

## DECLARATION OF SCOTT ANDREWS

I, Scott Andrews, declare as follows:

1. I hold a B.Sc. degree in Electrical Engineering from University of California–Irvine and a M.Sc. degree in Electronic Engineering from Stanford University. In various positions at, among others, TRW and Toyota, I have been responsible for research and development projects relating to, among others, numerous vehicle navigation systems, information systems, and user interface systems. My qualifications are further set forth in my *curriculum vitae* (Exhibit A). I have been retained by Volkswagen Group of America, Inc. in connection with its petition for *inter partes* review of U.S. Patent No. 7,917,285 (“the ’285 patent”). I have over 25 years of experience in fields relevant to the ’285 patent, including vehicle telecommunications systems, vehicle navigation systems, and telematics-aided vehicle navigation systems.

2. I have reviewed the ’285 patent, as well as its prosecution history and the prior art cited during its prosecution, including U.S. Patent Application Publication No. 2004/02284849 (“Ishibashi”) and U.S. Patent Application Publication No. 2004/0064245 (“Knockart”). I have also reviewed U.S. Patent No. 6,526,335 (“Treyz”), European Patent Application Publication No. 1 302 751 (“Demir”), U.S. Patent Application Publication No. 2003/0043019 (“Tanaka”), the Richard Lind et al. publication, *The Network Vehicle – A Glimpse into the Future of Mobile Multi-Media*, SAE Brasil 98, VII International Mobility Technology Conference & Exhibit (“Lind”), and U.S. Patent No. 7,386,393 (“Zabel”).

## **The '285 Patent**

3. The '285 patent describes remotely entering addresses into GPS devices. A user enters a location into a web browser in a computer 306, and the computer 306 transmits the location to a server 304. Col. 9, l. 67–col 10 20. The server 304 then resolves the address and sends the resolved information to the GPS device 100. Col. 10, ll. 34–38. The GPS device uses the information to provide route guidance. Col. 10, ll. 38–49. To identify both the user and the user's GPS device, the system described in the '285 patent uses an Internet cookie and a database of GPS device transmission information. The user's computer transmits an Internet cookie to the server to identify the user, and the server utilizes a database to identify a telephone number or IP address for use in transmitting information to the GPS device 100. Col. 10, ll. 21–33.

4. According to my understanding of the prosecution of the '285 patent, claim 1 was granted on an application claim, *i.e.*, application claim 25, which described a system for entering location information into a positional information device including a server that is configured to receive a request for a location, to determine coordinates of the location, and to transmit the coordinates to the positional information device, as follows:

25. A system for entering location information into a positional information device, the system comprising:

a server configured to receive a request for at least one location, determine coordinates of the least one requested location and to transmit the determined coordinates to the device;

the positional information device including

a locational information module for determining location information of the device;

a communication module for receiving coordinates of the at least one location from the server;

a processing module configured to receive the coordinates from the communication module and determine route guidance based on the location of the device and the received coordinates; and

a display module for displaying the route guidance; and

a communications network for coupling the positional information device to the server.

5. After being rejected as anticipated by Ishibashi, this claim was amended to describe “remotely” entering location information and to change “coordinates” to “address, ” as follows:

25. A system for remotely entering location information into a positional information device, the system comprising:

a server configured to receive a request for an address of at least one location not already stored in the positional information device, to determine ~~coordinates~~ the address of the least one ~~requested~~ location and to transmit the determined ~~coordinates~~ address to the positional information device;

the positional information device including

a locational information module for determining location information of the positional information device;

a communication module for receiving the determined coordinates address of the at least one location from the server;

a processing module configured to receive the determined coordinates address from the communication module and determine route guidance based on the location of the positional information device and the ~~received~~ determined coordinates address; and

a display module for displaying the route guidance; and

a communications network for coupling the positional information device to the server.

6. After again being rejected, as anticipated by Knockeart, this claim was further amended to describe that “the request is received from a remote computer with a first identifier and the server being configured to determine a second identifier for identifying the positional information device based on the received first identifier,” as follows:

25. A system for remotely entering location information into a positional information device, the system comprising:

a server configured to receive a request for an address of at least one location not already stored in the positional information device, to determine the address of the least one location and to transmit the determined address to the positional information device,

wherein the request is received from a remote computer with a first identifier and the server being configured to determine a second identifier for identifying the positional information device based on the received first identifier;

the positional information device including

- a locational information module for determining location information of the positional information device;
- a communication module for receiving the determined address of the at least one location from the server;
- a processing module configured to receive the determined address from the communication module and determine route guidance based on the location of the positional information device and the determined address; and
- a display module for displaying the route guidance; and
- a communications network for coupling the positional information device to the server.

