network…commonly used in a number of makes and models of vehicles" (Spaur '074 patent, col. 10, lines 18-21). The SAE standards,

including the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices via the "standardized networks". Accordingly, it would have been obvious to utilize the teachings described in SAE HS-3000 Manual to provide multi-vehicle compatibility because the Spaur '074 patent expressly directs using standards, such as the SAE standards, for the purpose for which the standards were created. The SAE HS-3000 Manual provides details for hundreds of different device codes for different vehicle devices, which include SAE defined device codes and manufacturer defined device codes. See e.g., SAE J2178 which starts on page 211 of the SAE HS-3000 Manual.

- a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller. See e.g., col. 2, lines 37 – 46, col. 4, line 64 – col. 5, line 5, and col. 4, lines 38-45.

With regard to claim 13, as set out above with respect to claim 1 and in detail in Exhibit D, the Spaur '074 patent in view of the SAE HS-3000 Manual teaches all limitations of claim 13. Additionally, a cellular telephone transceiver constitutes a downloading interface and it is inherently discloses that cellular connections are temporary connections.

With regard to claim 18, as set out above with respect to claim 1 and in detail in Exhibit D, the Spaur '074 patent in view of the SAE HS-3000 Manual teaches all limitations of claim 18. Additionally, a cellular telephone transceiver constitutes a wireless downloading interface and it is inherently discloses that cellular connections are temporary connections.

With regard to claims 2-12, 14-17, and 19-22, see Proposed Rejections submitted in 'Flick 587 Reexam, Ex Parte Request by Third Party filed on September 14, 2015, starting on page 27.

F. Claims 1 – 22 are Anticipated by the Chou '499 Patent

Each and every limitation of claims 1 – 22 is disclosed by the Chou '499 patent as shown in detail in the claim chart attached as Exhibit E. Accordingly, the following proposed rejection is appropriate.

1. Proposed rejection

Claims 1 – 22 are rejected under 35 U.S.C. § 102(a), (b), and 35 U.S.C. § 102(e) as being unpatentable over the Chou '499 patent.

With regard to claim 1, as set out in detail in Exhibit E, the Chou '499 patent teaches:

- *a multi vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle*. See e.g., Fig. 3, and col. 3, lines 33-46.
- *a vehicle position determining device*. See e.g., col. 3, lines 54-56 disclosing GPS 317 in FIG. 1.
- *a wireless communication device*. See e.g., col. 2, lines 30-37.
- *a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information.* See e.g., col. 3, lines 54-56 and col. 2, lines 30-37.
- *said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different*

vehicles. See e.g., FIG. 3 and col. 4, lines 20-38, disclosing that "fault code specifications and protocols of the vehicle may be Original Equipment Manufacturer (OEM) and model dependent....A listing of such codes may be found in the publication of the Society of Automotive Engineers, 'SAE SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual'. The diagnostic data service 120A accepts request for vehicle parametric data and retrieves the data using the vehicle bus adapter." (emphasis added). The "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" is the SAE HS-3000 Manual, a copy of which is attached as Exhibit G and Exhibit H. The SAE HS-3000 Manual discloses that translating messages into the language of the vehicle data bus involves selecting between an SAE standard and/or one of seven manufacturer specific version of the device code. See e.g., SAE HS-3000 Manual, page 213, Section 4 of SAE J2178/2. Furthermore, the SAE HS-3000 Manual discloses a bus discovery process involving sending different versions of the mode 1 PID 0 device code. See e.g., SAE HS-3000 Manual, page 37, section 6.5.2 INITIALIZATION DETAILS of SAE J1978.

- *a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.* See e.g., Fig. 2, item 320, col. 3, lines 15-32, and col. 10, lines 5-11 disclosing "vehicle parameter update/change".

With regard to claim 2, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein said downloading interface comprises a wired signal downloading interface. See e.g., Fig. 3, item 102 and col. 3, lines 17-21.

With regard to claim 3, as set out in detail in Exhibit E, the Chou '499 patent teaches said wired signal downloading interface comprises a connector for temporary connection to a downloading device. See e.g., Fig. 3, item 102 cell phone attached to network interface 107 and col. 3, lines 17-21.

With regard to claim 4, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein said downloading interface comprises a wireless signal downloading interface. See e.g., Chou Fig. 3, network interface 107 and cell phone 102 together forming the downloading interface. See also e.g., col. 3, lines 15-32.

With regard to claim 5, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein said wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device. See e.g., wireless signal downloading interface (e.g., network interface 107 and cell phone 102) comprises a wireless receiver (e.g., removable cell phone 102) for temporary connection to a downloading device. See e.g., col. 5, lines 1-5.

With regard to claim 6, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device. See e.g., col. 9, lines 35-48.

With regard to claim 7, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device. See e.g., col. 9, lines 35-48.

With regard to claim 8, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein said downloading interface is also for permitting downloading of at least one

programming instruction for said multi-vehicle compatible controller. See e.g., col. 10, lines 5-11.

With regard to claim 9, as set out in detail in Exhibit E, the Chou '499 patent teaches a remote transmitter; and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter. See e.g., cell phone 102, col. 4, lines 39-42 and col. 10, lines 5-10.

With regard to claim 10, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein the at least one vehicle remote control function comprises at least one of a vehicle security function, a remote keyless entry function, and a remote engine starting function. See e.g., col. 10, lines 5-11.

With regard to claim 11, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein said wireless position determining device comprises a Global Positioning System (GPS) receiver. See e.g. col. 3, lines 54-56.

With regard to claim 12, as set out in detail in Exhibit E, the Chou '499 patent teaches a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said downloading interface. See e.g. client computer device 101 is stored in a housing in FIG. 1.

With regard to claim 13, as set out above with respect to claim 1 and in detail in Exhibit E, the Chou '499 patent teaches all limitations of claim 13. Additionally, with respect to the limitation *"the wired signal downloading interface comprising a connector for temporary connection to a downloading device".* See e.g., col. 3, lines 15-32.

With regard to claim 14, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device. See e.g., col. 9, lines 35-48.

With regard to claim 15, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device. See e.g., col. 9, lines 35-48.

With regard to claim 16, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller. See e.g., col. 10, lines 5-11.

With regard to claim 17, as set out in detail in Exhibit E, the Chou '499 patent teaches a remote transmitter; and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter. See e.g. cell phone 102, col. 4, lines 39-42 and col. 10, lines 5-10.

With regard to claim 18, as set out above with respect to claim 1 and in detail in Exhibit E, the Chou '499 teaches all limitations of claim 18. Additionally, with respect to the limitation *"said wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device".* See e.g., col. 3, lines 15-32.

With regard to claim 19, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device. See e.g., col. 9, lines 35-48.

With regard to claim 20, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device. See e.g., col. 9, lines 35-48.

With regard to claim 21, as set out in detail in Exhibit E, the Chou '499 patent teaches wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller. See e.g., col. 10, lines 5-11.

With regard to claim 22, as set out in detail in Exhibit E, the Chou '499 patent teaches a remote transmitter; and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter. See e.g. cell phone 102, col. 4, lines 39-42 and col. 10, lines 5-10.

X. CONCLUSION

Each of the Beckert '363 patent, Spaur '074 patent, Suman '537 patent, Chou '499 patent, and the SAE HS-3000 Manual raise substantial new questions of patentability with respect to the Flick '278 patent. As shown in detail above, and in the attached claim charts, the elements of each claim were disclosed in the prior art. Based on the teachings of the prior art previously described, claims 1 – 22 of the Flick '278 patent fail to satisfy the requirements for patentability set out in 35 U.S.C. § 102, 35 U.S.C. § 103, and are, therefore, unpatentable. For these reasons, and those more fully stated above and in the attached claim charts, it is respectfully requested that this Request for Ex Parte Reexamination be granted and that all claims of the Flick '278 patent be finally rejected.

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Exhibit A

US008032278B2

(12) **United States Patent**
Flick

(10) **Patent No.: US 8,032,278 B2**
(45) **Date of Patent: Oct. 4, 2011**

(54) **VEHICLE TRACKING UNIT WITH DOWNLOADABLE CODES AND ASSOCIATED METHODS**

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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 840 days.

(21) Appl. No.: **11/773,272**

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(65) **Prior Publication Data**

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Related U.S. Application Data

(63) Continuation-in-part of application No. 11/076,259, filed on Mar. 9, 2005, now Pat. No. 7,720,597, which is a continuation of application No. 10/383,496, filed on Mar. 7, 2003, now Pat. No. 7,149,623, which is a continuation of application No. 09/859,972, filed on May 17, 2001, now Pat. No. 6,606,561.

(60) Provisional application No. 60/264,811, filed on Jan. 29, 2001, provisional application No. 60/258,005, filed on Dec. 22, 2000, provisional application No. 60/251,552, filed on Dec. 6, 2000, provisional application No. 60/252,125, filed on Nov. 20, 2000, provisional application No. 60/236,890, filed on Sep. 29, 2000, provisional application No. 60/246,463, filed on Nov. 7, 2000, provisional application No. 60/222,777, filed on Aug. 3, 2000, provisional application No. 60/205,178, filed on May 17, 2000.

(51) **Int. Cl.**
G01C 21/00 (2006.01)

(52) **U.S. Cl.** **701/36**; 701/33; 382/104; 382/988; 455/575.9

(58) **Field of Classification Search** 701/36, 701/207–209; 340/500, 506, 515, 531, 533–534
See application file for complete search history.

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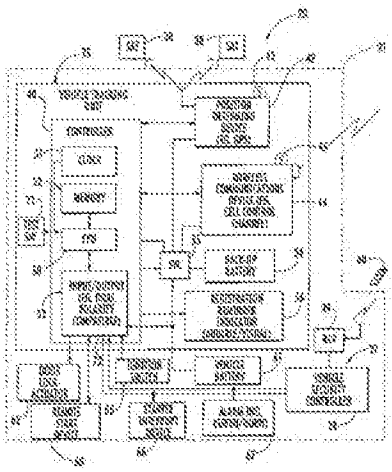
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(57) **ABSTRACT**

A multi-vehicle compatible tracking unit is for a vehicle including a vehicle data bus extending throughout the vehicle. The vehicle tracking unit may include a vehicle position determining device, a wireless communications device, and a multi-vehicle compatible controller for cooperating with the vehicle position determining device and the wireless communications device to send vehicle position information. The multi-vehicle compatible controller may be coupled to the vehicle data bus for communication therewith with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. A downloading interface may be included for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by the multi-vehicle compatible controller.

22 Claims, 13 Drawing Sheets



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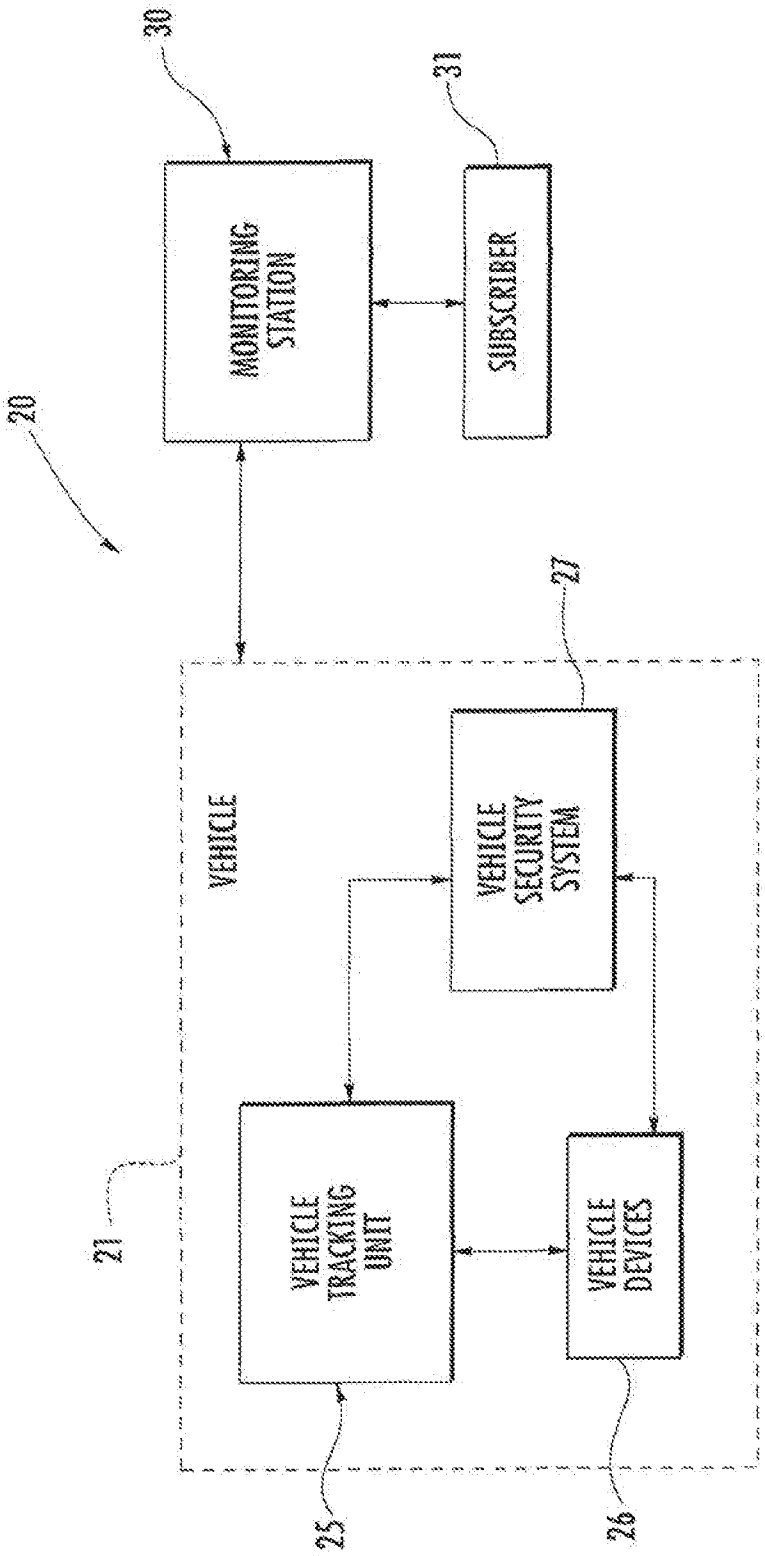

30
31
MONITORING STATION
SUBSCRIBER
20
27
VEHICLE
VEHICLE SECURITY SYSTEM
21
VEHICLE TRACKING UNIT
VEHICLE DEVICES
25
26

FIG. 1

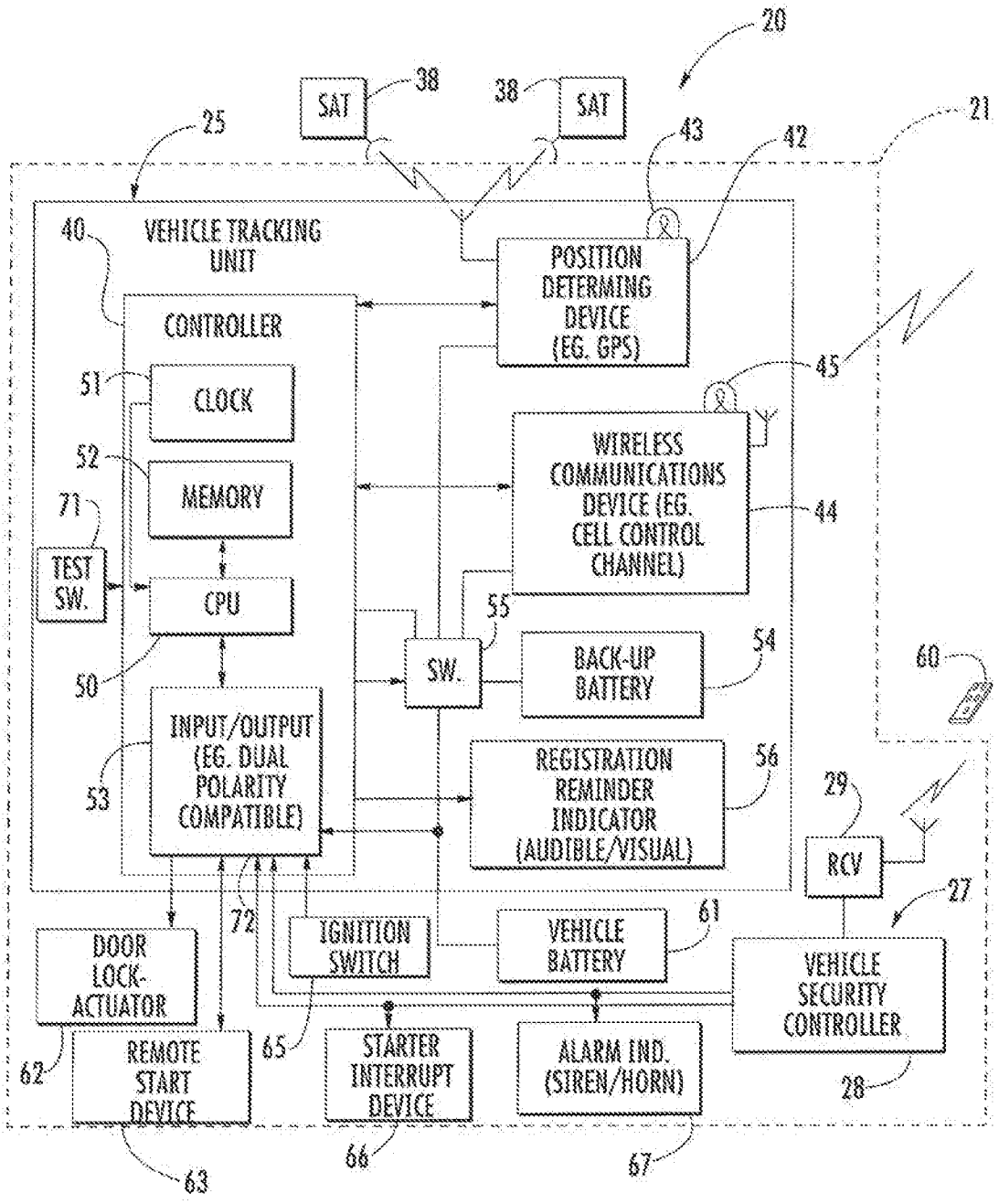

20
SAT
38
38
SAT
25
21
43
42
40
VEHICLE TRACKING UNIT
POSITION DETERMING DEVICE (EG. GPS)
CONTROLLER
45
51
CLOCK
WIRELESS COMMUNICATIONS DEVICE (EG. CELL CONTROL CHANNEL)
52
MEMORY
44
71
TEST SW.
CPU
55
60
SW.
BACK-UP BATTERY
54
50
INPUT/OUTPUT (EG. DUAL POLARITY COMPATIBLE)
REGISTRATION REMINDER INDICATOR (AUDIBLE/VISUAL)
56
53
29
RCV
27
72
IGNITION SWITCH
VEHICLE BATTERY
61
DOOR LOCK-ACTUATOR
VEHICLE SECURITY CONTROLLER
62
REMOTE START DEVICE
65
STARTER INTERRUPT DEVICE
ALARM IND. (SIREN/HORN)
28
63
66
67

FIG. 2

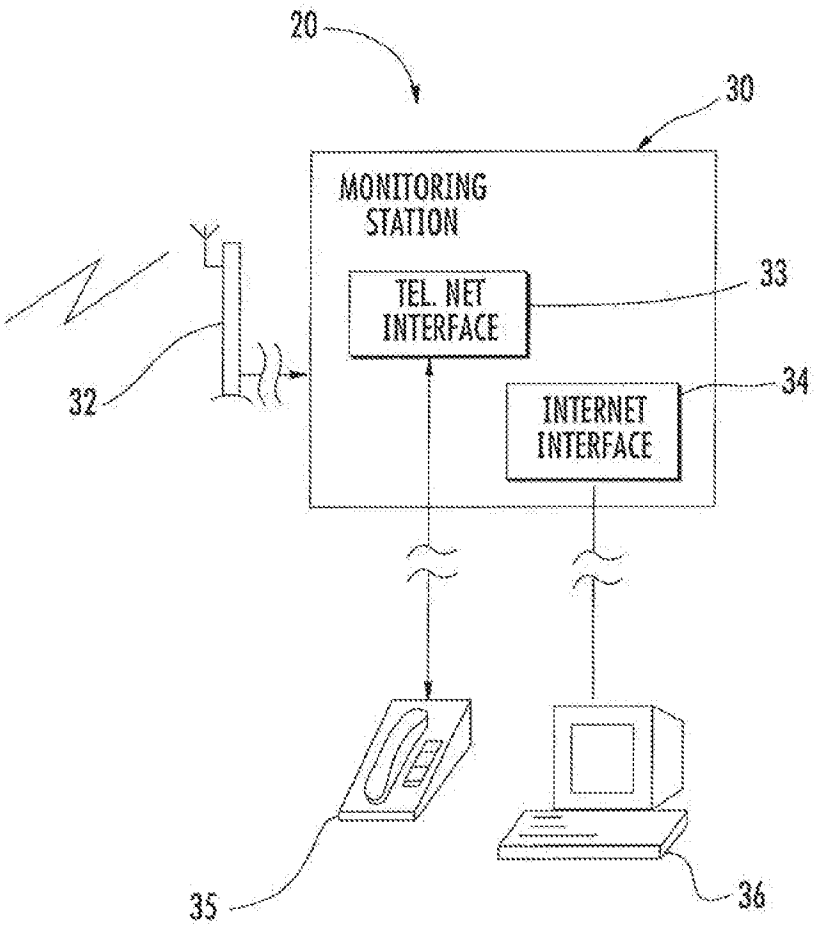

20
30
MONITORING STATION
TEL. NET INTERFACE
33
INTERNET INTERFACE
34
32
35
36

FIG. 3

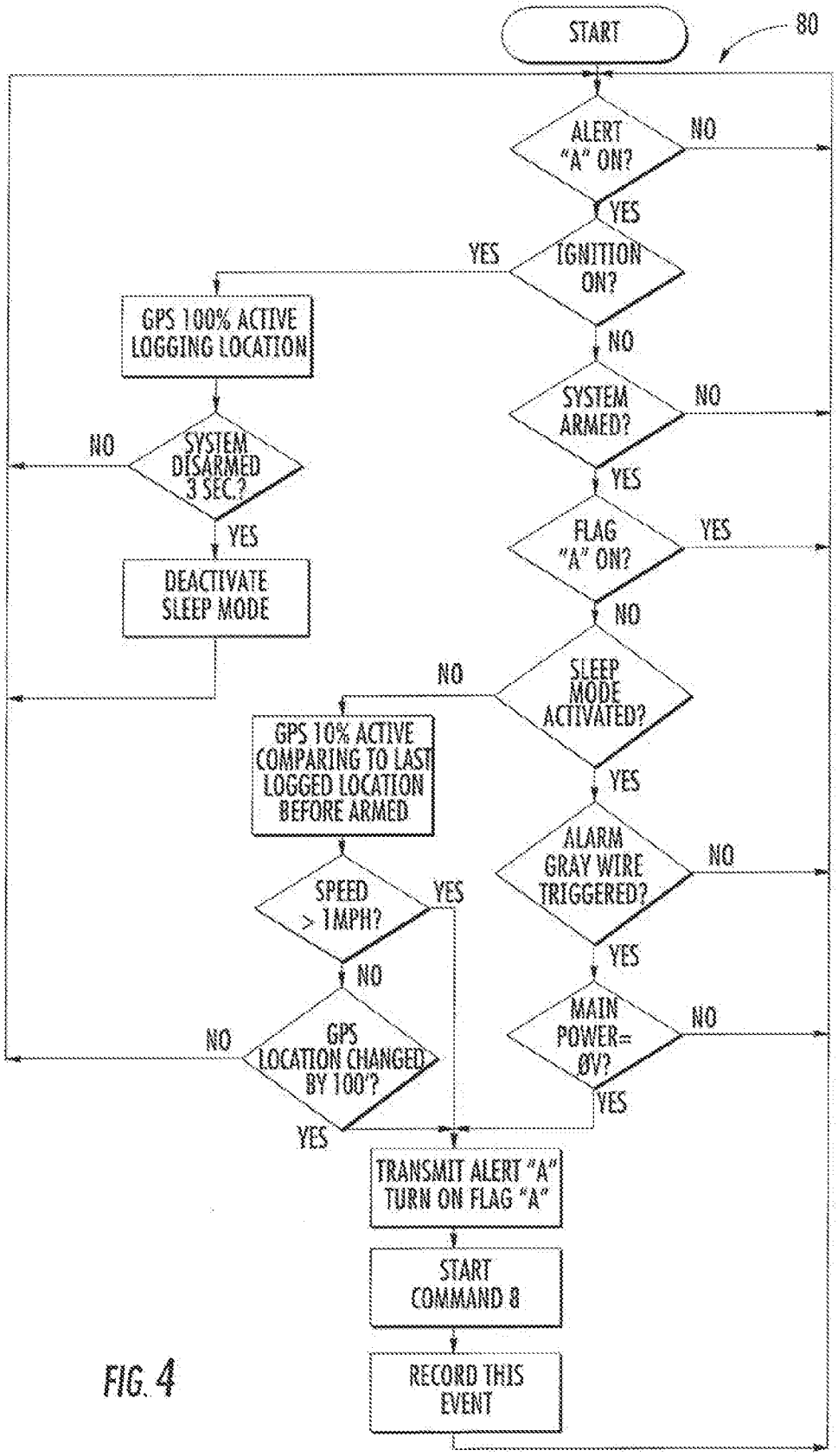

START
80
ALERT "A" ON?
NO
YES
IGNITION ON?
YES
GPS 100% ACTIVE LOGGING LOCATION
NO
SYSTEM ARMED?
NO
YES
SYSTEM DISARMED 3 SEC.?
NO
YES
FLAG "A" ON?
YES
NO
DEACTIVATE SLEEP MODE
SLEEP MODE ACTIVATED?
NO
YES
GPS 10% ACTIVE COMPARING TO LAST LOGGED LOCATION BEFORE ARMED
ALARM GRAY WIRE TRIGGERED?
NO
YES
SPEED > 1MPH?
YES
NO
MAIN POWER= 0V?
NO
YES
GPS LOCATION CHANGED BY 100'?
NO
YES
TRANSMIT ALERT "A" TURN ON FLAG "A"
START COMMAND 8
RECORD THIS EVENT

FIG. 4

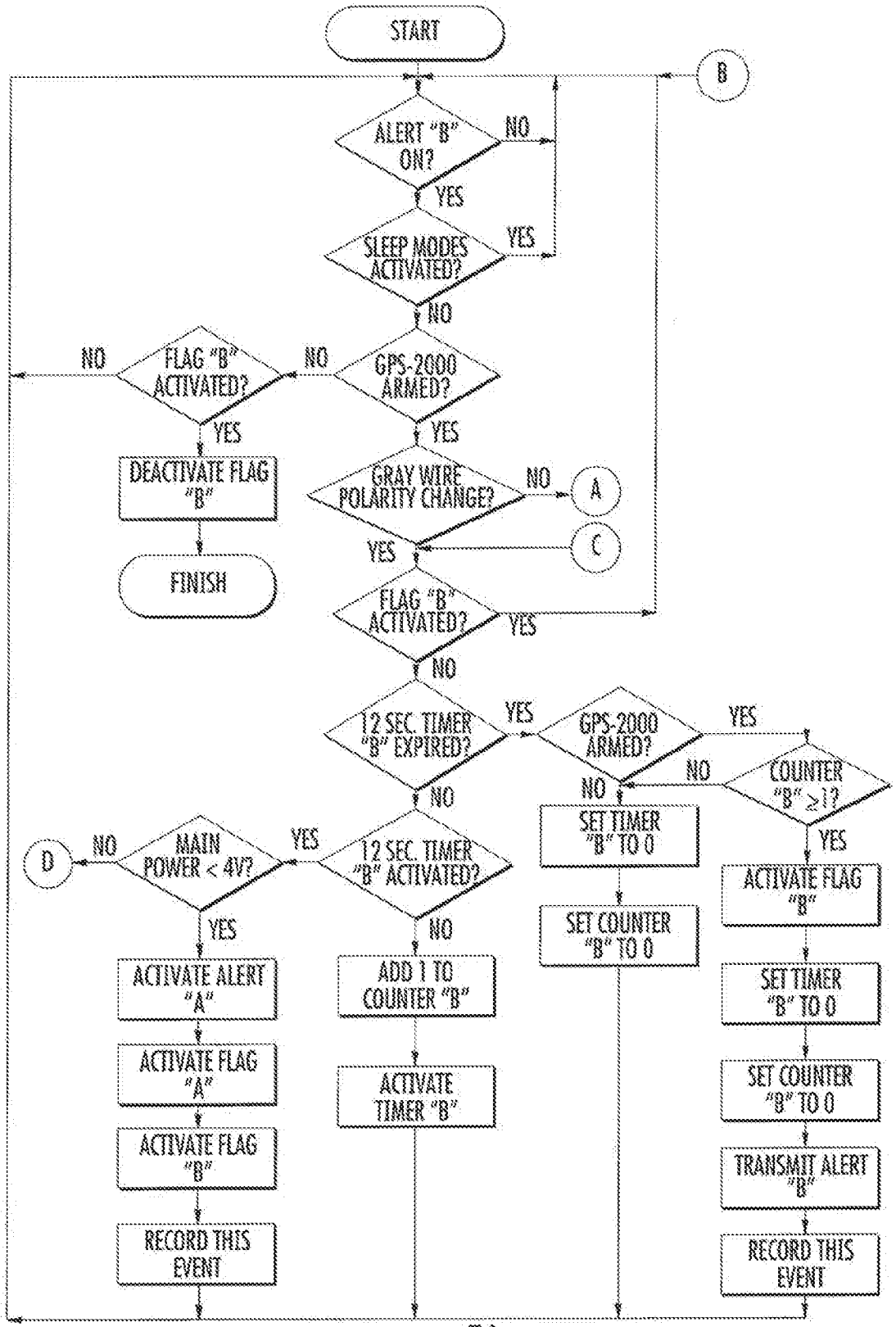

START
B
ALERT "B" ON?
NO
YES
SLEEP MODES ACTIVATED?
YES
NO
NO
FLAG "B" ACTIVATED?
NO
GPS-2000 ARMED?
YES
YES
DEACTIVATE FLAG "B"
GRAY WIRE POLARITY CHANGE?
NO
A
C
YES
FINISH
FLAG "B" ACTIVATED?
YES
NO
12 SEC. TIMER "B" EXPIRED?
YES
GPS-2000 ARMED?
YES
NO
NO
COUNTER "B" ≥1?
NO
SET TIMER "B" TO 0
YES
D
NO
MAIN POWER < 4V?
YES
12 SEC. TIMER "B" ACTIVATED?
ACTIVATE FLAG "B"
YES
NO
SET COUNTER "B" TO 0
ACTIVATE ALERT "A"
ADD 1 TO COUNTER "B"
SET TIMER "B" TO 0
ACTIVATE FLAG "A"
ACTIVATE TIMER "B"
SET COUNTER "B" TO 0
ACTIVATE FLAG "B"
TRANSMIT ALERT "B"
RECORD THIS EVENT
RECORD THIS EVENT

FIG. 5A

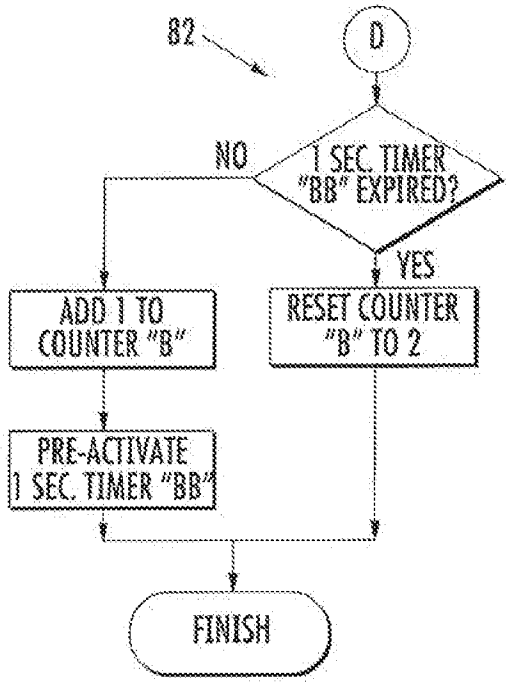

82
D
1 SEC. TIMER "BB" EXPIRED?
NO
YES
ADD 1 TO COUNTER "B"
RESET COUNTER "B" TO 2
PRE-ACTIVATE 1 SEC. TIMER "BB"
FINISH

FIG. 5B

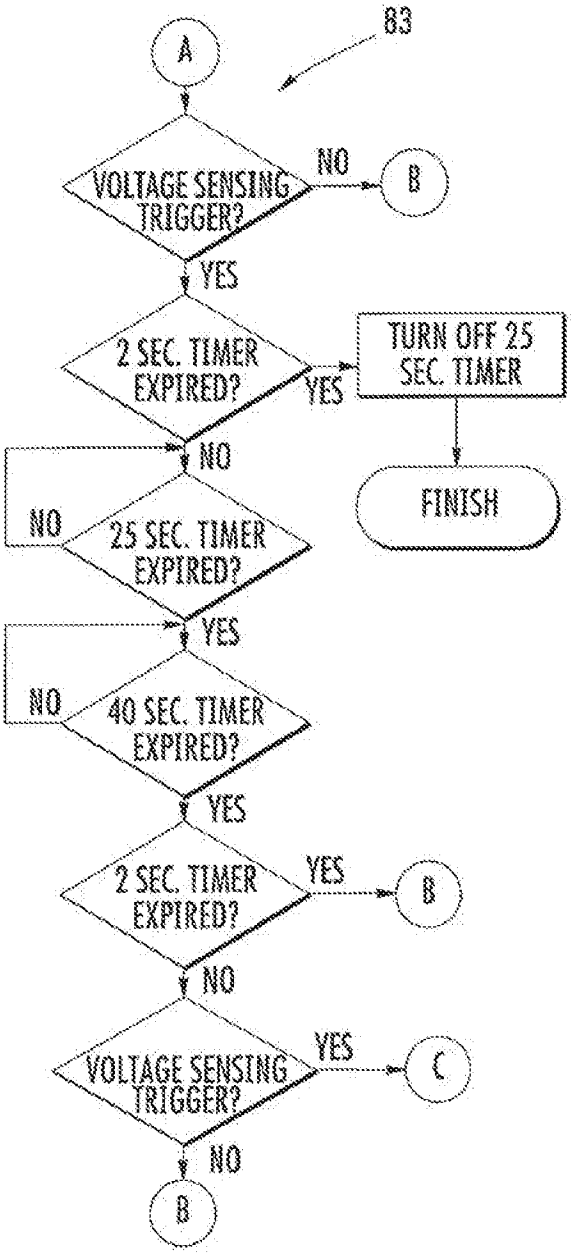

83
A
VOLTAGE SENSING TRIGGER?
NO
B
YES
2 SEC. TIMER EXPIRED?
YES
TURN OFF 25 SEC. TIMER
FINISH
NO
NO
25 SEC. TIMER EXPIRED?
YES
NO
40 SEC. TIMER EXPIRED?
YES
2 SEC. TIMER EXPIRED?
YES
B
NO
VOLTAGE SENSING TRIGGER?
YES
C
NO
B

FIG. 5C

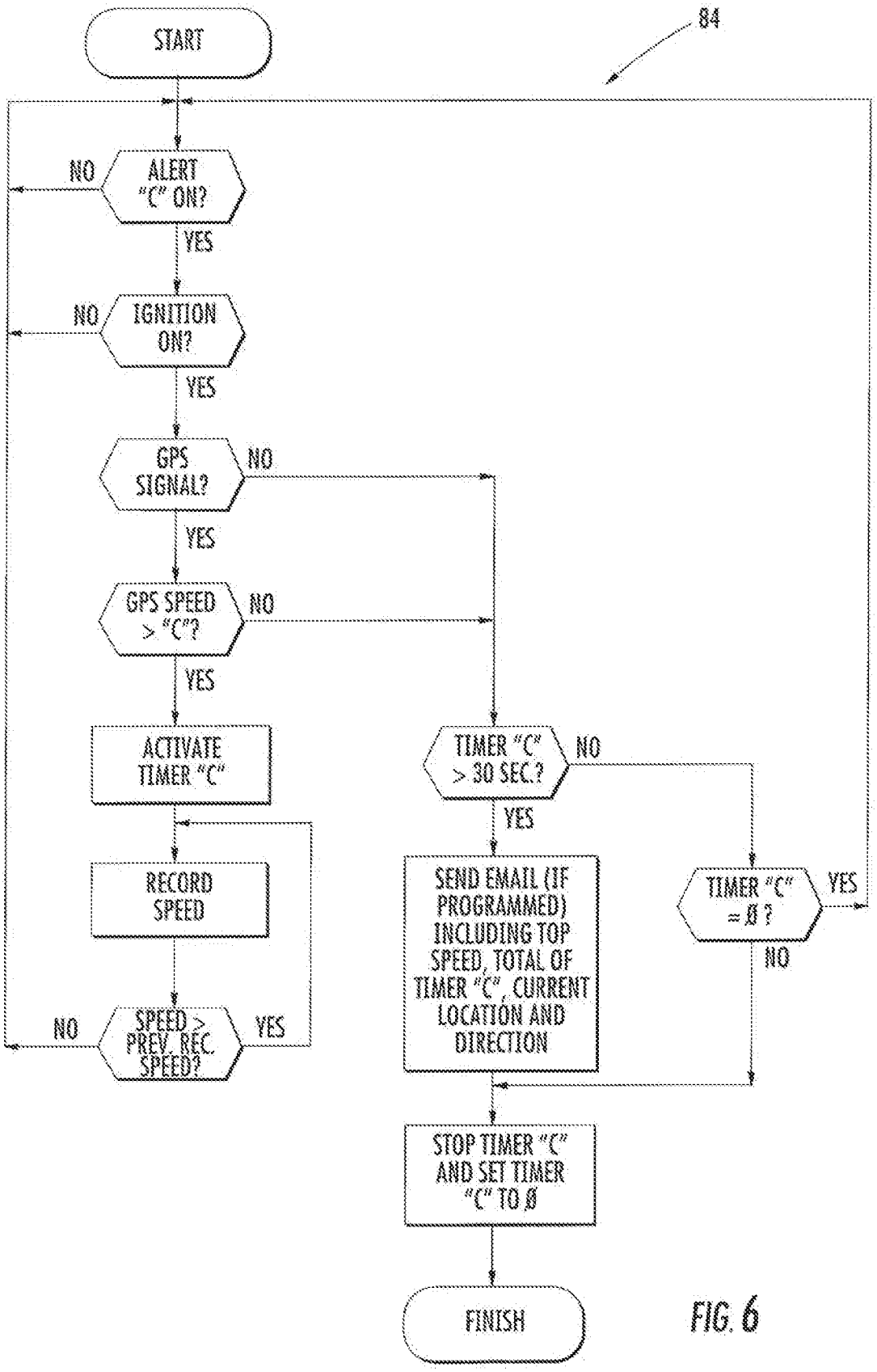

84
START
ALERT "C" ON?
NO
YES
IGNITION ON?
NO
YES
GPS SIGNAL?
NO
YES
GPS SPEED > "C"?
NO
YES
ACTIVATE TIMER "C"
RECORD SPEED
SPEED > PREV. REC. SPEED?
NO
YES
TIMER "C" > 30 SEC.?
NO
YES
SEND EMAIL (IF PROGRAMMED) INCLUDING TOP SPEED, TOTAL OF TIMER "C", CURRENT LOCATION AND DIRECTION
TIMER "C" ≈ Ø ?
YES
NO
STOP TIMER "C" AND SET TIMER "C" TO Ø
FINISH

FIG. 6

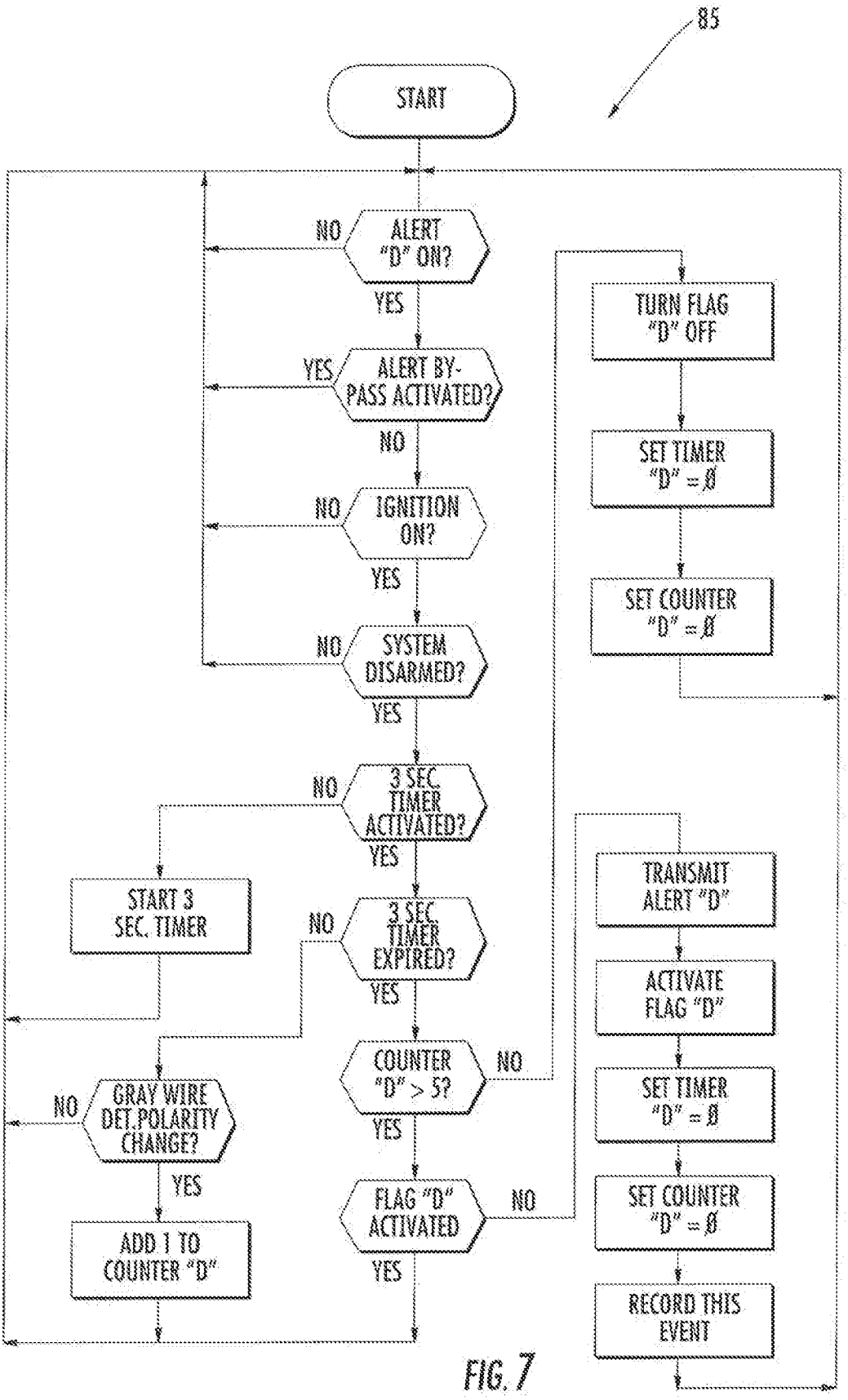

85
START
NO
ALERT "D" ON?
YES
YES
ALERT BY-PASS ACTIVATED?
NO
NO
IGNITION ON?
YES
NO
SYSTEM DISARMED?
YES
NO
3 SEC. TIMER ACTIVATED?
YES
START 3 SEC. TIMER
NO
3 SEC. TIMER EXPIRED?
YES
COUNTER "D" > 5?
NO
YES
NO
GRAY WIRE DET. POLARITY CHANGE?
YES
ADD 1 TO COUNTER "D"
FLAG "D" ACTIVATED
NO
YES
TURN FLAG "D" OFF
SET TIMER "D" = Ø
SET COUNTER "D" = Ø
TRANSMIT ALERT "D"
ACTIVATE FLAG "D"
SET TIMER "D" = Ø
SET COUNTER "D" = Ø
RECORD THIS EVENT

FIG. 7

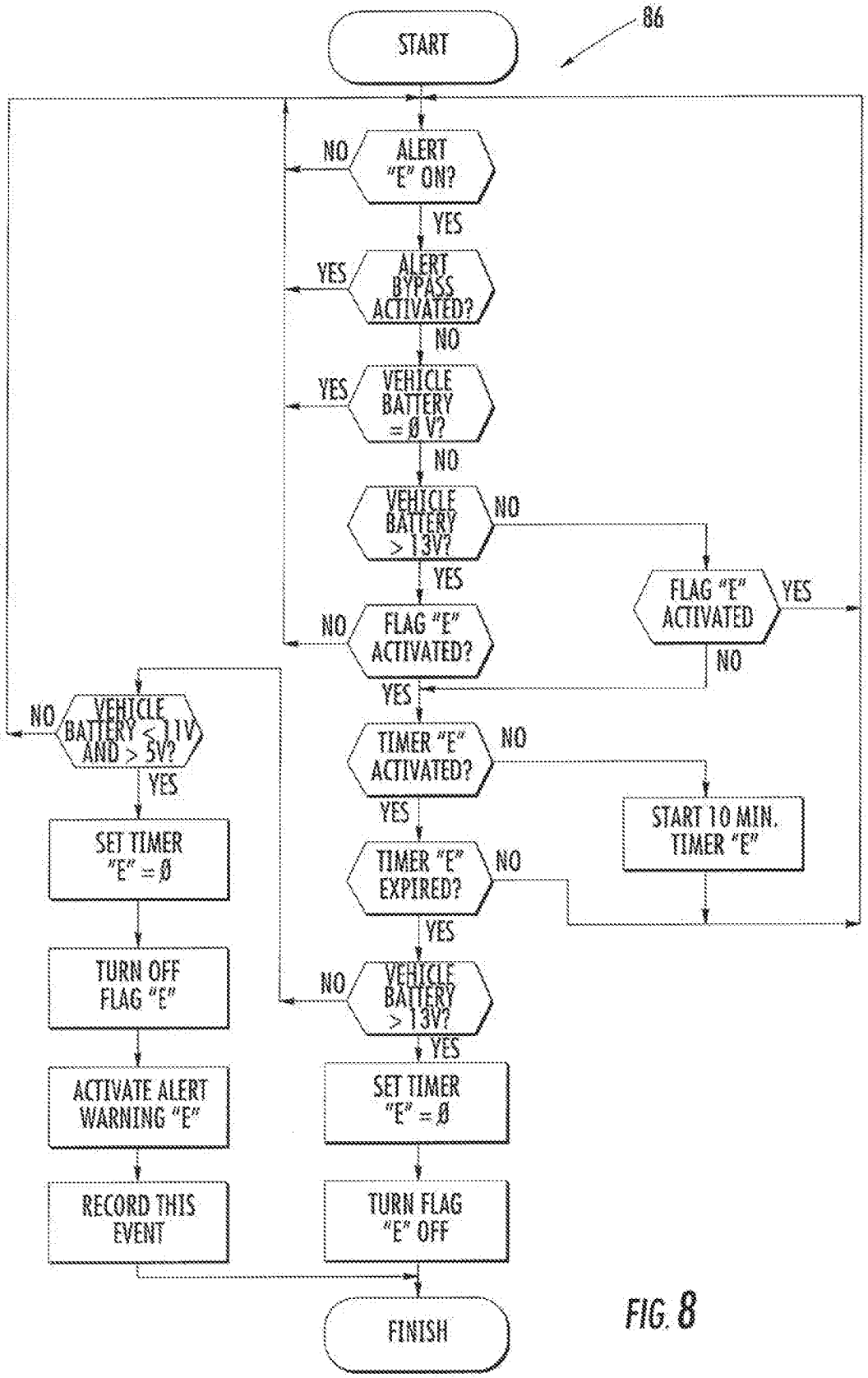

86
START
ALERT "E" ON?
NO
YES
ALERT BYPASS ACTIVATED?
YES
NO
VEHICLE BATTERY = Ø V?
YES
NO
VEHICLE BATTERY > 13V?
NO
YES
FLAG "E" ACTIVATED?
NO
YES
FLAG "E" ACTIVATED
YES
NO
TIMER "E" ACTIVATED?
NO
YES
START 10 MIN. TIMER "E"
TIMER "E" EXPIRED?
NO
YES
VEHICLE BATTERY > 13V?
NO
YES
SET TIMER "E" = Ø
TURN FLAG "E" OFF
VEHICLE BATTERY < 11V AND > 5V?
NO
YES
SET TIMER "E" = Ø
TURN OFF FLAG "E"
ACTIVATE ALERT WARNING "E"
RECORD THIS EVENT
FINISH

FIG. 8

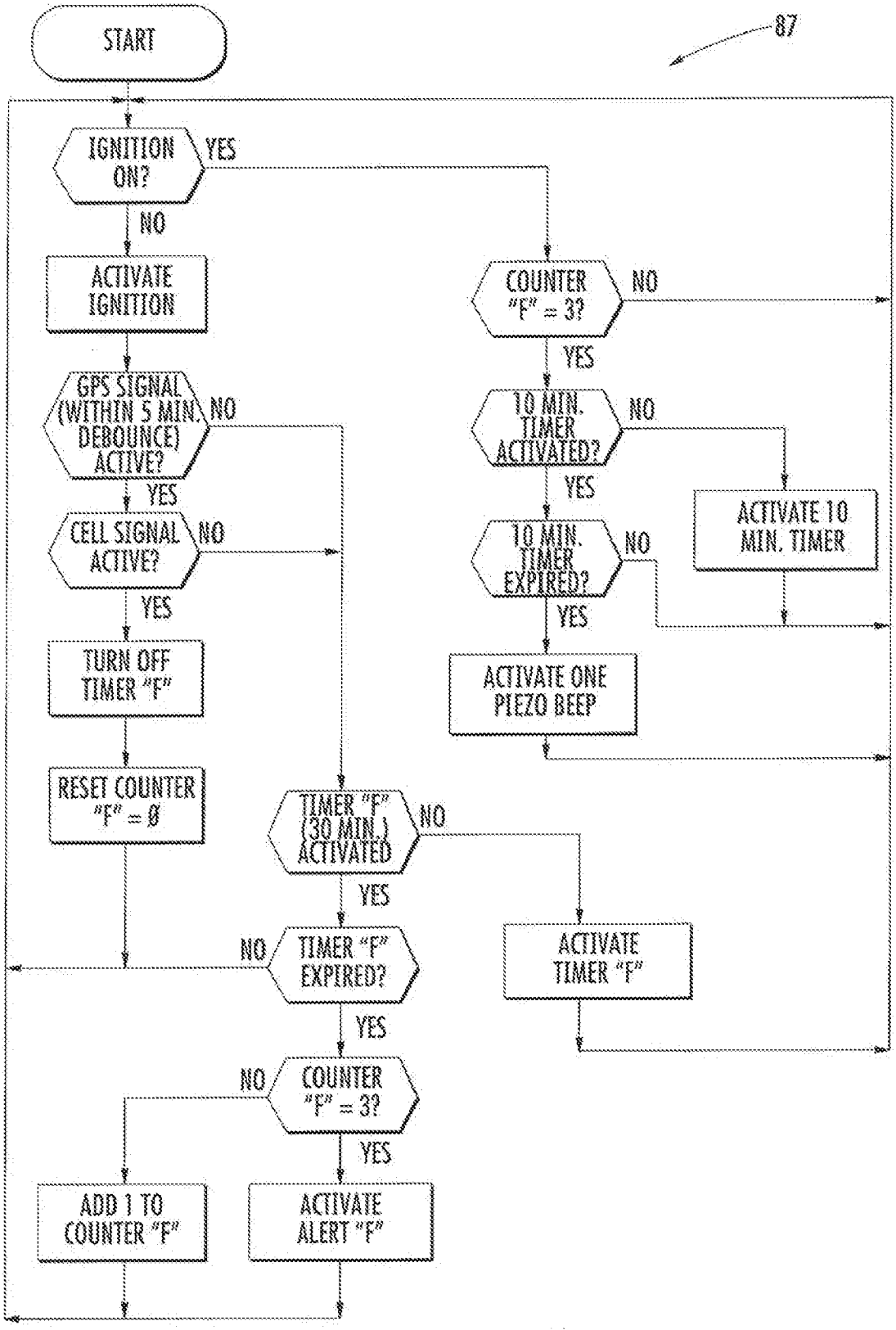

87
START
IGNITION ON?
YES
NO
ACTIVATE IGNITION
GPS SIGNAL (WITHIN 5 MIN. DEBOUNCE) ACTIVE?
NO
YES
CELL SIGNAL ACTIVE?
NO
YES
TURN OFF TIMER "F"
RESET COUNTER "F" = 0
TIMER "F" (30 MIN.) ACTIVATED
NO
YES
TIMER "F" EXPIRED?
NO
YES
COUNTER "F" = 3?
NO
YES
ADD 1 TO COUNTER "F"
ACTIVATE ALERT "F"
ACTIVATE TIMER "F"
COUNTER "F" = 3?
NO
YES
10 MIN. TIMER ACTIVATED?
NO
YES
ACTIVATE 10 MIN. TIMER
10 MIN. TIMER EXPIRED?
NO
YES
ACTIVATE ONE PIEZO BEEP

FIG. 9

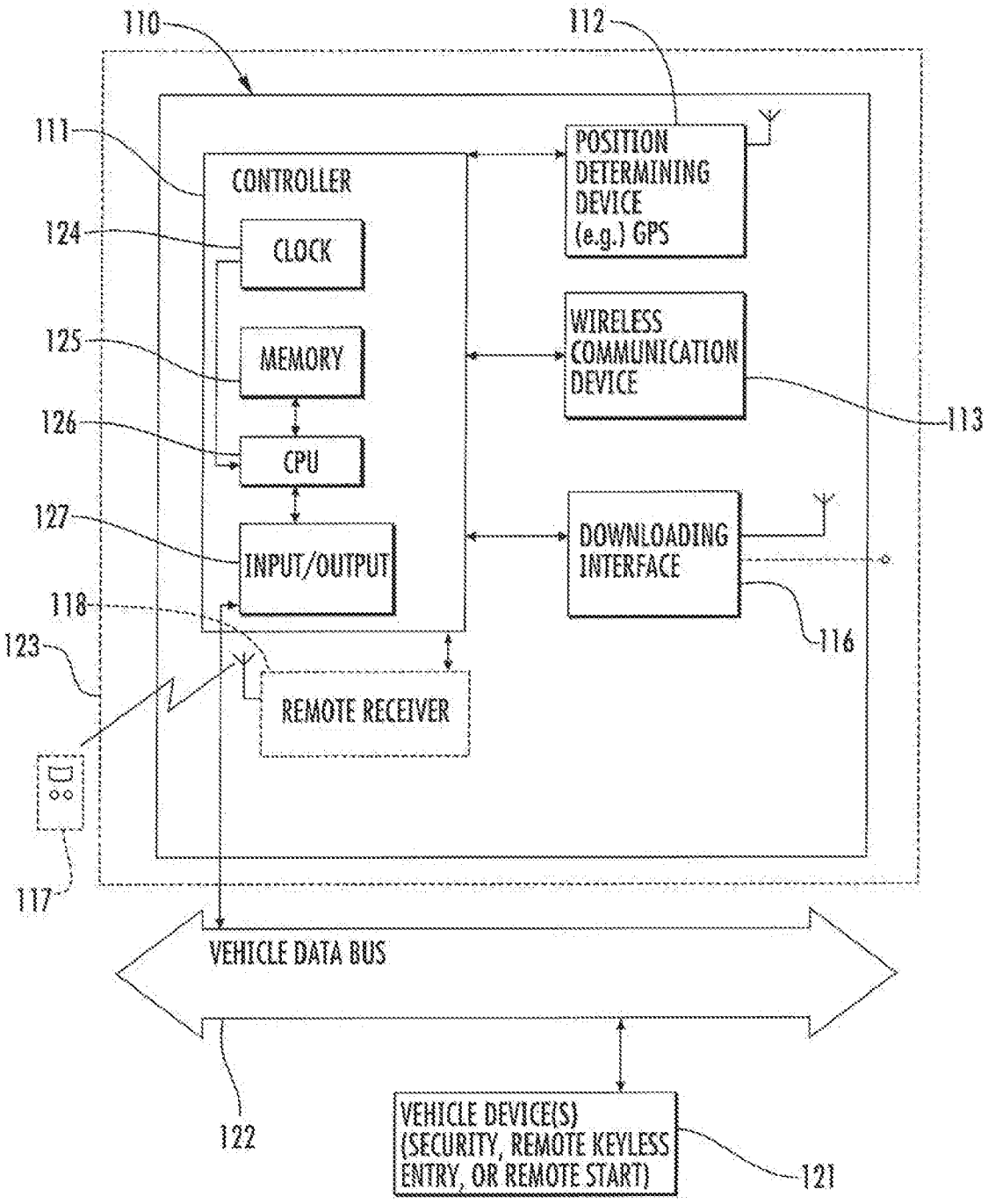

110
112
111
CONTROLLER
POSITION DETERMINING DEVICE (e.g.) GPS
124
CLOCK
125
MEMORY
WIRELESS COMMUNICATION DEVICE
113
126
CPU
127
INPUT/OUTPUT
DOWNLOADING INTERFACE
118
116
123
REMOTE RECEIVER
117
VEHICLE DATA BUS
122
VEHICLE DEVICE(S) (SECURITY, REMOTE KEYLESS ENTRY, OR REMOTE START)
121

FIG. 10

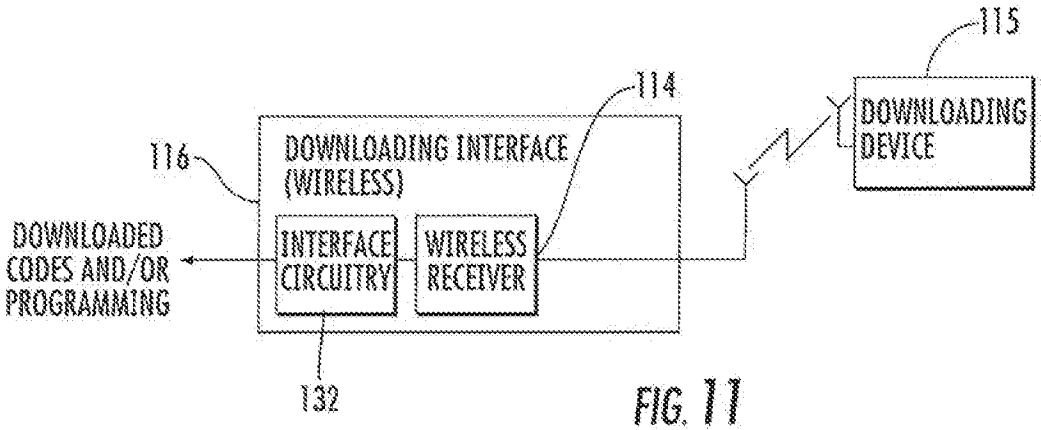


FIG. 11

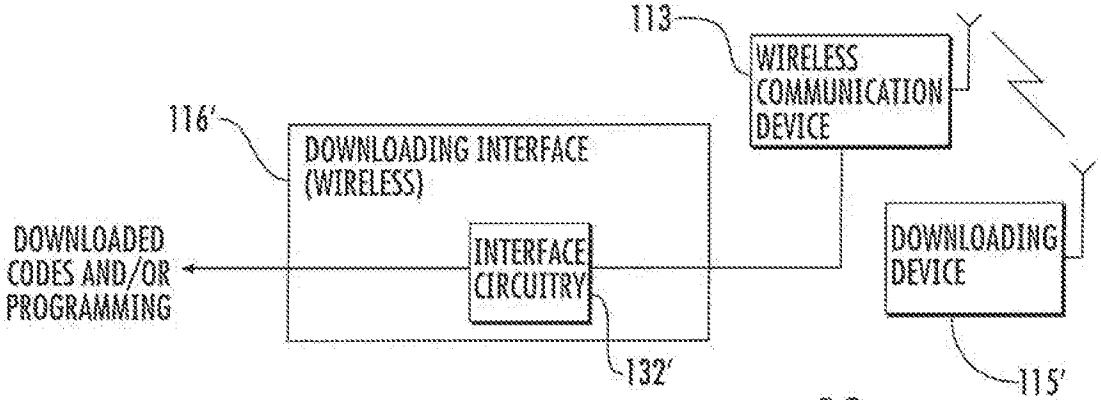


FIG. 12

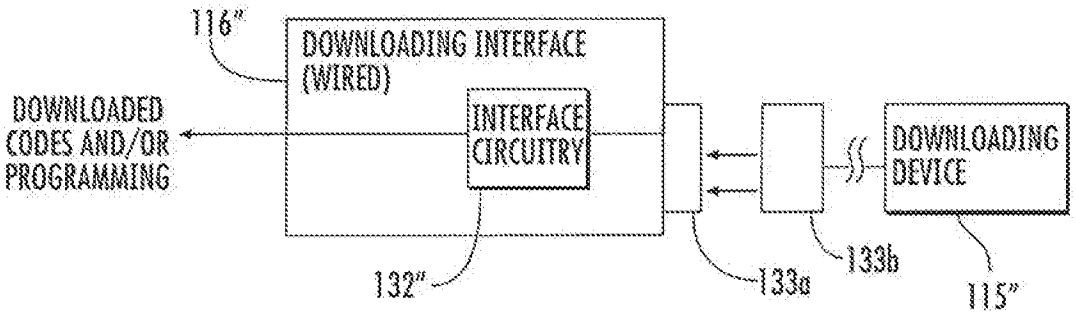


FIG. 13

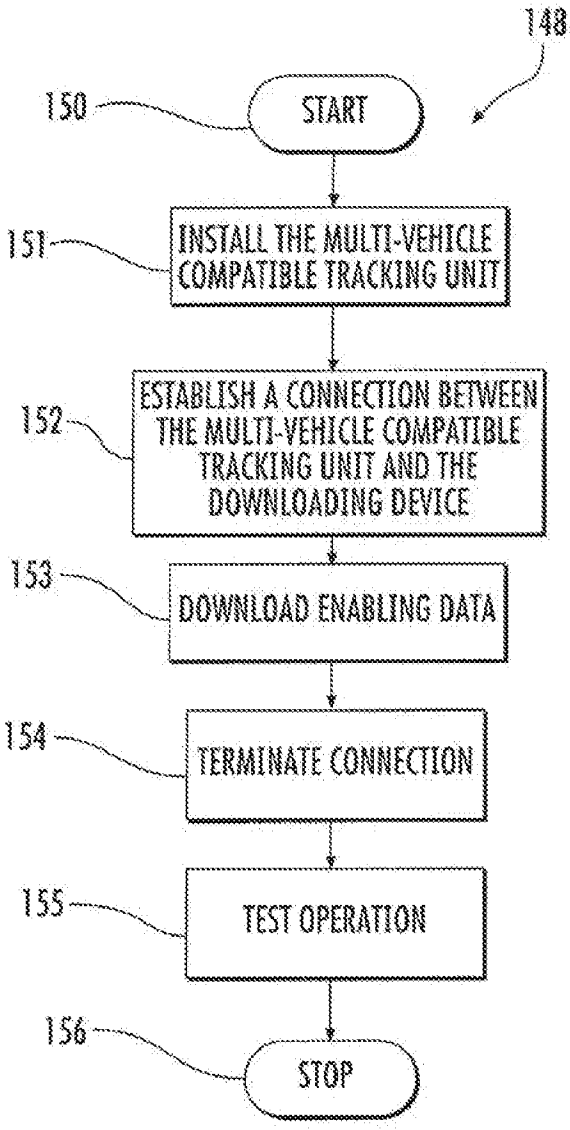

148
150
START
151
INSTALL THE MULTI-VEHICLE COMPATIBLE TRACKING UNIT
152
ESTABLISH A CONNECTION BETWEEN THE MULTI-VEHICLE COMPATIBLE TRACKING UNIT AND THE DOWNLOADING DEVICE
153
DOWNLOAD ENABLING DATA
154
TERMINATE CONNECTION
155
TEST OPERATION
156
STOP

FIG. 14

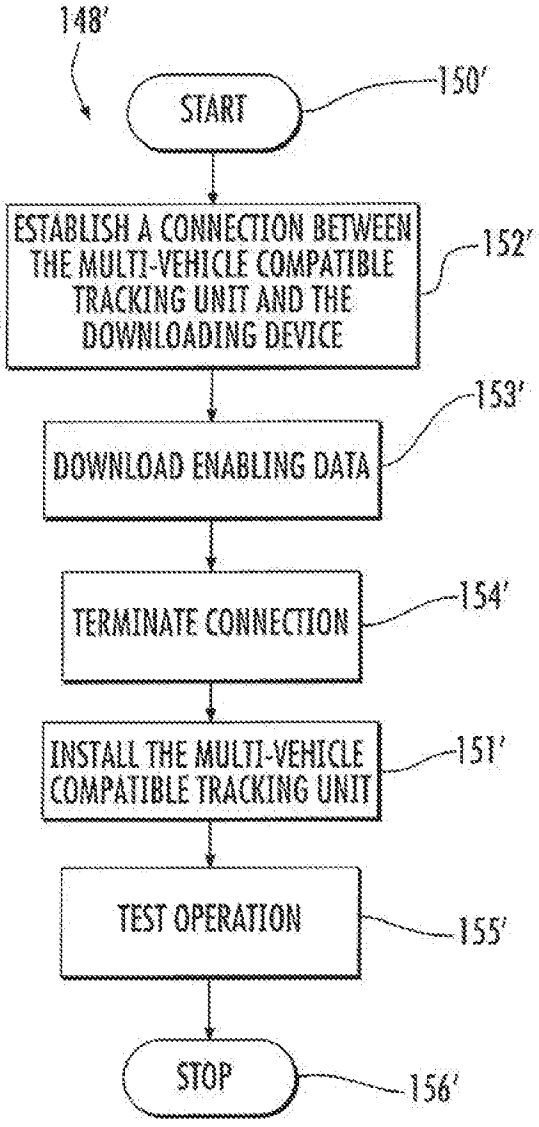

148'
150'
START
ESTABLISH A CONNECTION BETWEEN THE MULTI-VEHICLE COMPATIBLE TRACKING UNIT AND THE DOWNLOADING DEVICE
152'
153'
DOWNLOAD ENABLING DATA
154'
TERMINATE CONNECTION
151'
INSTALL THE MULTI-VEHICLE COMPATIBLE TRACKING UNIT
155'
TEST OPERATION
156'
STOP

FIG. 15

VEHICLE TRACKING UNIT WITH DOWNLOADABLE CODES AND ASSOCIATED METHODS

RELATED APPLICATIONS

The present application is a continuation-in-part of U.S. patent application Ser. No. 11/076,259 filed Mar. 9, 2005 now U.S. Pat. No. 7,720,597, which is a continuation of U.S. patent application Ser. No. 10/383,496 filed Mar. 7, 2003 now U.S. Pat. No. 7,149,623, which is a continuation of U.S. patent application Ser. No. 09/859,972 filed on May 17, 2001 now U.S. Pat. No. 6,606,561 which, in turn, was based upon provisional patent application Ser. Nos. 60/264,811 filed on Jan. 29, 2001; 60/258,005, filed Dec. 22, 2000; 60/251,552, filed Dec. 6, 2000; 60/252,125, filed Nov. 20, 2000; 60/236,890, filed Sep. 29, 2000; 60/246,463, filed Nov. 7, 2000; 60/222,777, filed Aug. 3, 2000; and 60/205,178, filed May 17, 2000, the entire contents of each of which are incorporated herein by reference.

FIELD OF THE INVENTION

The present invention relates to the field of vehicle devices, and, more particularly, to a tracking system for vehicles, and related methods.

BACKGROUND OF THE INVENTION

Motor vehicles, such as passenger cars, trucks, busses, fleet vehicles, etc. are widely used and knowing the locations of such vehicles is often desired. For example, should a vehicle be stolen, it would be beneficial to know the vehicle's location so that authorities could be promptly and accurately directed to retrieve the vehicle. Indeed, the tracking system could plot the getaway path of the thief.

For a company with hired drivers, it may be desirable to know the driver's whereabouts during the course of the day. Similarly, a rental car agency or other fleet operator, for example, may wish to know the whereabouts of its fleet of vehicles.

It may also be desirable to track the location of a vehicle as it is used throughout the course of a normal day. For parents of younger or older drivers, for example, knowledge of the vehicle's location may provide some assurance that the driver is at designated locations and following a prescribed route.

A number of patents disclose various systems and approaches to tracking vehicles. For example, U.S. Pat. No. 5,223,844 discloses a tracking system including a control center and a mobile unit installed in the vehicle. The mobile unit may send security warnings to the command center via a wireless transceiver. Position information for the vehicle is determined using a GPS receiver at the vehicle.

U.S. Pat. No. 5,515,043 discloses a similar system which may send one or more preprogrammed telephone messages to a user when away from the vehicle. The user may remotely access location information or cause certain commands to be carried out by entering a personal identification number (PIN).

The widespread availability and use of the Internet has prompted a number of vehicle tracking systems to also make use of the Internet. For example, TelEvoke, Inc. proposed such a system in combination with Clifford Electronics. The system was to provide notification, control and tracking services via the telephone or the Internet. Users could be notified via phone, e-mail, or pager of events such as a car alarm being triggered. Users could control the vehicle remote devices via phone, web, or PDA such as unlocking car doors. Additionally, users could track TelEvoke-enabled vehicles on the Internet or via the telephone. An Internet map could be viewed by the user showing the actual and prior vehicle locations. TelEvoke offered its services via a centralized fully automated Network Operations Center. To reduce the communications costs, it was proposed to use the control channel of the cellular telephone network.

There are, of course, a number of vehicles which come from the manufacturer with some form of security system already installed. In addition, a number of vehicles are also equipped with aftermarket security systems. Many conventional vehicle tracking units may not be readily installed in vehicles, particularly those vehicles already including a vehicle security system. In addition, complexity of installation may significantly increase the system costs.

A number of patents disclose various security and control systems that address data bus interoperability. For example, U.S. Pat. No. 5,719,551, assigned to Omega Patents, LLC, the assignee of the present invention, discloses a vehicle security system for a vehicle including a data bus connecting a plurality of vehicle devices. A signal enabling circuit enables the alarm controller to operate using a set of desired signals selected from a plurality of possible sets for different vehicles. U.S. Pat. No. 6,011,460, assigned to Omega Patents, LLC, discloses a similar system where the set of desired signals from the plurality of different sets of signals for different vehicles is obtained, such as by connection and communication with a downloading device. Additionally, U.S. Pat. No. 6,756,885, also assigned to Omega Patents, LLC, discloses a multi-vehicle control system whereby a multi-vehicle compatible controller stores a set of device codes for a given vehicle device for a plurality of different vehicles. Device codes are read from the data communications bus, and a match between a read device code and the stored device codes is determined to provide compatibility with different vehicles.

Unfortunately, such advanced techniques for dealing with multiple device codes for a vehicle having a data communications bus have not yet been developed for vehicle tracking units.

SUMMARY OF THE INVENTION

In view of the foregoing background, it is therefore an object of the present invention to provide a multi-vehicle compatible tracking unit which may be used to control operable vehicle devices, and/or read information therefrom via the vehicle data communications bus and related methods.

This and other objects, features, and advantages in accordance with the present invention are provided by a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle. The multi-vehicle compatible tracking unit may include a vehicle position determining device, a wireless communications device, and a multi-vehicle compatible controller for cooperating with the vehicle position determining device and the wireless communications device to send vehicle position information. The multi-vehicle compatible controller may be coupled to the vehicle data bus for communication therewith with at least one vehicle device. The at least one vehicle device may use at least one corresponding vehicle device code from among a plurality thereof for different vehicles. The tracking unit may also include a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by the multi-vehicle compatible controller. Accordingly, the multi-vehicle compatible

tracking unit may be used to control operable vehicle devices, and/or read information therefrom via the vehicle data communications bus.

The downloading interface may comprise either a wired or wireless signal downloading interface. The wired signal downloading interface may comprise a connector for temporary connection to a downloading device, for example. The wireless signal downloading interface may include a wireless receiver for temporary connection to a downloading device. The wireless signal downloading interface may also be in the form of a connection to the wireless communications device used for sending position information. The downloading interface may also be for permitting downloading of at least one programming instruction for the multi-vehicle compatible controller, in some embodiments.

The corresponding at least one vehicle code may be for reading from the at least one vehicle device, and/or for writing to the at least one vehicle device. Further, the multi-vehicle compatible tracking unit may comprise a remote transmitter. At least one vehicle remote control function responsive to the remote transmitter may be performed by the multi-vehicle compatible controller. For example, the at least one vehicle remote control function may include at least one of a vehicle security function, a remote keyless entry function, and a remote engine starting function. Also, the wireless position determining device may comprise a Global Positioning System (GPS) receiver. A tracking unit may also include a common housing for its various components.

A method aspect is for using a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle. The multi-vehicle compatible tracking unit may include a vehicle position determining device, a wireless communications device, and a multi-vehicle compatible controller for cooperating with the vehicle position determining device and the wireless communications device to send vehicle position information. The multi-vehicle compatible controller may be coupled to the vehicle data bus for connection thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality of thereof for different vehicles. The method may include downloading the enabling data related to at least one corresponding vehicle device code for use by the multi-vehicle compatible controller via a downloading interface.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a simplified block diagram of a vehicle tracking system in accordance with the present invention.

FIG. **2** is a more detailed block diagram of the vehicle tracking unit as shown in FIG. **1**.

FIG. **3** is a more detailed block diagram of the monitoring station as shown in FIG. **1**.

FIG. **4** is a flowchart for operation of the vehicle tracking system as shown in FIG. **1** illustrating a vehicle stolen alert.

FIGS. **5A-5C** are a flowchart for operation of the vehicle tracking system as shown in FIG. **1** illustrating a vehicle alarm sounding alert.

FIG. **6** is a flowchart for operation of the vehicle tracking system as shown in FIG. **1** illustrating a vehicle speeding alert.

FIG. **7** is a flowchart for operation of the vehicle tracking system as shown in FIG. **1** illustrating an unauthorized transmitter learned alert.

FIG. **8** is a flowchart for operation of the vehicle tracking system as shown in FIG. **1** illustrating a low battery alert.

FIG. **9** is a flowchart for operation of the vehicle tracking system as shown in FIG. **1** illustrating a GPS or cellular unit failure alert.

FIG. **10** is a simplified block diagram of a multi-vehicle compatible tracking unit in accordance with the invention.

FIG. **11** is a more detailed block diagram of an embodiment of the downloading interface as shown in FIG. **10**.

FIG. **12** is a more detailed block diagram of another embodiment of a downloading interface as shown in FIG. **10**.

FIG. **13** is a more detailed block diagram of yet another embodiment of the downloading interface as shown in FIG. **10**.

FIG. **14** is a flowchart showing a method in accordance with the invention.

FIG. **15** is a flowchart showing another embodiment of a method in accordance with the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention will now be described more fully hereinafter with reference to the accompanying drawings in which preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the illustrated embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Like numbers refer to like elements throughout, and prime notation and multiple prime notation are used to indicate similar elements in alternate embodiments.

Referring to FIGS. **1-3**, the vehicle tracking system **20** in accordance with the invention is now initially described. The vehicle system **20** illustratively includes a vehicle tracking unit **25** to be mounted in the vehicle **21** and a monitoring station **30** which is remote from the vehicle and which is typically in a fixed location. In the illustrated embodiment, the vehicle tracking unit **25** interfaces with various vehicle devices, such as may include security sensors, door locks, etc. as will be appreciated by those skilled in the art.

The vehicle tracking unit **25** is also illustratively connected to a separate vehicle security system **27** as may already be installed in the vehicle **21**, from the factory or installed as an aftermarket product. Those of skill in the art will appreciate that in some embodiments of the vehicle tracking system **20** a separate vehicle security system **27** may not be needed, and/or various features thereof can be readily incorporated in the vehicle tracking unit **25**.

The monitoring station **30** may typically service a number of subscribers **31**. As shown perhaps best in FIG. **3**, the monitoring station **30** may include a user interface, such as the schematically illustrated telephone network interface **33** and the internet interface **34** which are schematically coupled to a telephone **35**, and a computer **36**, respectively. Of course in other embodiments, other interfaces may be used and only one of the illustrated interfaces may be needed. Those of skill in the art will also recognize that messages may be sent to a subscriber or user via preprogrammed voice messages, e-mail messages, facsimile messages, pager alerts, etc. In addition commands or instructions from the subscriber can also be input to the monitoring station **30** via the telephone network interface **33** and/or the internet interface **34**, from the subscribers telephone **35** or computer **36**.

The monitoring station **30** is illustratively connected to a cellular telephone tower **32** which, in turn, may communicate with the vehicle tracking unit **25** in some embodiments. Of course, in other embodiments other communications

approaches are also contemplated, such as, for example, including satellite communications.

The monitoring station **30** may typically include the necessary modems, and other communications electronics, and computers for its functions which are described in greater detail below. The configuration of such components and their details will be readily apparent to those skilled in the art. Accordingly, no further discussion of these details is needed.

Referring now more specifically to FIG. **2**, additional details of the vehicle tracking unit **25** and devices at the vehicle are now further described. The vehicle tracking unit **25** illustratively includes a controller **40**, a vehicle position determining device **42**, and a wireless communications device **44** connected together. The vehicle position determining device **42** may be provided by a GPS receiver, for example. The GPS receiver typically operates by receiving multiple signals from spaced apart satellites **38** as will be appreciated by those skilled in the art.

In other embodiments, the vehicle position determining device **42** may be provided based upon communications with the cellular telephone network, or based upon other satellite transmissions, for example. As a particular example, time of arrival techniques are available based upon multiple reception paths to determine position via the cellular telephone network as will be appreciated by those skilled in the art. The vehicle position determining device **42** also illustratively includes an indicator **43** associated therewith, such as for indicating an operating mode, or proper operation of the device as will be addressed in greater detail below.

The wireless communications device **44** may be provided by a cellular telephone transceiver configured to operate on a control channel of the cellular network. Such a control channel may provide nearly universal coverage for the tracking system **20** as will be appreciated by those skilled in the art. In addition, the control channel may offer relatively inexpensive communications between the monitoring station **30** and the vehicle tracking unit **25** as will be appreciated by those skilled in the art. The wireless communications device **44** also illustratively includes an optional status indicator **45** with a similar function as the indicator **43** for the vehicle position determining device.

The wireless communications device **44** in other embodiments, may transmit in the voiceband of the cellular network. Alternately, the wireless communications device may communicate over other networks, such as over satellite, or via wireless internet services, as will be appreciated by those skilled in the art.

The controller **40** illustratively includes a central processing unit (CPU) **50** or other logic circuitry which is connected to a clock signal generator **51** and a memory **52**. In other embodiments, the memory **52** may be an embedded memory in the CPU **50**. The controller **40** also includes schematically illustrated input/output circuitry **53** to interface with various vehicle devices. In particular the input/output circuitry **53** may provide dual polarity compatibility for one or more inputs or outputs as will be described in greater detail below. One or more of the terminals of the input/output circuitry **53** may also provide both input and output functions as will also be described in greater detail below. This may significantly simplify and accelerate installation of the vehicle tracking unit **25** in the vehicle **21**.

Also illustratively shown as part of the vehicle tracking unit **25** are a back-up battery **54**, and switch **55** connected thereto for selectively powering certain of the components based upon the controller **40**. Of course, the vehicle **21** also includes an electrical system including the vehicle battery **61**. Powering of the vehicle tracking unit **25** is described in greater detail below.

The vehicle **21** also includes a number of other components that may relate to vehicle tracking, security, and/or convenience features provided by the vehicle tracking system **20**. For example, the vehicle **21** may include one or more door lock actuators **62**, an optional remote starting device **63**, a starter interrupt device **66** and an alarm indicator **67**. For example, the alarm indicator may be provided by a vehicle horn or vehicle siren, and/or flashing of the lights.

The optional separate security system **27** illustratively includes a vehicle security controller **28** and a receiver **29** connected thereto. As is conventional, the vehicle security system **27** may be switched between armed and disarmed modes, for example, by one or more uniquely coded remote transmitters **60**. The vehicle security controller **28** may also be capable of learning a new uniquely coded remote transmitter **60** as will be appreciated by those skilled in the art. The vehicle security controller **28** also illustratively is connected to the starter interrupt device **66** and the alarm indicator **67**.

For ease of explanation, a number of the features of the vehicle tracking system **20** are now described. The vehicle tracking system **20** includes a number of features that may simplify installation and maintenance. For example, as shown in FIG. **2**, the vehicle tracking unit **25** may have a test switch **71** connected to the controller **40**.

In normal operation, the controller **40** may be called upon to operate at least one vehicle device. Of course, the controller **40** also cooperates with the wireless communications device **44** and the vehicle position determining device **42** to determine and send vehicle position information to the monitoring station **30**. Moreover, the controller **40** may be switchable to a test mode for test operation of the at least one vehicle device responsive to activation of the test switch **71**.

In some embodiments, the at least one vehicle device may be a plurality of vehicle devices that are tested by operation in sequence. For example, the at least one vehicle device may comprise at least one door lock actuator **62**. The at least one vehicle device may also comprise the starter interrupt device **66**, or the engine remote starter **63** if remote starting is an implemented feature. The at least one vehicle device which is tested, may also be the alarm indicator **67**. Accordingly, an installer, for example, can quickly check that the tracking unit has been properly installed.

To further provide for ready determination of proper operation of the vehicle tracking unit **25**, one or both of the position determining and wireless communications devices **42**, **44** may include associated indicators **43**, **45** as mentioned briefly above, and which provide an indication relating to proper operation. Each indicator **43**, **45** may indicate a mode of operation of the device, its proper operation, or a partial or complete failure of the device.

Another aspect of the invention is that the controller **40** may provide a selectable polarity for the at least one vehicle device based upon sensing thereof. Accordingly, a predetermined activation of the test switch **71** may cause the controller **40** to sense and select the proper polarity. Pressing the test switch **71** for a predetermined time or in a predetermined pattern may sense and set the polarity.

Another feature of the vehicle tracking unit **25** and vehicle tracking system **20** relates to conservation of the number of codes or messages that need to be sent to the vehicle tracking unit. In particular, the controller **40** may have a plurality of different controller states and respond differently to a same message from the monitoring station **30** at different times depending upon the controller state at a given time. Accord-

ingly, a number of codes or messages used by the system can be conserved. Various messages are described in greater detail below.

A controller state may change based upon several different occurrences or events. For example the controller may change states in response to a change in at least one vehicle device, or based upon a message received by the wireless communications device **44** from the monitoring station **30**, and/or based upon elapsed time. The controller states, for example, may include an alert sent state based upon an alert message being sent from the wireless communications device **44**. Thereafter, receipt of a predetermined message by the wireless communications device **44** when the controller **40** is in the alert sent state may confirm receipt of the alert message by the monitoring station.

Receipt of the predetermined message by the wireless communications device **44** when the controller **40** is in another state different than the alert sent state may thus cause a different response by the controller. The alert sent state may comprise at least one of a vehicle stolen alert sent state, a vehicle alarm sounding alert sent state, a vehicle speeding alert sent state, an unauthorized remote transmitter alert sent state, a low vehicle battery alert sent state, and a device malfunction alert sent state. The various alert messages and confirmation thereof are described in greater detail below.

The code or message conservation aspects of the vehicle tracking system **20** also permit sending a sequence of codes or messages within a predetermined time to also cause a different response at the vehicle tracking unit **25**. In other words, the plurality of controller states may comprise a received first message state based upon a first message being received by the wireless communications device **44** from the monitoring station **30**. Receipt of a second message by the wireless communications device **44** when the controller **40** is in the received first message state, such as within a predetermined time window, for example, may thus cause a different response by the controller than does receipt of the second message when the controller is in another state than the received first message state.

The plurality of controller states may comprise a vehicle finder state sounding an audible signal via the alarm indicator **67** at the vehicle **21**. In this state the controller **40** would bypass sending a vehicle alarm sounding alert to the monitoring station **30**.

Another aspect of the vehicle tracking system **20** is the provision of certain power conservation and management techniques, such as to permit extended periods where the vehicle **21** is not in operation. During such extended periods, the vehicle battery **61** provides power to the vehicle tracking unit **25** as well as other vehicle devices. Accordingly, the voltage of the vehicle battery **61** drops over time. The vehicle tracking unit **25** may provide a significant drain on the vehicle battery **61** because of the power consumed by the wireless communications device **44** during transmission as will be appreciated by those skilled in the art.

The vehicle position determining device **42**, the wireless communications device **44** and the controller **40** may be considered as defining a power load of the vehicle tracking unit **25**. The controller **40** may operate the schematically illustrated power switch **55** to isolate the back-up battery **54** from the power load as a voltage of the vehicle battery **61** drops until reaching a threshold. After or below the threshold the controller **40** may cause the back-up battery **54** to selectively power only a first portion of the power load while a second portion of the power load remains powered by the vehicle battery.