7. According to the Office Action dated October 13, 2010, the Examiner concluded that Knockeart disclosed all of the limitations of application claim 25, except for the limitation that “the server being configured to determine a second identifier for identifying the positional information device based on the received first identifier.” As discussed below, however, this limitation of claim 1 of the ’285 patent, as well as the remaining limitations of claims 1 through 12 of the ’285 patent, are described in the prior art. In my opinion, a person of ordinary skill in the art, at the time of the filing of the application for the ’285 patent, would have found the systems described in claims 1 through 12 obvious in view of the prior art.

## The Combination of Knockeart and Treyz – Claims 1 to 5, 9, and 10

8. In my opinion, it would have been obvious to combine the teachings of Knockeart and Treyz, as discussed below, to achieve the system claimed in the '285 patent. The combination of Knockeart and Treyz describes all of the limitations of claims 1 through 5, 9, and 10 of the '285 patent, including the limitation which was the basis for the allowance of the '285 patent, *i.e.*, “wherein the request is received from a remote computer with a first identifier and the server being configured to determine a second identifier for identifying the position information device based on the received first identifier.”

9. Knockeart, assigned to Siemens Automotive Corp., published on April 1, 2004. Knockeart describes a vehicle information system including an in-vehicle system 105 in communication with a centralized server 125, used to provide route planning. Abstract; ¶¶ 9, 73. The operator of the vehicle inputs a desired destination into the in-vehicle system 105, which uploads the desired destination to the server system 125. The server system determines a route plan and sends the plan to the in-vehicle system 105, which performs route guidance. ¶ 74.

10. In-vehicle system 105 includes onboard computer 210, processor 212, GPS antenna 253, GPS receiver 252, cellular transceiver 254, and display 242. The vehicle operator enters a desired destination into the in-vehicle system, which sends the information, along with the current location of the vehicle, to the server system 125 over cellular telephone network 350 and PSTN 340. ¶¶ 113–127. The server system

determines a route from the current location of the vehicle to the desired destination, and transmits that route information to the vehicle along with spot maps of the current location and destination. The in-vehicle system 105 uses the information to provide route guidance. ¶¶ 73–74, 183–185.

11. The server system 125 uses the desired destination input by the vehicle operator to validate the destination, or determine the street address of the desired destination. For example, as described by Knockeart, the server system 125 is used to validate a desired destination entered by the vehicle operator if the destination is outside of the geographic range of data stored in the in-vehicle system. ¶ 239. As a further example, the server system 125 executes a navigation application 512 to determine the address of a desired destination by comparing an entered telephone number to a yellow pages database 520. ¶¶ 168–169, 236. Knockeart recognizes that the in-vehicle database may not include all possible yellow page listings and that only categories of listings may be included in the in-vehicle database. ¶ 230. An operator is presented with a list of categories and may select a category from the list. *Id.* Once the operator selects a yellow page category, a communication session between the in-vehicle system and the server system is established, and the specific listings, *i.e.*, street addresses, in the selected category are downloaded from the server system to the in-vehicle system, and the operator can select a particular destination from the downloaded list. ¶ 231. Furthermore, in implementing a “reverse” telephone directory, Knockeart describes that the “operator can specify a destination by

specifying the telephone number of the destination” and that the “server system receives the telephone number and looks in [sic] up in a ‘reverse’ telephone directory to determine the street address of the destination.” ¶ 236.

12. Treyz describes a networked personal computer for a vehicle. The automobile computer system communicates over the Internet using remote wireless links, and may be controlled by a user using a service provider. Col. 2, ll. 5–8, 44–45; Col. 19, ll. 33–45; Fig. 13.

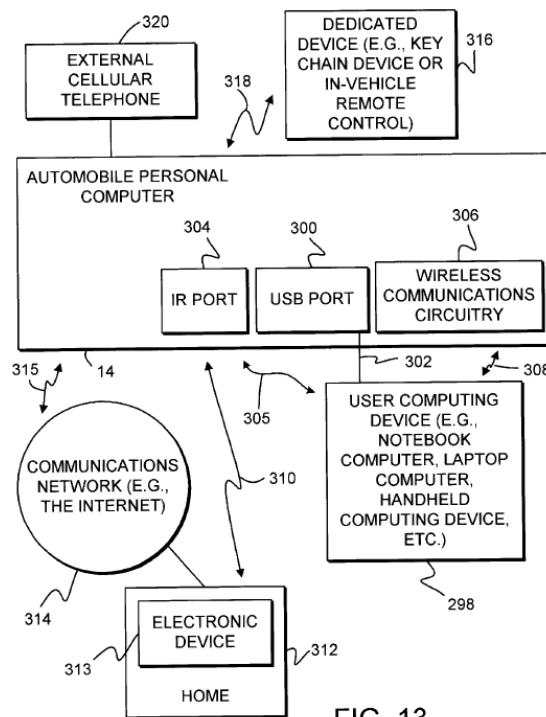


FIG. 13

13. Treyz describes numerous functions of the automobile personal computer 14. Several of those functions require a system for verifying a user identity before providing access to a user. A user registers user identification information (a first identifier), such as a name, password, or personal identification number (PIN). Col.



30, ll. 25–32, 54–60. The user may then also register an automobile personal computer to be associated with that user’s identification information. Automobile personal computers are identified by an identification number or a communications address (a second identifier). Col. 42, ll. 10–25. In addition, a manufacturer may maintain a database of the identification information of automobile personal computers and their users. Col. 32, ll. 28–54.

14. Once the user identification information and automobile personal computer identification number or communications address are registered with the server, the information can be used to determine the automobile personal computer associated with a particular user. For example, if a user logs in to a service provider server to remotely control the automobile personal computer, the user’s identification information will allow the server to identify the corresponding automobile personal computer according to its identification number or communications address. Col. 42, ll. 38–44. As another example, if a user wants to locate a vehicle, a user may provide user identification information to a kiosk, which will contact the database to determine the communications address of the associated automobile personal computer, and will allow the system to contact the automobile personal computer to determine its location. Col. 32, ll. 28–66. Further still, a user can request the street address associated with the current location of the vehicle, and the system will perform a database look-up operation in a remote database to determine the street address and transmit the street address to the user. Col. 44, ll. 27–42.

15. Treyz therefore describes the claimed server (service provider server or third party database), receiving a request from a remote computer (home device or kiosk) including a first identifier (user identification information, e.g., name, PIN, or password), determining a second identifier for identifying a position information device (automobile personal computer 14) based on the received first identifier (determining the automobile personal computer identification number or communications address), and transmitting information to the positional information device (control commands or request for location).

16. In my opinion, it would have been obvious to combine the teachings of Knockeart and Treyz to achieve the systems claimed in the '285 patent.

17. For example, both Knockeart and Treyz describe systems that transmit requests from a remote computer to a server requesting information, and the server transmitting the requested information to a navigation unit in a vehicle. More specifically, Knockeart describes that a server determines an address of a location in response to the user's request, and transmits the address information to the vehicle computer system. In the system described by Knockeart, the in-vehicle system guides the operator along a calculated route to the determined address and also replans a new route to the destination if the vehicle deviates from a planned route. Treyz specifically describes transmitting a request from a remote computer, along with a first identifier, to the server, and the server using the first identifier to determine a second identifier for identifying the positional information device to receive the determined

information from the server, by describing user identification information to match an associated automobile personal computer.

18. According to Treyz, the first and second identifiers are provided for security purposes in remotely communicating with a vehicle, including verifying a user's identity. *See, e.g.*, col. 2, ll. 44–47, col. 30, l. 25–col. 31, l. 15.

19. At the time that the '285 patent was filed, it would have been obvious to modify the vehicle information system taught by Knockeart to include the automobile remote control and user authentication system taught by Treyz for greater functionality in the automobile computer system, and for security purposes in remotely communicating with a vehicle, including verifying a user's identity, as taught by Treyz.

20. Additionally, several years before the filing of the '285 patent, as well as contemporaneously to the filing of the '285 patent, other companies developed vehicles with networked connectivity, allowing users to interact with their vehicles remotely. This industry activity further supports my opinion that the system claimed in the '285 patent would have been obvious to a person of ordinary skill in the art, and that it would have been obvious to combine the teachings of Knockeart and Treyz.