For example, the wireless communications device **44** may have a higher operating voltage than the vehicle position determining device **42**. The first portion of the power load that is selectively powered despite the low vehicle battery voltage may thus be the wireless communications device **44**. In particular, the wireless communications device **44** may be powered for transmission. Accordingly, the back-up battery **54** can be saved for limited communication using the higher voltage wireless communications device **44**. This provides useful features even after an extended period during which the vehicle **21** is left unattended and the vehicle battery **61** gradually discharges.

To further conserve power, the controller **40** may reduce operation of the power load as vehicle battery voltage falls. Conversely, the controller **40** may restore operation of the power load based upon the voltage of the vehicle battery **61** rising again, such as upon being recharged.

Also relating to power consumption, the controller **40** further causes transmission of a low vehicle battery voltage alert to the monitoring station **30** based upon the voltage of the vehicle battery **61** falling below the threshold. The user or subscriber may cause the monitoring station **30** to issue a remote start command. The controller **40** may then generate a remote start output to the remote start device **63** to thereby start the engine and recharge the vehicle battery.

Another feature of the vehicle tracking system **20** is that the vehicle tracking unit **25** may be readily installed and connected to a vehicle **21**, such as in the illustrated embodiment where the vehicle includes a starter interrupt device **66** and a separate vehicle security controller **28**. More particularly, the controller **40** may switch between an armed mode and a disarmed mode based upon operation of the engine starter interrupt device **66**. The controller **40** when in the armed mode may cooperate with the wireless communications device **44** to send an alert message to the monitoring station **30** and including vehicle position information, for example, based upon the vehicle position determining device **42**. The controller **40** is also for selectively operating the engine starter interrupt device **66** to provide additional security features.

In one advantageous embodiment, the controller **40** preferably comprises a combination input and output terminal for connection to the engine starter interrupt device. This terminal is at the input/output circuitry **53** and is schematically illustrated by reference numeral **72**. The controller **40** may switch to the armed mode when in the disarmed mode and based upon the engine starter interrupt device **66** being operated to disable engine starting. Conversely, the controller **40** may switch to the disarmed mode based upon the engine starter interrupt device **66** being operated to enable engine starting. In other words, the vehicle tracking unit **25** can piggyback its arming and disarming off the existing vehicle security system **27**, for example.

The controller **40** may also selectively operate the engine starter interrupt device **66** based upon a command message from the monitoring station **30**. The controller **40** may selectively operate the engine starter interrupt device **66** based upon a command message from the monitoring station **30**. Alternately, or in addition thereto, the controller **40** may selectively operate the engine starter interrupt device **66** based upon the ignition switch **65**.

The following descriptive portions relate to various user or subscriber notifications and features provided by the vehicle tracking system **20**. Of course, the controller **40** preferably cooperates with the wireless communications device **44** to send an alert message. The monitoring station **30** may comprise a user interface, such as one or both of the telephone

network or internet interfaces **33**, **34**, respectively (FIG. **3**), for generating a sequence of alert message notifications based upon receiving the alert message sent from the vehicle tracking unit **25**. More particularly, the monitoring station interface permits canceling any remaining alert message notification based upon a cancellation command response from a user or subscriber having already received the alert message notification. The user may send the cancellation response via the telephone **35** or computer **36** (FIG. **3**), for example. Thus, if the user may be reached at different telephone numbers or different users are desirably notified of the alert, this aspect of the vehicle tracking system **20** can make the notifications efficiently and without making unnecessary notifications.

The vehicle tracking system **20** may provide any of a number of very useful alerts, as discussed herein. For example, the alert message sent from the vehicle tracking unit may comprise at least one of a vehicle stolen alert message, and a vehicle alarm sounding alert message. The alert message may be one of a vehicle speeding alert message, and a vehicle acceleration alert message. In addition, the alert message may comprise an unauthorized remote transmitter alert message. Also, the alert message may be at least one of a low vehicle battery alert message, and a device malfunction alert message.

The speeding alert may be based upon exceeding a speed threshold for greater than a certain time, which may be user selectable. The acceleration alert may also be useful as such is also indicative of aggressive driving along with the speeding alert. The unauthorized remote transmitter alert increases overall security since a user will be notified if a would-be thief learns an unauthorized transmitter to operate the controller. These alerts are described in greater detail below.

The vehicle tracking system **20** may be implemented as a service to a subscriber. In other words, the subscriber pays a monthly fee for the service. Accordingly, it may be important to encourage a user to register. Similar subscriber or registrations systems in the past have suffered revenue losses since some users would wait to activate the system until the vehicle was stolen. In other words, the user would only subscribe or register and pay a single month's fee.

In accordance with this aspect of the vehicle tracking system **20** prompt user registration is encouraged. In particular, the vehicle tracking unit **25** may include the user registration reminder indicator **56** and the controller **40** may be switchable from an unregistered mode to a registered mode. In the registered mode, the controller **40** may cooperate with the wireless communications device **44** and the vehicle position determining device **42** to determine and send vehicle position information to the monitoring station **30**. In the unregistered mode, the controller **40** may activate the user registration reminder indicator **56** to encourage registration by the user.

The controller **40** may be switchable to the registered mode based upon an activation message from the monitoring station **30**. For example, when the registration payment has been received, the monitoring station can send one or more messages to the vehicle tracking unit **25** to stop activation of the registration reminder indicator **56**. The indicator **56** may be audible, visual or both. For example, the registration reminder indicator **56** could be a beeping sound generated by a small piezoelectric transducer every ten minutes or so when the ignition **65** is on.

In other words, the user registration reminder indicator **56** may provide a minor but irritating annoyance to the user to encourage registration. Upon successfully registering, the annoyance is abated. Accordingly, a relatively straightforward approach is provided to encourage user registration.

Along these lines, the controller **40** when in the unregistered mode may have reduced features compared to the registered mode. For example, the controller **40** when in the unregistered mode may be restricted or limited in sending messages with the wireless communications device **44**. Accordingly, usage of the wireless communications network may be reduced. Transmissions from the vehicle tracking unit **25** may also be beneficially suppressed during original installation, for example.

Returning again to features of the vehicle tracking unit **25** which facilitate installation, the controller **40** may send an alarm indication alert responsive to a continuous activation of the alarm indicator **67** for greater than a predetermined time. Alternately, or in addition thereto, the controller **40** may send an alarm indication alert responsive to a repetitive pattern of alarm indicator **67** activations. In other words, the controller may be configured to distinguish between normal operation of a vehicle horn by the driver, and activation of the horn by the security system **27**. As mentioned above, the controller **40** may also monitor signals of at least one of a first and second polarity. The controller **40** thus advantageously piggybacks off the alarm indication generated by the vehicle security system **27** to determine and send a vehicle alarm sounding alert to the monitoring station **30**.

In one variation, the controller **40** may monitor signals delivered directly to the vehicle alarm indicator by the vehicle security controller **28**. In another variation, the controller **40** monitors signals of voltage dips of the vehicle battery **61**. Circuitry is conventionally and readily available for both such functions, as will be readily appreciated by those skilled in the art.

The controller **40** may also include a dual polarity compatible output in the input/output circuitry **53** for a vehicle device, such as the vehicle alarm indicator **67**. The controller **40** may further monitor signals relating to activation of the vehicle alarm indicator **67** and send an alarm indication alert with position information from the vehicle position determining device and using the wireless communication device.

For the dual polarity output compatibility, the controller **40** may generate a first polarity output pulse followed by a second polarity output pulse. The controller **40** may also generate a repeating pattern of a first polarity output pulse followed by a second polarity output pulse on the dual polarity compatible output. In yet other embodiments, the controller **40** may sense an actual polarity of the device and thereafter use the actual polarity for the dual polarity compatible output.

Where the vehicle device is a vehicle horn, the controller **40** may typically be configured to generate a negative polarity output on the dual polarity compatible output. Conversely, wherein the vehicle device is a vehicle alarm indicator siren, the controller **40** may be configured to generate a positive polarity output on the dual polarity compatible output.

Another aspect of the vehicle tracking system **20** relates to conserving memory space and/or reducing transmission time over the communications network. In accordance with this advantageous feature, the controller **40** may determine the vehicle position information including a vehicle location and an associated stationary period for each occurrence of the vehicle remaining stationary for greater than a predetermined period. In one embodiment, the controller **40** may cooperate with the wireless transmission device **44** to send the vehicle position information to the monitoring station based upon each occurrence of the vehicle remaining stationary for greater than the predetermined period. In this embodiment, the monitoring station **30** may associate a time with each occurrence of the vehicle remaining stationary for greater

than the predetermined period. In other words, the monitoring station **30** may time stamp the received information.

In another embodiment, the controller **40** cooperates with the wireless transmission device **44** to send the vehicle position information to the monitoring station **30** for a plurality of occurrences of the vehicle remaining stationary for greater than the predetermined period. In this embodiment, the controller **40** may associate a time with each occurrence of the vehicle remaining stationary for greater than the predetermined period. In other words, the controller time stamps the position and stationary period information.

As an example, the predetermined time which determines whether the vehicle **21** is stationary and the position should be determined, may be less than about three minutes. This time may filter out vehicle stops in normal traffic, but which will keep track of stops where the driver likely leaves the vehicle **21**. Accordingly, only the important information necessary to track the vehicle need be stored and/or transmitted thereby reducing the system costs. If the vehicle **21** is stationary overnight, for example, unnecessary position information need not be determined, stored, and/or transmitted to the monitoring station **30**.

The controller **40** may comprise the memory **52** for storing the vehicle position information therein. In one configuration, the controller **40** downloads the vehicle position information from the memory **52** to the monitoring station **30** based upon a predetermined schedule. In another configuration, the controller **40** downloads the vehicle position information from the memory **52** to the monitoring station **30** based upon a predetermined event. In yet another configuration, the controller **40** downloads the vehicle position information from the memory **52** to the monitoring station **30** based upon a predetermined percentage of memory usage.

Having now described certain general features and advantages of the vehicle tracking system **20**, this description now turns to additional specific details which are provided as examples. In particular, vehicle tracking system **20** preferably implements one or more of the following features:

a. Detects the vehicle being stolen and transmits a signal to the monitoring station to contact up to 3 people, for example, predetermined by the user, of theft of the vehicle and then starts tracking the vehicle. The contact may be by one or more of the following: an e-mail message, a pager alert, a cellular telephone call, or other telephone call.

b. Detects an optional vehicle security or alarm system activation and transmits a signal to the monitoring station to contact up to 3 predetermined people to inform them the vehicle's alarm is being activated.

c. Detects an optional vehicle alarm system's remote PANIC activation and transmits a signal to the monitoring station to contact up to 3 predetermined people to inform them of the vehicle's PANIC being activated.

d. Detects a vehicle being programmed to operate from an unauthorized remote transmitter, key transponder, other transponder, or other device that has a unique coding, and the vehicle unit transmits a signal to the monitoring station to contact up to 3 predetermined people to inform them of this occurrence. The system can also make available information relating to a number of such coded devices, or a change therein, or when a change occurred. A message can be sent to the user or the information can be available to the user on the website. The vehicle would be equipped with a security system as disclosed in U.S. Pat. No. 5,654,688, for example, which determines an unauthorized transmitter and provides an alert feature. This patent is incorporated herein in its entirety by reference.

e. Detects the vehicle traveling over a predetermined speed, such as for a predetermined time, and transmits a signal to the monitoring station to send a message, such as an e-mail informing the user (and/or others) of this occurrence. Of course, the message could also be sent via a telephone call or page, should additional urgency be required. The vehicle's predetermined maximum speed limit and duration thereof can be selected by the user.

f. Detects a low battery voltage such as for a predetermined time and transmits a signal to the monitoring station to contact up to 3 predetermined people to inform them of vehicle's low battery voltage. This is especially advantageous during winter so that the vehicle could be started, for example, to prevent a problem before it happens. The time setting is preferably selectable by the user.

g. Detects the vehicle not moving for a predetermined time and transmits a signal to the monitoring station to send, for example, a nightly e-mail informing the user of all the vehicle's location and stationary time occurrences. The stationary time length is also selectable. This may be advantageous to encourage patrolling personnel not to remain for a long time in a same location.

h. The vehicle unit preferably includes a back-up battery system making it more reliable.

The vehicle unit may be relatively inexpensive. In addition, the monitoring fee that includes sending up to 60 e-mails and making up to 6 phone calls per month, may also be relatively low. The relatively low monitoring fee is based, at least in part, on the current relatively low rates charged for use of the control channel of the cellular telephone network. It is also noted that access to the control channel provides coverage for almost the entire U.S., for example.

The user or subscriber also preferably has access to an Internet site that will display a map and silently contact the vehicle to acquire its current location, speed, direction of travel, and previous multiple locations with speeds, for example, the user's personal identification number (PIN) can be quickly activated by a telephone call. No additional installation may be required.

Certain annual pre-pay package arrangements may be available. For example, up to 10 access entries per month can be provided on a low monthly billing. Up to 30 access entries could be provided also for a relatively low monthly fee.

The present invention provides a number of other significant advantages including optional access from any phone or from any computer to access the monitoring station internet site. The user may control various vehicle functions remotely via the telephone or the internet site. The only charge may be for additional equipment and installation.

Additional features can also be included with the system and subscribed to by the user in accordance with the invention. For example, these include Hijack, Car Finding, Unlock Doors and Unauthorized Transmitter Alert Features. The equipment and installation is relatively inexpensive. For the hijack feature: from any phone or computer, the user may activate vehicle starter interrupt and sound the horn until the vehicle is retrieved (Command 4).

For the Car Finding feature: from any phone or computer, the user may activate the vehicle's horn, or siren and sound same for 30 seconds. This allows the user to find his vehicle in a crowded parking lot (Command 5).

For the Lock/Unlock vehicle doors feature: from any phone or computer a predetermined command (Command 7)

activates unlocking of vehicle doors to retrieve keys, for example, that may have been accidentally locked inside the vehicle. Of course, the system can also be used to lock vehicle doors if this was forgotten (Command 6). The unauthorized transmitter alert feature is similarly selected as described above.

In addition, a remote vehicle start feature may also be provided, such as to start the vehicle's engine to heat or cool the vehicle prior to entry. The equipment and installation for remote starting may be relatively low. Some further details of a specific embodiment of the vehicle tracking unit **25** are provided below as relating to use of red and green LED indicators as may be coupled to the controller **40** and operated thereby. Also various representative wires, designated by color, are provided as an example embodiment.

The red LED verifies the GPS receiving signal. With a yellow wire having positive 12 volts, the red LED blinking indicates searching GPS location, constant indicates found location, and off indicates no GPS signal found. With the yellow wire not having positive 12 volts, if the red LED is off, the LED is not functioning.

The green LED verifies receiving the cell tower signal. With the yellow wire having positive 12 volts, blinking indicates the cell control channel signal is detected, constant indicates sending a micro burst signal (LED stays on 5 seconds after each transmission), and off indicates no cell tower signal received. With the yellow wire not having positive 12 volts, off indicates the green LED is not functioning.

An example of representative DIP switch feature selection is as follows. A first switch may be used for adding the orange wire for controlling arm/disarming of the system. When on, the orange wire controls arm/disarm as follows: to arm, the orange wire is grounded and the yellow wire does not have 12 volts positive. To disarm, the orange wire is not grounded. When the first switch is off, then only the yellow wire controls arm/disarm as follows: to arm, the yellow wire is without 12 volts positive, and 30 seconds after continued arm mode then the orange wire activates a constant 500 ma grounded output to operate an external starter interrupt relay until the system is disarmed. To disarm, the yellow wire is connected to 12 volts positive.

A main 5-pin plug may be provided on the vehicle unit and connected as follows:

a. The Red Wire is connected to the 12 vdc power. An alert warning "E" is given if the system is armed and the battery voltage becomes lower than 11 volts for longer than ## minutes. This alert feature "E" will not operate again until the voltage is above 12 volts to re-set this feature.

b. The black wire is connected to ground.

c. The yellow wire is connected to the ignition 12 volts so that if the key is on, 12 volts is supplied thereto and if the key is off, the yellow wire is connected to ground. Further: if the system is in an armed mode and the Lat/Long changes, then Alert "A" is given. If the system is disarmed and within 2.5 seconds after the yellow wire receives 12 volts and the gray wire detects 3 or more positive pulses the system activates Alert "D". If the first DIP switch is in the off position then: if 12 volts is on yellow wire, the system is disarmed and the orange wire discontinues from the 500 ma ground, and if the yellow wire sees ground or neutral, then the system is armed and 30 seconds after the continued arm mode the orange wire activates a constant 500 ma grounded output to operate an external starter interrupt relay until the system is disarmed.

d. The gray wire is for input and output, and can be connected to an alarm siren or horn positive terminal. In addition:

i. With the system armed and if the gray wire detects +12 v pulsing on/off or on constant for more than 10 seconds from an alarm siren or horn honking activation, then alert warning "T" alarm activation is given.

ii. With system disarmed and if the gray wire detects +12 v pulsing on/off or on constant for more than 10 seconds from an alarm siren or horn honking activation, then alert warning "C" panic activation is given.

iii. With system disarmed and if the Gray wire detects 3 or more 12 volt positive pulses within 2.5 seconds of yellow wire receiving +12 v and the gray wire by-pass not being activated, then alert warning "D" is given.

iv. The gray wire bypass operates as follows:

1. After alert warning "B" bypass all future alert "B" signals until system is disarmed.
2. After alert warning "C" bypass all future alert "C" signals until system is armed.
3. After alert warning "D" bypass all future alert "D" signals until no 12 volt pulses are detected on the gray wire within 3 seconds of the yellow wire having 12 volts.

v. With the system armed or disarmed. The Output: Internal +12 v, 1 amp transistor with pulses 1 second on and 1 seconds off to activate siren or honk car horn or flashing light relay.

1. Non-stop activation from (Command "4")
2. 30-second activation from (Command "5")

vi. Turn off the above alert "A" from (Command "1").

i. The orange wire is for the starter interrupt and arm/disarm system, and operates as follows:

i. If first DIP switch is in the:

1. On position and: the orange wire has 12 volts or neutral, the system switches to the disarmed mode; the orange wire is grounded, then the system is switched to the armed mode; and the starter interrupt output will not automatically operate. It can only be activated from "Command 4"
2. Off position and the orange wire does not effect the arming or disarming of the system; 30 seconds after system arms the orange wire will automatically activate constant 500 ma ground until the system is disarmed. And from "command #4", Connect to Starter interrupt relay output.

ii. Command 4 activates Orange wire to have 500 ma. negative until Command 1 is received.

iii. After alert warning "B" is activated the first time it is thereafter bypassed while the orange wire remains grounded. Alert warning "B" is re-set to operate again 3 seconds after orange wire becomes ungrounded.

The vehicle unit may also include a Door Lock Plug configured as follows, for example. A green wire provides a 250 ma. negative 1 second pulse for Lock Doors. (Command "6"). A red wire provides a constant 12 v output from the red power wire. A blue wire provides a 250 ma., negative 1 second pulse for Unlock Doors (Command "7"). A pink wire provides a 250 ma., negative 1 second pulse for remote Car Starter (Command "2").

An installation test button may also be provided to work as follows. Pressing the button activates the orange wire for 10-seconds (starter interrupt), with these circuits in sequence. First, it activates the gray wire for 1-second (siren/horn). After the first stops, it activates the green wire for 1 second to lock the doors. After the second stops, it activates the blue

wire for 1 second to unlock the doors. After the third stops, it activates the pink wire for 1 second to activate an optional item.

Representative warning alerts are as follows:

a. Alert Warning "A" (FIG. **4**): Automatic activation of "Command 8" and the vehicle unit contacts monitoring station to instantly call 3 phone numbers with the message "Your vehicle is stolen please confirm then call 911 to advise police of website and your pin # so police can locate the vehicle". This is detected with the system armed and the GPS indicating movement. Bypasses all future alert warning "A" signals until the system is re-armed.

b. Alert Warning "B" (FIGS. **5A-5C**): the vehicle unit contacts the monitoring station to instantly call 3 phone numbers with the following message "Vehicle alarm activated please confirm". This is with the system armed and detecting gray wire having 12 volts pulsing or on constant for longer than 10-seconds. After alert warning "B" is activated the first time, it is thereafter bypassed while the orange wire remains grounded. Alert warning "B" is re-set to operate again 3 seconds after orange wire becomes ungrounded.

c. Alert Warning "C" (FIG. **6**): the vehicle unit contacts the monitoring station to instantly send e-mail message "vehicle was traveling faster than your preset amount of "###" and time limit of "##" seconds. Indicates the vehicle speed and location that the speeding started and how long speeding accrued" (Detected from GPS). This aspect is further understood with reference to the enclosed flowchart **84** of FIG. **6**.

d. Alert Warning "D" (FIG. **7**): the vehicle unit contacts the monitoring station to instantly call 3 phone numbers with the message "Unauthorized remote transmitter was just programmed to operate your vehicle." This is with the system disarmed and the Gray wire detecting three or more 12 volt pulses within 2.5 seconds of the yellow wire having seen 12 volts positive. All future alerts "D" are bypassed until no 12 volt pulses are detected on the gray wire within 3 seconds of the yellow wire seeing 12 volts. This aspect is further understood with reference to the enclosed flowchart **85** of FIG. **7**.

e. Alert Warning "E" (FIG. **8**): the vehicle unit contacts the monitoring station to instantly call 3 phone numbers with the message "Vehicle has low battery voltage and system has changed to low voltage mode". This is with the system armed and detecting the red wire with lower than 11 volts for ## minutes. All future alerts "E" are bypassed until, first, more than 13.5 volts are detected on the red wire and, second, after the yellow wire stops having positive voltage the red wire then must detect more than 12 volts.

The following are representative commands for use in the system:

Command 1: Reset all circuits and system remains asleep until the ignition key is turned on. Resets the triggered mode and unit is asleep to prevent power drain on vehicle battery.

Command 2: (Accessory activation) monitoring station Command to the system to activate Pink wire to pulse 250 ma negative for 1 second.

Command 3: (Vehicle Location) website to indicate present location and past events in memory.

Command 4: (Hijack or Stolen) monitoring station Command to vehicle system to activate:

iv. Gray wire to pulse 1 sec on/1 sec off with 1 amp positive output and which continues until receive command # 1.

v. Orange wire to have 500 ma ground and which continues until receive command # 1.

Command 5: (Car Find) monitoring station Command to system activating Gray wire for 30 seconds pulsing 1 sec on/1 sec off with 1 amp positive output.

Command 6: (Lock Doors) monitoring station Command to system activating Green wire to pulse 1 second with 250 ma negative.

Command 7: (Unlock Doors) monitoring station Command to system to activate Blue wire to pulse 1 second with 250 ma negative.

Command 8: (Start Constant Vehicle Tracking) sends previous 2 events in memory and then every 120 seconds get update of location information sent to the Web site.

The system is also operable in a battery saver mode which operates as follows:

i. With the ignition key off, if the battery voltage drops below 11.5 volts for more than 5 seconds, the GPS verification wakes up to look:

ii. Once instantly.

iii. Once in 1 hour if at the same location.

iv. Once in 6 hours if at the same location.

v. Once in 12 hours if at the same location.

vi. Once every 24 hours if at the same location.

vii. Activate alert "E" when the battery saver mode is activated, and bypass sending all future Alert "E" until the battery voltage goes above 13 volts for 10 minutes to reset this feature.

Another aspect of the invention relates to automatic vehicle alert e-mails sent containing some or all of the previous system events. This sending can be triggered as follows:

a. At a user selected predetermined time ## (01-24) of each day, or

b. At a predetermined memory fill level, such as full or near full.

In addition, each system event may contain one or more of the following:

a. Vehicle Location

b. Vehicle total time at location

c. Time of day

d. Mph traveling

e. Total time traveling above MPH

f. Direction traveling

g. Delta

h. Special Alert messages, if any, including:

i. GPS signal not received for longer than 5 minutes.

ii) Traveling above ###MPH for ## minutes.

iii) Vehicle is stolen.

iv) Alarm activated.

v) Unauthorized remote transmitter alert.

vi) Battery saver mode activated

vii) Command 1: Reset all circuits and system remains asleep until the ignition key is turned on.

viii) Command 2: (Accessory activation)

ix) Command 3: (Vehicle Location was retrieved)

x) Command 4: (Hijack or Stolen mode activated)

xi) Command 5: (Car Find mode activated)

xii) Command 6: (Locked Doors)

xiii) Command 7: (Unlocked Doors)

xiv) Command 8: (Started 2-second incremental Vehicle Tracking)

Another feature of the invention relates to the selectable threshold conditions causing an event to be recorded into the memory of the vehicle unit. For example, this may include: while the yellow wire has 12 volts, record events every "?" default 15 minutes time if the GPS location has changed. If the GPS location is the same then only update stationary total

time. If the GPS antenna is not receiving any signal then enter last known GPS location and with an indication that this was the last known GPS location before the GPS signal stopped, how long no GPS signal was received, and the GPS location in the on-hold file, when the vehicle is traveling above ### MPH for ##-minutes.

The monitoring station may also provide a number of automated phone calls as described above. These may include:

The user's vehicle has issued a stolen alert:

If vehicle is stolen, after receiving the phone message the user then calls 911 to advise police of the theft, and gives the police the website address and an identification number, such as the user's PIN, to allow the police to locate where your vehicle has been, where it is now and keep tracking it until the police can retrieve the vehicle.

If this is a false alert due to vehicle being towed away for service, for example, then the user may press "1" to put the vehicle in an off mode. Once the ignition key is turned on again the system will reset back to its normal operation mode.

The user's vehicle has issued an alarm activated for more than 10 seconds alert. The system will not respond to this alert again until ignition key is turned on again to reset this feature.

The vehicle battery voltage is low or has been disconnected. The tracking system is in low voltage mode. The system will not respond to this alert again until the battery voltage goes above 13 volts for 10 minutes to reset this feature.

The backup battery may be sized according to the GPS receiver and processing power draw. In addition, the battery may also be sized based upon estimated micro burst transmitting power draw. Such transmissions are typically at about 3 watts power to the antenna.

The system according to the invention including the vehicle unit and monitoring station provides a number of significant advantages and features. For example, the police may be directly contacted by the user when the vehicle is stolen. The user receives the telephone message from the monitoring station, and this is done without requiring the intervention of a manual security monitoring operator, such as an ADT operator, for example. In addition, once in the stolen mode, the vehicle unit will periodically continue to send out its location, so that the police may track the vehicle via the WEB, for example. This location sending feature may begin immediately, that is, without requiring the user to contact the vehicle to begin tracking. Having the vehicle contacting the monitoring station is considerably less expensive than other schemes where the vehicle is periodically polled via the cellular network, for example.

The system may also be interfaced to a breath alcohol sensor at the vehicle, for example, and this information recorded in memory. The information could be passed along to the monitoring station, which, in turn, could send out a notification message (e-mail or telephone) that the vehicle is being operated by a driver who may be impaired by alcohol. The vehicle's location could then be tracked to permit the police to detain the driver.

Another aspect of the unit is that it may be able to recognize the desirability to bypass certain security breach triggers or other events. For example, a car finding feature can be provided that will allow the user to sound the horn or siren when near the vehicle to help locate the vehicle, as in a crowded parking area. Without the bypass feature, the unit could recognize the horn or siren as a security breach and transmit such information to the monitoring center. In accordance with this aspect of the invention, the unit would recognize the car finding feature was activated and thereby bypass sending a security breach transmission, for example. Again, false alarms and unneeded usage and expense of the communications infrastructure would be avoided.

Yet another aspect of the invention relates to thwarting a would-be thief who attempts to disable the alarm by cutting the battery cable or power supplied to the system. The unit preferably includes a back-up battery. More particularly, upon being in an armed mode and sensing a breach of security, such as the hood opening, for example, the unit will send out a signal indicating the alarm or security breach and while the alarm is indicated, if the battery is disconnected then the unit will send out a message indicating the vehicle is stolen, and also providing the vehicle's current position. Accordingly, the would-be thief is not able to defeat the security system by quickly disrupting power to the unit during an alarm indication or security breach. Also, to prevent additional alerts, this message is prevented from being transmitted again until the user returns to the vehicle to disarm the system and/or turn on the ignition so that the unit sees a voltage above 13 volts, indicating the vehicle has started using the owner's ignition key. This aspect is further understood with reference to the enclosed flowchart **80** (FIG. **4**).

Still another aspect of the invention relates to how the unit can discriminate between ordinary usage or honking of the horn as compared to a security system triggered alarm. Most vehicle security systems will provide a pattern of horn soundings as an alarm indication, and this can be determined and used to reduce false alarm transmissions from the unit. For example, the unit can look at the number of leading and trailing edges of the power pulse used to sound the horn. A single pressing of the horn switch by the user will cause two edges within a predetermined time, such as about 10 to 12 seconds. Accordingly, the unit can be configured to not send a security breach transmission to the control center based upon detecting two transitions. Since a number of vehicle security systems may have a continuous sounding of the horn within the predetermined time, the unit can send the transmission upon detecting only a single transition.

A number of other vehicle security systems provide a series of pulses or horn soundings within the predetermined time. Accordingly, the unit may also be configured to send a security breach transmission upon detecting greater than a predetermined number of transitions, such as greater than nine, for example. This number is also typically higher than a user would generate honking the horn several times within the predetermined time. In other terms, the number of transitions of the horn pulses can be counted, and if equal to one, or greater than nine, for example, the transmission is triggered, and otherwise the sounding of the horn is ignored. Also, to prevent additional alerts, this message is prevented from being transmitted again until the user returns to the vehicle to disarm the system and/or turn on the ignition so that the unit sees a voltage above 13 volts, indicating the vehicle has started using the owner's ignition key. This aspect is further understood with reference to the enclosed flowcharts **81-83** (FIGS. **5A-5C**).

Yet another feature of the invention relates to a low vehicle battery alert. For example, the unit may monitor the battery voltage over a predetermined time such as ten minutes. The ten minute window prevents false tripping, for example, when the voltage dips during engine cranking. In particular, the voltage can be sensed and it can be determined whether it is greater than zero (e.g. greater than six volts) and less than a high value (e.g. eleven or twelve volts), and, if so, a low battery voltage transmission can be communicated to the monitoring station, and ultimately to the vehicle user when away from the vehicle. If the vehicle is being serviced and the battery is disconnected, this will cause the battery voltage to

be equal to zero. Then, the low battery voltage transmission will not be communicated to the monitoring station. Also, to prevent additional alerts, this message is prevented from being transmitted again until the user returns to the vehicle to disarm the system and/or turn on the ignition so that the unit sees a voltage above 13 volts, indicating the vehicle has started using the owner's ignition key. Again, false triggerings are reduced. This aspect is further understood with reference to the enclosed flowchart **86** (FIG. **8**).

Yet another advantageous feature of some embodiments of the invention relates to the ability to conserve electrical power. More particularly, when the vehicle is stopped and in the armed mode, the GPS receiver may be periodically operated to determine the vehicle position. If the vehicle position changes, this is indicative that the vehicle is being moved or stolen. For example, the GPS receiver may be operated to generate new vehicle position information every 29 seconds. These relatively quick successive position determinations or readings are generally termed hot start. These are relatively less complicated than a cold start position determination which takes longer, since the cold start position determination requires greater time to acquire and receive data from multiple satellites, as will be appreciated by those skilled in the art.

Unfortunately, this relatively high repeated usage of the GPS receiver may cause unnecessary battery drain, especially when the vehicle is left armed and unattended by the user for an extended period. Accordingly, the power conserving feature of the invention permits the GPS receiver to be turned off when the vehicle is in the armed mode, and the GPS receiver is turned on only when needed. For example, a vehicle sensor, such as a shock sensor, motion sensor, ignition sensor, door sensor, or other sensor, or combinations thereof could be used to start the GPS receiver. This sensor could also be used to trigger an alarm if desired; however it need not be so used in all embodiments. The GPS receiver, once turned on, could operate in the normal periodic fashion as described above, or for a fixed period of time. The GPS receiver could also be turned off again after some predetermined time if no further sensor signal is received, or if the position fails to change on subsequent position readings or determinations.

Yet another feature relates to permitting more colorful audible alert messages to be generated for the user. The user can, in some embodiments, access an internet site to type or enter the text for a message to be sent, such as to alert the user that his vehicle is being stolen. The audible message then communicated by a telephone call to the user is generated by a speech message synthesizer based upon the entered text. In accordance with this aspect of the invention, the user could type in phonetically spelled words or phrases, such as to create more colorful messages including slang terms, various accents, and/or to mimic various dialects, for example. The speech synthesizer would then generate the desired message customized for the user. Of course, the system could also permit the user to test or preview the pronunciation generated by the speech message synthesizer based on the entered text message prior to its adoption.

Another aspect relates to requesting GPS position information from a vehicle. If a command is sent downstream to the vehicle requesting that GPS information in turn be sent upstream from the vehicle, and the GPS information is not received within a predetermined time, such as about four minutes, then another command may be sent to the vehicle requesting the GPS information. This may keep repeating until GPS information is received, for a predetermined number of tries, or until a user instructs stopping of the requests. This helps to ensure and confirm the activation and reception of GPS tracking coordinates from the vehicle.

Yet another aspect relates to reducing a frequency with which GPS information is sent from the vehicle. More particularly, the unit may be configured to activate GPS information transmission upstream every 2 minutes. To reduce system usage expense and power consumption at the vehicle, this rate of transmission of GPS information could be progressively decreased over time. For example, in one embodiment, upon activation the GPS location signals could be sent every 2 minutes during the first hour, then once an hour for the next 23 hours, after which only one signal would be sent per day.

Turning now to the flowchart **87** of FIG. **9**, still another aspect relates to warning the user of an inoperable or malfunctioning GPS or cellular telephone section. More particularly, if the GPS or cellular telephone antenna wire is cut or the mounting position of either is changed causing the antenna to stop receiving the signal the user would not ordinarily know of this problem quickly. In accordance with one embodiment, if the ignition is turned on a predetermined number of times, such as about three, and each time ignition turns on if no GPS or no cell signal is received for a minimum time, such as about 15 to 30 minutes or longer, an audible warning beeper may be activated in the vehicle. This beeper may be sounded once every 15-minutes. At anytime if the GPS or cell signal is received properly then the system re-sets automatically stopping the beeper sound.

As an example, if the ignition key is turned on and no GPS or no Cell signal is being received for 15-minutes, and the vehicle ignition stays on for 45-minutes and there is still no GPS or no cell signal, the unit counts one. Thereafter, if the ignition key is turned on and no GPS or no cell signal is being received for 15-minutes, and the vehicle ignition stays on for 60-minutes and there is still no GPS or no cell signal, a second count is determined. Thereafter, if the ignition is turned on and no GPS or no cell signal is received for 10-minutes, and the vehicle ignition stays on for only 10-minutes and there is still no GPS or no cell signal, no count is determined. Thereafter, if the ignition is turned on and no GPS or no cell signal is being received for 15-minutes, a third count is determined and the beeper is activated as described above. This beeping may continue every 15-minutes while the vehicle ignition stays on as long as the vehicle ignition stays on for 16-minutes and still no GPS or no Cell signal is being received. If thereafter, the ignition is turned on and no GPS or no cell signal is being received, the beeper beeps once and again beeps once every 15-minutes while vehicle ignition stays on. If in 10-minutes both GPS or cell signal is being received, the beeper system is turned off and the warning count is reset.

By way of example, if the ignition key is turned on and no GPS or no cell signal is being received for only 5, 10 or 12 minutes (with the threshold set at 15 minutes), then no count is determined.

In certain circumstances, the GPS signal may fail, but the cell signal may still be working. Accordingly, it may be desirable to send an indication of the failure of the GPS signal to the central monitoring station to thereby alert the user as described above. If the cell signal also failed, or if the cell signal failed by itself, in other embodiments a separate paging device would transmit the failure or loss of the cell signal information to the central monitoring station, to thereby alert the user.

Yet another feature is directed to efficient use of a relatively small number of codes available to communicate with the tracking unit from the cellular network and central station.

More particularly, a typical arrangement may provide eight basic codes and two Awildcard@ codes. The two wildcard codes are reserved for future or other uses. A particular tracking device will respond directly to any of the eight basic codes. For example, the doors could be locked or unlocked, a present location downloaded from the vehicle, etc.

In accordance with this feature, the tracking device may respond differently to the same code or command depending upon the state or condition of the tracking device. For example, if an alarm is triggered at the vehicle, it may be desired that the tracking device continue to send the alarm signal until confirmation is received that the central monitoring station has received the alarm signal. This confirmation can be sent using the same code as may provide another function if the device were not indicating an alarm. Any of a number of such tracking device conditions may trigger a different message to be interpreted from the received code. For example, if any of the above Alerts A-E were triggered, the receipt of a predetermined code, such as code eight, would confirm receipt of the alert by the central station, and this receipt of code eight would not cause the other response (no alarm triggered) in the tracking device. Of course this concept can be extended to other features as will be appreciated by those skilled in the art.

In accordance with another feature, the rate of sending the location or position data (or change in position data) from the vehicle may be varied to reduce system usage and thereby reduce expenses. More particularly, in one embodiment, the rate of sending may be based upon how long the vehicle has remained stationary. This time period may be selected by the user. For example, the selected time may be in the range of 15 minutes to six hours. If the vehicle has been stationary for the selected time period, then the rate of transmission may be reduced. This reduces or eliminates the need to send home position data and send all the over 15-minute stops made that day. Otherwise, that is when the vehicle is moving, the device may send data at a faster rate. Of course, a system user would not likely be interested in quick updates, especially where the position information is not changing. Conversely, if the vehicle is being moved, it may be desirable to receive more frequent position updates.

Another variation of this transmission rate conservation feature bases the rate of transmission on the vehicle position. For example, a reduced rate of transmission may be selected if the vehicle is in a predetermined area where the user has a lesser interest in quickly updated position information. The user may also have a reduced interest in an area that can be defined outside of a predetermined distance from a reference point.

Yet another variation of the vehicle position transmission rate conservation feature is based upon the vehicle's speed, such as the vehicle's average or maximum speed, for example. Accordingly, if the vehicle is traveling above a preset speed, the rate of transmission may be increased.

In accordance with another aspect of the invention, the tracking device may send the alert indication a predetermined number of times without receiving an acknowledgment as described above, and then wait until the vehicle position has changed before trying again or the cell re-registers or its RSS (received signal strength) changes. Thus, power is conserved. When the vehicle has moved to a new position, any obstructions may no longer be present thereby increasing the likelihood of a successful communication. In addition, the change in position may be determined when the vehicle is sensed to be moving about a predetermined relatively small speed, such as greater than 1 mph, for example.

In all of the embodiments and variations described herein, the tracking device may communicate with one or more other vehicle devices via a vehicle data communications bus. Further aspects of interfacing with a vehicle data communications bus are described in U.S. Pat. Nos. 5,719,551 and 6,011,460 assigned to the assignee of the present invention, the entire contents of which are incorporated herein by reference.

Yet another aspect relates to efficient use of available codes on the cellular telephone control channel. In one particular example, ten codes may be available to be transmitted from the monitoring station to the vehicle trackers. The first eight or nine codes are command codes that will cause a specific action by the tracking device at the vehicle. The other one or two codes may be wildcard codes as mentioned above, that may set a stand-by mode for one or a group of vehicles, for example.

It may be desirable to provide more than eight commands at the vehicle responsive to the corresponding eight available codes. For example, it may be desirable to set a feature on or off, or to set a different feature setting or threshold. In accordance with this aspect of the invention, the commands at the tracker are determined based upon a series of different command codes being received within a predetermined time window.

For example, the monitoring station may send code 9 that switches the tracker in the car into a stand-by mode for a predetermined time and which causes the tracker to respond with an upstream confirmation code 7 or 9 indicating receiving code 9. During the predetermined time of the stand-by mode another code follows that causes a system programmable feature or setting to change. Note that the second code would otherwise cause a different function at the vehicle. Note that system might operate a function 9 if another code 1-9 is not received in the predetermined time. The following list is exemplary for features resulting from second codes 1-9:

Code 1—Tracker will turn off feature of upstream code caused by vehicle alert being detected.

Code 2—Tracker will turn on feature of upstream code caused by vehicle alert being detected.

Code 3—Tracker deactivates cell receiver from operating due to a non-paying customer for monitoring service. That phone number can then be allocated to another customer.

Code 4—Turn on audio buzzer feature that will sound once each 10 minutes. The monitoring station need only send the command to activate the feature, as the tracker will time the period and drive the buzzer thereafter. The monitoring station will normally not need to send this command because the tracker will be configured out of the box with this feature activated to sound the buzzer every 10 minutes until the next command is received.

Code 5—Turn off the audio buzzer. This is to be sent by the monitoring station after a user has successfully activated his account.

Code 6—Turn on the 80 mph speed limit reporting. This will normally not be sent as this feature will be the default setting of the tracker.

Code 7—a Turn off the 80 mph speed limit reporting.

Code 8—Increase speed limit 5 mph and increase the time 5 minutes.

Code 9—Decrease speed limit 5 mph and decrease the time 5 minutes, and wait 5 minutes if another code number follows. It could operate this way to allow another set of codes to change more features.

In this example, in response to the tracker receiving the system code 1-9, the tracker sends an upstream code 7 to acknowledge receipt of the system code 1-9. Upon receipt of code 9 the tracker waits up to 5 minutes to determine if

another system code is received. If no code is received, then the tracker performs the code 9 operation. Of course, in other embodiments other features or settings can be selected. In general, it may be preferred that the first code sent in a series of two codes, for example, be a code that causes only a minor function to be performed at the vehicle. This is so because if the second code is sent from the monitoring station, but not received at the tracker, only a minor function is performed. For example, the first code may switch between armed and disarmed modes. This is in contrast to using a remote engine starting code or engine shutdown code as the first code. The vehicle may be moving or positioned in a marginal reception area, and the second command may not be received by the tracker within the predetermined time window. As will be appreciated by those skilled in the art, this concept of multiple digit codes, can be extended beyond two digits to three or more.

To further conserve cellular transmissions and as described above, the tracker may be set to record a position based upon a determined event. Only this recorded position information may be downloaded either by user request or at set times. It is desired that such events be relatively few, but that the information still be helpful to the user.

For example, an event for recording of position may be determined based upon the vehicle being stopped for greater than a first time and less than a second time. For example, the first time may be 15 minutes and the second time may be 6 hours. Determination of the vehicle being stopped can be made based upon one or both of the GPS position or the vehicle ignition being turned off. The second time prevents the recording of position information when the vehicle is stopped at the owner's home during the evening, for example. Accordingly, the important information of the vehicle stops being made is recorded and made available to the user, while system communications resources are conserved.

In another example, if the mode is selected to send the vehicle's location every 10 min and the vehicle is in the same location for greater than a set time, then no more vehicle locations are sent until the vehicle location has changed to start the every 10 min reporting again.