21. For example, as described by Lind, the Network Vehicle was developed by a group of companies including Delphi Delco Electronics Systems, IBM, Netscape Communication, and Sun Microsystems. The Network Vehicle developers loaded

several computing and communications devices into a vehicle, to show that the technology could successfully be used in a variety of ways. The Network Vehicle included a roof-mounted antenna to provide a satellite connection to the Internet. p.

2. The system associated with the Network Vehicle included an off-board network architecture, including a home/office computer and an IBM web server, among others. p. 2. As described by Lind, the Network Vehicle developers provided a web site for users of the Network Vehicle to remotely access the computing systems located in the vehicle. The vehicle web site allowed users to “plan trips on the vehicle web site, then download them to your vehicle.” p. 4.

22. The Lind article also describes systems in which a user can remotely enter information into a positional information device in a vehicle. Lind states that the Network Vehicle was demonstrated at the Computer Dealer’s Exhibits (COMDEX ‘97) in Las Vegas, Nevada, on November 17–19, 1997, nine years before the filing of the ’285 patent. At this demonstration, the presenters of the Network Vehicle (Delphi, IBM, Netscape, and Sun Microsystems) presented the vehicle website that is described by Lind, as noted above.

23. I have reviewed screenshots of the Network Vehicle web site, and attached those screenshots as Exhibit B. I acquired these screenshots pursuant to my work as an expert witness engaged by Volkswagen Group of America, Inc. in connection with *Affinity Labs of Texas, LLC v. BMW North America, LLC, et al.*, Case No. 9:08-cv-00164 (E.D. Tex.).

24. Moreover, in 1997, I personally attended a demonstration of the Network Vehicle, conducted by Delphi at a Delphi supplier exhibition at Toyota's headquarters in Toyota City, Japan. At that event, the developers of the Network Vehicle demonstrated its features to me, and explained the system operation.

25. Referring to Exhibit B, as illustrated in, *e.g.*, the "Member Home" page, once a user logged in to the web site as an owner of the Network Vehicle, the Vehicle ID ("J3792X04128") was displayed. The next page, the "Travel Itinerary" web page, shows entry of origin and destination cities, route, origin, and destination maps that can be selected and downloaded to the Network Vehicle identified by the Vehicle ID. The Network Vehicle, and its associated off-board network architecture and web site, therefore demonstrate that it would have been obvious to provide a first identifier (a user's log-in information) to determine a second identifier identifying the positional information device (the Vehicle ID).

26. As a further example, Zabel describes BMW's "Google Send to Car" project, in which destination information could be transmitted to a vehicle over a network. Using a remote computer, a user could perform online searches for destination information, and have the resulting information sent to their vehicle. The server 150 compares the user's identification information to a vehicle database 170 to identify an associated vehicle and the communication information of the in-vehicle navigation system 140. Once the vehicle and its communication information has been identified, the server 150 sends the requested information to that in-vehicle navigation system 140. Col. 1,

ll. 62–66; col. 2, l. 53–col. 3, l. 8; col. 3, l. 57–col. 4, l. 10. In my opinion, Zabel also demonstrates the obviousness of the system claimed in the '285 patent.

27. The use of Internet cookies to identify a user of a web browser to a server was well known in 2006, when the '285 patent was filed. For example, in 1999, seven years before the '285 patent was filed, IBM received a patent describing web server user authentication using Internet cookies, U.S. Patent No. 5,875,296.

It is a further object of the invention to provide a distributed file system authentication scheme for Web browsing that only requires passing of a user id and password when the user initially logs in to the file system through a Web server. On subsequent requests, a secret handle stored in a 'cookie' is passed from the Web browser to the Web server.

Col. 2, ll. 29–34;

In response to receipt by the Web server of a user id and password from the Web client, a login protocol is executed with the security service. If the user can be authenticated, a credential is stored in an in-memory credential database of credentials associated with authenticated users. The Web server then returns to the Web client a persistent client state object having a unique identifier therein. This object, sometimes referred to as a cookie, is then used to enable the Web client to browse Web documents in the distributed file system. In particular, when the Web client desires to make a subsequent request to the distributed file system, the persistent client state object including the identifier is used in lieu of the user's id and password, which makes the session much more secure.

Col. 2, l. 66–col. 3, l. 12.