Now referring to FIGS. **10** and **11**, in yet another embodiment the potential difficulties of interfacing to a vehicle data bus and devices connected thereto are further discussed. The multi-vehicle compatible tracking unit **110** is for a vehicle comprising a vehicle data bus **122** extending throughout the vehicle. The multi-vehicle compatible tracking unit **110** includes a vehicle position determining device **112**, a wireless communications device **113**, and a multi-vehicle compatible controller **111** for cooperating with the vehicle position determining device and the wireless communications device to send vehicle position information. The vehicle position determining device **112** may be provided by a GPS receiver, for example, or any of the other such devices described in detail above.

The wireless communications device **113** may be provided by a cellular telephone transceiver configured to operate on a control channel of the cellular network, or any of the other such devices described in detail above.

The multi-vehicle compatible controller **111** is coupled to the vehicle data bus **122** for communication therewith with a vehicle device **121**. The controller **111** illustratively includes a central processing unit (CPU) **126** or other logic circuitry which is connected to a clock signal generator **124**, a memory **125**, and input/output circuitry **127** to interface with the vehicle device **121** using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. The corresponding vehicle code may be for reading from the vehicle device **121**. Similarly, the corresponding vehicle code may be additionally or alternatively for writing to the vehicle device **121**.

The multi-vehicle compatible tracking unit **110** also illustratively includes a downloading interface **116** for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by the multi-vehicle compatible controller **111**. The enabling data may be the vehicle device code or codes, an instruction to select a code or codes from among those already stored, or the data or sequence to allow the controller **111** to generate the vehicle device code or codes, for example.

In the embodiment as shown in FIG. **11**, the downloading interface **116** is a category of wireless signal downloading interfaces that illustratively include a wireless receiver **114**, such as for temporary connection to the downloading device **115**. The wireless downloading interface **116** may communicate with the downloading device **115** via any one or more of a number of wireless technologies, such as cellular, satellite, IR, Bluetooth or WiFi technologies for example, as will also be appreciated by those skilled in the art. Interface circuitry **132** is included in the wireless signal downloading interface **116** for controlling communication with the downloading device **115**. The interface circuitry **132** may be logic circuitry or other control circuitry along with switching components.

In other embodiments, for example as shown in FIG. **12**, the wireless downloading interface **116'** does not include the wireless receiver **114**, as a temporary wireless communication link is instead provided by sharing the wireless communications device **113** that sends position data as described above.

The downloading interface may also be in the form of a wired signal downloading interface **116"** as shown in FIG. **13**. The wired signal downloading interface **116"** comprises a connector **133***a* for temporary connection to a downloading device **115"** with a mating connector **133***b*. Interface circuitry **132"** is provided for controlling communication with the downloading device **115"**. The wired downloading interface **116"** may connect directly to a downloading device **115"**, such as a laptop computer, via RS232/429 protocol, USB, FireWire, TCP/IP (Internet), or any other wired protocol as will be appreciated by those skilled in the art. The connector **133***a* of the wired downloading interface **116"** may alternatively be in the form of a socket to accept a memory card or other data storage medium capable of transferring data. The downloading interfaces **116**, **116'** and **116"**, may also advantageously be for permitting downloading of programming instructions for the multi-vehicle compatible controller **111**, to allow remote programming, for example, as will also be appreciated by those skilled in the art.

Referring again briefly to FIG. **10**, the multi-vehicle compatible tracking unit **110** further comprises a remote transmitter **117**, such as typically in the form of a small handheld device to be carried by a user when away from the vehicle. The multi-vehicle compatible controller **111** also performs at least one vehicle remote control function responsive to the remote transmitter **117**. The remote transmitter **117** illustratively communicates with the remote receiver **118**, which is coupled to the multi-vehicle compatible controller **111**. The vehicle remote control functions may include a vehicle security function, a remote keyless entry function, and a remote engine starting function, for example, implemental via the data bus **122** using one or more vehicle devices **121**. Such a vehicle device **121** may also include another vehicle controller, as well as a sensor, or actuator as will be appreciated by those skilled in the art.

The multi-vehicle compatible tracking unit **110** illustratively includes a common housing **123** for its various components. In other embodiments, more than one housing may be used for the various components.

Referring additionally to FIGS. **14** and **15**, several methods for using a multi-vehicle compatible tracking unit **110** for a vehicle comprising a vehicle data bus **122** extending throughout the vehicle are described with reference to the respective flowcharts **148**, **148'**. Beginning at Block **150**, the multi-vehicle compatible tracking unit **110** is installed in vehicle (Block **151**). At Block **152** a connection is then established between the multi-vehicle compatible tracking unit **110** and a downloading device **115** using a downloading interface **116**. Enabling data related to at least one corresponding vehicle device code for use by the multi-vehicle compatible controller **111** is downloaded via a downloading interface **116** (Block **153**). Once the enabling data is downloaded, the connection between the multi-vehicle tracking unit **110** and the downloading device **115** is terminated at Block **154**. Of course the multi-vehicle compatible tracking unit **110** may be optionally programmed via the downloading interface while the connection is established. The operation of the tracking unit may be tested at Block **155** before stopping at Block **156**. With particular reference to the flowchart **148'** of FIG. **15**, the multi-vehicle compatible tracking unit **110** may be connected to the downloading device **115** (Block **152'**), etc., before installation in the vehicle (Block **151'**) and testing (Block **155'**).

Other features relating to vehicle control systems are disclosed in copending patent applications entitled VEHICLE TRACKER INCLUDING STATIONARY TIME DETERMINATION AND ASSOCIATED METHODS, Ser. No. 09/859,727 filed May 17, 2001, now U.S. Pat. No. 6,512,465; VEHICLE TRACKER CONSERVING CODES AND RELATED METHODS, Ser. No. 09/859,673 filed May 17, 2001, now U.S. Pat. No. 6,522,267; VEHICLE TRACKER WITH POWER SAVING FEATURES AND RELATED METHODS, Ser. No. 09/859,728 filed May 17, 2001, now U.S. Pat. No. 6,512,466; VEHICLE TRACKER COOPERATING WITH A STARTER INTERRUPT AND RELATED METHODS, Ser. No. 09/859,973 filed May 17, 2001; VEHICLE TRACKER WITH USER NOTIFICATIONS AND ASSOCIATED METHODS, Ser. No. 09/859,733 filed May 17, 2001, now U.S. Pat. No. 6,509,868; VEHICLE TRACKER WITH USER REGISTRATION REMINDER AND RELATED METHODS, Ser. No. 09/859,971 filed May 17, 2001, now U.S. Pat. No. 6,507,786; VEHICLE TRACKER INCLUDING INPUT/OUTPUT FEATURES AND RELATED METHODS, Ser. No. 09/859,972 filed May 17, 2001, now U.S. Pat. No. 6,606,561; and VEHICLE TRACKER WITH TEST FEATURES AND RELATED METHODS, Ser. No. 09/859,729 filed May 17, 2001, now U.S. Pat. No. 6,809,659, the entire disclosures of which are incorporated herein by reference.

Many modifications and other embodiments of the invention will come to the mind of one skilled in the art having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Accordingly, it is understood that the invention is not to be limited to the embodiments disclosed, and that other modifications and embodiments are intended to be included within the spirit and scope of the appended claims.

That which is claimed is:

1. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:

a vehicle position determining device;

a wireless communications device;

a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;

said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and

a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

2. The multi-vehicle compatible tracking unit according to claim **1** wherein said downloading interface comprises a wired signal downloading interface.

3. The multi-vehicle compatible tracking unit according to claim **2** wherein said wired signal downloading interface comprises a connector for temporary connection to a downloading device.

4. The multi-vehicle compatible tracking unit according to claim **1** wherein said downloading interface comprises a wireless signal downloading interface.

5. The multi-vehicle compatible tracking unit according to claim **4** wherein said wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device.

6. The multi-vehicle compatible tracking unit according to claim **1** wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.

7. The multi-vehicle compatible tracking unit according to claim **1** wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device.

8. The multi-vehicle compatible tracking unit according to claim **1** wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.

9. The multi-vehicle compatible tracking unit according to claim **1** further comprising a remote transmitter; and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter.

10. The multi-vehicle compatible tracking unit according to claim **9** wherein the at least one vehicle remote control function comprises at least one of a vehicle security function, a remote keyless entry function, and a remote engine starting function.

11. The multi-vehicle compatible tracking unit according to claim **1** wherein said wireless position determining device comprises a Global Positioning System (GPS) receiver.

12. The multi-vehicle compatible tracking unit according to claim **1** further comprising a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said downloading interface.

13. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:

a vehicle position determining device;

a wireless communications device;

a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;

said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and

a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;

said downloading interface comprising a connector for temporary connection to a downloading device.

14. The multi-vehicle compatible tracking unit according to claim **13** wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.

15. The multi-vehicle compatible tracking unit according to claim **13** wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device.

16. The multi-vehicle compatible tracking unit according to claim **13** wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.

17. The multi-vehicle compatible tracking unit according to claim **13** further comprising a remote transmitter; and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter.

18. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:

a vehicle position determining device;

a wireless communications device;

a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;

said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and

a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;

said downloading interface comprising a wireless receiver for temporary connection to a downloading device.

19. The multi-vehicle compatible tracking unit according to claim **18** wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.

20. The multi-vehicle compatible tracking unit according to claim **18** wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device.

21. The multi-vehicle compatible tracking unit according to claim **18** wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.

22. The multi-vehicle compatible tracking unit according to claim **18** further comprising a remote transmitter; and wherein said multi-vehicle compatible controller also performs at least one vehicle remote control function responsive to said remote transmitter.

* * * * *

PTO/SB/57 (09-16)
Approved for use through 09/30/2018. OMB 0651-0064
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(Also referred to as FORM PTO-1465)

REQUEST FOR *EX PARTE* REEXAMINATION TRANSMITTAL FORM

Address to:
Mail Stop *Ex Parte* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attorney Docket No.: C13-03896.RE2

Date: October 28, 2016

1. ☑ This is a request for *ex parte* reexamination pursuant to 37 CFR 1.510 of patent number 8,032,278 issued October 4, 2011. The request is made by:
   ☐ patent owner. ☑ third party requester.
2. ☑ The name and address of the person requesting reexamination is:
   David H. Kaveh, KPPB LLP
   2400 E. Katella Avenue, Suite 1050
   Anaheim, CA 92806
3. Requester asserts ☐ small entity status (37 CFR 1.27) or ☐ certifies micro entity status (37 CFR 1.29). Only a patent owner requester can certify micro entity status. Form PTO/SB/15A or B must be attached to certify micro entity status.
4. ☐ a. A check in the amount of $_____ is enclosed to cover the reexamination fee, 37 CFR 1.20(c)(1);
   ☐ b. The Director is hereby authorized to charge the fee as set forth in 37 CFR 1.20(c)(1) to Deposit Account No. _____;
   ☐ c. Payment by credit card. Form PTO-2038 is attached; **or**
   ☑ d. Payment made via EFS-Web.
5. ☑ Any refund should be made by ☐ check or ☑ credit to Deposit Account No. 50-4407. 37 CFR 1.26(c). If payment is made by credit card, refund must be to credit card account.
6. ☑ A copy of the patent to be reexamined having a double column format on one side of a separate paper is enclosed. 37 CFR 1.510(b)(4).
7. ☐ CD-ROM or CD-R in duplicate, Computer Program (Appendix) or large table
   ☐ Landscape Table on CD
8. ☐ Nucleotide and/or Amino Acid Sequence Submission
   If applicable, items a. – c. are required.
   a. ☐ Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. ☐ CD-ROM (2 copies) or CD-R (2 copies); **or**
      ii. ☐ paper
   c. ☐ Statements verifying identity of above copies
9. ☐ A copy of any disclaimer, certificate of correction or reexamination certificate issued in the patent is included.
10. ☑ Reexamination of claim(s) 1-22 is requested.
11. ☑ A copy of every patent or printed publication relied upon is submitted herewith including a listing thereof on Form PTO/SB/08, PTO-1449, or equivalent.
12. ☐ An English language translation of all necessary and pertinent non-English language patents and/or printed publications is included.

This collection of information is required by 37 CFR 1.510. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) a request for reexamination. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 18 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop *Ex Parte* Reexam, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

13. ☑ The attached detailed request includes at least the following items:

a. A statement identifying each substantial new question of patentability based on prior patents and printed publications. 37 CFR 1.510(b)(1).

b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited art to every claim for which reexamination is requested. 37 CFR 1.510(b)(2).

14. ☐ A proposed amendment is included (only where the patent owner is the requester). 37 CFR 1.510(e).

15. ☑ It is certified that the statutory estoppel provisions of 35 U.S.C. 315(e)(1) or 35 U.S.C. 325(e)(1) do not prohibit requester from filing this *ex parte* reexamination request. 37 CFR 1.510(b)(6).

16. ☑ a. It is certified that a copy of this request (if filed by other than the patent owner) has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c).

The name and address of the party served and the date of service are:

ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST, P.A.

P.O. Box 3791, Orlando FL 32802-3791

Date of Service: October 28, 2016; **or**

☐ b. A duplicate copy is enclosed since service on patent owner was not possible. An explanation of the efforts made to serve patent owner **is attached**. See MPEP 2220.

17. Correspondence Address: Direct all communication about the reexamination to:

☑ The address associated with Customer Number: 71897

OR

☐ Firm or Individual Name

Address

City	State	Zip
Country		
Telephone	Email	

18. ☑ The patent is currently the subject of the following concurrent proceeding(s):

☐ a. Copending reissue Application No.

☑ b. Copending reexamination Control No. 90/013,587

☐ c. Copending Interference No.

☑ d. Copending litigation styled:

Omega Patents, LLC v. CalAmp Corp., Middle District of Florida, Orlando Division, Case No. 6:13-cv-1950-PGB-DAB

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

/David H. Kaveh/ — Authorized Signature

2016-10-28 — Date

David H. Kaveh — Typed/Printed Name

68,640 — Registration No.

☐ For Patent Owner Requester

☑ For Third Party Requester

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	Vehicle Tracking Unit with Downloadable Codes and Associated Methods
First Named Inventor/Applicant Name:	Kenneth E. Flick
Filer:	David Kaveh/Katrina Lee
Attorney Docket Number:	C13-03896.RE2

Filed as Large Entity

Filing Fees for ex parte reexam

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
REQUEST FOR EX PARTE REEXAMINATION	1812	1	12000	12000
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**12000**

Patent Assignment Abstract of Title

Total Assignments: 1

Application #: 11773272 **Filing Dt:** 07/03/2007 **Patent #:** 8032278 **Issue Dt:** 10/04/2011
PCT #: NONE **Intl Reg #:** **Publication #:** US20070279283 **Pub Dt:** 12/06/2007
Inventor: Kenneth E. Flick
Title: VEHICLE TRACKING UNIT WITH DOWNLOADABLE CODES AND ASSOCIATED METHODS

Assignment: 1

Reel/Frame: 019515 / 0350 **Received:** 07/03/2007 **Recorded:** 07/03/2007 **Mailed:** 07/03/2007 **Pages:** 3
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).
Assignor: FLICK, KENNETH E., MR. **Exec Dt:** 07/02/2007
Assignee: OMEGA PATENTS, L.L.C.
5326 PRESLEY PLACE
DOUGLASVILLE, GEORGIA 30135
Correspondent: CHRISTOPHER F. REGAN
255 S. ORANGE AVENUE
SUITE 1401
ORLANDO, FL 32801

Search Results as of: 10/31/2016 05:01 PM

If you have any comments or questions concerning the data displayed, contact PRD / Assignments at 571-272-3350. v.2.5
Web interface last modified: Aug 20, 2015 v.2.5

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
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www.uspto.gov

REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/013,851	10/28/2016	8032278

CONFIRMATION NO. 8717

REEXAM ASSIGNMENT NOTICE

CHRISTOPHER F. REGAN, ESQUIRE
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST, P.A.
P. O. BOX 3791
ORLANDO, FL 32802-3791

OC000000086898951

Date Mailed: 11/01/2016

NOTICE OF ASSIGNMENT OF REEXAMINATION REQUEST

The above-identified request for reexamination has been assigned to Art Unit 3993. All future correspondence to the proceeding should be identified by the control number listed above and directed to the assigned Art Unit.

A copy of this Notice is being sent to the latest attorney or agent of record in the patent file or to all owners of record. (See 37 CFR 1.33(c)). If the addressee is not, or does not represent, the current owner, he or she is required to forward all communications regarding this proceeding to the current owner(s). An attorney or agent receiving this communication who does not represent the current owner(s) may wish to seek to withdraw pursuant to 37 CFR 1.36 in order to avoid receiving future communications. If the address of the current owner(s) is unknown, this communication should be returned within the request to withdraw pursuant to Section 1.36.

NOTICE OF USPTO EX PARTE REEXAMINATION PATENT OWNER STATEMENT WAIVER PROGRAM

The USPTO has implemented a pilot program where, after a reexamination proceeding has been granted a filing date and before the examiner begins his or her review, the patent owner may orally waive the right to file a patent owner's statement. See *"Pilot Program for Waiver of Patent Owner's Statement in Ex Parte Reexamination Proceedings,"* 75 FR 47269 (August 5, 2010). One goal of the pilot program is to reduce the pendency of reexamination proceedings and improve the efficiency of the reexamination process.

Ordinarily when ex parte reexamination is ordered, the USPTO must wait until after the receipt of the patent owner's statement and the third party requester's reply, or after the expiration of the time period for filing the statement and reply (a period that can be as long as 5 to 6 months), before mailing a first determination of patentability. The USPTO's first determination of patentability is usually a first Office action on the merits or a Notice of Intent to Issue Reexamination Certificate (NIRC).

Under the pilot program, the patent owner's oral waiver allows the USPTO to act on the first determination of patentability immediately after determining that reexamination will be ordered, and in a suitable case issue the reexamination order and the first determination of patentability (which could be a NIRC if the claims under reexamination are confirmed) at the same time.

Benefits to the Patent Owner for participating in this pilot program include reduction in pendency.

To participate in this pilot program, Patent Owners may contact the USPTO's Central Reexamination Unit (CRU) at 571-272-7705. The USPTO will make the oral waiver of record in the reexamination file in an interview summary and a copy will be mailed to the patent owner and any third party requester.

cc: Third Party Requester(if any)
KPPB LLP
2400 EAST KATELLA AVENUE
SUITE 1050
ANAHEIM, CA 92806

/abjones/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/013,851	10/28/2016	8032278

CONFIRMATION NO. 8717

KPPB LLP
2400 EAST KATELLA AVENUE
SUITE 1050
ANAHEIM, CA 92806

REEXAMINATION REQUEST NOTICE

OC000000086898949

Date Mailed: 11/01/2016

NOTICE OF REEXAMINATION REQUEST FILING DATE

(Third Party Requester)

Requester is hereby notified that the filing date of the request for reexamination is 10/28/2016, the date that the filing requirements of 37 CFR § 1.510 were received.

A decision on the request for reexamination will be mailed within three months from the filing date of the request for reexamination. (See 37 CFR 1.515(a)).

A copy of the Notice is being sent to the person identified by the requester as the patent owner. Further patent owner correspondence will be the latest attorney or agent of record in the patent file. (See 37 CFR 1.33). Any paper filed should include a reference to the present request for reexamination (by Reexamination Control Number).

cc: Patent Owner
CHRISTOPHER F. REGAN, ESQUIRE
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST, P.A.
P. O. BOX 3791
ORLANDO, FL 32802-3791

/abjones/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

Litigation Search Report CRU 3999

Ex Parte Reexamination: 90/013,851

TO: Karin Reichle Location: CRU Art Unit: 3993 Date: 11/01/2016	From: Paralegal Name Location: CRU 3999 MDE 4B21 Phone: (571) 272-6825 patricia.volpe@uspto.gov

Search Notes

Litigation search for U.S. Patent Number: **8,032,278**

OPEN - Omega Patents, Llc V. Calamp Corp.	6:13cv1950
CLOSED - Omega Patents, Llc V. Enfora, Inc.	1:13cv646

1) I performed a KeyCite Search in Westlaw, which retrieves all history on the patent including any litigation.

2) I performed a search on the patent in Lexis CourtLink for any open dockets or closed cases.

3) I performed a search in Lexis in the Federal Courts and Administrative Materials databases for any cases found.

4) I performed a search in Lexis in the IP Journal and Periodicals database for any articles on the patent.

5) I performed a search in Lexis in the news databases for any articles about the patent or any articles about litigation on this patent.

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

8032278

Get Drawing Sheet 1 of 13
Access PDF of Official Patent *
Order Patent File History / Wrapper from REEDFAX®
Link to Claims Section

October 4, 2011

Vehicle tracking unit with downloadable codes and associated methods

REEXAM-LITIGATE:

Reexamination requested September 14, 2015 by Samuel P. Richey, KPPB, LLP., Anaheim, CA, Reexamination No. 90/013,587 (O.G. November 10, 2015) Ex. Gp.: 3993 September 14, 2015

NOTICE OF LITIGATION

Omega Patents, LLC v. Enfora, Inc., Filed February 28, 2013, D.C. N.D. Georgia, Doc. No. 1:13cv646

NOTICE OF LITIGATION

Omega Patents, LLC v. Calamp Corp., Filed December 20, 2013, D.C. M.D. Florida, Doc. No. 6:13cv1950

INVENTOR: Flick, Kenneth E. - Douglasville, Georgia, United States of America (US), United States of America ()

APPL-NO: 773272 (11)

FILED-DATE: July 3, 2007

GRANTED-DATE: October 4, 2011

ASSIGNEE-PRE-ISSUE:
July 3, 2007 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., OMEGA PATENTS, L.L.C., 5326 PRESLEY PLACE, DOUGLASVILLE, GEORGIA, UNITED STATES OF AMERICA (US), 30135, Reel and Frame Number: 019515/0350

ASSIGNEE-AT-ISSUE:
Omega Patents, L.L.C., Douglasville, Georgia, United States of America (US), United States company or corporation (02)

LEGAL-STATUS:

July 3, 2007 - ASSIGNMENT
July 3, 2007 - ASSIGNMENT
March 18, 2015 - FEE PAYMENT
November 10, 2015 - REQUEST FOR REEXAMINATION FILED

March 18, 2015 - Payment of Maintenance Fee, 4th Year, Large Entity.

PRIM-EXMR: Nguyen, Cuong H

CORE TERMS: controller, alert, tracking, user, monitoring, message, wire, station, battery, alarm, downloading, compatible, send, interface, multi-vehicle, wireless communications, remote, volt, voltage, ignition, telephone, transmission, tracker, minute, indicator, activate, warning, starter, horn, cell

ENGLISH-ABST:

A multi-vehicle compatible tracking unit is for a vehicle including a vehicle data bus extending throughout the vehicle. The vehicle tracking unit may include a vehicle position determining device, a wireless communications device, and a multi-vehicle compatible controller for cooperating with the vehicle position determining device and the wireless communications device to send vehicle position information. The multi-vehicle compatible controller may be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. A downloading interface may be included for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by the multi-vehicle compatible controller.

NO-OF-CLAIMS: 22

PARENT-PAT-INFO:

RELATED APPLICATIONS

[0001]The present application is a continuation-in-part of U.S. patent application Ser. No. 11/076,259 filed Mar. 9, 2005 now U.S. Pat. No. 7,720,597, which is a continuation of U.S. patent application Ser. No. 10/383,496 filed Mar. 7, 2003 now U.S. Pat. No. 7,149,623, which is a continuation of U.S. patent application Ser. No. 09/859,972 filed on May 17, 2001 now U.S. Pat. No. 6,606,561 which, in turn, was based upon provisional patent application Ser. Nos. 60/264,811 filed on Jan. 29, 2001; 60/258,005, filed Dec. 22, 2000; 60/251,552, filed Dec. 6, 2000; 60/252,125, filed Nov. 20, 2000; 60/236,890, filed Sep. 29, 2000; 60/246,463, filed Nov. 7, 2000; 60/222,777, filed Aug. 3, 2000; and 60/205,178, filed May 17, 2000, the entire contents of each of which are incorporated herein by reference.

Source: **Legal > / . . . / > Utility, Design and Plant Patents**
Terms: **PATNO=8032278** (Suggest Terms for My Search)
View: Custom
Segments: Abst, Appl-no, Assignee, Cert-correction, Date, Exmr, Expiration-date, Filed, Filed-date, Inventor, Legal-status, Lit-reex, No-of-claims, Parent-pat-info, Patno, Prim-exmr, Reexam-litigate, Ref-date, Ref-patno, Reissue, Reissue-comment, Rel-patno, Title
Date/Time: Wednesday, November 2, 2016 - 3:51 PM EDT

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US District Court Civil Docket

U.S. District - Georgia Northern
(Atlanta)

1:13cv646

Omega Patents, Llc v. Enfora, Inc.

This case was retrieved from the court on Thursday, October 13, 2016

Date Filed:	**02/28/2013**		
Assigned To:	**Judge Thomas W. Thrash, Jr**	Class Code:	**CLOSED**
Referred To:		Closed:	**06/20/2013**
Nature of suit:	**Patent (830)**	Statute:	**28:1338**
Cause:	**Patent Infringement**	Jury Demand:	**Plaintiff**
Lead Docket:	**None**	Demand Amount:	**$0**
Other Docket:	**None**	NOS Description:	**Patent**
Jurisdiction:	**Federal Question**		

Litigants	Attorneys
Omega Patents, Llc a Georgia limited liability company Plaintiff	Cynthia Jeannette Lee LEAD ATTORNEY;ATTORNEY TO BE NOTICED Thomas Horstemeyer, LLP Suite 1500 400 Interstate North Parkway Atlanta , GA 30339 USA 770-933-9500 Email:Cynthia.Lee@thomashorstemeyer.Com Dan Robert Gresham LEAD ATTORNEY;ATTORNEY TO BE NOTICED Thomas Horstemeyer, LLP Suite 1500 400 Interstate North Parkway, Se Atlanta , GA 30339 USA 770-933-9500 Email:Dan.Gresham@thomashorstemeyer.Com
Enfora, Inc. a Delaware Corporation Defendant	
Novatel Wireless, Inc. Defendant	

Date	#	Proceeding Text	Source
02/28/2013	1		

		COMPLAINT with Jury Demand, filed by Omega Patents, LLC. Consent form to proceed before U.S. Magistrate and pretrial instructions provided. (Filing fee $ 350.00 receipt number 113E-4436675.) (Attachments: # 1 Exhibit A - '876, # 2 Exhibit B - '727, # 3 Exhibit C -'278, # 4 Exhibit D - '886, # 5 Civil Cover Sheet)(eop) Please visit our website at http://www.gand.uscourts.gov to obtain Pretrial Instructions. (Entered: 02/28/2013)
02/28/2013	2	Electronic Summons Issued as to Enfora, Inc.. (eop) (Entered: 02/28/2013)
02/28/2013	3	Certificate of Interested Persons by Omega Patents, LLC. (eop) (Entered: 02/28/2013)
02/28/2013	4	AO Form 120 forwarded to Commissioner. (eop) (Entered: 02/28/2013)
03/01/2013		Clerks Notation re 3 Certificate of Interested Persons, OK per TWT. (ss) (Entered: 03/01/2013)
03/07/2013	5	First AMENDED COMPLAINT against Enfora, Inc., Novatel Wireless, Inc.with Jury Demand, filed by Omega Patents, LLC. (Attachments: # 1 Exhibit A - '876 Patent, # 2 Exhibit B - '727 Patent, # 3 Exhibit C - '278 Patent, # 4 Exhibit D - '886 Patent, # 5 Summons Novatel Wireless, Inc.) (Gresham, Dan) Please visit our website at http://www.gand.uscourts.gov to obtain Pretrial Instructions. (Entered: 03/07/2013)
03/07/2013	6	Supplemental Certificate of Interested Persons and Corporate Disclosure Statement by Omega Patents, LLC identifying Other Affiliate Kenneth Flick for Omega Patents, LLC. (Gresham, Dan) (Entered: 03/07/2013)
06/19/2013	7	NOTICE of Voluntary Dismissal Without Prejudice filed by Omega Patents, LLC (Gresham, Dan) (Entered: 06/19/2013)
06/20/2013		Clerk's Entry of Dismissal APPROVING 7 Notice of Voluntary Dismissal pursuant to Fed.R.Civ.P.41(a)(1)(i) (dr) (Entered: 06/20/2013)
06/20/2013		Civil Case Terminated. (dr) (Entered: 06/20/2013)
06/20/2013	8	AO Form 120 forwarded to Commissioner. (dr) (Entered: 06/20/2013)

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US District Court Civil Docket

U.S. District - Florida Middle
(Orlando)

6:13cv1950

Omega Patents, Llc v. Calamp Corp.

This case was retrieved from the court on Thursday, October 13, 2016

Date Filed: **12/20/2013**
Assigned To: **Judge Paul G. Byron**
Referred To: **Magistrate Judge Daniel C. Irick**
Nature of suit: **Patent (830)**
Cause: **Patent Infringement**
Lead Docket: **None**
Other Docket: **None**
Jurisdiction: **Federal Question**

Class Code: **OPEN**
Closed:
Statute: **35:271**
Jury Demand: **Both**
Demand Amount: **$0**
NOS Description: **Patent**

Litigants	Attorneys
Omega Patents, Llc a Georgia limited liability company Plaintiff	Brian R. Gilchrist LEAD ATTORNEY;ATTORNEY TO BE NOTICED Allen, Dyer, Doppelt, Milbrath & Gilchrist, PA 255 S Orange Ave - Ste 1401 Po Box 3791 Orlando , FL 32802-3791 USA 407-841-2330 Fax: 407-841-2343 Email:Bgilchrist@addmg.Com Christopher F Regan LEAD ATTORNEY;ATTORNEY TO BE NOTICED Allen, Dyer, Doppelt, Milbrath & Gilchrist, PA 255 S Orange Ave - Ste 1401 Po Box 3791 Orlando , FL 32802-3791 USA 407/841-2330 Fax: 407/841-2343 Email:Cregan@addmg.Com Ryan Thomas Santurri LEAD ATTORNEY;ATTORNEY TO BE NOTICED Allen, Dyer, Doppelt, Milbrath & Gilchrist, PA 255 S Orange Ave - Ste 1401 Po Box 3791 Orlando , FL 32802-3791

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Date	#	Proceeding Text	Source
12/20/2013	1	COMPLAINT Injunctive Relief Requested against Calamp Corp. with Jury Demand (Filing fee $ 400 receipt number Orl-030433) filed by Omega Patents, LLC. (Attachments: # 1 Civil Cover Sheet, # 2 Exhibit A-C, # 3 Exhibit D-F)(JEV) (Entered: 12/20/2013)	
12/20/2013	2	SUMMONS issued as to Calamp Corp. (JEV) (Entered: 12/20/2013)	
12/20/2013	3	Patent Report sent to Alexandria, VA. (Attachments: # 1 Complaint, # 2 Exhibit A-C, # 3 Exhibit D-F) (JEV) (Entered: 12/20/2013)	
12/30/2013	4	RELATED CASE ORDER AND NOTICE of designation under Local Rule 3.05 - track 2. Notice of pendency of other actions due by 1/13/2014. Signed by Judge Gregory A. Presnell on 12/30/2013. Copies mailed.(LAM) (Entered: 12/30/2013)	
12/30/2013	5	INTERESTED PERSONS ORDER. Certificate of interested persons and corporate disclosure statement due by 1/13/2014. Signed by Judge Gregory A. Presnell on 12/30/2013. Copies mailed.(LAM) (Entered: 12/30/2013)	
01/14/2014	6	NOTICE of pendency of related cases re 4 Related case order and track 2 notice per Local Rule 1.04(d) by Omega Patents, LLC. Related case(s): Yes. (Santurri, Ryan) Modified on 1/15/2014 (JEV). (Entered: 01/14/2014)	
01/14/2014	7	CERTIFICATE of interested persons and corporate disclosure statement re 5 Interested persons order by Omega Patents, LLC. (Santurri, Ryan) (Entered: 01/14/2014)	
01/15/2014	8	NOTICE of Appearance by Christopher S. Carver on behalf of Calamp Corp. (Carver, Christopher) (Entered: 01/15/2014)	
01/15/2014	9	NOTICE of pendency of related cases re 4 Related Case Order per Local Rule 1.04(d) by Calamp Corp. Related case(s): yes (Carver, Christopher) Modified on 1/16/2014 (JET). (Entered: 01/15/2014)	
01/15/2014	10	ANSWER and affirmative defenses to 1 Complaint with Jury Demand , COUNTERCLAIM against Omega Patents, LLC by Calamp Corp. (Carver, Christopher) Modified on 1/16/2014 (JET). (Entered: 01/15/2014)	
01/15/2014	11		

		CERTIFICATE of interested persons and corporate disclosure statement re 5 Interested persons order by Calamp Corp.. (Carver, Christopher) (Entered: 01/15/2014)
01/15/2014	12	***PRO HAC VICE FEES paid and Special Admission Attorney Certification Form filed by attorney Joel A. Kauth, appearing on behalf of Calamp Corp. (Filing fee $10 receipt number ORL31013) re 22 MOTION for Joel A. Kauth to appear pro hac vice by Calamp Corp. (JET) (JET). Modified on 3/4/2014 (IGC). (Entered: 01/15/2014)
01/16/2014	13	NOTICE to counsel Joel A. Kauth of Local Rule 2.02 (signed by deputy clerk). (JET) (Entered: 01/16/2014)
01/17/2014	14	NOTICE to counsel Christopher S. Carver of Local Rule 2.01 (signed by deputy clerk). (JET) (Entered: 01/17/2014)
01/17/2014	15	NOTICE of Appearance by Peter A. Chiabotti on behalf of Calamp Corp. (Chiabotti, Peter) (Entered: 01/17/2014)
01/29/2014	16	CERTIFICATE of compliance re: Service of documents 4 , 5 , 6 and 7 on Defendant by Omega Patents, LLC. (Gilchrist, Brian) Modified on 1/30/2014 (JET). (Entered: 01/29/2014)
02/05/2014	17	MOTION to Dismiss Counterclaims and Memorandum in Support by Omega Patents, LLC. (Santurri, Ryan) (Entered: 02/05/2014)
02/06/2014	18	Unopposed MOTION to Appear Telephonically at Case Management Conference by Calamp Corp. (Carver, Christopher) Modified on 2/7/2014 (JET). (Entered: 02/06/2014)
02/07/2014	19	ORDER granting 18 Motion to attend case management conference by phone. Signed by Judge Gregory A. Presnell on 2/7/2014. (TKW) (Entered: 02/07/2014)
02/24/2014	20	Amended COUNTERCLAIM -- CalAmp Corp.'s First Amended Counterclaim against Omega Patents, LLC filed by Calamp Corp..(Carver, Christopher) (Entered: 02/24/2014)
02/26/2014	21	ORDER denying as moot 17 motion to dismiss original counterclaim. Signed by Judge Gregory A. Presnell on 2/26/2014. (TKW) (Entered: 02/26/2014)
03/03/2014	22	MOTION for Joel A. Kauth to appear pro hac vice by Calamp Corp.. (Attachments: # 1 Exhibit A - (proposed) Order Granting Motion to Appeal Pro Hac Vice of Attorney Joel A. Kauth)(Carver, Christopher) Motions referred to Magistrate Judge David A. Baker. (Entered: 03/03/2014)
03/03/2014	23	Written designation and consent to act by Christopher S. Carver on behalf of Calamp Corp.. Local Counsel: Christopher S. Carver. Non-Resident Counsel: Joel A. Kauth. (Carver, Christopher) (Entered: 03/03/2014)
03/04/2014	24	ENDORSED ORDER granting 22 motion to appear pro hac vice. Provided, all counsel shall register for and use the electronic filing system as adopted by the Court. After this Order, the Clerk will no longer send copies of docket entries by U.S. Mail to counsel in this case. Appearance and participation by more than one attorney at any hearing or trial is subject to the discretion of the presiding judge. Signed by Magistrate Judge David A. Baker on 3/4/2014. (Baker, David) (Entered: 03/04/2014)
03/11/2014	25	REPLY to 20 Counterclaim by Omega Patents, LLC.(Santurri, Ryan) (Entered: 03/11/2014)
03/11/2014	26	CASE MANAGEMENT REPORT. (Gilchrist, Brian) (Entered: 03/11/2014)
03/12/2014	27	ORDER of recusal. Signed by Judge Gregory A. Presnell on 3/12/2014. (TKW) (Entered: 03/12/2014)
03/12/2014	28	Case Reassigned to Judge Charlene Edwards Honeywell. New case number: 6:13-cv-1950-Orl-36DAB. Judge Gregory A. Presnell no longer assigned to the case. (IGC) (Entered: 03/12/2014)

03/14/2014	29	CASE MANAGEMENT AND SCHEDULING ORDER: Amended Pleadings due by 4/18/2014, Joinder of Parties due by 4/18/2014, Discovery due by 6/1/2015, Dispositive motions due by 7/1/2015, Pretrial statement due by 9/15/2015, Conduct mediation hearing by 6/16/2015. Lead counsel to coordinate dates. Claim Construction Hearing set for 11/24/2014 at 10:00 AM in Orlando Courtroom 5 B before Judge Charlene Edwards Honeywell. Final Pretrial Conference set for 10/20/2015 at 01:30 PM in Orlando Courtroom 5 B before Judge Charlene Edwards Honeywell, Jury Trial set for 11/2/2015 term in Orlando Courtroom 5 B before Judge Charlene Edwards Honeywell. Signed by Judge Charlene Edwards Honeywell on 3/14/2014. (NBL) (Entered: 03/14/2014)
03/14/2014	30	CASE REFERRED to Mediation. (MAA) (Entered: 03/19/2014)
03/27/2014	31	NOTICE of mediation conference/hearing to be held on 11/10/2014 at 9:30 a.m. before Emery H. Rosenbluth, Jr., Esq..(Santurri, Ryan) (Entered: 03/27/2014)
04/16/2014	32	***PRO HAC VICE FEES paid and Special Admission Attorney Certification Form filed by attorney Eugene K. Chong, appearing on behalf of Calamp Corp. (Filing fee $10 receipt number ORL-33338). (MAA) (MAA). (Entered: 04/16/2014)
05/07/2014	33	MOTION for Eugene Chong to appear pro hac vice by Calamp Corp.. (Attachments: # 1 Exhibit A - (proposed) Order Granting Motion to Appear Pro Hace Vice)(Carver, Christopher) Motions referred to Magistrate Judge David A. Baker. (Entered: 05/07/2014)
05/07/2014	34	ENDORSED ORDER granting 33 motion to appear pro hac vice. Provided, all counsel shall register for and use the electronic filing system as adopted by the Court. After this Order, the Clerk will no longer send copies of docket entries by U.S. Mail to counsel in this case. Signed by Magistrate Judge David A. Baker on 5/7/2014. (Baker, David) (Entered: 05/07/2014)
07/02/2014	35	Case Reassigned to Judge Paul G. Byron. New case number: 6:13-cv-1950-Orl-40-DAB. Judge Charlene Edwards Honeywell no longer assigned to the case. (SC) (Entered: 07/02/2014)
07/03/2014	36	AMENDED NOTICE of Claim Construction Hearing: Claim Construction Hearing set for 11/24/2014 at 10:00 AM in Orlando Courtroom 4 B before Judge Paul G. Byron, U.S. District Court, 401 West Central Blvd., Orlando, Florida. (NBL) copies e-mailed (Entered: 07/03/2014)
07/07/2014	37	AMENDED NOTICE of hearing: Final Pretrial Conference set for 10/20/2015 at 1:30 PM in Orlando Courtroom 4 B before Judge Paul G. Byron, Jury Trial set for the November 2015 Trial term, term commencing 11/2/2015 at 09:00 AM in Orlando Courtroom 4 B before Judge Paul G. Byron. (NBL) copies e-mailed (Entered: 07/07/2014)
09/05/2014	38	MOTION for miscellaneous relief, specifically Motion for Claim Construction by Omega Patents, LLC. (Attachments: # 1 Exhibit A - U.S. Patent 6,346,876, # 2 Exhibit B - U.S. Patent 6,756,885, # 3 Exhibit C - U.S. Patent 5,719,551)(Santurri, Ryan) (Entered: 09/05/2014)
09/05/2014	39	DEFENDANT'S Opening Claim Construction Brief re 29 Case management and scheduling orderSet Hearings filed by Calamp Corp.. (Attachments: # 1 Exhibit A, # 2 Exhibit B, # 3 Exhibit C, # 4 Exhibit D)(Kauth, Joel) Modified on 9/8/2014 (MAA). (Entered: 09/05/2014)
10/03/2014	40	RESPONSE in opposition to 39 Motion for Claim Construction filed by Omega Patents, LLC. (Santurri, Ryan) Modified on 10/6/2014 (LAK). (Entered: 10/03/2014)
10/03/2014	41	RESPONSIVE Claim Construction brief filed by Calamp Corp. (Kauth, Joel) Modified on 10/6/2014 (LAK). (Entered: 10/03/2014)
10/30/2014	42	ORDER re: Claim Construction Hearing. Signed by Judge Paul G. Byron on 10/30/2014. (RML) (Entered: 10/30/2014)

11/11/2014	43	MEDIATION report Hearing held on 111014. Hearing outcome: Impasse.. (Rosenbluth, Emery) (Entered: 11/11/2014)
11/17/2014	44	RESPONSE re 42 Order pdf -- Joint Pre-Hearing Statement filed by Omega Patents, LLC. (Gilchrist, Brian) (Entered: 11/17/2014)
11/21/2014	45	NOTICE of Appearance by Carrie Ann Wozniak on behalf of Calamp Corp. (Wozniak, Carrie) (Entered: 11/21/2014)
11/24/2014	46	Minute Entry (CLAIM CONSTRUCTION HEARING) Proceedings held before Judge Paul G. Byron on 11/24/2014. Written Order to issue. Court Reporter: Koretta Stanford (NBL) (Entered: 11/24/2014)
11/28/2014	47	NOTICE RESCHEDULING FINAL PRETRIAL CONFERENCE (TIME ONLY): Final Pretrial Conference reset for 10/20/2015 at 3:00 PM in Orlando Courtroom 4 B before Judge Paul G. Byron, U.S. District Court, 401 West Central Blvd., Orlando, Florida. *(previously noticed for 1:30 p.m.) (NBL) copies mailed/e-mailed (Entered: 11/28/2014)
12/12/2014	48	PLAINTIFF'S BRIEF/Memorandum of Law on Markman Issues re 46 Miscellaneous Hearing filed by Omega Patents, LLC. (Santurri, Ryan) Text modified on 12/15/2014 (RDO). (Entered: 12/12/2014)
12/12/2014	49	SUPPLEMENTAL BRIEF on Claim Construction re 46 Miscellaneous Hearing filed by Calamp Corp.. (Kauth, Joel) Text modified on 12/15/2014 (RDO). (Entered: 12/12/2014)
02/20/2015	50	ORDER ON CLAIM CONSTRUCTION re: 38 , 39 . Signed by Judge Paul G. Byron on 2/20/2015. (RML) (Entered: 02/20/2015)
03/23/2015	51	Joint MOTION for Extension of Time to Complete Discovery to June 15, 2015 by Calamp Corp.. (Kauth, Joel) Motions referred to Magistrate Judge David A. Baker. (Entered: 03/23/2015)
03/24/2015	52	ENDORSED ORDER granting 51 Motion for Extension of Time to Complete Discovery. Provided, however, this extension in no way relieves the parties of other obligations and deadlines set forth in the Scheduling Order. Further, this extension shall not be the basis for seeking relief from that Order. Provided further, this extension assumes that there will be no disputes regarding discovery within this extended period, and the Court will not entertain any motions pertaining to such disputes. In particular, the parties are reminded that the deadline for filing of dispositive motions is NOT extended. Signed by Magistrate Judge David A. Baker on 3/24/2015. (Baker, David) (Entered: 03/24/2015)
03/25/2015		Set/reset scheduling order deadlines: Discovery due by 6/15/2015 (RDO) (Entered: 03/25/2015)
07/01/2015	53	Joint MOTION for leave to file Exhibits Under Seal in Connection with Daubert and Dispositive Motions by Omega Patents, LLC. (Santurri, Ryan) (Entered: 07/01/2015)
07/01/2015	54	MOTION for summary judgment as to Validity, Infringement, Enforceability, and Unfair Competition by Omega Patents, LLC. (Santurri, Ryan) (Entered: 07/01/2015)
07/01/2015	55	MOTION for miscellaneous relief, specifically Motion and Memorandum of Law to Exclude the Testimony of Defendant's Expert Eric Andrews by Omega Patents, LLC. (Santurri, Ryan) (Entered: 07/01/2015)
07/01/2015	56	MOTION for miscellaneous relief, specifically Motion and Memorandum to Exclude the Testimony of Defendant's Expert on Damages, DeForest McDuff, Ph.D. by Omega Patents, LLC. (Santurri, Ryan) (Entered: 07/01/2015)
07/01/2015	57	APPENDIX re 56 MOTION for miscellaneous relief, specifically Motion and Memorandum to Exclude the Testimony of Defendant's Expert on Damages, DeForest McDuff, Ph.D. , 54 MOTION for summary judgment as to Validity, Infringement, Enforceability, and Unfair Competition, 55 MOTION for miscellaneous relief, specifically Motion and Memorandum of

		Law to Exclude the Testimony of Defendant's Expert Eric Andrews by Omega Patents, LLC. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12) (Santurri, Ryan) (Entered: 07/01/2015)
07/01/2015	58	(** STRICKEN per 77 Order **) MOTION for summary judgment of invalidity by Calamp Corp. (Kauth, Joel) Modified on 7/22/2015 (SWT). (Entered: 07/01/2015)
07/01/2015	59	DECLARATION of Eric Andrews by Calamp Corp. in support of 58 Motion for Summary Judgment. (Attachments: # 1 Exhibit A, # 2 Exhibit B, # 3 Exhibit C, # 4 Exhibit D, # 5 Exhibit E, # 6 Exhibit F, # 7 Exhibit G, # 8 Exhibit H, # 9 Exhibit I, # 10 Exhibit J, # 11 Exhibit K, # 12 Exhibit L, # 13 Exhibit M, # 14 Exhibit N)(Kauth, Joel) Modified on 7/2/2015 (RDO). (Entered: 07/01/2015)
07/01/2015	60	(** STRICKEN per 77 Order **) MOTION for summary judgment of noninfringement by Calamp Corp. (Kauth, Joel) Modified on 7/22/2015 (SWT). (Entered: 07/02/2015)
07/02/2015	61	DECLARATION of Eric Andrews by Calamp Corp.in support of 60 Motion for Summary Judgment. (Attachments: # 1 Exhibit A)(Kauth, Joel) Modified on 7/2/2015 (RDO). (Entered: 07/02/2015)
07/02/2015	62	ENDORSED ORDER granting 53 Joint Motion for Leave to File Exhibits Under Seal in Connection with Daubert and Dispositive Motions. Signed by Judge Paul G. Byron on 7/2/2015. (MMW) (Entered: 07/02/2015)
07/02/2015	63	APPENDIX re 61 Declaration of Eric Andrews in Support of Motion for Summary Judgment of Noninfringement by Calamp Corp.. (Attachments: # 1 Exhibit B-1, # 2 Exhibit B-2, # 3 Exhibit C-1, # 4 Exhibit C-2, # 5 Exhibit D-1, # 6 Exhibit D-2, # 7 Exhibit E-1, # 8 Exhibit E-2, # 9 Exhibit F-1, # 10 Exhibit F-2, # 11 Exhibit F-3)(Kauth, Joel) (Entered: 07/02/2015)
07/02/2015	64	MOTION to Strike 60 MOTION for summary judgment of noninfringement in Exceedence of CMSO Limitation on Motions for Summary Judgment by Omega Patents, LLC. (Santurri, Ryan) Motions referred to Magistrate Judge David A. Baker. (Entered: 07/02/2015)
07/06/2015	65	SUMMARY JUDGMENT NOTICE re 58 MOTION for summary judgment of invalidity, 54 MOTION for summary judgment as to Validity, Infringement, Enforceability, and Unfair Competition, 60 MOTION for summary judgment of noninfringement. Unless the Court notifies the parties otherwise, there will not be a hearing on this motion. (NBL) copies e-mailed (Entered: 07/06/2015)
07/06/2015		Sealed Document S-66. (MAA) (Entered: 07/08/2015)
07/08/2015	67	Unopposed MOTION for Extension of Time to File Response to Document 60 Pending Ruling on Plaintiff's Motion to Strike by Omega Patents, LLC. (Santurri, Ryan) (Entered: 07/08/2015)
07/09/2015	68	ENDORSED ORDER granting 67 Motion for Extension of Time to File. Signed by Judge Paul G. Byron on 7/9/2015. (MMW) (Entered: 07/09/2015)
07/09/2015	69	AMENDED CASE MANAGEMENT AND SCHEDULING ORDER. Signed by Judge Paul G. Byron on 7/9/2015. (MMW) (Entered: 07/09/2015)
07/10/2015		Set/reset scheduling order deadlines: Pretrial statement due by 9/22/2015, All other motions due by 9/29/2015, Final Pretrial Conference set for 10/20/2015 at 03:00 PM in Orlando Courtroom 4 B before Judge Paul G. Byron, Jury Trial set for trial term beginning on 11/2/2015 at 09:00 AM in Orlando Courtroom 4 B before Judge Paul G. Byron. (RDO) (Entered: 07/10/2015)
07/20/2015	70	

		RESPONSE in Opposition re 58 MOTION for summary judgment of invalidity filed by Omega Patents, LLC. (Attachments: # 1 Exhibit 13) (Santurri, Ryan) (Entered: 07/20/2015)
07/20/2015	71	STIPULATION of Undisputed Facts; re 54 MOTION for summary judgment as to Validity, Infringement, Enforceability, and Unfair Competition by Omega Patents, LLC. (Santurri, Ryan) Modified on 7/21/2015 (SWT). (Entered: 07/20/2015)
07/20/2015	72	RESPONSE in Opposition re 64 MOTION to Strike 60 MOTION for summary judgment of noninfringement in Exceedence of CMSO Limitation on Motions for Summary Judgment filed by Calamp Corp.. (Kauth, Joel) (Entered: 07/20/2015)
07/20/2015	73	Joint STIPULATION of Agreed Material Facts; re 58 MOTION for summary judgment of invalidity by Calamp Corp. (Kauth, Joel) Modified on 7/21/2015 (SWT). (Entered: 07/20/2015)
07/20/2015	74	RESPONSE in Opposition re 56 MOTION for miscellaneous relief, specifically Motion and Memorandum to Exclude the Testimony of Defendant's Expert on Damages, DeForest McDuff, Ph.D. filed by Calamp Corp.. (Kauth, Joel) (Entered: 07/20/2015)
07/20/2015	75	RESPONSE in Opposition re 55 MOTION for miscellaneous relief, specifically Motion and Memorandum of Law to Exclude the Testimony of Defendant's Expert Eric Andrews filed by Calamp Corp.. (Kauth, Joel) (Entered: 07/20/2015)
07/20/2015	76	RESPONSE in Opposition re 54 MOTION for summary judgment as to Validity, Infringement, Enforceability, and Unfair Competition filed by Calamp Corp.. (Attachments: # 1 Appendix, # 2 Exhibit 1, # 3 Exhibit 2, # 4 Exhibit 3, # 5 Exhibit 4, # 6 Exhibit 5, # 7 Exhibit 6, # 8 Exhibit 7, # 9 Exhibit 8, # 10 Exhibit 9, # 11 Exhibit 10, # 12 Exhibit 11, # 13 Exhibit 12)(Kauth, Joel) (Entered: 07/21/2015)
07/21/2015	77	ORDER granting in part 64 Motion to strike 58 MOTION for summary judgment and 60 MOTION for summary judgment. Defendant shall have until Monday, July 27, 2015, in which to file a single compliant motion for summary judgment. Signed by Magistrate Judge David A. Baker on 7/21/2015. (LAK) (Entered: 07/21/2015)
07/27/2015	78	MOTION for summary judgment and memorandum of law regarding invalidity and noninfringement by Calamp Corp.. (Kauth, Joel) (Entered: 07/27/2015)
08/03/2015	79	REPLY to Response to Motion re 54 MOTION for summary judgment as to Validity, Infringement, Enforceability, and Unfair Competition filed by Omega Patents, LLC. (Santurri, Ryan) (Entered: 08/03/2015)
08/04/2015	80	SUMMARY JUDGMENT NOTICE re 78 MOTION for summary judgment and memorandum of law regarding invalidity and noninfringement. Unless the Court notifies the parties otherwise, there will not be a hearing on this motion. (NBL) copies e-mailed (Entered: 08/04/2015)
08/06/2015	81	RESPONSE in Opposition re 78 MOTION for summary judgment and memorandum of law regarding invalidity and noninfringement filed by Omega Patents, LLC. (Attachments: # 1 Exhibit 13)(Santurri, Ryan) (Entered: 08/06/2015)
08/06/2015	82	REQUEST for oral argument re 56 MOTION for miscellaneous relief, specifically Motion and Memorandum to Exclude the Testimony of Defendant's Expert on Damages, DeForest McDuff, Ph.D. , 54 MOTION for summary judgment as to Validity, Infringement, Enforceability, and Unfair Competition, 55 MOTION for miscellaneous relief, specifically Motion and Memorandum of Law to Exclude the Testimony of Defendant's Expert Eric Andrews by Omega Patents, LLC. (Santurri, Ryan) (Entered: 08/06/2015)
08/24/2015	83	

		REPLY in support of 78 MOTION for summary judgment and memorandum of law regarding invalidity and noninfringement filed by Calamp Corp.. (Kauth, Joel) Text modified on 8/25/2015 (RDO). (Entered: 08/24/2015)
08/27/2015	84	UNOPPOSED MOTION for miscellaneous relief, specifically For Lead Counsel To Attend Meeting to Prepare Joint Final Pretrial Statement by Video Conference by Calamp Corp.. (Kauth, Joel) Text modified on 8/28/2015 (RDO). (Entered: 08/27/2015)
08/28/2015	85	ENDORSED ORDER granting 84 Unopposed Motion for Lead Counsel to Attend Meeting to Prepare Joint Final Pretrial Statement by Video Conference. Signed by Judge Paul G. Byron on 8/28/2015. (MMW) (Entered: 08/28/2015)
09/08/2015	86	MOTION for Charles Halloran to appear pro hac vice by Calamp Corp.. (Wozniak, Carrie) Motions referred to Magistrate Judge David A. Baker. (Entered: 09/08/2015)
09/09/2015	87	ENDORSED ORDER granting 86 motion to appear pro hac vice. Signed by Magistrate Judge David A. Baker on 9/9/2015. (Baker, David) (Entered: 09/09/2015)
09/09/2015	88	***PRO HAC VICE FEES paid and Special Admission Attorney Certification Form filed by attorney Charles Halloran, appearing on behalf of Calamp Corp. (Filing fee $150 receipt number ORL-46938.) Related document: 86 MOTION for Charles Halloran to appear pro hac vice. (MAA) (MAA). (Entered: 09/09/2015)
09/17/2015	89	SUPPLEMENT re 54 MOTION for summary judgment as to Validity, Infringement, Enforceability, and Unfair Competition by Omega Patents, LLC. (Attachments: # 1 Exhibit Exhibit A)(Santurri, Ryan) (Entered: 09/17/2015)
09/22/2015	90	Joint PRETRIAL statement by Omega Patents, LLC and Calamp Corp. (Attachments: # 1 Exhibit A - Plaintiff's Exhibit List, # 2 Exhibit B - Defendant's Exhibit List, # 3 Exhibit C - Plaintiff's Witness List, # 4 Exhibit D - Defendant's Witness List, # 5 Exhibit E - Plaintiff's Deposition Designations, # 6 Exhibit F - Defendant's Deposition Designations, # 7 Exhibit G - Plaintiff's Proposed Voir Dire, # 8 Exhibit H - Defendant's Proposed Voir Dire, # 9 Exhibit I - Jury Instructions, # 10 Exhibit J - Plaintiff's Proposed Verdict Form, # 11 Exhibit K - Defendant's Proposed Verdict Form)(Santurri, Ryan) Modified on 9/23/2015 (SWT). (Entered: 09/22/2015)
09/23/2015	91	NOTICE OF CONTINUANCE OF TRIAL TERM and FINAL PRETRIAL CONFERENCE: Final Pretrial Conference is rescheduled for 11/17/2015 at 3:00 PM in Orlando Courtroom 4 B before Judge Paul G. Byron. Jury Trial set for the DECEMBER 2015 TRIAL TERM, term commencing 12/1/2015 in Orlando Courtroom 4 B before Judge Paul G. Byron. (NBL) copies e-mailed (Entered: 09/23/2015)
09/24/2015	92	NOTICE by Calamp Corp. of Conflict with Trial Docket (Wozniak, Carrie) (Entered: 09/24/2015)
09/29/2015	93	MOTION to Bifurcate Issues of Inequitable Conduct and Prosecution Laches by Omega Patents, LLC. (Santurri, Ryan) (Entered: 09/29/2015)
09/29/2015	94	MOTION in limine by Omega Patents, LLC. (Attachments: # 1 Exhibit A, # 2 Exhibit B, # 3 Exhibit C, # 4 Exhibit D, # 5 Exhibit E, # 6 Exhibit F) (Santurri, Ryan) (Entered: 09/29/2015)
09/29/2015	95	MOTION for miscellaneous relief, specifically That U.S. Patent Nos. 6,346,876 B1, 6,756,885 B1, 7,671,727 B2, and 8,032,278 B2 are not entitled to any priority date earlier than their actual filing dates by Calamp Corp.. (Attachments: # 1 Exhibit A, # 2 Exhibit B, # 3 Exhibit C, # 4 Exhibit D, # 5 Exhibit E, # 6 Exhibit F, # 7 Exhibit G, # 8 Exhibit H, # 9 Exhibit I, # 10 Exhibit J)(Kauth, Joel) (Entered: 09/29/2015)
09/29/2015	96	

		MOTION in limine by Calamp Corp.. (Attachments: # 1 Exhibit A, # 2 Exhibit B)(Kauth, Joel) (Entered: 09/29/2015)
10/13/2015	97	RESPONSE in Opposition re 95 MOTION for miscellaneous relief, specifically That U.S. Patent Nos. 6,346,876 B1, 6,756,885 B1, 7,671,727 B2, and 8,032,278 B2 are not entitled to any priority date earlier than their actual filing dates filed by Omega Patents, LLC. (Santurri, Ryan) (Entered: 10/13/2015)
10/13/2015	98	RESPONSE in Opposition re 96 MOTION in limine filed by Omega Patents, LLC. (Santurri, Ryan) (Entered: 10/13/2015)
10/13/2015	99	TRIAL BRIEF by Calamp Corp.. (Kauth, Joel) (Entered: 10/13/2015)
10/16/2015	100	RESPONSE in Opposition re 93 MOTION to Bifurcate Issues of Inequitable Conduct and Prosecution Laches filed by Calamp Corp.. (Attachments: # 1 Exhibit, # 2 Exhibit, # 3 Exhibit, # 4 Exhibit, # 5 Exhibit, # 6 Exhibit) (Kauth, Joel) (Entered: 10/16/2015)
10/16/2015	101	RESPONSE in Opposition re 94 MOTION in limine filed by Calamp Corp.. (Attachments: # 1 Exhibit, # 2 Exhibit, # 3 Exhibit, # 4 Exhibit, # 5 Exhibit, # 6 Exhibit, # 7 Exhibit)(Kauth, Joel) (Entered: 10/16/2015)
11/02/2015	102	NOTICE RESCHEDULING FINAL PRETRIAL CONFERENCE (TIME ONLY): Final Pretrial Conference is reset for 11/17/2015 at 1:30 PM in Orlando Courtroom 4 B before Judge Paul G. Byron, U.S. District Court, 401 West Central Blvd., Orlando, Florida. *(previously noticed for 3:00 pm) (NBL) copies e-mailed (Entered: 11/02/2015)
11/13/2015	103	ENDORSED ORDER re 102 Notice of Hearing. All counsel may appear by telephone for the final pretrial conference. This case will not be on the December trial term, therefore another final pretrial conference will be noticed for the month prior to the start of the new trial term. Signed by Judge Paul G. Byron on 11/13/2015. (MMW) (Entered: 11/13/2015)
11/16/2015	104	NOTICE TO COUNSEL REGARDING TELEPHONIC FINAL PRETRIAL CONFERENCE: Counsel shall appear by calling into the Toll Free Meeting Number: 1-888-363-4735, Access Code: 3126210 and Security Code: 111715. (NBL) copies e-mailed (Entered: 11/16/2015)
11/17/2015	105	Minute Entry. (PRETRIAL CONFERENCE) Proceedings held before Judge Paul G. Byron on 11/17/2015. Court Reporter: Koretta Stanford (NBL) (Entered: 11/17/2015)
11/17/2015	106	NOTICE of Daubert Hearing (Oral Argument) re 56 MOTION to Exclude the Testimony of Defendant's Expert on Damages, DeForest McDuff, Ph.D. Daubert Hearing is set for 12/8/2015 at 1:30 PM in Orlando Courtroom 4 B before Judge Paul G. Byron. The Court has set aside (30) minutes per side. (NBL) copies e-mailed (Entered: 11/17/2015)
11/17/2015	107	NOTICE OF DATE CERTAIN JURY TRIAL: Jury Trial shall commence on Tuesday, 2/16/2016 at 9:00 AM in Orlando Courtroom 4 B before Judge Paul G. Byron,U.S. District Court, 401 West Central Blvd., Orlando, Florida. Trial is estimated at (5)days. (NBL) copies e-mailed (Entered: 11/17/2015)
11/17/2015	108	NOTICE OF FINAL PRETRIAL CONFERENCE: Final Pretrial Conference is set for 1/20/2016 at 3:00 PM in Orlando Courtroom 4 B before Judge Paul G. Byron, U.S. District Court, 401 West Central Blvd., Orlando, Florida. (NBL) copies emailed (Entered: 11/17/2015)
11/17/2015	109	NOTICE Regarding Summary Judgment Exhibits by Omega Patents, LLC re 54 MOTION for summary judgment as to Validity, Infringement, Enforceability, and Unfair Competition (Attachments: # 1 Exhibit PX5) (Santurri, Ryan) Text modified on 11/18/2015 (RDO). (Entered: 11/17/2015)
11/19/2015	110	NOTICE RESCHEDULING DAUBERT HEARING: re 56 Motion and Memorandum to Exclude the Testimony of Defendant's Expert on

		Damages, DeForest McDuff, Ph.D. The Daubert Hearing is rescheduled for Friday, 12/11/2015 at 1:00 PM in Orlando Courtroom 4 B before Judge Paul G. Byron, U.S. District Court, 401 West Central Blvd., Orlando, Florida. The Court has set aside (30) minutes per side. (NBL) copies e-mailed (Entered: 11/19/2015)
11/19/2015	111	NOTICE TO COUNSEL: The Daubert Hearing scheduled for December 11, 2015 at 1:00 pm will be Oral Argument, (30) minutes per side. (NBL) copies e-mailed (Entered: 11/19/2015)
11/19/2015	112	NOTICE of Appearance as Additional Counsel Appearance by Thomas R. Yaegers on behalf of Calamp Corp. (Yaegers, Thomas) (Entered: 11/19/2015)
11/30/2015	113	NOTICE by Omega Patents, LLC Regarding Accused Products (Santurri, Ryan) (Entered: 11/30/2015)
11/30/2015	114	NOTICE by Calamp Corp. Regarding Accused Devices (Attachments: # 1 Exhibit 1, # 2 Exhibit 2)(Kauth, Joel) (Entered: 11/30/2015)
12/11/2015	115	Minute Entry (DAUBERT HEARING) Proceedings held before Judge Paul G. Byron re 56 MOTION to Exclude the Testimony of Defendant's Expert on Damages, DeForest McDuff, Ph.D. Court takes motion under advisement. Court Reporter: Koretta Stanford (NBL) (Entered: 12/11/2015)
12/22/2015	116	NOTICE RESCHEDULING FINAL PRETRIAL CONFERENCE (TIME ONLY): Final Pretrial Conference is reset for 1/20/2016 at 4:00 PM in Orlando Courtroom 4 B before Judge Paul G. Byron, U.S. District Court, 401 West Central Blvd., Orlando, Florida. *(previously noticed for 3:00 pm) (NBL) copies e-mailed (Entered: 12/22/2015)
12/23/2015	117	ORDER granting in part and denying in part 55 Plaintiff's Motion and Memorandum of Law to Exclude the Testimony of Defendant's Expert Eric Andrews; granting 56 Plaintiff's Motion and Memorandum of Law to Exclude the Testimony of Defendant's Expert on Damages. Signed by Judge Paul G. Byron on 12/23/2015. (RML) (Entered: 12/23/2015)
12/23/2015	118	ORDER granting in part and denying in part 54 Plaintiff's Motion and Memorandum for Summary Judgment as to Validity, Infringement, Enforceability and Unfair Competition; denying 78 Defendant CalAmp Corp.'s Motion for Summary Judgment and Memorandum of Law Regarding Invalidity and Noninfringement. Signed by Judge Paul G. Byron on 12/23/2015. (RML) (Entered: 12/23/2015)
01/05/2016	119	ORDER granting in part and denying in part 93 Plaintiff's Motion to Bifurcate Issues of Inequitable Conduct and Prosecution Laches. Signed by Judge Paul G. Byron on 1/5/2016. (RML) (Entered: 01/05/2016)
01/07/2016	120	ENDORSED ORDER directing the parties to file with the Court all full deposition transcripts which they intend to designate for use at trial. Transcripts must be filed by 5:00 P.M. on January 11, 2016. Signed by Judge Paul G. Byron on 1/7/2016. (MMW) (Entered: 01/07/2016)
01/13/2016	121	ORDER denying without prejudice as premature 95 Defendant CalAmp Corp.'s Motion That U.S. Patent Nos. '876, '885, '727, and '278 Are Not Entitled To Any Priority Date Earlier Than Their Actual Filing Dates. Signed by Judge Paul G. Byron on 1/13/2016. (RML) (Entered: 01/13/2016)
01/19/2016	122	ORDER granting in part and denying in part 94 Plaintiff Omega Patents, LLC's Motion in Limine. Signed by Judge Paul G. Byron on 1/19/2016. (RML) (Entered: 01/19/2016)
01/20/2016	123	Minute Entry (FINAL PRETRIAL CONFERENCE) Proceedings held before Judge Paul G. Byron on 1/20/2016. Court Reporter: Diane Peede (NBL) (Entered: 01/21/2016)
01/21/2016	124	FEBRIARY 2016 TRIAL CALENDAR for United States District Judge Paul G. Byron.(NBL) copies e-mailed (Entered: 01/21/2016)
01/22/2016	125	

		CIVIL PRETRIAL ORDER and ORDER denying 96 Defendant CalAmp Corp.'s Motion in Limine. Signed by Judge Paul G. Byron on 1/22/2016. (RML) (Entered: 01/22/2016)
02/01/2016	126	ORDER re: [90-5] [90-6] the parties' objections to deposition designations and counter-designations. Signed by Judge Paul G. Byron on 2/1/2016. (RML) (Entered: 02/01/2016)
02/12/2016	127	Exhibit List by Calamp Corp.. (Kauth, Joel) (Entered: 02/12/2016)
02/12/2016	128	Witness List by Calamp Corp.. (Kauth, Joel) (Entered: 02/12/2016)
02/15/2016	129	Exhibit List (Corrected) by Calamp Corp.. (Kauth, Joel) (Entered: 02/15/2016)
02/16/2016	130	Minute Entry (JURY TRIAL DAY 1) Proceedings held before Judge Paul G. Byron on 2/16/2016. Court Reporter: Koretta Stanford (NBL) (Entered: 02/17/2016)
02/17/2016	131	Minute Entry (JURY TRIAL DAY 2) Proceedings held before Judge Paul G. Byron on 2/17/2016. Court Reporter: Koretta Stanford (NBL) (Entered: 02/17/2016)
02/18/2016	132	Minute Entry (JURY TRIAL DAY 3) Proceedings held before Judge Paul G. Byron on 2/18/2016. Court Reporter: Koretta Stanford (NBL) (Entered: 02/18/2016)
02/19/2016	133	Minute Entry (JURY TRIAL DAY 4) Proceedings held before Judge Paul G. Byron on 2/19/2016. Court Reporter: Koretta Stanford (NBL) (Entered: 02/19/2016)
02/22/2016	134	Minute Entry (JURY TRIAL DAY 5) Proceedings held before Judge Paul G. Byron on 2/22/2016. Court Reporter: Koretta Stanford (NBL) (Entered: 02/23/2016)
02/22/2016	135	ORAL MOTION for judgment as a matter of law by Calamp Corp. (NBL) (Entered: 02/23/2016)
02/22/2016	136	ORAL ORDER denying for the reasons stated on the record 135 Defendant's Oral Motion for Judgment as a Matter of Law. Rendered in Open Court by Judge Paul G. Byron on 2/22/2016. (NBL) (Entered: 02/23/2016)
02/23/2016	137	Minute Entry (JURY TRIAL DAY 6) Proceedings held before Judge Paul G. Byron on 2/23/2016. Court Reporter: Koretta Stanford (NBL) (Entered: 02/23/2016)
02/23/2016	138	ORAL MOTION for judgment as a matter of law on the issues of Obviousness, Written Description and Infringement by Omega Patents, LLC. (NBL) (Entered: 02/23/2016)
02/23/2016	139	ORAL ORDER re: 138 Plaintiff's Oral Motion for Judgment as a Matter of Law. For the reasons stated on the record, the Court WITHHOLDS as to the issue of Obviousness, GRANTS as to Written Description and DENIES as to Infringement. Rendered in Open Court by Judge Paul G. Byron on 2/23/2016. (NBL) Modified on 2/23/2016 (NBL). (Entered: 02/23/2016)
02/23/2016	140	ORAL MOTION for judgment as a matter of law as to the issues of Obviousness, Willful Infringement and Notice Date by Calamp Corp. (NBL) (Entered: 02/23/2016)
02/23/2016	141	ORAL ORDER denying for the reasons stated on the record 140 Defendant's Oral Motion for Judgment as a Matter of Law as to Obviousness, Willful Infringement and Notice Date. Rendered in Open Court by Judge Paul G. Byron on 2/23/2016. (NBL) (Entered: 02/23/2016)
02/24/2016	142	Minute Entry(JURY TRIAL DAY 7) Proceedings held before Judge Paul G. Byron on 2/24/2016. Jury Verdict for the Plaintiff. Court Reporter: Koretta Stanford (NBL) (Entered: 02/24/2016)
02/24/2016	143	COURT'S INSTRUCTIONS to the Jury (NBL) (Entered: 02/24/2016)

02/24/2016	144	JURY VERDICT in favor of the Plaintiff.(NBL) (Entered: 02/24/2016)
02/25/2016	145	PLAINTIFF and JOINT Exhibit List (Trial) by Omega Patents, LLC. (NBL) (Entered: 02/25/2016)
02/25/2016	146	DEFENDANT Exhibit List (Trial) by CalAmp Corp.(NBL) (Entered: 02/25/2016)
02/25/2016	147	COURT'S EXHIBIT LIST (Trial)(NBL) (Entered: 02/25/2016)
03/09/2016	148	MOTION and Memorandum for Entry of Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction judgment by Omega Patents, LLC. (Gilchrist, Brian) Text modified on 3/10/2016 (RDO). (Entered: 03/09/2016)
03/09/2016	149	PROPOSED BILL OF COSTS by Omega Patents, LLC. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5) (Gilchrist, Brian) (Entered: 03/09/2016)
03/14/2016	150	UNOPPOSED MOTION for Leave to File a Motion in Excess of Twenty-Five Pages by Calamp Corp.. (Kauth, Joel) Text modified on 3/15/2016 (RDO). (Entered: 03/14/2016)
03/15/2016	151	ENDORSED ORDER granting in part 150 Motion for Leave to File Excess Pages. Defendant may file a post-trial motion with a page limit of 35 pages and Plaintiff may file a response with a page limit of 30 pages. Signed by Judge Paul G. Byron on 3/15/2016. (MMW) (Entered: 03/15/2016)
03/16/2016	152	MOTION and Memorandum for miscellaneous relief, specifically to Award Prejudgment Interest by Omega Patents, LLC. (Attachments: # 1 Exhibit A)(Gilchrist, Brian) Text modified on 3/17/2016 (RDO). (Entered: 03/16/2016)
03/18/2016	153	ENDORSED ORDER denying without prejudice for failure to comply with Local Rule 3.01(g) 152 Motion to Award Prejudgment Interest. Signed by Judge Paul G. Byron on 3/18/2016. (MMW) (Entered: 03/18/2016)
03/18/2016	154	MOTION for miscellaneous relief, specifically Renewed Motion to Award Prejudgment Interest by Omega Patents, LLC. (Attachments: # 1 Exhibit A)(Gilchrist, Brian) (Entered: 03/18/2016)
03/22/2016	155	MOTION for Extension of Time to File and Enlargement of the Page Limitation for its Response to 148 MOTION for Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction judgment by Calamp Corp.. (Kauth, Joel) Motions referred to Magistrate Judge David A. Baker. Text modified on 3/23/2016 (RDO). (Entered: 03/22/2016)
03/24/2016	156	MOTION for Charles R. Halloran to withdraw as attorney by Calamp Corp.. (Halloran, Charles) Motions referred to Magistrate Judge David A. Baker. (Entered: 03/24/2016)
03/24/2016	157	MOTION for Eugene K. Chong to withdraw as attorney by Calamp Corp.. (Chong, Eugene) Motions referred to Magistrate Judge David A. Baker. (Entered: 03/24/2016)
03/25/2016	158	ENDORSED ORDER granting 156 Motion to Withdraw as Attorney Attorney Eugene Chong and Charles R. Halloran terminated; granting 157 Motion to Withdraw as Attorney. Signed by Magistrate Judge David A. Baker on 3/25/2016. (Baker, David) (Entered: 03/25/2016)
03/25/2016	159	RESPONSE in Opposition re 155 MOTION for Extension of Time to File Response/Reply as to 148 MOTION for Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction judgment filed by Omega Patents, LLC. (Gilchrist, Brian) (Entered: 03/25/2016)
03/28/2016	160	

		MOTION for Stephanie P. Koh to appear pro hac vice by Calamp Corp.. (Wozniak, Carrie) Motions referred to Magistrate Judge David A. Baker. (Entered: 03/28/2016)
03/28/2016	161	MOTION for Thomas D. Rein to appear pro hac vice by Calamp Corp.. (Wozniak, Carrie) Motions referred to Magistrate Judge David A. Baker. (Entered: 03/28/2016)
03/28/2016	162	MOTION for Constantine L. Trela, Jr. to appear pro hac vice by Calamp Corp.. (Wozniak, Carrie) Motions referred to Magistrate Judge David A. Baker. (Entered: 03/28/2016)
03/28/2016		***PRO HAC VICE FEES paid and Special Admission Attorney Certification Form filed by attorney Constantine L. Trela, appearing on behalf of Calamp Corp. (Filing fee $150 receipt number ORL052203.) Related document: 162 MOTION for Constantine L. Trela, Jr. to appear pro hac vice. (RDO) (Entered: 03/28/2016)
03/28/2016		***PRO HAC VICE FEES paid and Special Admission Attorney Certification Form filed by attorney Thomas D. Rein, appearing on behalf of Calamp Corp. (Filing fee $150 receipt number ORL052202.) Related document: 161 MOTION for Thomas D. Rein to appear pro hac vice. (RDO) (Entered: 03/28/2016)
03/28/2016		***PRO HAC VICE FEES paid and Special Admission Attorney Certification Form filed by attorney Stephanie P. Koh, appearing on behalf of Calamp Corp. (Filing fee $150 receipt number ORL052205.) Related document: 160 MOTION for Stephanie P. Koh to appear pro hac vice. (RDO) (Entered: 03/28/2016)
03/28/2016	163	ENDORSED ORDER granting in part and denying in part 155 Defendant Calamp Corp.'s Motion for Extension of Time to File and Enlargement of the Page Limitation for its Response to Plaintiff's Motion for Entry of Judgment. Calamp shall file its response to Plaintiff's Motion and Memorandum for Entry of Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction on or before April 11, 2016. The response shall not exceed thirty (30) pages in length. Signed by Judge Paul G. Byron on 3/28/2016. (RML) (Entered: 03/28/2016)
03/29/2016		Set/reset deadlines as to 148 MOTION for Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction judgment . Responses due by 4/11/2016 (RDO) (Entered: 03/29/2016)
03/30/2016	164	ENDORSED ORDER granting 160 motion to appear pro hac vice; granting 161 motion to appear pro hac vice; granting 162 motion to appear pro hac vice. Provided, all counsel shall register for and use the electronic filing system as adopted by the Court. After this Order, the Clerk will no longer send copies of docket entries by U.S. Mail to counsel in this case. Appearance and participation by more than one attorney at any hearing or trial is subject to the discretion of the presiding judge. Signed by Magistrate Judge David A. Baker on 3/30/2016. (Baker, David) (Entered: 03/30/2016)
03/31/2016	165	MOTION for Bryan C. Mulder to appear pro hac vice by Calamp Corp.. (Wozniak, Carrie) Motions referred to Magistrate Judge David A. Baker. (Entered: 03/31/2016)
03/31/2016		***PRO HAC VICE FEES paid and Special Admission Attorney Certification Form filed by attorney Bryan C. Mulder, appearing on behalf of Calamp Corp. (Filing fee $150 receipt number ORL052334.) Related document: 165 MOTION for Bryan C. Mulder to appear pro hac vice. (RDO) (Entered: 03/31/2016)
04/04/2016	166	RESPONSE in Opposition re 154 MOTION for miscellaneous relief, specifically Renewed Motion to Award Prejudgment Interest filed by Calamp Corp.. (Kauth, Joel) (Entered: 04/04/2016)

04/05/2016	167	ENDORSED ORDER granting 165 motion to appear pro hac vice. Provided, all counsel shall register for and use the electronic filing system as adopted by the Court. After this Order, the Clerk will no longer send copies of docket entries by U.S. Mail to counsel in this case. Appearance and participation by more than one attorney at any hearing or trial is subject to the discretion of the presiding judge. Signed by Magistrate Judge David A. Baker on 4/5/2016. (Baker, David) (Entered: 04/05/2016)
04/08/2016	168	MOTION to Review 149 Bill of Costs (filed as Response in Opposition/Objection) filed by Calamp Corp. (Kauth, Joel) Modified on 4/25/2016 (LMM). Motions referred to Magistrate Judge David A. Baker. (Entered: 04/08/2016)
04/11/2016	169	RESPONSE in Opposition re 148 MOTION for Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction judgment filed by Calamp Corp.. (Kauth, Joel) (Entered: 04/11/2016)
04/11/2016	170	APPENDIX re 169 Response in Opposition to Motion by Calamp Corp.. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3, # 4 Exhibit 4, # 5 Exhibit 5, # 6 Exhibit 6, # 7 Exhibit 7, # 8 Exhibit 8, # 9 Exhibit 9, # 10 Exhibit 10, # 11 Exhibit 11, # 12 Exhibit 12, # 13 Exhibit 13, # 14 Exhibit 14, # 15 Exhibit 15, # 16 Exhibit 16, # 17 Exhibit 17, # 18 Exhibit 18, # 19 Exhibit 19, # 20 Exhibit 20, # 21 Exhibit 21, # 22 Exhibit 22, # 23 Exhibit 23, # 24 Exhibit 24)(Kauth, Joel) (Entered: 04/11/2016)
04/11/2016	171	MOTION for miscellaneous relief, specifically Request for Hearing re 148 Motion for Entry of Final Judgment by Calamp Corp.. (Kauth, Joel) Modified on 4/12/2016 (RDO). (Entered: 04/11/2016)
04/14/2016	172	ENDORSED ORDER granting 171 Defendant's Motion for Hearing Regarding Plaintiff's Motion for Entry of Final Judgment, Including Entitlement to Attorney's Fees, Enhanced Damages, and Entry of a Permanent Injunction. A separate Notice of Hearing will follow. Signed by Judge Paul G. Byron on 4/14/2016. (RML) (Entered: 04/14/2016)
04/14/2016	173	NOTICE OF MOTION HEARING: re 148 MOTION for Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction judgment. Motion Hearing is set for Tuesday, 4/26/2016 at 2:00 PM in Orlando Courtroom 4 B before Judge Paul G. Byron, U.S. District Court, 401 West Central Blvd., Orlando, Florida. The Court has set aside (3) hours for this hearing. (NBL) copies e-mailed (Entered: 04/14/2016)
04/18/2016	174	Unopposed MOTION for miscellaneous relief, specifically Reschedule Hearing (Currently Scheduled for April 26, 2016) by Omega Patents, LLC. (Santurri, Ryan) (Entered: 04/18/2016)
04/19/2016	175	ENDORSED ORDER granting 174 Plaintiff's Unopposed Motion to Reschedule Hearing. A separate Notice of Hearing will follow. Signed by Judge Paul G. Byron on 4/19/2016. (RML) (Entered: 04/19/2016)
04/19/2016	176	NOTICE RESCHEDULING MOTION HEARING re 148 MOTION for Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction judgment. Motion Hearing is rescheduled for 5/2/2016 at 1:30 PM in Orlando Courtroom 4 B before Judge Paul G. Byron, U.S. District Court, 401 West Central Blvd., Orlando, Florida. The Court has set aside (3) hours for this hearing. *(previously set for 4/26/16)(NBL) copies e-mailed (Entered: 04/19/2016)
04/22/2016	177	RESPONSE in opposition to 168 Motion to Review Bill of Costs filed by Omega Patents, LLC. (Attachments: # 1 Exhibit A, # 2 Exhibit B)(Santurri, Ryan) Modified on 4/25/2016 (LMM). Modified on 4/25/2016 (LMM). (Entered: 04/22/2016)
04/25/2016	178	TRANSCRIPT of Civil Jury Trial - Day 1 held on 2/16/16 before Judge Paul G. Byron. Court Reporter/Transcriber Koretta Stanford, Telephone number 407-872-1715 or skoretta@bellsouth.net. Transcript may be viewed at the

court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER or purchased through the Court Reporter. Redaction Request due 5/16/2016, Redacted Transcript Deadline set for 5/26/2016, Release of Transcript Restriction set for 7/25/2016. (KS) (Entered: 04/25/2016)

04/25/2016 179 TRANSCRIPT of Civil Jury Trial - Day 2 held on 02/17/16 before Judge Paul G. Byron. Court Reporter/Transcriber Koretta Stanford, Telephone number 407-872-1715. Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER or purchased through the Court Reporter. Redaction Request due 5/16/2016, Redacted Transcript Deadline set for 5/26/2016, Release of Transcript Restriction set for 7/25/2016. (KS) (Entered: 04/25/2016)

04/25/2016 180 TRANSCRIPT of Civil Jury Trial - Day 3 held on 02/18/16 before Judge Paul G. Byron. Court Reporter/Transcriber Koretta Stanford,Telephone number 407-872-1715. Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER or purchased through the Court Reporter. Redaction Request due 5/16/2016, Redacted Transcript Deadline set for 5/26/2016, Release of Transcript Restriction set for 7/25/2016. (KS) (Entered: 04/25/2016)

04/25/2016 181 TRANSCRIPT of Civil Jury Trial - Day 4 held on 2/19/16 before Judge Paul G. Byron. Court Reporter/Transcriber Koretta Stanford,Telephone number 407-872-1715. Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER or purchased through the Court Reporter. Redaction Request due 5/16/2016, Redacted Transcript Deadline set for 5/26/2016, Release of Transcript Restriction set for 7/25/2016. (KS) (Entered: 04/25/2016)

04/25/2016 182 TRANSCRIPT of Civil Jury Trial - Day 5 held on 2/22/16 before Judge Paul G. Byron. Court Reporter/Transcriber Koretta Stanford, Telephone number 407-872-1715. Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER or purchased through the Court Reporter. Redaction Request due 5/16/2016, Redacted Transcript Deadline set for 5/26/2016, Release of Transcript Restriction set for 7/25/2016. (KS) (Entered: 04/25/2016)

04/25/2016 183 TRANSCRIPT of Civil Jury Trial - Day 6 held on 2/23/16 before Judge Paul G. Byron. Court Reporter/Transcriber Koretta Stanford,Telephone number 407-872-1715. Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER or purchased through the Court Reporter. Redaction Request due 5/16/2016, Redacted Transcript Deadline set for 5/26/2016, Release of Transcript Restriction set for 7/25/2016. (KS) (Entered: 04/25/2016)

04/25/2016 184 TRANSCRIPT of Civil Jury Trial - Day 7 held on 2/24/16 before Judge Paul G. Byron. Court Reporter/Transcriber Koretta Stanford,Telephone number 407-872-1715. Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER or purchased through the Court Reporter. Redaction Request due 5/16/2016, Redacted Transcript Deadline set for 5/26/2016,

Release of Transcript Restriction set for 7/25/2016. (KS) (Entered: 04/25/2016)

04/25/2016 185 NOTICE to counsel of filing of OFFICIAL TRANSCRIPT, Doc 178 through 184. The parties have seven (7) calendar days to file with the court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript may be made remotely electronically available to the public without redaction after 90 calendar days. Any party needing a copy of the transcript to review for redaction purposes may purchase a copy from the court reporter or view the document at the clerk's office public terminal. Court Reporter: Koretta Stanford. (KS) (Entered: 04/25/2016)

04/26/2016 186 ORDER denying without prejudice 168 Motion to review bill of costs. Signed by Magistrate Judge David A. Baker on 4/26/2016. (SWT) (Entered: 04/26/2016)

04/28/2016 187 NOTICE by Omega Patents, LLC of Filing Declarations (Attachments: # 1 Exhibit Declaration of Robert Leale II, # 2 Exhibit Declaration of Thomas Malone)(Santurri, Ryan) (Entered: 04/28/2016)

04/29/2016 188 NOTICE by Calamp Corp. re 187 Notice (Other) of Filing Responsive Declarations (Attachments: # 1 Exhibit Declaration of Wade Files, # 2 Exhibit Declaration of Wade Huber)(Kauth, Joel) (Entered: 04/29/2016)

05/02/2016 189 Minute Entry (MOTION HEARING) Proceedings held before Judge Paul G. Byron on 5/2/2016 re 148 MOTION for Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction judgment filed by Omega Patents, LLC. Written Order to issue.Court Reporter: Koretta Stanford (NBL) (Entered: 05/03/2016)

05/12/2016 190 TRANSCRIPT of the final pretrial conference held on 1/20/16 before Judge Paul G. Byron. Court Reporter/Transcriber Diane Peede, FlaDiane@att.net, telephone number 407-615-0305. Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER or purchased through the Court Reporter.. Redaction Request due 6/2/2016, Redacted Transcript Deadline set for 6/13/2016, Release of Transcript Restriction set for 8/10/2016. (DP) (Entered: 05/12/2016)

05/12/2016 191 NOTICE to counsel of filing of OFFICIAL TRANSCRIPT (Doc. No. 190). The parties have seven (7) calendar days to file with the court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript may be made remotely electronically available to the public without redaction after 90 calendar days. Any party needing a copy of the transcript to review for redaction purposes may purchase a copy from the court reporter or view the document at the clerk's office public terminal. Court Reporter: Diane Peede. (DP) (Entered: 05/12/2016)

05/17/2016 192 NOTICE of supplemental authority re 169 Response in Opposition to 148 Motion for entry of Judgment by Calamp Corp.. (Attachments: # 1 Exhibit 1)(Kauth, Joel) Modified on 5/18/2016 (RDO). (Entered: 05/17/2016)

06/06/2016 193 NOTICE of Grant of Reexamination of '885 Patent re 169 Response in Opposition to Motion by Calamp Corp.. (Attachments: # 1 Exhibit 1) (Kauth, Joel) Text modified on 6/7/2016 (RDO). (Entered: 06/06/2016)

06/13/2016 194 NOTICE of supplemental authority re 148 MOTION for Final Judgment, Including Entitlement to Attorneys' Fees, Enhanced Damages, and Entry of a Permanent Injunction judgment by Omega Patents, LLC. (Attachments: # 1 Exhibit A)(Gilchrist, Brian) (Entered: 06/13/2016)

06/14/2016 195 RESPONSE re 194 Notice of filing supplemental authority by Calamp Corp.. (Wozniak, Carrie) (Entered: 06/14/2016)

06/22/2016 196 TRANSCRIPT of Motion Hearing held on 05/02/16 before Judge Paul G. Byron. Court Reporter/Transcriber Koretta Stanford, Telephone number

		407-872-1715 or skoretta@bellsouth.net. Transcript may be viewed at the court public terminal or purchased through the Court Reporter/Transcriber before the deadline for Release of Transcript Restriction. After that date it may be obtained through PACER or purchased through the Court Reporter. Redaction Request due 7/13/2016, Redacted Transcript Deadline set for 7/25/2016, Release of Transcript Restriction set for 9/20/2016. (KS) (Entered: 06/22/2016)	
06/22/2016	197	NOTICE to counsel of filing of OFFICIAL TRANSCRIPT, Doc. 196. The parties have seven (7) calendar days to file with the court a Notice of Intent to Request Redaction of this transcript. If no such Notice is filed, the transcript may be made remotely electronically available to the public without redaction after 90 calendar days. Any party needing a copy of the transcript to review for redaction purposes may purchase a copy from the court reporter or view the document at the clerk's office public terminal. Court Reporter: Koretta Stanford. (KS) (Entered: 06/22/2016)	
07/19/2016	198	RESPONSE re 192 Notice of filing supplemental authority filed by Omega Patents, LLC. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2, # 3 Exhibit 3) (Gilchrist, Brian) (Entered: 07/19/2016)	
07/22/2016	199	REPLY to 198 Response filed by Calamp Corp.. (Attachments: # 1 Exhibit 1, Beckert, # 2 Exhibit 2, Suman, # 3 Exhibit 3, J1850, # 4 Exhibit 4, J2178, # 5 Exhibit 5, 876 Claim Chart)(Mulder, Bryan) Text modified on 7/25/2016 (RDO). (Entered: 07/22/2016)	
08/30/2016	200	NOTICE of supplemental authority re 169 Response in Opposition to Motion by Calamp Corp.. (Wozniak, Carrie) (Entered: 08/30/2016)	
08/30/2016	201	NOTICE of supplemental authority re 169 Response in Opposition to Motion by Calamp Corp.. (Attachments: # 1 Exhibit 1)(Wozniak, Carrie) (Entered: 08/30/2016)	
09/19/2016	202	NOTICE of supplemental authority re 169 Response in Opposition to Motion for Entry of Final Judgment by Calamp Corp.. (Attachments: # 1 Exhibit 1)(Wozniak, Carrie) (Entered: 09/19/2016)	
10/03/2016	203	Case Reassigned to Magistrate Judge Daniel C. Irick. New case number: 6:13-cv-1950-ORL-40-DCI. Magistrate Judge David A. Baker no longer assigned to the case. (EJS) (Entered: 10/03/2016)	
10/21/2016	204	ENDORSED ORDER: The Court has taken the various notices of supplemental authority and related declarations and exhibits under advisement and is currently drafting its opinion. Prior to submitting any additional material relating to the post trial motions, the proponent SHALL seek leave of Court. Signed by Judge Paul G. Byron on 10/21/2016. (MMW) (Entered: 10/21/2016)	Events since last full update

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*** THIS DATA IS FOR INFORMATIONAL PURPOSES ONLY ***

Citing References (28)

Treatment	Title	Date	Type	Depth	Headnote(s)
Examined by	**1. Plaintiff's Reply in Support of Its Motion for Summary Judgment as to Validity, Infringement, Enforceability, and Unfair Competition** Out Of Plan OMEGA PATENTS, LLC, a Georgia limited liability company, Plaintiff, v. CALAMP CORP., a Delaware corporation, Defendant. 2015 WL 10478030, *1+ , M.D.Fla. (Trial Motion, Memorandum and Affidavit)	Aug. 03, 2015	Motion		—
Examined by	**2. Plaintiff's Motion and Memorandum for Summary Judgment As to Validity, Infringement, Enforceability and Unfair Competition** Out Of Plan OMEGA PATENTS, LLC, a Georgia limited liability company, Plaintiff, v. CALAMP CORP., a Delaware corporation, Defendant. 2015 WL 7687819, *1+ , M.D.Fla. (Trial Motion, Memorandum and Affidavit)	July 01, 2015	Motion		—
Examined by	**3. Defendant CalAmp Corp.'s Opening Claim Construction Brief** Out Of Plan OMEGA PATENTS, LLC, a Georgia Limited Liability Company, Plaintiff, v. CALAMP CORP., a Delaware Corporation, Defendant. 2014 WL 7691270, *1+ , M.D.Fla. (Trial Motion, Memorandum and Affidavit)	Sep. 05, 2014	Motion		—
Discussed by	**4. Calamp Corp.'s First Amended Counterclaim** Out Of Plan OMEGA PATENTS, LLC, a Georgia limited liability company, Plaintiff/Counterdefendant, v. CALAMP CORP., a Delaware corporation, Defendant/Counterplainti... 2014 WL 11209166, *1+ , M.D.Fla. (Trial Pleading)	Feb. 24, 2014	Petition		—
Discussed by	**5. Defendant Calamp Corp.'s Motion for Summary Judgment of Noninfringement** Out Of Plan OMEGA PATENTS, LLC, a Georgia limited liability company, Plaintiff, v. CALAMP CORP., a Delaware corporation, Defendant. 2015 WL 10477983, *1+ , M.D.Fla. (Trial Motion, Memorandum and Affidavit)	July 01, 2015	Motion		—
Discussed by	**6. Verdict Form** Out Of Plan OMEGA PATENTS, LLC, Plaintiff, v. CALAMP CORP., Defendant. 2016 WL 1287121, *1+ , M.D.Fla. (Verdict, Agreement and Settlement)	Feb. 24, 2016	Jury Verdict		—
Cited by	**7. Defendant Calamp Corp.'s Answer to Plaintiff's Complaint, Counterclaim, and Jury Demand** Out Of Plan OMEGA PATENTS, LLC, a Georgia limited liability company, Plaintiff, v. CALAMP CORP., a Delaware corporation, Defendant. 2014 WL 11621847, *1+ , M.D.Fla. (Trial Pleading)	Jan. 15, 2014	Petition		—

Treatment	Title	Date	Type	Depth	Headnote(s)
Cited by	**8.** Defendant Calamp Corp.'s Motion for Summary Judgment of Invalidity Out Of Plan OMEGA PATENTS, LLC, a Georgia limited liability company, Plaintiff, v. CALAMP CORP., a Delaware corporation, Defendant. 2015 WL 10478022, *1 , M.D.Fla. (Trial Motion, Memorandum and Affidavit)	July 01, 2015	Motion		—
Cited by	**9.** Joint Pretrial Statement Out Of Plan OMEGA PATENTS, LLC, a Georgia limited liability company, Plaintiff, v. CALAMP CORP., a Delaware corporation, Defendant. 2015 WL 10477832, *1+ , M.D.Fla. (Trial Filing)	Sep. 22, 2015	Filing		—
Mentioned by	**10.** Multi-vehicle compatible control system generating command signals on a data bus and associated methods LitAlert P2013-52-29	Dec. 20, 2013	Lit Alert		—
Mentioned by	**11.** Omega Patents, Llc's Motion and Memorandum to Dismiss Counterclaims Out Of Plan OMEGA PATENTS, LLC, a Georgia limited liability company, Plaintiff, v. CALAMP CORP., a Delaware corporation, Defendant. 2014 WL 11209189, *1 , M.D.Fla. (Trial Motion, Memorandum and Affidavit)	Feb. 05, 2014	Motion		—
Mentioned by	**12.** Omega Patents, LLC's Motion and Memorandum to Dismiss Counterclaims Out Of Plan OMEGA PATENTS, LLC, a Georgia limited liability company, Plaintiff, v. CALAMP CORP., a Delaware corporation, Defendant. 2014 WL 11621911, *1 , M.D.Fla. (Trial Motion, Memorandum and Affidavit)	Feb. 05, 2014	Motion		—
—	**13.** MULTI VEHICLE COMPATIBLE TRACKING UNIT FOR VEHICLES HAS DOWNLOADING INTERFACE, WHICH ENABLES DOWNLOADING OF ENABLING DATA RELATED TO AT LEAST ONE CORRESPONDING VEHICLE DEVICE CODE TO BE USED BY MULTI-VEHICLE COMPATIBLE CONTROLLER Out Of Plan DWPI 2008-A15683	May 17, 2000	DWPI	—	—
—	**14.** RF 019515/0350 Out Of Plan	July 03, 2007	Assignments	—	—
—	**15.** PatStat 8032278	Nov. 10, 2015	Patent Status Files	—	—
—	**16.** OMEGA PATENTS, LLC v. CALAMP CORP	Dec. 20, 2013	Docket Summaries	—	—
—	**17.** OMEGA PATENTS, LLC v. ENFORA, INC	Feb. 28, 2013	Docket Summaries	—	—

Treatment	Title	Date	Type	Depth	Headnote(s)
—	**18.** SYSTEMS AND METHODS FOR COLLECTING INFORMATION FROM VEHICLE DEVICES VIA A VEHICLE DATA BUS Out Of Plan US PAT 9171460 , U.S. PTO Utility Systems and methods in accordance with embodiments of the invention continuously collecting information via a vehicle data bus, store the information in a database, and retrieve...	Oct. 27, 2015	Patents	—	—
—	**19.** SYSTEM INCLUDING VEHICLE LOCATION ALERT BASED COMMUNICATION WITH A VEHICLE AUDIO ENTERTAINMENT SYSTEM AND RELATED METHODS Out Of Plan US PAT 9159233+ , U.S. PTO Utility A system for a vehicle having a data communications bus extending throughout the vehicle, and an audio entertainment system coupled to the data communications bus may include a...	Oct. 13, 2015	Patents	—	—
—	**20.** VEHICLE WITH AT LEAST ONE ENVIRONMENT DETECTION SYSTEM Out Of Plan US PAT 9111452 , U.S. PTO Utility A vehicle is equipped with at least one environment detection system, a communication system which transmits information by remote transmission to receivers external to the...	Aug. 18, 2015	Patents	—	—
—	**21.** COMMUNICATION DEVICE AND CAR FINDER SYSTEM Out Of Plan US PAT 9037081 , U.S. PTO Utility A car finder system has a portable terminal that receives a preset operation performed thereon for wirelessly transmitting a preset car finder instruction. A communication device...	May 19, 2015	Patents	—	—
—	**22.** SYSTEM INCLUDING VEHICLE SPEED ALERT BASED COMMUNICATION WITH A VEHICLE AUDIO ENTERTAINMENT SYSTEM AND RELATED METHODS Out Of Plan US PAT 9031546+ , U.S. PTO Utility A system for a vehicle having a data communications bus extending throughout the vehicle, and an audio entertainment system coupled to the data communications bus may include a...	May 12, 2015	Patents	—	—
—	**23.** SYSTEMS AND METHODS FOR COLLECTING INFORMATION FROM VEHICLE DEVICES VIA A VEHICLE DATA BUS Out Of Plan US PAT 8812173 , U.S. PTO Utility Systems and methods in accordance with embodiments of the invention continuously collect information from vehicle devices via a vehicle data bus, store information in a database,...	Aug. 19, 2014	Patents	—	—

Treatment	Title	Date	Type	Depth	Headnote(s)
---	**24.** REMOTE FUNCTION CONTROL SYSTEM FOR A VEHICLE HAVING A DATA COMMUNICATIONS BUS AND RELATED METHODS Out Of Plan US PAT APP 20150291109 , U.S. PTO Application A remote function control system is for a vehicle including a data communications bus extending throughout the vehicle and coupled to a plurality of vehicle devices, and a wired...	Oct. 15, 2015	Patents	---	---
---	**25.** REMOTE FUNCTION CONTROL SYSTEM FOR A VEHICLE HAVING A DATA COMMUNICATIONS BUS AND RELATED METHODS Out Of Plan US PAT APP 20150246658 , U.S. PTO Application A remote function control system is for a vehicle including a data communications bus extending throughout the vehicle and coupled to a plurality of vehicle devices, and a wired...	Sep. 03, 2015	Patents	---	---
---	**26.** SYSTEM INCLUDING VEHICLE LOCATION ALERT BASED COMMUNICATION WITH A VEHICLE AUDIO ENTERTAINMENT SYSTEM AND RELATED METHODS Out Of Plan US PAT APP 20140266811 , U.S. PTO Application A system for a vehicle having a data communications bus extending throughout the vehicle, and an audio entertainment system coupled to the data communications bus may include a...	Sep. 18, 2014	Patents	---	---
---	**27.** SYSTEM INCLUDING VEHICLE SPEED ALERT BASED COMMUNICATION WITH A VEHICLE AUDIO ENTERTAINMENT SYSTEM AND RELATED METHODS Out Of Plan US PAT APP 20140274012 , U.S. PTO Application A system for a vehicle having a data communications bus extending throughout the vehicle, and an audio entertainment system coupled to the data communications bus may include a...	Sep. 18, 2014	Patents	---	---
---	**28.** REMOTE FUNCTION CONTROL SYSTEM FOR A VEHICLE HAVING A DATA COMMUNICATIONS BUS AND RELATED METHODS Out Of Plan US PAT APP 20140277838 , U.S. PTO Application A remote function control system for a vehicle including a data communications bus extending throughout the vehicle and coupled to vehicle devices may include a wireless data bus...	Sep. 18, 2014	Patents	---	---

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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/013,851	10/28/2016	8032278	C13-03896.RE2	8717

7590 11/14/2016

CHRISTOPHER F. REGAN, ESQUIRE
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST, P.A.
P. O. BOX 3791
ORLANDO, FL 32802-3791

EXAMINER
REICHLE, KARIN M

ART UNIT	PAPER NUMBER
3992	

MAIL DATE	DELIVERY MODE
11/14/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/013,851*.

PATENT NO. *8032278*.

ART UNIT *3992*.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Ex Parte Reexamination Interview Summary – Pilot Program for Waiver of Patent Owner's Statement	Control No. 90/013,851	Patent Under Reexamination is Requested 8032278
	Examiner KARIN REICHLE	Art Unit 3992

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

All participants (USPTO official and patent owner):

(1) PATRICIA VOLPE, OCRU (3)

(2) JACK ABID, 58237 (4)

Date of Telephonic Interview:11/07/2016.

A. The USPTO official requested waiver of the patent owner's statement pursuant to the pilot program for waiver of patent owner's statement in *ex parte* reexamination proceedings.*

☐ The patent owner **agreed** to waive its right to file a patent owner's statement under 35 U.S.C. 304 in the event reexamination is ordered for the above-identified patent.

☒ The patent owner **did not agree** to waive its right to file a patent owner's statement under 35 U.S.C. 304 at this time.

☐ USPTO personnel were unable to reach the patent owner.**

B. The Patent Owner of record telephoned the Office and indicated they would like to participate in the pilot program for waiver of patent owner's statement in *ex parte* reexamination proceedings.*

☐ The Patent owner of record telephoned the Office and **agreed** to waive its right to file a patent owner's statement under 35 U.S.C. 304 in the event reexamination is ordered for the above-identified patent.

The patent owner is not required to file a written statement of this telephone communication under 37 CFR 1.560(b) or otherwise. However, any disagreement as to this interview summary must be brought to the immediate attention of the USPTO, and no later than one month from the mailing date of this interview summary. Extensions of time are governed by 37 CFR 1.550(c).

*For more information regarding this pilot program, see *Pilot Program for Waiver of Patent Owner's Statement in Ex Parte Reexamination Proceedings*, 75 *Fed. Reg.* 47269 (August 5, 2010), available on the USPTO Web site at http://www.uspto.gov/patents/law/notices/2010.jsp.

**The patent owner may contact the USPTO personnel at (571) 272-7705 or at the telephone number provided below if the patent owner decides to waive the right to file a patent owner's statement under 35 U.S.C. 304.

/PATRICIA VOLPE/ (571)272-6825

Signature and telephone number of the USPTO official, who contacted, was contacted by, or attempted to contact the patent owner.

cc: Requester (if third party requester)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	11/773,272
Filing Date	July 3, 2007
First Named Inventor	Kenneth E. Flick
Art Unit	3661
Examiner Name	Cuong H. Nguyen
Attorney Docket Number	C13-03896.RE2

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 5,732,074	03-24-1998	Spaur et al.	
		US- 5,794,164	08-11-1998	Beckert et al.	
		US- 6,009,363	12-28-1999	Beckert et al.	
		US- 6,028,537	02-22-2000	Suman et al.	
		US- 6,330,499	12-11-2001	Chou et al	
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Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature	/Karin Reichle/	Date Considered	11/16/2016

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
Application Number	11/773,272
Filing Date	July 3, 2007
First Named Inventor	Kenneth E. Flick
Art Unit	3661
Examiner Name	Cuong H. Nguyen
Attorney Docket Number	C13-03896.RE2

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual, SAE HS-3000, Society of Automotive Engineers, Inc., 1994 Edition.	
		SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual, SAE HS-3000, Society of Automotive Engineers, Inc., 1997 Edition.	

Examiner Signature	/Karin Reichle/	Date Considered	11/16/2016

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1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

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BIB DATA SHEET

CONFIRMATION NO. 8717

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90/013,851	10/28/2016	701	3992	C13-03896.RE2

APPLICANTS

INVENTORS

8032278, Residence Not Provided;
OMEGA PATENTS, L.L.C. (PATENT OWNER), DOUGLASVILLE, GA;
DAVID H. KAVEH (3RD PTY REQ.), ANAHEIM, CA;
KPPB LLP, ANAHEIM, CA

**** CONTINUING DATA ***************************

This application is a REX of 11/773,272 07/03/2007 PAT 8032278
which is a CIP of 11/076,259 03/09/2005 PAT 7720597
which is a CON of 10/383,496 03/07/2003 PAT 7149623
which is a CON of 09/859,972 05/17/2001 PAT 6606561
which claims benefit of 60/264,811 01/29/2001
and claims benefit of 60/258,005 12/22/2000
and claims benefit of 60/251,552 12/06/2000
and claims benefit of 60/252,125 11/20/2000
and claims benefit of 60/236,890 09/29/2000
and claims benefit of 60/246,463 11/07/2000
and claims benefit of 60/222,777 08/03/2000
and claims benefit of 60/205,178 05/17/2000

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /KARIN M REICHLE/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
				22	3

ADDRESS

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UNITED STATES

TITLE

Vehicle Tracking Unit with Downloadable Codes and Associated Methods

FILING FEE RECEIVED	FEES: Authority has been given in Paper	☐ All Fees
12000	No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____

BIB (Rev. 05/07).

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90013851	8032278
	Certificate Date	Certificate Number

Requester Correspondence Address:	☐ Patent Owner	☒ Third Party

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LITIGATION REVIEW ☒	/KR/ (examiner initials)	11/16/2016 (date)
Case Name		Director Initials
Omega Patents, LLC v. Enfora, Inc., Northern District of Geor		
Omega Patents, LLC v. CalAmp Corp., Middle District of Florid		

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
1.	

	/K.R./ Primary Examiner.Art Unit 3992

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/013,851	10/28/2016	8032278	C13-03896.RE2	8717

7590 12/15/2016

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EXAMINER
REICHLE, KARIN M

ART UNIT	PAPER NUMBER
3992	

MAIL DATE	DELIVERY MODE
12/15/2016	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/013,851*.

PATENT NO. *8032278*.

ART UNIT *3992*.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Karin M. Reichle

Primary Examiner

Art Unit: 3992

Decision

Third Party requester submitted a request for reexamination with a filing date of October 28, 2016, requesting reexamination of claims 1-22 of U.S. Patent No. 8,032,278 (hereinafter also referred to as '278). A substantial new question of patentability affecting claims 1-22 of U.S. Patent No. 8,032,278 in effect at this time is raised by the request for *ex parte* reexamination. Accordingly, claims 1-22 will be reexamined.

Extensions of Time

Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extension of time in *ex parte* reexamination proceedings are provided for in 37 CFR 1.550(c).

Notification of Concurrent Proceedings

The patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 8,032,278 throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282 and 2286.

Amendment in Reexamination Proceedings

Patent owner is notified that any proposed amendment to the specification and/or claims in this reexamination proceeding must comply with 37 CFR 1.530(d)-(j), must be formally presented pursuant to 37 CFR 1.52(a) and (b), and must contain any fees required by 37 CFR 1.20(c).

Submissions

In order to insure full consideration of any amendments, affidavits or declarations or other documents as evidence of patentability, such documents must be submitted in response to the first Office action on the merits (which does not result in a close of prosecution). Submissions after the second Office action on the merits, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116, after final rejection and by 37 CFR 41.33 after appeal, which will be strictly enforced.

Waiver of Right to File Patent Owner Statement

In a reexamination proceeding, Patent Owner may waive the right under 37 C.F.R. 1.530 to file a Patent Owner Statement. The document needs to contain a statement that Patent Owner waives the right under 37 C.F.R. 1.530 to file a Patent Owner Statement and proof of service in the manner provided by 37 C.F.R. 1.248, if the request for reexamination was made by a third party requester, see 37 C.F.R 1.550(f). The Patent Owner may consider using the following statement in a document waiving the right to file a Patent Owner Statement:

WAIVER OF RIGHT TO FILE PATENT OWNER STATEMENT

Patent Owner waives the right under 37 C.F.R. 1.530 to file a Patent Owner Statement.

Service of Papers

After filing of a request for *ex parte* reexamination by a third party requester, any document filed by either the patent owner or the third party requester must be served on the other party (or parties where two or more third party requester proceedings are merged) in the reexamination proceeding in the manner provided in 37 CFR 1.248. The document must reflect service or the document may be refused consideration by the Office. See 37 CFR 1.550(f).

References Asserted as Raising a Substantial New Question

The asserted substantial new question of patentability (SNQP) regarding claims 1-22 of the '278 Patent is based upon the following references:

(1) U.S. Patent No. **6,009,363** to **Beckert et al**, published December 28, 1999, filed June 24, 1996, (hereinafter also referred to as **'363** or **Beckert**).

(2) U.S. Patent No. **5,732,074** to **Spaur et al**, published March 24, 1998, filed January 26, 1996 (hereinafter also referred to as '**074** or **Spaur)**.

(3) U.S. Patent No. **6,028,537** to **Suman et al**, published February 22, 2000, filed June 3, 1997 (hereinafter also referred to as **'537** or **Suman**).

(4) U.S. Patent No. **6,330,499** to **Chou et al**, published December 11, 2001, filed July 21, 1999 (hereinafter also referred to as **'499** or **Chou**).

(5) SAE HS-3000 publication, "SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual" (1994 Edition), copyright 1994, (hereinafter also referred to as SAE HS-3000). [Exhibit G].

Filing Date

The earliest effective filing date the '278 patent is entitled to is July 3, 2007 (see paragraph 2 of the 5/6/2016 non-final rejection of the 90/013,587 discussed *infra*).

Availability of Asserted References as Prior Art

The patents to **Beckert , Spaur, Suman and Chou** and publication to SAE 3000 include a/an publication/issue date more than one year prior to the effective filing date of June 3, 2007 of the '278 patent, see discussion *supra*, and thus are available as prior art under 35 USC 102(b) and 35 USC 103.

Summary of Prosecution History

U.S. Application 11/773,272 was filed on July 3, 2007 (hereinafter also referred to as '272 or the '272 application). The '272 application claimed continuity-in-part from Application No. 11/076,259 filed March 9, 2005 (hereinafter also referred to as '259 or the '259 application), which issued as Patent No. 7,720,597. The '259 application itself claimed continuity from Application No. 10/383,496 filed March 7, 2003 (hereinafter also referred to as '496 or the '496 application), which issued as Patent No. 7,149,623. The '496 application itself claimed continuity from Application No. 09/859,972 filed May 17, 2001 (hereinafter also referred to as

'972 or the '972 application), which issued as Patent No. 6,606,561. The '972 application itself claimed the benefit of provisional patent application Serial Nos. 60/264,811 filed on January 29, 2001; 60/258,005, filed December 22, 2000; 60/251,552, filed December 6, 2000; 60/252,125, filed November 20, 2000; 60/236,890, filed September 29, 2000; 60/246,463, filed November 7, 2000; 60/222,777, filed August 3, 2000; and 60/205,178, filed May 17, 2000, the entire contents of each of which are incorporated herein by reference by '272.

Below are the pertinent Examiner's findings of fact relevant to this discussion:

'972 Application

U.S. Application 09/859,972 was filed on May 17, 2001. The application included a specification, claims, abstract and nine Figures. Claims 1-49 were directed to a vehicle tracking unit/system and claims 50-64 directed to a method for operating a vehicle tracking unit. On September 9, 2001, a preliminary amendment was filed including drawing modifications and a substitute specification.

A first non-final Office action was mailed by USPTO on January 23, 2001 rejecting all the claims. A PTO-892 accompanied such action cited US Patent No. **6,330,499** to **Chou et al**.

On December 13, 2002 a second FINAL rejection was mailed by the USPTO rejecting claims 1-29 and 50-50, allowing claims 30-49 and 58-64 and objecting to claims 5, 17 and 25. Claim 10 depending from claim 1 was rejected under 35 USC 103(a) as being unpatentable over Maggiora et al in view of "**Chou et al (6,330,499)**" (emphasis added) ("…Chou teaches a user interface for accepting at least one command from a user and sending at least one alert to the user (column 3, lines 5-15)").

In response an amendment after final was filed on February 7, 2003 amending claims 1, 13 and 22 and cancelling claims 5, 17, 25 and 50-57.

A Notice of Allowance indicating the allowability of claims 1-4, 6-16, 18-24, 26-49 and 58-64 was mailed by the USPTO on February 13, 2003.

The application issued as US Patent No. 6,606,561 on August 12, 2003.

'272 Application:

U.S. Application 11/773,272 was filed on July 3, 2007. The application included a specification, an abstract, thirty claims and fifteen Figures.

An Office action was mailed by USPTO on December 24, 2009. Claims 1-30 were subject to an election requirement between claims 1-22 drawn to a multi-vehicle tracking device/unit and claims 23-30 drawn to a method of using a multi-vehicle tracking device/unit.

A response to such Office Action was filed February 24, 2010. The response amended claims 13 and 18 to overcome various objections and provisionally elected claims 1-22 and withdrew claims 23-30.

A non-final Office action was mailed by USPTO on June 22, 2010. Claims 1-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brinkmeyer et al. (US Pat. 5,940, 007).

A response to such Office Action was filed October 22, 2010. The response cancelled claims 23-30. The response also presented remarks submitting that Brinkmeyer et al. failed to disclose the multi-vehicle compatible controller being coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding

vehicle device code from among a plurality thereof for different vehicles, as recited by independent claim 1.

Another non-final Office Action was mailed by the USPTO on January 5, 2011. Claims 1-22 were rejected. The prior art combination of Monroe (US Pat. 6,253,064 B1) in view of Brinkmeyer et al. (US Pat. 5,940,007) was used to reject the claims.

A response to the Office Action was filed on April 5, 2011. The response presented remarks, i.e.:

> …the proposed prior art combination fails to disclose or fairly suggest each and every feature of the claimed invention. For example, the proposed prior art combination fails to disclose the multi-vehicle compatible controller coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles, as recited by independent Claim 1, for example.… Furthermore, none of the applied prior art references discloses the multi-vehicle compatible tracking unit including a connector for temporary connection to a downloading device and a wireless receiver for temporary connection to a downloading device, as recited by the independent claims. Applicant notes that this claim feature enables a user to quickly download new vehicle codes into the multi-vehicle compatible tracking unit without removing and reinstalling the unit. (Emphasis original.)

A Notice of Allowance allowing claims 1-22 issued on June 28, 2011. The Notice set forth:

> Pending claims 1-22 are patentable over cited references of Monroe in view of Brinkmeyer et al., because these prior art do not make obvious a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising: a vehicle position determining device; a wireless communications device; a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information; said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles wherein the corresponding at least one vehicle code is for writing to the at least one vehicle device; and a downloading

> interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller; said downloading interface comprising a connector for temporary connection to a downloading device.

(See finally rejected claims 13 and 15).

The application issued as US Patent No. 8,032,278 on October 4, 2011.

'587 Reexam:

On September 14, 2015 a first request for *ex parte* reexamination of claims 1-22 of U.S. Patent No. 8,0320,278 was filed by a third party requester, hereinafter also referred to as TPR.

The Request at pages 10-11 in a section entitled "**V. STATEMENTS POINTING OUT EACH SUBSTANTIAL NEW QUESTION OF PATENTABILITY**" set forth:

> As explained in greater detail below, A) the *Suman '537* patent; B) the *Spaur '074* patent; and C) the Flick '876 patent, *either alone or in combination with a variety of references* published prior to the earliest claimed priority date of the Flick '278 patent, raise substantial new questions of patentability based on new teachings not previously considered or addressed in the prior examination of the Flick '278 patent.
>
> ***A. U.S. Patent No. 6,028,537***
>
> …
>
> **1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus**
>
> The *Suman '537* patent teaches a vehicle communication and control system including a wireless communications device, a vehicle location determination device, and *a controller capable of communicating with a variety of vehicle devices via a standardized vehicle data bus*….

Thus, the *Suman '537* patent discloses technological teachings that the Examiner previously found to be missing from the prior art of record disclosed in the Flick 2278 patent.

…

3. **Substantial New Question of Patentability as to Claims 1 - 22 because the Suman '537 Patent Teaches all Claim Elements**

Each of claims 1- 22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit B, the *Suman '537 patent discloses this and all other required limitations, explicitly disclosing communicating via a "vehicle data bus" and a "downloading interface."* Accordingly, it is submitted that *all aspects of claims 1 - 22 are disclosed by the Suman '537 patent* in at least as complete detail as contained in the claims. A reasonable examiner would consider the teachings important in deciding whether or not claims 1 - 22 of the Flick '278 patent are patentable. For these reasons, the *Suman '537* patent raises a substantial new question of patentability as to claims 1 - 22.

B. U.S. Patent No. 5,732,074

…

1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus

The *Spaur '074* patent teaches *a controller* having a wireless device, a direct communications port, and *a connection to a vehicle standardized network* that can be utilized to read data from vehicle devices and transmit that data via the wireless device.…

Thus, *the Spaur '074* patent discloses technological teachings that the Examiner previously found to be missing from the prior art of record disclosed in the Flick '278 patent.

…

3. Substantial New Question of Patentability as to Claims 1-22 Because Spaur '074 Teaches all Claim Elements

> Each of claims 1-22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit C, *the Spaur '074 patent discloses this and all other required limitations, explicitly disclosing communicating via a "vehicle data bus" and a "downloading interface."* Accordingly, it would have been obvious to one skilled in the art *that all aspect of claims 1-22 are disclosed by the Spaur '074 patent.* A reasonable examiner would consider the teachings important in deciding whether or not claims 1-22 of the Flick '278 patent are patentable. For these reasons, the *Spaur '074* patent raises a substantial new question of patentability as to claims 1 - 22. (Bold original, underlined italics added.)

On November 10, 2015, an Order Granting the Request for *ex parte* reexamination was mailed by the USPTO. The Order set forth:

> *Key to each of these claims is the reaction [sic] of a "vehicle data bus" and a "downloading interface for permitting downloading of enabling data".*
>
> *Suman teaches a vehicle data bus - an SAE standard J1850* [sic] See col. 37, lines 15 - 17. In addition Suman teaches a downloading interface for permitting downloading of enabling data. In particular, Suman teaches at col. 36, lines 31-52: "To achieve these aspects and other advantages, the vehicle accessory control system of the present invention includes a plurality of electrically-operated vehicle accessories, a receiver to be mounted in a vehicle *for receiving RF signals* from a land-based transmitter, and a control circuit coupled to the receiver and to the vehicle accessories *for controlling the operation of the vehicle accessories in accordance with a control program.* The RF signals include an address uniquely identifying the vehicle and a reprogramming signal for reprogramming the operation of at least one of the vehicle accessories. The control circuit includes an input interface for receiving information regarding a plurality of sensed conditions, control means for controlling the operation of the vehicle accessories in accordance with the control program and in response to sensed conditions received from the input interface. *The control circuit further includes reprogramming means for selectively reprogramming the control program in response to the detection of an RF signa*l including an address identifying the vehicle and the reprogramming signal, to selectively change the manner in which the control means controls the operation of at least one of the vehicle accessories."
>
> There is a substantial likelihood that a reasonable examiner would have considered these teachings in Suman to be important in the determination of

patentability of claims 1-22 of Flick '278. Accordingly, Suman raises a substantial new question of patentability, which question has not been previously raised.

Spaur teaches a vehicle data bus 46 and teaches that a wireless communications device can be utilized to download enabling data in a variety of forms including received information associated with vehicle devices and executable software downloaded from a remote site: "since bi-directional communications involving a vehicle are conducted wirelessly for at least a portion of the communications link, it is necessary for the Internet to communicate with an appropriate interface or network that wirelessly links with the vehicle. In one embodiment, the cellular digitized packet data (CDPD) network provides the desired link including arrangement of information being communicated and where the destination site, namely the particular vehicle, is found in the network." (See col. 2, lines 37 - 46).

Spaur also notes that a "combination of controller related components are containable in a vehicle for responding to requests from remote sites, obtaining and storing information associated with vehicle devices and running executable software that may be available in the program memory of the controller or downloaded from the remote site, while handling and configuring information including data that is communicative with the remote site over an established network, such as the Internet." (See col. 4, line 64 - col. 5, line 5).

Furthermore, Spaur teaches that "the controller in the vehicle is also associated with an interface for communication with one or more available systems, such as an RS232 connection, an Ethernet connection and/or a PCMCIA unit. In a related embodiment, the controller includes a direct communications port for receiving and sending information without requiring the wireless device and the Internet connection to the wireless device." (See col. 4, lines 38 - 45).

There is a substantial likelihood that a reasonable examiner would have considered these teachings in Spaur to be important in the determination of patentability of claims 1-22 of Flick '278. Accordingly, Spaur raises a substantial new question of patentability, which question has not been previously raised. (Underlined italics emphasis added.)

On January 8, 2016 the Patent Owner (hereinafter also referred to as PO) filed a statement asserting Suman '537 had already been considered in the parent '278 while Spaur '074

was similar to a co-assigned reference 7,366,892 which had also been considered in the parent '278. Furthermore, PO asserted:

> A. The Claims Are Patentable Over the Suman et al. '537 Patent
>
> The Suman et al. '537 patent is directed to vehicle personalization to be remotely effected by a service provider using a radio frequency (RF) system such as a paging or cellular system. A vehicle owner, wishing to reprogram a vehicle, calls the service provider who effects reprogramming of an option control by transmitting RF control signals to the vehicle from a land-based transmitter to a receiver mounted in the vehicle. Thus, because the service provider effects vehicle personalization, the vehicle owner need not have any technical knowledge as to how to operate the vehicle programming system. Vehicle personalization may also be provided for each person who may operate the vehicle.
>
> To achieve these aspects, the vehicle accessory control system includes a plurality of electrically-operated vehicle accessories, a receiver to be mounted in a vehicle for receiving RF signals from a land-based transmitter, and a control circuit coupled to the receiver and to the vehicle accessories for controlling the operation of the vehicle accessories in accordance with a control program. The RF signals include an address uniquely identifying the vehicle and a reprogramming signal for reprogramming the operation of at least one of the vehicle accessories. The control circuit includes an input interface for receiving information regarding a plurality of sensed conditions, control means for controlling the operation of the vehicle accessories in accordance with the control program and in response to sensed conditions received from the input interface. The control circuit further includes reprogramming means for selectively reprogramming the control program in response to the detection of an RF signal including an address identifying the vehicle and the reprogramming signal, to selectively change the manner in which the control means controls the operation of at least one of the vehicle accessories.
>
> The Patent Owner respectfully submits that the Suman et al. '537 patent fails to disclose, as recited in Claim 1, for example, a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle. More particularly, the Suman et al. '537 patent fails to disclose a multi-vehicle compatible controller for cooperating with a vehicle position determining device and a wireless communications device to send vehicle position information, wherein the multi-vehicle compatible controller is to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles, and wherein a downloading interface permits downloading of enabling data related to the at least one corresponding vehicle device code for use

by the multi-vehicle compatible controller. Along these lines, the Suman et al. '537 patent fails to disclose these features with the downloading interface comprising a connector for the temporary connection to a downloading device as recited in independent Claim 13, or a wireless receiver as recited in independent Claim 18.

None of the other references identified by the Examiner supply the deficiencies of the Suman et al. '537 patent. Accordingly, independent Claims 1, 13 and 18 are patentable. Their dependent claims, which recite further distinguishing features, are also patentable and require no further discussion herein.

B. The Claims Are Patentable Over the Spaur et al. '074 Patent

The Spaur et al. '074 patent discloses communication to and from a controller at the vehicle. As helpfully pointed out by the Examiner, the reference discloses an interface for the controller, such as an RS-232 connection, an Ethernet connection, a Personal Computer Memory Card International Association (PCMCIA) unit, or a direct communications port. Moreover, as noted at col. 4, lines 51-57, the Spaur et al. '074 patent recites:

> "[] each vehicle device on the CAN has its own IP designation or address so that the remote user can utilize this designation or address for communication with the selected vehicle device having that designation or address. The controller uses the received IP address or designation for the particular device and acts as a link or bridge for the remote user to the particular device".

In other words, the Spaur et al. '074 patent fails to disclose, as recited in Claim 1, a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle. The Spaur et al. '074 patent fails to disclose a multi-vehicle compatible controller for cooperating with a vehicle position determining device and a wireless communications device to send vehicle position information, wherein the multi-vehicle compatible controller is to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles, and wherein a downloading interface permits downloading of enabling data related to the at least one corresponding vehicle device code for use by the multi-vehicle compatible controller. The Spaur et al. '074 patent fails to disclose these features with the downloading interface comprising a connector for the temporary connection to a downloading device, as recited in independent Claim 13, or a wireless receiver, as recited in independent Claim 18.

> None of the other references identified by the Examiner supply the deficiencies of the Spaur et al. '074 patent. Accordingly, the Patent Owner submits that independent Claims 1, 13 and 18 are patentable, and the dependent claims, which recite further distinguishing features, are also patentable and require no further discussion herein.
>
> The Patent Owner also respectfully submits that the Spaur et al. '074 patent adds nothing to the deficiencies of the Suman et al. '537 patent - its respective deficiencies being pointed out above.

On March 8, 2016 TPR filed a reply to PO's statement. TPR reasserted that both the Spaur '074 and Suman '537 patents were not previously considered by the Examiner during the prosecution of the '278 and the Order's conclusion that these patents raised a substantial new question of patentability was correct. TPR continues:

> Furthermore, under the broadest reasonable interpretation, a multi-vehicle compatible tracking unit as recited in claims 1 - 22 of the Flick '278 patent could be compatible with ***multiple vehicles of the same year, make, and/or model***…
>
> …*the SAE standard J1850 bus referenced in the Suman et al. '537 patent is "universally used in the automotive industry" (Suman et al. publication, column 37 lines 15 - 17) and therefore is used in many different vehicle year, makes, and models….*
>
> …
>
> …The above referenced portion of the Spaur et al. '074 [col. 4, lines 51-57] teaches connecting the disclosed multi-vehicle compatible controller to a CAN bus. *However the Spaur et al. '074 reference is not limited to disclosing CAN buses and teaches that the multi-vehicle compatible controller can connect with any of a variety of standardized buses*: "[o]ther available networks could be utilized instead of the CAN, such as Arcnet, which has a protocol similar to CAN". (Spaur et al. '074 patent, column 4, lines 5 - 7). *Standardized vehicle data buses include the CAN bus standard published by the CAN in Automation group. Standardized vehicle data buses also include the SAE J1850 bus standard published by the Society of Automotive Engineers.*
>
> …

> …Requester further notes that, since 1991, the CAN specification has required support for two message formats that can be present on any given vehicle's CAN bus (i.e. the CAN 11-bit message format and CAN 29-bit message 16 format). Therefore, communication via the CAN bus requires support for a plurality of different message formats for the different vehicle devices that may be present on any of the myriad of year, make, and model of vehicles that support the CAN bus, which includes a significant percentage of the vehicles sold in the U.S. dating back to 1991 and almost every passenger vehicle sold in the U.S. since 2008 due to Federal mandate.
> (Underlined italics emphasis added.)

TPR also cited pertinent and applicable additional prior art believed to have bearing on patentability, i.e. 1) the *Beckert '363* patent; 2) the Gelvin '008 patent; and 3) the Razavi et al. publication, raise substantial new questions of patentability based on new teachings not previously considered or addressed in the prior examination of the Flick '278 patent. Specifically:

> **1. U.S. Patent No. 5,794,164**
>
> ….
>
> **a) Technological Teaching: Transmitting Location Data, Communicating Via One of the OBD II vehicle Data Bus Protocols and Downloading Means Downloading Enabling Data**
>
> The Beckert et al. '363 patent teaches a vehicle computer system including a wireless communications device, a vehicle location determination device, a downloading interface, and a controller capable of communicating with a variety of vehicle devices *via the OBD II standardized vehicle data bus mandated for inclusion in 1996 or later model vehicles. By way of background, at the time of the filing of the Beckert et al. '363 patent, federal mandate required all vehicles to conform to California Code of Regulations (CCR) 1968.1. CCR 1968.1 permitted vehicles to implement three different on-board to off-board network*

communications protocols:

> (1.6) Either SAE Recommended Practice J1850, "Class B Data Communication Network Interface", July, 1995, or ISO 9141-2, "Road vehicles - Diagnostic Systems - CARB Requirements for Interchange of Digital Information," February, 1994, or ISO 14230-4, "Road vehicles - Diagnostic systems - KWP 2000 requirements for Emission-related systems," April, 1996, which are incorporated by reference, shall be used as the on-board to off-board network communications protocol. All SAE J1979 emission related messages sent to the J1978 scan tool over a J1850 data link shall use the Cyclic Redundancy Check and the three byte header, and shall not use inter-byte separation or checksums.

(1968.1 Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium Duty Vehicles and Engines, p 36, Exhibit U).

…

The Beckert et al. '363 patent also incorporates by reference the disclosure of U.S. Patent 5,794,164 to Beckert et al. (the Beckert et al. '164 patent) in its entirety at col. 7, lines 44-51. The Beckert et al. '164 patent provides additional detail concerning the modules of the vehicle computer system disclosed in the Beckert et al. '363 patent and specific detail concerning the OBD interpreter and APIs that are exposed to remote devices by the vehicle computer system, which include a diagnostic API (amongst others). Thus, the Beckert et al. '363 patent discloses technological teachings that the Examiner previously found to be missing from the prior art of record disclosed in the Flick '278 patent.

c) Substantial New Question of Patentability as to Claims 1-22 because the Beckert et al, '363 Patent Teaches all Claim Elements

Each of claims 1-22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit R, the Beckert et al. '363 patent discloses this and all other required limitations, explicitly disclosing communicating via a "vehicle data bus" and a "downloading interface." Accordingly, it is submitted that all aspects of claims 1 - 22 are disclosed by the Beckert et al. '363 patent in at least as complete detail as contained in the claims. A reasonable examiner would consider the teachings important in deciding whether or not claims 1 - 22 of the Flick '278 patent are patentable. For these reasons, the Beckert et al. '363 patent raises a substantial new question of patentability as to claims 1-22.
(Bold emphasis original, underlined italics added.)

A non-final action was mailed by the USPTO on May 6, 2016. Such action determined the earliest effective filing date for Flick '278 to be July 3, 2007. The action also determined that the '363, '008 and '225 references each taught a vehicle computer system including a wireless communications device, a vehicle location determination device, a downloading interface, and a controller capable of communicating with a variety of vehicle devices and therefore, there was a substantial likelihood that a reasonable examiner would have considered these teachings in *Beckert*, Gelvin and Razavi to be important in the determination of patentability of claims 1 -22 of Flick '278. Accordingly, *Beckert*, Gelvin and Razavi were determined to each raise a substantial new question of patentability, which question has not been previously raised. The action also included rejections of claims 1-22 under pre-AIA 35 U.S.C. 102(b) as being anticipated by *Suman* or *Beckert* and under pre-AIA 35 U.S.C. 103(a) as being unpatentable over *Spaur* in view of other references used for the teaching of location detection. Finally the action concluded with the Examiner finding the PO'S remarks regarding the art being previously considered and the claim features not being shown thereby not persuasive.

> On June 16, 2016 a personal interview was held. The PTOL-404 Summary set forth:
>
> Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Spaur and Suman references were discussed. Examiner agreed to drop the 102 rejection based upon Beckert. *Examiner suggested that the Patent Owner provide evidence relating to the use of device codes in vehicles at the time of the invention in relation to their inherent use in Suman and Spaur.* The scope of the claims was also discussed. Patent Owner's representative provided the attached agenda and various documents pertaining to related court proceedings.
> (Emphasis added.)

while the PO Summary of July 6, 2016 set forth, e.g.:

While discussing Suman et al., the Patent Owner contended that Suman et al. failed to disclose: "said multivehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles", as recited in independent Claim 1, for example.

In reply, the Examiners cited Col. 2, lines 3-11 of Suman et al. as teaching the "multi-vehicle compatible controller" of the claimed invention. The Patent Owner contended that this was a mischaracterization of the teachings of Suman et al. The Examiner's invited the Patent Owner to submit evidence supporting this contention.

The Patent Owner also contended that Suman et al. fails to disclose: "a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller", as recited by independent Claim 1, for example.

The Examiners noted that Col. 24, lines 8-13 of the present application recite: "[t]he enabling data may be the vehicle device code or codes, an instruction to select a code or codes from among those already stored, or the data or sequence to allow the controller 111 to generate the vehicle device code or codes, for example". The Examiners also correctly noted that Suman et al. fails to disclose the downloading interface for permitting downloading of vehicle device codes. While discussing Spaur et al., the Patent Owner contended that Spaur et al. failed to disclose: "said multivehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles", as recited in independent Claim 1, for example.

In reply, the Examiners contended similarly that since Spaur et al. discusses potential application in different vehicles, therefore Spaur et al. discloses the multi-vehicle compatible controller of the claims. The Patent Owner contended that this was a mischaracterization of the teachings of Spaur et al. The Examiner's invited the Patent Owner to submit evidence supporting this contention. The Examiners also correctly noted that Spaur et al. fails to disclose the downloading interface for permitting downloading of vehicle device codes.

Additionally, while discussing Spaur et al., the Patent Owner noted that Spaur et al. discloses a vehicle position determining device. Accordingly, for purposes of clarity, the Patent Owner agreed to also discuss the Spaur et al. patent with regards to its failure to anticipate the claimed invention.

> The Examiners determined that the rejection over Beckert et al. was withdrawn. (Emphasis added.)

The Agenda attached to the Summary indicated that PO intended to argue that the references or combination of references used to reject the claims did not teach the features of a multi-vehicle compatible controller nor a downloading interface.

A response to the non-final Office Action was also filed on July 6, 2016. The response included remarks and a Rule 132 declaration by Michael J. Suman and a Rule 132 declaration by Joseph C. McAlexander, III.

On December 1, 2016, a Notice of Intent to Issue Ex Parte Reexamination Certificate (NIRC) was issued by the USPTO. The Statement of Reasons for Patentability and/or Confirmation set forth:

> The following is an examiner's statement of reasons for patentability and/or confirmation of the claims found patentable in this reexamination proceeding: the Examiner agrees that the declarations by Suman and McAlexander provide sufficient evidence that Suman and Spaur each fail to disclose the multi-vehicle compatible controller as recited in independent claims 1,13 and 18. Claims 2-12, 14-17 and 19-22 are considered to be patentable due to their dependency on claims 1, 13 and 18, respectively.

The Suman declaration provided:

> 12. …The embodiments contemplated by me at the time of my '537 patent, the disclosure in my '537 patent, and the related commercial developments within my work responsibilities were not directed to a multi-vehicle compatible controller … as in the '278 patent claims. The embodiments contemplated by me at the time of my '537 patent did not include multi-vehicle compatibility, and at the time I left Johnson Controls in 2002 I had never contemplated or worked with any multi-vehicle compatible controller as described in the '278 patent. I point out that at

the time of my '537 patent, the vehicle device codes were proprietary to different manufacturers, and even different model lines offered by manufacturers. Moreover, the device codes were not made freely available, and were quite difficult to obtain.

13. …Based upon my knowledge and experience, the reprogramming means [of 537] is not related to vehicle codes or to providing a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by the multi-vehicle compatible controller, as in the '278 patent claims. Instead, the reprogramming means is for vehicle personalization and was not capable of making communications level changes that would be necessary to provide multi-vehicle compatibility.

14. I would also like to clarify that the following passage from my '537 patent does not support the contention that my patent discloses a multi-vehicle compatible controller and downloading interface as in the '278 patent claims: …(Col. 2, lines 3-10).
It was expected that the vehicles in a given fleet would be the same type vehicle having the same device codes.

15. … It is my position, based upon my knowledge and experience, that none of the cited portions of my '537 patent supply these teachings relating to a wired or wireless interface. Indeed, I was simply not working on the problem of multi-vehicle compatibility, and there was no project to develop any software to give the connector the functions as contended in the Official Action. Moreover, the embodiments conceived and described in the '537 patent were not capable of modifying the communications level to allow for multi-vehicle compatibility. Along these lines, there is also no disclosure in my 537 patent of using the telephone to provide a wireless interface as in the '278 patent.

The McAlexander declaration provided:

10. I have also reviewed the Rule 132 Declaration being submitted concurrently herewith by Michael J. Suman, the lead inventor on U.S. Patent No. 6,028,537, i.e., another reference being cited in the Official Action. In that Declaration, Mr. Suman confirms my understanding that at the time of the Spaur et al. patent (filed about six months before the filing of the provisional application leading to the Suman et al. patent), the vehicle device codes were proprietary to different manufacturers, and even different model lines offered by manufacturers; and that the device codes were not made freely available, and were quite difficult to obtain.

…

19. The Official Action incorporates by reference a listing of how Spaur et al. (and Johnson et al.) relates to the claims of the '278 patent from Requester's Exhibit F. From Exhibit F, the following sections of Spaur et al. are asserted as disclosing a multi-vehicle controller using at least one corresponding device code from among a plurality thereof for different vehicles:

… (Col. 6, lines 31-50) .

… (Col. 10, lines 15-29).

… (Col. 10, lines 55-64. [sic]

Based upon my knowledge, experience and analysis, I do not believe that these cited portions of Spaur et al. disclose the multi-vehicle compatible controller as in the claims of the '278 patent. In addition, I also believe that, based upon these portions of Spaur et al., or any other portions of Spaur et al., there is no inherent teaching of the multi-vehicle compatible controller as in the '278 patent claims. In other words, it does not necessarily flow that Spaur et al. would have a multivehicle compatible controller using the device codes as in the '278 patent claims.

20. I also point out that Exhibits 14 and 15 from Requester's technical trial expert, Mr. Andrews, and describing the actual CellPort Labs products as disclosed in Spaur et al., also fail to have any express or inherent teaching of the multivehicle compatible controller as in the '278 patent claims….

21. The Official Action also cites to the following language from col. 4, lines 38-45 of Spaur et al. for the alleged teaching of the downloading interface as recited in the '278 patent claims…

Again, based upon my knowledge, experience and analysis, I do not believe that these cited portions of Spaur et al., or any other portions of Spaur et al., disclose (either directly or through inherency) a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by the multi-vehicle compatible controller as found in the claims of the '278 patent. Spaur et al. does disclose an interface in combination with a controller; however, Spaur et al. fails to disclose the multivehicle compatible controller and the downloading interface as recited in the claims of the '278 patent. In addition, there is nothing in the description of the corresponding CellPort Labs actual products (Exhibits 14 and 15) that discloses the multivehicle compatible controller and the downloading interface as recited in the claims of the '278 patent.

Instant '851 Request for Reexam:

The instant '851 Request, hereinafter also referred to as the '851 Request, was filed October 28, 2016 by the same TPR which filed the '587 reexam.

SNQP/Reference Analysis

Attention is directed to MPEP 2216, i.e.:

> Under 35 U.S.C. 304, the Office must determine whether "a substantial new question of patentability" affecting any claim of the patent has been raised. 37 CFR 1.510(b)(1) requires that a request for ex parte reexamination include "a statement pointing out each substantial new question of patentability based on prior patents and printed publications." If such a new question is found, an order for ex parte reexamination of the patent is issued. **It is therefore important that the request clearly set forth in detail what the requester considers the "substantial new question of patentability" to be in view of prior patents and printed publications. The request must point out how any questions of patentability raised are substantially different from those raised in the previous examination of the patent before the Office.**
>
> It is not sufficient that a request for reexamination merely proposes one or more rejections of a patent claim or claims as a basis for reexamination. It must first be demonstrated that a patent or printed publication that is relied upon in a proposed rejection presents **a new, non-cumulative technological teaching** that was **not previously considered and discussed on the record during the prosecution of the application** that resulted in the patent for which reexamination is requested, **and during the prosecution of any other prior proceeding involving the patent for which reexamination is requested**. See also MPEP § 2242.
>
> The legal standard for ordering ex parte reexamination, as set forth in 35 U.S.C.303(a), requires a substantial new question of patentability. The substantial new question of patentability may be based on art previously considered by the Office **if** the reference is presented in a **new light or a different way that escaped review during earlier examination**.
>
> ....
>
> After the enactment of the Patent and Trademark Office Authorization Act of 2002 ("the 2002 Act"), a substantial new question of patentability can be raised by patents and printed publications "previously cited by or to the Office or

> considered by the Office" ("old art"). The 2002 Act did not negate the statutory requirement for a substantial new question of patentability that requires raising new questions about pre-existing technology. In the implementation of the 2002 Act, MPEP § 2242, subsection II.A. was revised. The revision permits raising a substantial new question of patentability based solely on old art, **but only if** the old art is "**presented/viewed in a new light, or in a different way, as compared with its use in the earlier concluded examination(s), in view of a material new argument or interpretation presented in the request**." Thus, a request may properly raise a substantial new question of patentability by raising a material new analysis of previously considered reference(s) under the rationales authorized by KSR.
>
> **Questions relating to grounds of rejection other than those based on prior art patents or printed publications should not be included in the request and will not be considered by the examiner if included**. Examples of such questions that will not be considered are public use, on sale, and conduct by parties. (Emphasis added.)

Attention is also invited to MPEP 2242, I., i.e.:

> The presence or absence of "a substantial new question of patentability" determines whether or not reexamination is ordered. The meaning and scope of the term "a substantial new question of patentability" is not defined in the statute and must be developed to some extent on a case-by-case basis, using the case law to provide guidance as will be discussed in this section.
>
> If the prior art patents and printed publications raise a substantial question of patentability of at least one claim of the patent, then a substantial new question of patentability is present, **unless the same question of patentability has already been decided** by (A) a final holding of invalidity, after all appeals, or (B) by the Office in a previous examination or pending reexamination of the patent. A "previous examination" of the patent is: (A) the original examination of the application which matured into the patent; (B) the examination of the patent in a reissue application that has resulted in a reissue of the patent; or (C) the examination of the patent in an earlier pending or concluded reexamination. ….
>
> A prior art patent or printed publication raises a substantial question of patentability where there is a substantial likelihood that a reasonable examiner would consider the prior art patent or printed publication important in deciding whether or not the claim is patentable. If the prior art patents and/or publications would be considered important, then the examiner should find "a substantial new question of patentability" **unless the same question of patentability has already been decided as to the claim** in a final holding of invalidity by the Federal court

> system or **by the Office in a previous examination.** For example, the same question of patentability may have already been decided by the Office where the examiner finds the additional (newly provided) prior art patents or printed publications *are merely cumulative to* ***similar*** *prior art* already fully considered by the Office in a previous examination of the claim.
>
> For "a substantial new question of patentability" to be present, it is only necessary that: (A) the prior art patents and/or printed publications raise a substantial question of patentability regarding at least one claim, i.e., the teaching of the (prior art) patents and printed publications is such that a reasonable examiner would consider the teaching to be important in deciding whether or not the claim is patentable; **and** (B) the same question of patentability as to the claim has not been decided by the Office in a previous examination or pending reexamination of the patent or in a final holding of invalidity by the Federal Courts in a decision on the merits involving the claim. It is not necessary that a "prima facie" case of unpatentability exist as to the claim in order for "a substantial new question of patentability" to be present as to the claim.…
> (Emphasis added.)

Attention is also invited to 2258.01:

> …For purposes of reexamination, a cumulative reference that is repetitive is one that substantially reiterates verbatim the teachings of a reference that was either previously relied upon or discussed in a prior Office proceeding even though the title or the citation of the reference may be different….

Finally, see also MPEP 2247.

Suman '537:

Requester asserts **Suman '537** alone or in combination with SAE HS-3000, raises a substantial new question of patentability as to claims 1-22 of the '278 patent. See, e.g., page 7 of the Request.

The prosecution history indicates that SAE HS-3000 was not of record during the prosecution of any application to which the benefit of priority is claimed. Accordingly, such references is not precluded from raising a substantial new question of patentability.

Suman '537 however was not only cited but applied by the examiner during the prosecution of at least '587 reexam.

Accordingly, at least the **Suman '537** reference/evidence is "old art". However, as set forth *supra*, e.g., MPEP 2242 states:

> *"for example, a substantial new question of patentability may be based solely on old art where the old art is being presented viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request."*

In this instance, Requester, see, e.g., Sections V (pages 3-7) and VI, C. (pages 18-23) of the Request, asserts the combination of **'537 (**previously before/considered by the Examiner during the examination/prosecution of the '587 reexam) with SAE HS-3000, see *supra*, a combination which was not considered during prosecution since the reference to, e.g., SAE HS-3000 was not even cited during prosecution. Accordingly, such combination is not precluded from raising a substantial new question of patentability.

During prosecution of the '272 application that led to the issuance of the '278 patent and the confirmation of patentability in the 90/013,587 reexam, the independent claims were allowed for reasons set forth by Examiner, see summary of prosecution history *supra*.

See the Request at, e.g., Sections V (pages 3-7) and VI, C. (pages 18-23) and Exhibit C, e.g., bridging pages 2-3 and page 8. Such sections of the instant Request set forth:

> **V. CITATION OF PERTINENT AND APPLICABLE PRIOR ART BELIEVED TO HAVE BEARING ON PATENTABILITY**
>
> …

Requester notes that these references were not previously considered during the original prosecution of the Flick '278 patent, but that *the Beckert '363 patent, the Spaur '074 patent and the Suman '537 patent are being considered in the pending Flick '587 Reexam. However, these references are being presented in a new light in this Request.* In particular, the Examiner in the Flick '587 Reexam had requested "evidence relating to the use of device codes" as related to their inherent use in the Spaur '074 patent and the Suman '537 patent. … Accordingly, Requester is *submitting this material prior art evidence in the form of the SAE HS- 3000 Manual published in 1994*.

The SAE HS-3000 Manual is one of numerous publications published by the Society of Automotive Engineers ("SAE") that *set forth the standards for communicating with vehicle devices via a vehicle data bus using various device codes*, as was used in the Spaur '074 patent, the Suman '537 patent, and the Beckert '363 patent in order to communicate with the vehicle devices. *Requester also notes that these communications standards have been federally mandated for all new vehicles sold in the United States since 1996.*

As detailed in the accompanying claim charts, *the SAE HS-3000 Manual provides details regarding hundreds of device codes*, or "PRN"" device codes, for communicating with vehicle devices, including standard codes and up to seven manufacturer specified vehicle device codes. *For example, SAE J2178/2, which starts on page 211 of the SAE HS-3000 Manual, provides the "Standardized Parameter Definitions" for standardized messages on SAE J1850 Class B networks. SAE J2178/2 sets out respective sets of device codes for a host of vehicle devices that may be present on a given vehicle.* For example, Table 2 on page 215, partially reproduced below, provides the address map of the SAE standard and reserved manufacturer specific (Reserved MFG) subgroups of messages for different classes of vehicle devices.

…

SAE J2178/2 provides *the details of device codes for hundreds of different vehicle devices* within the address map ranges indicated in the above table. Section 4 of SAE J2178/2 on page 213 specifies that three bits are used to define eight different device codes for a given vehicle device including a SAE standard device code for the specific type of vehicle device and seven manufacturer reserved device codes for that particular vehicle device.

Furthermore, the SAE HS-3000 Manual teaches a bus discovery procedure that can be used by systems interfacing with a vehicle bus, which involves communicating with vehicle devices using at least one vehicle device code from among a plurality thereof for different vehicles. In particular, the bus discovery procedure sends a plurality of device codes, referred to as "mode 1 PID 0

response message" in a manner appropriate for each of the SAE J1850 41.6 Kbps PWM bus, SAE J1850 10.4 Kbps VPW, and ISO 9141-2 in order to determine a type of bus used in a vehicle. (See SAE HS-3000 Manual section 6.5.1 on page 37).

Accordingly, the Beckert '363 patent, Spaur '074 patent, and the Suman '537 patent are each being presented in a new light in view of the SAE HS-3000 Manual and continue to raise substantial new questions of patentability with respect to the Flick '278 patent. Requester also notes that *the Chou '499 patent* was not previously considered in either the original prosecution of the Flick '278 patent or the currently pending Fick '587 Reexam and that this prior art reference *presents a substantial new question of patentability* with respect to the Flick '278 patent.

VI. STATEMENTS POINTING OUT EACH SUBSTANTIAL NEW QUESTION OF PATENTABI LITY

…as explained in greater detail below, *A) the Beckert '363 patent; B) the Spaur '074 patent; C) the Suman '537 patent; and D) the Chou '499 patent either alone or in combination with the SAE HS-3000 Manual,* all of which were published more than a year prior to the earliest priority date to which the Flick '278 patent is entitled to, *raise substantial new questions of patentability with respect to the Flick '278 patent.*

…

C. U.S. Patent No. 6,028,537 to Suman (inherently disclosing the SAE HS-3000 Manual)

The Suman '537 patent issued February 22, 2000 and the SAE HS-3000 Manual published in 1994 and therefore are prior art to the Flick '278 patent under 35 U.S.C. §§102(a), 102(b) and 102(e). These references were not considered during the original prosecution of the Flick '278 patent, but the Suman '537 patent is currently being considered in the Flick '587 Reexam. Furthermore, as noted above …, the Examiner in the Flick '587 Reexam had requested evidence related to the use of device codes as related to the Suman '537 patent, … Accordingly, Requester is submitting material prior art, in particular, the SAE HS-3000 Manual which provides material evidence related to the use of device codes as related to the Suman '537 patent. Accordingly, the Suman '537 patent is being presented in a new light in view of the SAE HS-3000 Manual and continues to raise a substantial new question of patentability.

1. Technological Teaching: Obtaining and Transmitting Location Data using

a Standard Vehicle Bus and Multi-Vehicle Compatibility

The Suman '537 patent teaches a vehicle communication and control system including a wireless communications device, a vehicle location determination device, and a controller capable of communicating with a variety of vehicle devices via a standardized vehicle data bus….

…

The Suman '537 patent notes that the multiplexing scheme (e.g., item 744 illustrated in Fig. 44 above) is set forth in *SAE standard J1850* and *"is universally used in the automotive industry." The SAE HS-3000 Manual* is a publication that *provides details regarding the SAE J1850 standard*, and provides implementation *details for communicating with vehicle devices on a plurality of different makes and models of vehicles via an SAE J1850 bus*.

Accordingly, a vehicle controller (as illustrated in Fig. 44 above) implemented *according to the SAE J1850 standard* would communicate with a plurality of vehicle devices using the SAE messaging protocols defined in *SAE J2178 (Class B Data Communication Network Messages) as required by the SAE J1850 standard, which provides details of the various device codes* that may be utilized to communicate with hundreds of vehicle devices, …

…

…As noted above, *vehicle data busses, such as those described by the SAE HS-3000 Manual have been federally mandated for inclusion in all vehicles sold in the United States since at least 1996.*

Thus, the Suman '537 patent is being presented in a new light in view of the SAE HS- 3000 Manual that raises a substantial new question of patentability with respect to the Flick '278 patent.

…

3. Substantial New Question of Patentability as to Claims 1 - 22 because the Suman '537 patent, including the SAE HS-3000 Manual, Teaches all Claim Elements

Each of claims 1 - 22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit D [sic], *the Suman '537 patent, which inherently discloses communicating with vehicle devices in accordance with the manner disclosed in the SAE HS-3000 Manual, discloses this and all other required limitations*, explicitly disclosing

> communicating via a 'vehicle data bus', 'using at least one corresponding device code from among a plurality thereof for different vehicles', and 'downloading interface'. *In particular, the manner in which the Suman '537 patent's disclosure requires "using at least one corresponding vehicle device code from among a plurality thereof for different vehicles" can be appreciated by reviewing the details of the disclosed processes as set out in the SAE HS-3000 Manual*, which provides the implementation requirements for the multiplexing communication circuit 744 described in the Suman '537 patent. *Accordingly, it is submitted that all aspects of claims 1 - 22 are disclosed by the Suman '537 patent, which inherently discloses use of the processes required by the standards contained in the SAE HS-3000 Manual,* in at least as complete detail as contained in the claims. A reasonable examiner would consider the teachings important in deciding whether or not claims 1 - 22 of the Flick '278 patent are patentable. For these reasons, the Suman '537 patent in view of the SAE HS-3000 Manual raises a substantial new question of patentability as to claims 1 - 22.
> (Underlined italics added.)

Therefore, Suman '537 (e.g. "The multiplexing scheme is set forth in SAE standard J1850 and is universally used in the automotive industry) is being presented viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request (e.g. the details/vehicle device codes/implementations constituting the SAE standard J1850 provided in the form of SAE HS-3000 Manual) raising a substantial new question of patentability with respect to "the multi-vehicle compatible controller as recited in independent claims 1,13 and 18 , i.e. "said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles".

Given the teachings of the combination of Suman '537 and SAE HS-3000, a reasonable examiner would consider these teachings important in evaluating the patentability of the

independent claims of the '278 patent. This art was not applied/so combined during a previous examination of US Patent No. 8,032,278, and the claims at issue are not the subject of a final holding by a Federal Court. Accordingly, prior art patents and printed publications asserted by the Request raise a substantial question of patentability with respect to at least one claim, e.g. claim 1, of the '278 patent.

Spaur '074:

Requester asserts **Spaur '074** alone or in combination with SAE HS-3000, raises a substantial new question of patentability as to claims 1-22 of the '278 patent. See, e.g., page 7 of the Request.

The prosecution history indicates that SAE HS-3000 was not of record during the prosecution of any application to which the benefit of priority is claimed. Accordingly, such references is not precluded from raising a substantial new question of patentability.

Spaur '074 however was not only cited but applied by the examiner during the prosecution of at least '587 reexam.

Accordingly, at least the **Spaur '074** reference/evidence is "old art". However, as set forth *supra*, e.g., MPEP 2242 states:

> *"for example, a substantial new question of patentability may be based solely on old art where the old art is being presented viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request."*

In this instance, Requester, see, e.g., Sections V (pages 3-7) and VI, B. (pages 14-18) of the Request, asserts the combination of **'074** (previously before/considered by the Examiner

during the examination/prosecution of the '587 reexam) with SAE HS-3000, see *supra*, a combination which was not considered during prosecution since the reference to, e.g., SAE HS-3000 was not even cited during prosecution. Accordingly, such combination is not precluded from raising a substantial new question of patentability.

During prosecution of the '272 application that led to the issuance of the '278 patent and the confirmation of patentability in the 90/013,587 reexam, the independent claims were allowed for reasons set forth by Examiner, see Summary of Prosecution History *supra*.

Finally, see the Request at, e.g., Sections V (pages 3-7), and VI, B. (pages 14-18) and Exhibit D, e.g., bridging pages 4-5 and page 9-10. Such section V of the instant Request is set forth *supra* and section VI, B. sets forth:

> VI. **STATEMENTS POINTING OUT EACH SUBSTANTIAL NEW QUESTION OF PATENTABI LITY**
>
> …as explained in greater detail below, *A) the Beckert '363 patent; B) the Spaur '074 patent; C) the Suman '537 patent; and D) the Chou '499 patent either alone or in combination with the SAE HS-3000 Manual,* all of which were published more than a year prior to the earliest priority date to which the Flick '278 patent is entitled to, *raise substantial new questions of patentability with respect to the Flick '278 patent.*
>
> …
>
> **B. *U.S. Patent No. 5, 732,074 to Spaur in view of the SAE HS-3000 Manual***
>
> …Furthermore, as noted above…, the Examiner in the Flick '587 Reexam had requested evidence related to the use of device codes as related to the Spaur '074 patent, … Accordingly, Requester is submitting the SAE HS-3000 Manual which provides material evidence related to the use of device codes as related to the Spaur '074 patent. Accordingly, the Spaur '074 patent is being presented in a new

light in view of the SAE HS-3000 Manual and continues to raise a substantial new question of patentability.

1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus and Vehicle Device Codes for Different Vehicles

The Spaur '074 patent teaches a controller having a wireless device, a direct communications port, and a connection to a vehicle standardized network that can be utilized to read data from vehicle devices and transmit that data via the wireless device….

…

The Spaur '074 patent teaches communicating with vehicle devices via a "standardized network ... commonly used in a number of makes and models of vehicles" (Spaur '074 patent, col. 10, lines 18-21). *The SAE standards, and in particular the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices via one of the "standardized networks" present within a vehicle.*

In particular, *the SAE HS-3000 manual provides details of communicating with a plurality of vehicle devices* using the SAE messaging protocols defined in SAE J2178 (Class B Data Communication Network Messages), ….

…

Accordingly, it would have been obvious to utilize *the teachings described in the SAE HS-3000 Manual because the Spaur '074 patent expressly directs using standards, such as the SAE standards as described by the SAE HS-3000 Manual, for the purpose for which the standards were created*. Thus, the Spaur '074 patent in view of the SAE HS-3000 Manual disclose technological teachings that the Examiner previously found to be missing from the prior art of record disclosed in the Flick '278 patent.

…

3. Substantial New Question of Patentability as to Claims 1 - 22 Because Spaur '074 in view of the SAE HS-3000 Manual Teaches all Claim Elements

Each of claims 1 - 22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit D, *the Spaur '074 patent in view of the SAE HS-3000 Manual discloses this and all other required limitations*, explicitly disclosing communicating via a "vehicle data bus", "using at least one corresponding device code from among a plurality thereof for different vehicles", and "downloading interface". In particular, the

> limitation "using at least one corresponding vehicle device code from among a plurality thereof for different vehicles" *is discussed in greater detail in the SAE HS-3000 Manual, which provides the implementation details for communicating via the standardized vehicle network* described in the Spaur '074 patent.
>
> Accordingly, it would have been obvious to one skilled in the art that all aspect of claims 1 - 22 are disclosed by the Spaur '074 patent in view of the SAE HS-3000 Manual. A reasonable examiner would consider the teachings important in deciding whether or not claims 1 - 22 of the Flick '278 patent are patentable. For these reasons, the Spaur '074 patent in view of the SAE HS-3000 Manual raises a substantial new question of patentability as to claims 1 - 22.
> (Underlined italics added.)

Therefore, Spaur '074 (e.g. "The vehicle standardized network…includes a controller unit…that provides appropriate message and data handling functions associated with sending and receiving information including data from each of a plurality of physical vehicle devices…that are operatively connected to a bus…of the vehicle standardized network…the vehicle standardized network is an established and previously developed network that interfaces with components in a vehicle…in order to provide desired or requested data concerning operations or status of these components", "…this further standardized network is a network that has been previously devised and is commonly used in a number of makes and models of vehicles") is being presented viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request (e.g. the details/vehicle device codes/implementations constituting a previously established and developed vehicle standardized network that provides appropriate message and data handling functions associated with sending and receiving information including data from each of a plurality of physical vehicle devices that are operatively connected to a bus and used in

a number of makes and models of vehicles, e.g. the SAE standards, e.g. J1850, provided in the form of SAE HS-3000 Manual) raising a substantial new question of patentability with respect to "the multi-vehicle compatible controller as recited in independent claims 1,13 and 18 , i.e. "said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles".

Given the teachings of the combination of Spaur '074 and SAE HS-3000, a reasonable examiner would consider these teachings important in evaluating the patentability of the independent claims of the '278 patent. This art was not applied/so combined during a previous examination of US Patent No. 8,032,278, and the claims at issue are not the subject of a final holding by a Federal Court. Accordingly, prior art patents and printed publications asserted by the Request raise a substantial question of patentability with respect to at least one claim, e.g. claim 1, of the '278 patent.

Beckert '363:

Requester asserts **Beckert '363** alone or in combination with SAE HS-3000, raises a substantial new question of patentability as to claims 1-22 of the '278 patent. See, e.g., page 7 of the Request.

The prosecution history indicates that SAE HS-3000 was not of record during the prosecution of any application to which the benefit of priority is claimed. Accordingly, such references is not precluded from raising a substantial new question of patentability.

Beckert '363 however was not only cited but applied by the examiner during the prosecution of at least '587 reexam.

Accordingly, at least the **Beckart '363** reference/evidence is "old art". However, as set forth *supra*, e.g., MPEP 2242 states:

> *"for example, a substantial new question of patentability may be based solely on old art where the old art is being presented viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request."*

In this instance, Requester, see, e.g., Sections V (pages 3-7) and VI, A. (pages 7-14) of the Request, asserts the combination of **'363** (previously before/considered by the Examiner during the examination/prosecution of the '587 reexam) with SAE HS-3000, see *supra*, a combination which was not considered during prosecution since the reference to, e.g., SAE HS-3000 was not even cited during prosecution. Accordingly, such combination is not precluded from raising a substantial new question of patentability.

During prosecution of the '272 application that led to the issuance of the '278 patent and the confirmation of patentability in the 90/013,587 reexam, the independent claims were allowed for reasons set forth by Examiner, see Summary of Prosecution History *supra*. Note also the June 2016 and July 2016 Interview Summaries with regard to '363 in Summary of Prosecution History *supra.*

Finally, see the Request at, e.g., Sections V (pages 3-7), and VI, A. (pages 7-14) and Exhibit B, e.g., bridging pages 4-6 and page 11-12. Such section V of the instant Request is set forth *supra* and section VI, A. sets forth:

VI. STATEMENTS POINTING OUT EACH SUBSTANTIAL NEW QUESTION OF PATENTABI LITY

…as explained in greater detail below, *A) the Beckert '363 patent; B) the Spaur '074 patent; C) the Suman '537 patent; and D) the Chou '499 patent either alone or in combination with the SAE HS-3000 Manual,* all of which were published more than a year prior to the earliest priority date to which the Flick '278 patent is entitled to, *raise substantial new questions of patentability with respect to the Flick '278 patent.*

A. U.S. Patent No. 6,009,363 to Beckert (inherently disclosing the SAE HS-3000 Manual)

…These references were not considered during the original prosecution of the Flick '278 patent. However, the Beckert '363 patent was considered during the Flick '587 Reexam, but was inexplicably withdrawn from the Flick '587 Reexam with no reasons being made on the record as to why this rejection was being withdrawn. Accordingly, Requester is again resubmitting this reference for at least the following reasons:

1. No Reasons Provided Why Beckert '363 Patent Withdrawn From Rejection in the Flick '587 Reexam --- Examiner Interview Summary filed 6-21- 2016 in the Flick '587 Reexam

…

Accordingly, Requester is re-submitting the Beckert '363 patent, *including the SAE HS- 3000 Manual which is inherently disclosed by the OBD II interface being used in the Beckert '363 patent* (see e.g., Beckert '363 col. 1, lines 32 - 35 stating: "Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system, and other components (1996 or later for OBD II, 1993 or later for OBD I)..."…. These references provide new technological teachings that raise a substantial new question of patentability with respect to the Flick '278 patent.

2. Technological Teaching: Transmitting Location Data, Communicating Via an OBD II Vehicle Data Bus, and Downloading Means Downloading Enabling Data

The Beckert '363 patent teaches a vehicle computer system including a wireless communications device, a vehicle location determination device, a downloading interface, and a controller capable of communicating with a variety of vehicle

devices via the OBD II standardized vehicle data bus mandated for inclusion in 1996 or later model vehicles. …

The Beckert '363 patent also incorporated by reference the disclosure of U.S. Patent 5,794,164 to Beckert et al. (the Beckert '164 patent) in its entirety at col. 7, lines 44-51. The Beckert '164 patent provides additional detail concerning the modules of the vehicle computer system disclosed in the Beckert '363 patent and specific detail concerning the OBD interpreter and APIs that are exposed to remote devices by the vehicle computer system, including a diagnostic API (amongst others). *The SAE standards, and in particular the SAE HS-3000 Manual, were published for the specific purpose of teaching people of ordinary skill in the art how to communicate with vehicle devices via the OBD II interface.* In particular, the SAE HS- 3000 Manual teaches a bus discovery procedure that can be used by systems interfacing with a vehicle bus via an OBD II diagnostic connector, which involves communicating with vehicle devices using at least one vehicle device code from among a plurality thereof for different vehicles. …

Accordingly, the Beckert '363 patent teaches that the modules inherently disclose the use of the bus discovery protocols that involve sending *a plurality of device codes for different vehicles required by the SAE standards as that specify the implementation details for the OBD II interface*. Furthermore, it would have been obvious to utilize the teachings described in the SAE HS-3000 Manual because the Beckert '363 patent expressly directs communicating with the OBD system built into the vehicle using the OBD interface. Thus, the Beckert '363 patent is being presented in a new light in view of the SAE HS-3000 Manual that raises a substantial new question of patentability.

…

4. Substantial New Question of Patentability as to Claims 1 - 22 because the Beckert '363 Patent in view of the SAE HS-3000 Manual Teaches all Claim Elements

Each of claims 1 - 22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit B, *the Beckert '363 patent in view of the SAE HS-3000 Manual disclose this and all other required limitations*, explicitly disclosing communicating via a "vehicle data bus" and a "downloading interface". Accordingly, all aspects of claims 1-22 are disclosed by the Beckert '363 patent and the SAE HS-3000 Manual. A reasonable examiner would consider the teachings important in deciding whether or not claims 1-22 of the Flick '278 patent are patentable. For these reasons, the Beckert '363 patent, including the SAE HS-3000 Manual, raises a substantial new question of patentability as to claims 1-22.

(Underlined italics added.)

Therefore, Beckart '363 (e.g. "Most late model vehicles are also constructed with a diagnostic system that analyzes performance of the vehicle's engine, transmission and fuel system, and other components (1996 or later for OBD II, 1993 or later for OBD I). The diagnostic system can be coupled to an external computer to download or monitor diagnostic information that is useful to a vehicle mechanic during servicing of the vehicle.", "…the vehicle computer system…can be used to integrate multiple vehicle-related systems onto one open platform hardware and software architecture. For instance, the vehicle computer system…can serve as, a navigation system, a communications system, a security system, and a diagnostics system. …FIG. 2 shows the computer 22 according to one implementation of the invention. Computer 22 has three primary modules: a faceplate module 60, a support module 62, and a computer module 64. The computer module 64 is operatively connected to the support module 62 via a multi-bit bus 66. In FIG. 2, the support module 62 is also connected to a universal serial bus (USB) hub 70 via a multi-bit connector 72 (e.g., 8 bits). The USB hub 70 provides connections to many peripheral devices (e.g., 128 devices). Example peripheral devices include the OBD (On Board Diagnostic) system 28, the security system 26, navigation system 74, a wireless link 76 to the Internet, a CD-ROM changer 78, a TV tuner 80, and user I/O devices such as a joystick, keyboard or a mouse 82. This USB hub could be separate as shown in FIG. 2 or it could be integrated into one or more of the USB peripherals.", "A more detailed explanation of the three modules in the vehicle computer system is provided in …U.S. Pat. No. 5,794,164 … incorporated herein by reference" and thereby, "The computer module 64 has a navigation

system 112 which includes both a GPS (global positioning system) receiver and a map application, such as Automap.TM., a program produced by Microsoft Corporation. A security system 114 is provided in the computer module 64 to manage vehicle security. The security system 114 monitors the security sensors 26 (FIG. 1) for any potential threat of theft or vandalism. The security system 114 is connected to actuators which lock/unlock doors and windows, and to an alarm which can be activated upon detection of unwanted tampering. An OBD (On Board Diagnostic) interpreter 116 is provided in the computer module to communicate with the OBD system built into the vehicle by the manufacturer. The OBD interpreter 116 interprets the status data received and provides performance related information from the vehicle's OBD system to the microprocessor 100. Also, commands can be provided to the interpreter which allows non-critical car systems to be controlled.") is being presented viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request (e.g. the details/vehicle device codes/implementations constituting On Board Diagnostics for Light and Medium Duty Vehicle standards , e.g. the SAE standard J1850, provided in the form of SAE HS-3000 Manual) raising a substantial new question of patentability with respect to "the multi-vehicle compatible controller as recited in independent claims 1,13 and 18 , i.e. "said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles".

Given the teachings of the combination of Beckart '363 and SAE HS-3000, a reasonable examiner would consider these teachings important in evaluating the patentability of the

independent claims of the '278 patent. This art was not applied/so combined during a previous examination of US Patent No. 8,032,278, and the claims at issue are not the subject of a final holding by a Federal Court. Accordingly, prior art patents and printed publications asserted by the Request raise a substantial question of patentability with respect to at least one claim, e.g. claim 1, of the '278 patent.

Chou'499:

Requester asserts that **Chou '499** either alone or in combination with SAE HS-3000, raises a substantial new question of patentability as to claims 1-22 of the '278 patent. See, e.g., page 7 of the Request.

The prosecution history indicates that SAE HS-3000 was not of record during the prosecution of any application to which the benefit of priority is claimed. Accordingly, such reference is not precluded from raising a substantial new question of patentability.

Chou '499 was not explicitly cited and discussed during the prosecution of the '278 patent or the '587 Reexam. However '499 was cited and discussed during the prosecution of the '972 application, see Summary of Prosecution History *supra*

Accordingly, at least the **Chou '499** reference/evidence is "old art". However, as set forth *supra*, e.g., MPEP 2242 states:

> *"for example, a substantial new question of patentability may be based solely on old art where the old art is being presented viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request."*

In this instance, Requester, see, e.g., Sections V (pages 3-7) and VI, D. (pages 23-25) of the Request, asserts **'499** (previously before/considered by the Examiner during

examination/prosecution of the '972 application) alone or in combination of '363 with SAE HS-3000, see *supra*, a combination which was not considered during prosecution since the reference to, e.g., SAE HS-3000 was not even cited during prosecution. Accordingly, such combination is not precluded from raising a substantial new question of patentability.

During prosecution of the '272 application that led to the issuance of the '278 patent and the confirmation of patentability in the 90/013,587 reexam, the independent claims were allowed for reasons set forth by Examiner, see Summary of Prosecution History *supra*.

Finally, see the Request at, e.g., Sections V (pages 3-7), and VI, D. (pages 23-25) and Exhibit B, e.g., bridging pages 4-5. Such section V of the instant Request is set forth *supra* and section VI, D. sets forth:

> VI. **STATEMENTS POINTING OUT EACH SUBSTANTIAL NEW QUESTION OF PATENTABI LITY**
>
> …as explained in greater detail below, *A) the Beckert '363 patent; B) the Spaur '074 patent; C) the Suman '537 patent; and D) the Chou '499 patent either alone or in combination with the SAE HS-3000 Manual,* all of which were published more than a year prior to the earliest priority date to which the Flick '278 patent is entitled to, *raise substantial new questions of patentability with respect to the Flick '278 patent.*
>
> …
>
> ***D. U.S. Patent No. 6,330,499 to Chou et al.***
>
> The Chou '499 patent issued December 11, 2001 and therefore is prior art to the Flick '278 patent under 35 U.S.C. §§ 102(a), 102(b), and 102(e). This reference was not considered during the prosecution of the Flick '278 patent or the currently pending Flick '587 Reexam. This reference provides a new technological teaching that raises a substantial new question of patentability.

1. Technological Teaching: Obtaining and Transmitting Location Data using a Standard Vehicle Bus and using model dependent codes

The Chou '499 patent teaches a vehicle information system including a wireless communication device, a vehicle location determining device, and a controller capable of communicating with a variety of vehicle devices *via a standardized vehicle data bus using a vehicle bus interface that may support different vehicle bus standards such as CAN (Controller Area Network) and the Society of Automotive Engineers' SAE J1850 - Class B Data Communications Network Interface.* (Chou, col. 3, lines 33-40)….

…

The Chou '499 patent further teaches multi-vehicle compatibility, whereby a vehicle bus adaptor (120C) "translates messages from the fault detector into the language of the vehicle bus. The fault code specifications and protocols of the vehicle may be ***Original Equipment Manufacturer (OEM) and model dependent*** .... A listing of such codes may be found in the publication of the *Society of Automotive Engineers, "SAE On-Board Diagnostics for Light and Medium Duty Vehicle Standards Manual"*. (Chou, col. 4, lines 25-35, [bold original] emphasis added).

Thus, the Chou '499 patent *discloses technological teaching that the Examiner previously found to be missing from the prior art of record disclosed in the Flick '278 patent.*

…

3. Substantial New Question of Patentability as to Claims 1 - 22 because the Chou '499 Patent Teaches all Claim Elements

Each of claims 1 - 22 require a multi-vehicle compatible controller coupled to a vehicle data bus for communication thereover with at least one vehicle device. As shown above, and in more detail in the claim charts attached as Exhibit E, *the Chou '499 patent discloses this and all other required limitations,* explicitly disclosing communicating via a "vehicle data bus", translating "messages from the fault detector into the language of the vehicle bus" where the fault code specifications may be "Original Equipment Manufacturer (OEM) and model dependent" and a downloading interface for permitting downloading of enabling data.

Accordingly, it is submitted that all aspect of claims 1 - 22 are disclosed by the Chou '499 patent. A reasonable examiner would consider the teachings important in deciding whether or not claims 1 - 22 of the Flick '278 patent are patentable.

> For these reasons, the Chou '499 patent raises a substantial new question of patentability as to claims 1 - 22.
> (Underlined italics added.)

Therefore, Chou '499 (e.g. "The processor 300 is coupled to a vehicle bus 335 through a vehicle bus interface 330....The vehicle bus interface may support one of vehicle bus standards such as CAN (Controller Area Network) and the Society of Automotive Engineers' SAE J1850 - Class B Data Communication Network Interface. Alternatively, the processor supports some or all of the functions of the vehicle bus interface and connects directly to the vehicle bus 335. The vehicle bus shown in FIG. 2 is an inherent part of all new automobiles. The dotted line is used as an indication that the vehicle bus is built into the vehicle." or "The vehicle bus interface 120 includes the following modules: vehicle bus adapter 120C, fault detector 120B, and diagnostic data service 120A. The fault detector 120B polls the vehicle bus 104 through the vehicle bus adapter 120C checking for fault codes reported by the vehicle ECUs 103. The vehicle bus adapter 120C translates the messages received from the vehicle bus into the language of the fault detector. It also translates messages from the fault detector into the language of the vehicle bus. The fault code specifications and protocols of the vehicle may be Original Equipment Manufacturer (OEM) and model dependent. The term 'vehicle fault codes' is meant to be synonymous with the term 'trouble code' or 'diagnostic trouble code'. A listing of such codes may be found in the publication of the Society of Automotive Engineers, 'SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual'. The diagnostic data service 120A accepts request for vehicle parametric data and retrieves the data using the vehicle bus adapter.", "The remote service center 200 of FIG. 3 comprises a diagnostic server 201 that has access to data related to the vehicle such as as-built, history, diagnostics, warranty, service

information and failure mode data. The diagnosis server 201 is linked to the data repository 203 via a TCP/IP link, LAN, or the like", "…remote health monitoring and diagnostics shares many features with other automotive applications and services. It may be desirable to bundle the remote health monitoring and diagnostics with other services or to extend it with related application functions. For example, the remote diagnostics service could certainly be offered on top of an Emergency/Mayday service (e.g., 'OnStar'). Other applications and services that can be developed or bundled as extensions of the diagnostics services include: breakdown service, network diary, vehicle user manual update, OEM Callback Services, fleet management, theft prevention, vehicle parameter update/change, remote vehicle access, concierge services, etc.") is being presented viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request (e.g. the details/vehicle device codes/implementations constituting On Board Diagnostics for Light and Medium Duty Vehicle standards, e.g. the SAE standard J1850-Class B Data Communications Network Interface beginning on page 146, provided in the form of SAE HS-3000 Manual or being presented other than for its teachings of "…a user interface for accepting at least one command from a user and sending at least one alert to the user (column 3, lines 5-15)") raising a substantial new question of patentability with respect to "the multi-vehicle compatible controller as recited in independent claims 1,13 and 18 , i.e. "said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles".

Given the teachings of the combination of Chou '499 and SAE HS-3000, a reasonable examiner would consider these teachings important in evaluating the patentability of the independent claims of the '278 patent. This art was not applied/so combined during a previous examination of US Patent No. 8,032,278, and the claims at issue are not the subject of a final holding by a Federal Court. Accordingly, prior art patents and printed publications asserted by the Request raise a substantial question of patentability with respect to at least one claim, e.g. claim 1, of the '278 patent.

Conclusion

Accordingly, as a substantial new question of patentability is present, reexamination is granted, see MPEP 2242. Claims 1-22 of '278 **will be** reexamined.

Correspondence

8. **All** correspondence relating to this ex parte reexamination proceeding should be directed:

By Mail to: Mail Stop *Ex Parte* Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office

P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at https://efs.uspto.gov/efile/my portal/efs-registered. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS-Web submissions are "soft scanned" (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the "soft scanning" process is complete.

Any inquiry concerning this communication should be directed to the Central Reexamination Unit at telephone number 571-272-7705.

Other useful telephone numbers:

Reexamination Practice (571) 272-7703

Reexamination Facsimile Transmission No. (571) 273-9900

/Karin M. Reichle/
Examiner, CRU
Art Unit 3992

Conferees:
/J. W./
Primary Examiner, Art Unit 3992

/WHC/
SPRS, Art Unit 3992

Order Granting Request For Ex Parte Reexamination	**Control No.** 90/013,851	**Patent Under Reexamination** 8032278
	Examiner Karin Reichle	**Art Unit** 3992

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

The request for *ex parte* reexamination filed *28 October 2016* has been considered and a determination has been made. An identification of the claims, the references relied upon, and the rationale supporting the determination are attached.

Attachments: a)☐ PTO-892, b)☒ PTO/SB/08, c)☐ Other: _____

1. ☒ The request for *ex parte* reexamination is GRANTED.

RESPONSE TIMES ARE SET AS FOLLOWS:

For Patent Owner's Statement (Optional): TWO MONTHS from the mailing date of this communication (37 CFR 1.530 (b)). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).**

For Requester's Reply (optional): TWO MONTHS from the **date of service** of any timely filed Patent Owner's Statement (37 CFR 1.535). **NO EXTENSION OF THIS TIME PERIOD IS PERMITTED.** If Patent Owner does not file a timely statement under 37 CFR 1.530(b), then no reply by requester is permitted.

/Karin Reichle/ Primary Examiner, Art Unit 3992	/J. W./ Primary Examiner, Art Unit 3992	

cc:Requester (if third party requester)

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90013851	8032278
	Examiner	Art Unit
	KARIN REICHLE	3992

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Prosecution History set forth on BIB sheet reviewed. Also reviewed 90/013,659 and 90/013741 referred to in the Request.	11/16/2016	/KR/

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Notice of References Cited	Application/Control No. 90/013,851	Applicant(s)/Patent Under Reexamination 8032278	
	Examiner Karin Reichle	Art Unit 3992	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-5,333,177 A	07-1994	Braitberg; Michael F.	H02J7/0004	379/441
	B	US-				
	C	US-				
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/013,851	10/28/2016	8032278	C13-03896.RE2	8717

7590 03/29/2017

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EXAMINER
REICHLE, KARIN M

ART UNIT	PAPER NUMBER
3992	

MAIL DATE	DELIVERY MODE
03/29/2017	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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KPPB LLP

2400 EAST KATELLA AVENUE

SUITE 1050

ANAHEIM, CA 92806

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/013,851*.

PATENT NO. *8032278*.

ART UNIT *3992*.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Office Action in Ex Parte Reexamination	Control No. 90/013,851	Patent Under Reexamination 8032278	
	Examiner Karin Reichle	Art Unit 3992	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

a. ☒ Responsive to the communication(s) filed on *10/28/2016* .
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

b. ☐ This action is made FINAL.

c. ☒ A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire *2* month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).** If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Information Disclosure Statement, PTO/SB/08.
3. ☐ Interview Summary, PTO-474.
4. ☐ _____.

Part II SUMMARY OF ACTION

1a. ☒ Claims *1-22* are subject to reexamination.
1b. ☐ Claims _____ are not subject to reexamination.
2. ☐ Claims _____ have been canceled in the present reexamination proceeding.
3. ☐ Claims _____ are patentable and/or confirmed.
4. ☒ Claims *1-22* are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ The drawings, filed on _____ are acceptable.
7. ☐ The proposed drawing correction, filed on _____ has been (7a) ☐ approved (7b) ☐ disapproved.
8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the certified copies have
   1 ☐ been received.
   2 ☐ not been received.
   3 ☐ been filed in Application No. _____ .
   4 ☐ been filed in reexamination Control No. _____.
   5 ☐ been received by the International Bureau in PCT application No. _____.
   * See the attached detailed Office action for a list of the certified copies not received.
9. ☐ Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.
10. ☐ Other: _____

cc: Requester (if third party requester)

DETAILED ACTION

Introduction:

This Office Action addresses the *ex parte* reexamination of claims 1-22 of U.S. Patent No. 8,032,278 (hereinafter also referred to as '278) issued to Flick for which a Substantial New Question of Patentability has been deemed to exist. The status of the claims is as follows:

Claims 1-22 are rejected.

Patents, Non-Patent Literature, Other Evidence:

(1) U.S. Patent No. **5,732,074** to **Spaur et al**, published March 24, 1998, filed January 26, 1996 (hereinafter also referred to as '**074** or **Spaur**).

(2) U.S. Patent No. **6,028,537** to **Suman et al**, published February 22, 2000, filed June 3, 1997 (hereinafter also referred to as **'537** or **Suman**).

(3) U.S. Patent No. **6,330,499** to **Chou et al**, published December 11, 2001, filed July 21, 1999 (hereinafter also referred to as **'499** or **Chou**).

Claim Interpretation/Analysis:

Lexicographic Definitions

See MPEP § 2111.01, IV and 2163.07(a). The original specification (col. 22, first full paragraph) incorporates by reference U.S. 6,011,460 with regard to the tracking device communicating with one or more other vehicle devices via a vehicle data communication bus which '460 at col. 6, lines 14-18 sets forth "As would be readily understood by those skilled in

the art, the term different vehicles [sic] may include vehicles from different manufacturers, different models, or even different trim levels of the same make and model."

35 U.S.C. §112 Sixth Paragraph

"Means-plus function" language of a claim if meeting the 3-prong analysis set forth in MPEP 2181, I, "shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof", see MPEP 2181, II. As also set forth in 2181, II, "If one employs means plus function language in a claim, one must set forth in the specification an adequate disclosure showing what is meant by that language", i.e. sets forth the structure, materials, or acts corresponding to a means- (or step-) plus-function.

Specifically:

> …examiners will apply 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph to a claim limitation if it meets the following 3-prong analysis:
>
> (A) the claim limitation uses the term "means" or "step" or a term used as a substitute for "means" that is a generic placeholder (also called a nonce term or a non-structural term having no specific structural meaning) for performing the claimed function;
>
> (B) the term "means" or "step" or the generic placeholder is modified by functional language, typically, but not always linked by the transition word "for" (e.g., "means for") or another linking word or phrase, such as "configured to" or "so that"; and
>
> (C) the term "means" or "step" or the generic placeholder is not modified by sufficient structure, material, or acts for performing the claimed function.

The Examiner concludes that claims 1-22 include a phrase or phrases that invokes/invoke 35 U.S.C. §112, 6th paragraph. For support of the Examiners conclusion the Examiner notes the following 3-prong analyses.

"a vehicle position determining device"

Analysis of Independent Claims 1, 13 and 18

The Examiner concludes the phrase "*a vehicle position determining device*," as recited in claims 1, 13 and 18, line 5, (Functional Phrase #1) invokes 35 U.S.C § 112, 6th paragraph. To support the Examiner's conclusion, the Examiner notes the following 3-Prong analysis:

a) 3-Prong Analysis Prong (A):

As an initial matter, the Examiner finds that Functional Phrase #1 does not use the term "means." The issue arising under Prong (A) then becomes whether or not the claimed phrase "device" is a generic placeholder for 'means'. *See MPEP 2181 I ¶3 and MPEP 2181 I (C) ¶4.*

The Examiner has reviewed the specification of '278 and finds: (1) insufficient evidence that '278 Patent lexicographically defines the phrase "device" as a particular structure for performing the entire claimed function; (2) insufficient evidence that '278 indicates that the phrase "device" refers to a particular structure in the art, that a person having ordinary skill in the art (PHOSITA) would recognize as a structure known to perform the entire claimed function. *See Williamson v. Citrix Online, L.L.C.,* 115 USPQ2d 1105, 1112 (Fed. Cir. 2015).

In addition the Examiner has reviewed the prior art and finds that while the phrase "device" can be a particular structure in the art, the Examiner finds insufficient evidence that the phrase "device" infers or requires any particular structure as related to the function of Functional Phrase #1.

Accordingly based upon a review of '278 itself and the prior art, the Examiner concludes that the phrase "device" as set forth in Functional Phrase #1 is being applied as a generic term/placeholder having no particular structure associated therewith as related to the entire claimed function. Because "device" is merely a generic placeholder having no specific structure associated therewith, the Examiner concludes that Functional Phrase #1 meets invocation Prong (A).

b) 3-Prong Analysis Prong (B):

Based upon a review of claims 1, 13 and 18 in '278, the Examiner finds that the function associated with Functional Phrase #1 is: "*vehicle position determining*" ('278 Patent, Claims 1, 13 and 18, line 5). *See MPEP 2181 I (B) ¶2.*

Because Functional Phrase #1 includes the function expressly noted above, the Examiner concludes that Functional Phrase #1 meets invocation Prong (B). Additionally, the Examiner notes that because nothing in the written description contradicts the plain language describing this function, the function within Functional Phrase #1 will have its ordinary and accustomed meaning.

c) 3-Prong Analysis: Prong (C)

Based upon a review of the entire Functional Phrase #1, the Examiner finds that Functional Phrase #1 does not contain sufficient structure for performing the entire claimed function that is set forth within Functional Phrase #1. In fact, the Examiner finds that Functional Phrase #1 recites very little structure (if any) for performing the claimed function.

Because Functional Phrase #1 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that Functional Phrase #1 meets invocation Prong (C).

d) Corresponding Structure

Based upon a review of the original disclosure, the Examiner finds that the corresponding structure for Functional Phrase #1 includes a device (42 in Figure 1, 112 in Figure 10) receiving multiple signals from spaced apart satellites (38 in Figure 1), e.g. a GPS receiver, or communications with the cellular telephone network, e.g. time of arrival techniques available based upon multiple reception paths to determine position via the cellular telephone network, or other satellite transmissions ('278 at col. 5, lines 15-26 and col. 23, lines 46-47 and 51-54) . Therefore the corresponding structure for Functional Phrase #1 is a receiver of communications/transmissions from satellites or cellular telephone networks for achieving the function.

Analysis of Dependent Claim 11

The Examiner concludes that dependent claim 11 modifies and/or adds to the structure of Functional Phrase #1 forming modified Functional Phrase #1. Accordingly the Examiner finds that the corresponding structure for modified Functional Phrase #1 is a GPS receiver of communications/transmissions with satellites for determining vehicle position.

Analysis of Other Dependent Claims

The Examiner finds that the dependent claims other than claim 11 do not modify the function of nor the corresponding structure for Functional Phrase #1.

"a wireless communications device"

Analysis of Independent Claims 1, 13 and 18

The Examiner concludes the phrase "*wireless communications device*" as recited in claims 1, 13 and 18, line 6, (Functional Phrase #2) invokes 35 U.S.C § 112, 6th paragraph. To support the Examiner's conclusion, the Examiner notes the following 3-Prong analysis:

a) 3-Prong Analysis Prong (A):

As an initial matter, the Examiner finds that Functional Phrase #2 does not use the term "means." The issue arising under Prong (A) then becomes whether or not the claimed phrase "device" is a generic placeholder for 'means'. *See MPEP 2181 I ¶3 and MPEP 2181 I (C) ¶4.*

The Examiner has reviewed the specification of '278 and finds: (1) insufficient evidence that '278 lexicographically defines the phrase "device" as a particular structure for performing the entire claimed function; (2) insufficient evidence that '278 indicates that the phrase "device" refers to a particular structure in the art, that a person having ordinary skill in the art (PHOSITA) would recognize as a structure known to perform the entire claimed function. *See Williamson v. Citrix Online, L.L.C.,* 115 USPQ2d 1105, 1112 (Fed. Cir. 2015).

In addition the Examiner has reviewed the prior art and finds that while the phrase "device" can be a particular structure in the art, the Examiner finds insufficient evidence that the phrase "device" infers or requires any particular structure as related to the function of Functional Phrase #2.

Accordingly based upon a review of '278 itself and the prior art, the Examiner concludes that the phrase "device" as set forth in Functional Phrase #2 is being applied as a generic term/placeholder having no particular structure associated therewith as related to the entire claimed function. Because "device" is merely a generic placeholder having no specific structure associated therewith, the Examiner concludes that Functional Phrase #2 meets invocation Prong (A).

b) 3-Prong Analysis Prong (B):

Based upon a review of claims 1, 13 and 18 in '278, the Examiner finds that the function associated with Functional Phrase #2 is: "*wireless communications*" ('278 Patent, Claims 1, 13 and 18, line 6.) *See MPEP 2181 I (B) ¶2.*

Because Functional Phrase #2 includes the function expressly noted above, the Examiner concludes that Functional Phrase #2 meets invocation Prong (B). Additionally, the Examiner notes that because nothing in the written description contradicts the plain language describing this function, the function within Functional Phrase #2 will have its ordinary and accustomed meaning.

c) 3-Prong Analysis: Prong (C)

Based upon a review of the entire Functional Phrase #2, the Examiner finds that Functional Phrase #1 does not contain sufficient structure for performing the entire claimed function that is set forth within Functional Phrase #2. In fact, the Examiner finds that Functional Phrase #2 recites very little structure (if any) for performing the claimed function.

Because Functional Phrase #2 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that Functional Phrase #2 meets invocation Prong (C).

d) Corresponding Structure

Based upon a review of the original disclosure, the Examiner finds that the corresponding structure for Functional Phrase #2 is a device (44 in Figure 1, 113 in Figures 10 and 12) configured to wirelessly transmit/communicate in a voice band or on a control channel, e.g. cellular phone transceiver, of a cellular network, over other networks, e.g. over satellite, or via wireless internet services ('278 at col. 5, lines 31-49 and col. 23, lines 47-48 and 55-58). Therefore the corresponding structure for Functional Phrase #2 is a transceiver for wirelessly

communicating/transmitting in a voice band or on a control channel of a cellular network or over other networks, e.g. over satellite, or via wireless internet services.

Analysis of Dependent Claims

The Examiner finds that the dependent claims do not modify the function of nor the corresponding structure for Functional Phrase #2.

"a multi-vehicle compatible controller…"

Analysis of Independent Claims 1, 13 and 18

The Examiner concludes "*a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information; said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles*"[1] as recited in claims 1, 13 and 18, lines 7-15, (Functional Phrase #3) invokes 35 U.S.C § 112, 6th paragraph. To support the Examiner's conclusion, the Examiner notes the following 3-Prong analysis:

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[1] Again the original specification (col. 22, first full paragraph) incorporates by reference U.S. 6,011,460 with regard to the tracking device communicating with one or more other vehicle devices via a vehicle data communication bus which at col. 6, lines 14-18 sets forth "As would be readily understood by those skilled in the art, the term different vehicles [sic] may include vehicles from different manufacturers, different models, or even different trim levels of the same make and model."

a) 3-Prong Analysis Prong (A):

As an initial matter, the Examiner finds that Functional Phrase #3 does not use the term "means." The issue arising under Prong (A) then becomes whether or not the claimed phrase "device" is a generic placeholder for 'means'. *See MPEP 2181 I ¶3 and MPEP 2181 I (C) ¶4.*

The Examiner has reviewed the specification of '278 and finds: (1) insufficient evidence that '278 lexicographically defines the phrase "multi-vehicle compatible controller" as a particular structure for performing the entire claimed function; (2) insufficient evidence that '278 indicates that the phrase "multi-vehicle compatible controller" refers to a particular structure in the art, that a person having ordinary skill in the art (PHOSITA) would recognize as a structure known to perform the entire claimed function. *See Williamson v. Citrix Online, L.L.C.,* 115 USPQ2d 1105, 1112 (Fed. Cir. 2015).

In addition the Examiner has reviewed the prior art and finds that while the phrase "multi-vehicle compatible controller" can be a particular structure in the art, the Examiner finds insufficient evidence that the phrase "device" infers or requires any particular structure as related to the function of Functional Phrase #3.

Accordingly based upon a review of '278 itself and the prior art, the Examiner concludes that the phrase "multi-vehicle compatible controller" as set forth in Functional Phrase #3 is being applied as a generic term/placeholder having no particular structure associated therewith as related to the entire claimed function. Because "multi-vehicle compatible controller" is merely a generic placeholder having no specific structure associated therewith, the Examiner concludes that Functional Phrase #3 meets invocation Prong (A).

b) 3-Prong Analysis Prong (B):

Based upon a review of claims 1, 13 and 18 in '278, the Examiner finds that the function associated with Functional Phrase #3 is: "*for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information*" and "*to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles*" ('278 Patent, Claims 1, 13 and 18, lines 7-15).

Because Functional Phrase #3 includes the function expressly noted above, the Examiner concludes that Functional Phrase #3 meets invocation Prong (B). Additionally, the Examiner notes that because nothing in the written description contradicts the plain language describing this function, the function within Functional Phrase #3 will have its ordinary and accustomed meaning.

c) 3-Prong Analysis: Prong (C)

Based upon a review of the entire Functional Phrase #3, the Examiner finds that Functional Phrase #3 does not contain sufficient structure for performing the entire claimed function that is set forth within Functional Phrase #3. In fact, the Examiner finds that Functional Phrase #3 recites very little structure (if any) for performing the claimed function.

Because Functional Phrase #3 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that Functional Phrase #3 meets invocation Prong (C).

d) Corresponding Structure

Based upon a review of the original disclosure, the Examiner finds that the corresponding structure for Functional Phrase #3 is a controller including a central processing unit (CPU) (126, Fig. 10) or other logic circuitry, a memory (125, Fig. 10), a clock (124, Figure 10) and input/output circuitry (127, Fig. 10). The memory may store vehicle position information, and a vehicle device code or codes ('278 at col. 6, lines 28-35, col. 11, lines 24-35, col. 22, lines 1-7 (and thereby '460 at col. 3, lines first full paragraph and lines 52-60, col. 4, line 44-col. 5, line 31, col. 5, line 66-col. 6, line 23 and col. 6, lines 36-58 and Figure1, elements 12, 15, and 17) and col. 23, line 41-col. 24, line 13). The corresponding structure for Functional Phrase #3, therefore, is a controller including CPU, operating under stored program control, or other logic circuit, a memory, a clock and input/output circuitry for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information and for coupling to a vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles.

Analysis of Dependent Claims 2-5, 8, 11-12, 16, and 21

The Examiner finds that these dependent claims do not modify the function nor the corresponding structure for Functional Phrase #3.

Analysis of Dependent claims 6-7, 14-15, and 19-20

The Examiner concludes that dependent claims 6-7, 14-15, and 19-20 modify and/or add to the function of Functional Phrase #3 forming first modified Functional Phrase #3. (See '278 at col. 23, line 67-col. 24, line 3.) Accordingly the Examiner finds that the corresponding structure for first modified Functional Phrase #3 is that same as that as for Functional Phase #3 however for the modified function of communication over the data bus with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles which is for reading from (claim 6, 14, or 19) or writing to (claim 7, 15, or 20) the at least one vehicle device.

Analysis of dependent claims 9-10, 17, and 22

The Examiner concludes that dependent claims 9-10, 17, and 22 modify and/or add to both the structure and the function of Functional Phrase #3 forming second and third modified Functional Phrase #3. (See '278 at col. 23, line 67-col. 24, line 3.) Accordingly the Examiner finds that claims 9, 17 and 22 additionally require a remote transmitter (117, Figure 10) and the corresponding structure for second modified Functional Phrase #3 additionally includes a remote receiver (118, Figure 10) (See '278 at col. 24, last full paragraph) for the additional function of, responsive to the remote transmitter, performing at least one vehicle remote control function responsive to the remote transmitter and that claim 10 additionally requires a remote transmitter (117, Figure 10) and the corresponding structure for third modified Functional Phrase #3 additionally includes a remote receiver (118, Figure 10 (See '278 at col. 24, last full paragraph) for the additional function of, responsive to the remote transmitter, performing at least one

vehicle remote control function comprising at least one of a vehicle security function, a remote keyless entry function and a remote engine starting function.

"a downloading interface…"

Analysis of Independent Claim 1

The Examiner concludes the phrase "*a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.*" as recited in claim 1, lines 16-19, (Functional Phrase #4) invokes 35 U.S.C § 112, 6th paragraph. To support the Examiner's conclusion, the Examiner notes the following 3-Prong analysis:

a) 3-Prong Analysis Prong (A):

As an initial matter, the Examiner finds that Functional Phrase #4 does not use the term "means." The issue arising under Prong (A) then becomes whether or not the claimed phrase "downloading interface" is a generic placeholder for 'means'. *See MPEP 2181 I ¶3 and MPEP 2181 I (C) ¶4.*

The Examiner has reviewed the specification of '278 and finds: (1) insufficient evidence that '278 lexicographically defines the phrase "downloading interface" as a particular structure for performing the entire claimed function; (2) insufficient evidence that '278 indicates that the phrase "downloading interface" refers to a particular structure in the art, that a person having

ordinary skill in the art (PHOSITA) would recognize as a structure known to perform the entire claimed function. *See Williamson v. Citrix Online, L.L.C.,* 115 USPQ2d 1105, 1112 (Fed. Cir. 2015).

In addition the Examiner has reviewed the prior art and finds that while the phrase "downloading interface" can be a particular structure in the art, the Examiner finds insufficient evidence that the phrase "device" infers or requires any particular structure as related to the function of Functional Phrase #4.

Accordingly based upon a review of '278 itself and the prior art, the Examiner concludes that the phrase "downloading interface" as set forth in Functional Phrase #4 is being applied as a generic term/placeholder having no particular structure associated therewith as related to the entire claimed function. Because "downloading interface" is merely a generic placeholder having no specific structure associated therewith, the Examiner concludes that Functional Phrase #4 meets invocation Prong (A).

b) 3-Prong Analysis Prong (B):

Based upon a review of claim 1 in '278, the Examiner finds that the function associated with Functional Phrase #4 is: "*for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.*" ('278 Patent, Claim 1, lines 16-19.)

Because Functional Phrase #4 includes the function expressly noted above, the Examiner concludes that Functional Phrase #4 meets invocation Prong (B). Additionally, the Examiner notes that because nothing in the written description contradicts the plain language describing

this function, the function within Functional Phrase #4 will have its ordinary and accustomed meaning.

c) 3-Prong Analysis: Prong (C)

Based upon a review of the entire Functional Phrase #4, the Examiner finds that Functional Phrase #4 does not contain sufficient structure for performing the entire claimed function that is set forth within Functional Phrase #4. In fact, the Examiner finds that Functional Phrase #4 recites very little structure (if any) for performing the claimed function.

Because Functional Phrase #4 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that Functional Phrase #4 meets invocation Prong (C).

d) Corresponding Structure

Based upon a review of the original disclosure, the Examiner finds that the corresponding structure for Functional Phrase #4 is a downloading interface (Figure 10, 116), e.g. interface circuitry 132 (e.g. logic circuitry or other control circuitry along with switching components) for controlling communication with a downloading device, and either a wireless signal downloading interface (e.g. a wireless receiver 114, such as for temporary connection to the downloading device 115 via any one or more of a number of wireless technologies, such as cellular, satellite, IR, Bluetooth or WiFi technologies (Fig. 11) or a temporary wireless communication link with the downloading device provided by sharing the wireless communications device that sends position data (Fig. 12)) or a wired signal downloading interface (e.g. a connector 133a in the

form of a socket to accept a memory card or other data storage medium capable of transferring data or a connector 133a for temporary connection to a mating connector 133b of the downloading device (Fig. 13) wherein the downloading device can be, e.g., a laptop computer, via RS232/429 protocol, USB, FireWire, TCP/IP (Internet), or any other wired protocol.) (See '278 at col. 24, lines 14-51.) The corresponding structure for Functional Phrase #4 is therefore such a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code, e.g. vehicle device code or codes, an instruction to select a code or codes from among those already stored, or the data or sequence to allow the controller to generate the vehicle device code or codes, for use by said multi-vehicle compatible controller ('278 at col. 24, lines 8-12).

Analysis of Dependent Claims 2-3 and Independent claim 13

The Examiner concludes that dependent claim 2, independent claim 13 and dependent claim 3 modify and/or add to the structure of Functional Phrase #4 forming first and second modified Functional Phrases #4. (See '278 at col. 24, second full paragraph.) Accordingly the Examiner finds that for claim 2 the corresponding structure for first modified Functional Phrase #4 additionally includes the structure of a wired signal downloading interface and that for claims 3 and 13 the corresponding structure for second modified Functional Phrase #4 additionally includes the structure of a wired signal downloading interface comprising a connector for temporary connection to a downloading device.

Analysis of Dependent Claims 4 and 5 and Independent Claim 18

The Examiner concludes that dependent claim 4, independent claim 18 and dependent claim 5 modify and/or add to the structure of Functional Phrase #4 forming third and fourth modified Functional Phrases #4. (See '278 at col. 24, second full paragraph.) Accordingly the Examiner finds that for claim 4 the corresponding structure for third modified Functional Phrase #4 additionally includes the structure of a wireless signal downloading interface and that for claims 5 and 18 the corresponding structure for fourth modified Functional Phrase #4 additionally includes the structure of a wireless signal downloading interface comprising a wireless receiver connector for temporary connection to a downloading device.

Analysis of Dependent Claims 8, 16 and 21

The Examiner concludes these dependent claims modify and/or add to the function of Functional Phrase #4 forming modified, modified second and modified fourth Functional Phrases #4, respectively. (See '278 at col. 24, lines 46-51.) Accordingly the Examiner finds that with regard to claims 8, 16 and 21 the corresponding function for the respective phrases includes permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.

Conclusion

Finally, see MPEP 2258, I., G, "During reexamination, claims are given the broadest reasonable interpretation consistent with the specification and limitations in the specification are not read into the claims (*In re Yamamoto*, 740 F.2d 1569, 222 USPQ 934 (Fed. Cir. 1984)). See

also MPEP 2111, e.g. "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 75 USPQ2d 1321, 1326 (Fed. Cir. 2005) (*en banc*) and "The ordinary and customary meaning of a term may be evidenced by a variety of sources, including 'the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Phillips v. AWH Corp.*, 415 F.3d at 1314, 75 USPQ2d at 1327.

Rejections based on Prior Art:

Statutory Bases

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

> by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim Rejections

Claim(s) 1, 4-8, 11-12, and 18-21 are rejected under pre-AIA 35 U.S.C. 102(b) as anticipated by or, in the alternative, under pre-AIA 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,330,499 to Chou et al (hereinafter also referred to as '499 or Chou).

The patent to Chou includes a/an publication/issue date more than one year prior to the effective filing date of June 3, 2007 of '278, and thus are available as prior art under 35 USC 102(b) and 35 USC 103.

Claim 1

A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:

See '499 at, e.g., Fig. 1, elements 1000, 100 and 317, col. 2, lines 39-43, Figure 2, esp. elements 330, 335 and the dotted line therebetween, col. 3 lines 33-46 ("The processor 300 is coupled to a vehicle bus 335 through a vehicle bus interface 330. The coupling between the client computer device and the vehicle bus interface 106 of FIG. 3, may be one of RS-232, USB (Universal Serial Bus), IDB (ITS Data Bus), Ethernet, and the like. The vehicle bus interface may support one of vehicle bus standards such as CAN (Controller Area Network) and the Society of Automotive Engineers' SAE J1850 - Class B Data Communication Network Interface. Alternatively, the processor supports some or all of the functions of the vehicle bus interface and connects directly to the vehicle bus 335. The vehicle bus shown in FIG. 2 is an inherent part of all new automobiles. The dotted line is used as an indication that the vehicle bus

is built into the vehicle."), col. 3, lines 54-56, col.4, lines 2-38 (esp. "model dependent"), Fig. 3, elements 103 and 104, col. 1, lines 11-17 and col. 6, lines 39-41, col. 7, lines 32-40, and claims 2 and 7-9. Therefore '499 discloses a multi-vehicle compatible, i.e. multi-model compatible, tracking unit for a vehicle comprising a vehicle data extending throughout the vehicle.

a vehicle position determining device;

See *Claim Interpretation/Analysis* section, **"a vehicle position determining device"** *supra*, the discussion of claim 11 infra and '499 at, e.g., Figure 1, element 150A and 317, col. 2, lines 39-43, col. 3, lines 54-59 ("Optionally, the processor 300 may be coupled to a location sensing device such as a GPS receiver 317 (FIG. 1) to provide vehicle location information. The system may or may not assume the availability of the automatic vehicle position information. Location-related scenario, such as emergency help dispatch may use automatic vehicle positioning …."), col. 7, lines 32-40 and claims 1-2. Therefore '499 discloses the tracking unit comprising "a vehicle position determining device".

a wireless communications device;

See *Claim Interpretation/Analysis* section, **"a wireless communications device"** *supra* and '499 at, e.g., Figure 1, element 150, Figure 2, element 320, col. 2, lines 30-39 ("As shown in FIG. 1, the system 1000 includes a vehicle 10 with a vehicle driver or user 140, having an in-vehicle computing system 100, a client computer device 101 installed to enable vehicle health checkup and remote diagnostics, a communication link 150 (e.g., via wireless base stations

150B, or the like) for communicating vehicle information (e.g., vehicle identification number, (VIN), diagnostic data, and the like). Such a link can be interfaced with an internet 150C, the Internet 150D, or a public (or private) switch telephone network (PSTN) 150E."), col. 3, lines 15-32, Figure 3, elements 107 and 102, and col. 4, lines 39-42. Therefore '499 further discloses the tracking unit comprising "a wireless communications device".

a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;

See *Claim Interpretation/Analysis* section, **"a multi-vehicle compatible controller…"** and prior discussion of the preamble, "a vehicle position determining device" and "a wireless communications device". Additionally see Fig. 2, elements 300 and 350, col. 2, lines 44-52 and 55 et seq, col. 3, line 62-col. 4, line 14 and Figure 3, element 101/120. Therefore Chou discloses a CPU operating under stored program/software control, e.g. 300, 101, a memory, e.g. 350, and input/output circuitry, e.g. 330. '499 further discloses time stamping information or data, e.g. test data or fault codes ('499 at col. 5, first full paragraph and the paragraph bridging cols. 7-8 and Figure 4). Therefore Chou is also considered to either implicitly disclose or obviously suggest a clock since it discloses some structure/device for providing an indication of time. Thus, '499 further implicitly or obviously discloses a "a multi-vehicle compatible controller" and such for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information.

said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and

See *Claim Interpretation/Analysis* section, **"a multi-vehicle compatible controller…"**.

See also the prior discussion of the preamble, esp. col. 3 lines 33-46 ("The processor 300 is coupled to a vehicle bus 335 through a vehicle bus interface 330. The coupling between the client computer device and the vehicle bus interface 106 of FIG. 3, may be one of RS-232, USB (Universal Serial Bus), IDB (ITS Data Bus), Ethernet, and the like. The vehicle bus interface may support one of vehicle bus standards such as CAN (Controller Area Network) and the Society of Automotive Engineers' SAE J1850 - Class B Data Communication Network Interface. Alternatively, the processor supports some or all of the functions of the vehicle bus interface and connects directly to the vehicle bus 335. The vehicle bus shown in FIG. 2 is an inherent part of all new automobiles. The dotted line is used as an indication that the vehicle bus is built into the vehicle."), and col. 4, lines 15-38 ("The vehicle bus interface 120 is responsible for replying to requests for parametric data. It is also responsible for continuously monitoring the vehicle bus 104 for any fault reported by the ECUs 103, in terms of diagnostic trouble codes (DTCs). The vehicle bus interface 120 includes the following modules: vehicle bus adapter 120C, fault detector 120B, and diagnostic data service 120A. The fault detector 120B polls the vehicle bus 104 through the vehicle bus adapter 120C checking for fault codes reported by the vehicle ECUs 103. The vehicle bus adapter 120C translates the messages received from the vehicle bus into the language of the fault detector. It also translates messages from the fault detector into the language of the vehicle bus. **The fault code specifications and protocols of the vehicle may be Original Equipment Manufacturer (OEM) and model dependent.** The term

'vehicle fault codes' is meant to be synonymous with the term 'trouble code' or 'diagnostic trouble code'. A listing of such codes may be found in the publication of the Society of Automotive Engineers, 'SAE On-Board Diagnostics for Light and Medium Duty Vehicles Standards Manual'. The diagnostic data service 120A accepts request for vehicle parametric data and retrieves the data using the vehicle bus adapter." (Emphasis added).), and "**said multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information"**. Thus Chou either implicitly discloses or obviously suggests a "multi-vehicle compatible controller" and such controller is coupled to a vehicle data bus, e.g. 335, 104, for communication thereover, e.g. via 330, 120, with at least one vehicle device, e.g. 103, using at least one corresponding vehicle device code, i.e. (DTC), vehicle fault codes/protocols, which is vehicle model dependent, i.e. from among a plurality thereof for "different vehicles".

a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

See *Claim Interpretation/Analysis* section, "**a downloading interface…**". See also, e.g., '499 at Figure 1, element 150, Figure 2, elements 320, 360, Figure 3, elements 102, 107, Figure 4, 102, NETWORK INTERFACE, arrow 7,14 and "HTTP, TCP/IP, PPP/SLIP, DIAL-UP, GSM", and Figure 5, 102, NETWORK INTERFACE, arrow 3,9, arrow 4,7, arrow 5,6 and "HTTP, TCP/IP, PPP/SLIP, DIAL-UP, GSM", col. 3, lines 49-53, col. 4, lines 15-19, and 36-46, col. 6, lines 11-14 and 37-47, col. 7, lines 32-40, col. 8, line 65-col. 10, line 11, and claim 10. See also the discussion of "a wireless communications device" limitation *supra* and claims 2-5

and 8 *infra*. '499 discloses, e.g., interface circuitry, e.g. NETWORK INTERFACE, 320, 107, docking facility, and a temporary wireless communication link, e.g. arrow 7, 14, arrow 3, 9, with the downloading device, i.e. TCP/IP(an internet/ the Internet), 201, provided by sharing the wireless communications device, e.g. 102, that sends position data, see, e.g. col. 7, lines 32-40, (see also discussion of claims 2-5) and such structure permits downloading of enabling data, e.g. instruction to gather data, vehicle parameter update/change, related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller, e.g. steps 2-6 in Figure 5. Thus '499 discloses or obviously suggests "a downloading interface" and such permits downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

Claim 4

The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface comprises a wireless signal downloading interface.

See *Claim Interpretation/Analysis* section and discussion of claim 1 *supra*, "downloading interface for …controller" and "a wireless communications device" limitation *supra* esp. Figure 1, 150, Figure 2, elements 300, 320, Figs. 3-5, elements 107, 102, arrow 7, 14, arrow 3, 9, col. 3, lines 15-32 ("The processor is integrated with a network interface 320 to provide communication capability with the remote service center 200. Preferably, the network interface comprises a removable wireless telephone such as the Motorola i1000+ and a docking facility for the wireless phone integrated with the client computer device. Both voice and data connections can be supported by interfacing the processor 300 and the wireless phone. The telephone integration

provides basic communication functions. It establishes a data (e.g. TCP/IP) connection with a remote service center (e.g., remote service center 200). Wireless technologies such as GSM (Global System for Mobile Communications), CDMA (Code Division Multiple Access), TOMA (Time Division Multiple Access), iDEN™ (a TOMA-based Motorola technology), and AMPS (Advanced Mobile Phone System) can all be supported. The phone may also be used for wireless voice communications.". Therefore '449 discloses or obviously suggests a wireless signal downloading interface.

Claim 5

The multi-vehicle compatible tracking unit according to claim 4 wherein said wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device.

See *Claim Interpretation/Analysis* section and discussion of claim 1, "downloading interface for …controller" limitation and "a wireless communications device" limitation, *supra* (e.g. col. 4, lines 39-43, col. 7, lines 32-40col. 9, lines 1-59, i.e. data link/connection 150, arrows 3,9, 7,14, between wireless phone 102 and server 201 opened and terminated during health checkup process). Therefore '499 teaches or obviously suggests a wireless receiver 102 of the wireless signal downloading interface for temporary connection to a downloading device.

Claim 6

The multi-vehicle compatible tracking unit according to claim 1 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.