28. The use of IP addresses to identify a device for sending or receiving information over the Internet was also well known in 2006, when the '285 patent was filed. For example, in 2003, IBM filed a patent application describing the use of Internet Protocol ("IP") addresses, which eventually issued as U.S. Patent No. 7,114,006.

In the most widely installed level of the Internet Protocol ("IP") today, an IP address is a 32-bit number that identifies each sender or receiver of information that is sent in packets across the Internet. When a user requests an HTML page, the Internet Protocol part of TCP/IP includes the user's IP address in the message (actually, in each of the packets if more than one is required) and sends it to the IP address that is obtained by looking up the domain name in the Uniform Resource Locator ("URL") requested. At the other end, the recipient can see the IP address of the Web page requestor and can respond by sending another message using the IP address it received.

Col. 1, ll. 56–67.

### **The Combination of Knockeart, Treyz, and Demir – Claims 6 to 8**

29. In my opinion, it would have been obvious to combine the teachings of Knockeart, Treyz, and Demir, as discussed below, to achieve the system described in claims 6 through 8 of the '285 patent. As described above, the combination of Knockeart and Treyz describes all of the limitations of claim 1 of the '285 patent, including the limitation which was the basis for the allowance of the '285 patent, *i.e.*,

“wherein the request is received from a remote computer with a first identifier and the server being configured to determine a second identifier for identifying the position information device based on the received first identifier.” Demir describes the limitations of claims 6 through 8, and it would have been obvious to combine the teachings of Demir with the combination of Knockeart and Treyz.

30. Demir describes another system for entering destination information into a navigation unit of a vehicle. The user transmits an address to a server (service control point 6), which generates destination information suitable for the on-vehicle navigation system associated with the transmitted address. Abstract. As relevant to claim 6 of the '285 patent, the service control point 6 assigns geographical coordinates to the address before transmitting that information to the operating unit 3 in the navigation system of a vehicle. Abstract, ¶ 41 (“In a second step, destination recognition means 7 assigns geographical coordinates to a specified and clearly identified destination address.”). As relevant to claims 7 and 8, a user specifies a destination address according to conventional address format, including the name or street. ¶ 9 (“In one advantageous specific embodiment, the destination address is specified by the user as the complete, conventional address, for instance, in the format: first name, last name, street name, house number, place of residence.”).

31. At the time that the '285 patent was filed, it would have been obvious to combine the teachings of Knockeart and Treyz with the teachings of Demir for a system for specifying a destination address. Demir teaches that the system for



specifying a destination address provides “a convenient and accurately addressed destination selection of the navigation system at all times,” and a “simplification of the destination selection [which] increases the readiness for using the navigation system, and thus enables a convenient, reliable and stress-free trip to the travel destination.” Demir, ¶ 10. For at least these reasons, it is my opinion that a person of ordinary skill in the art, at the time that the ’285 patent was filed, would have found it obvious to combine the teachings of Demir with the teachings of Knockeart and Treyz.

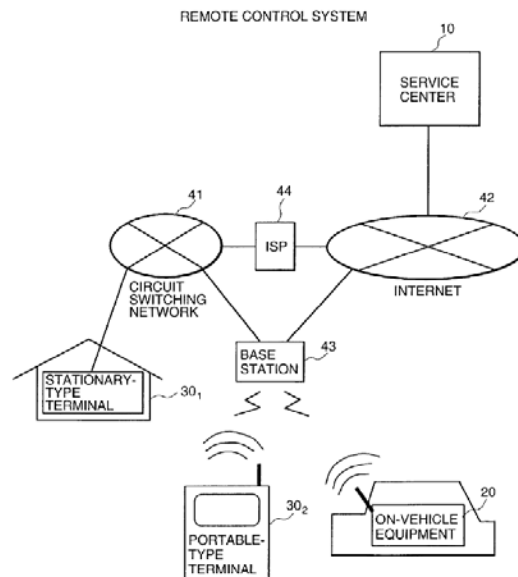
### **The Combination of Knockeart, Treyz, and Tanaka – Claims 11 and 12**

32. In my opinion, it would have been obvious to combine the teachings of Knockeart, Treyz, and Tanaka, as discussed below, to achieve the system described in claims 11 and 12 of the ’285 patent. As described above, the combination of Knockeart and Treyz describes all of the limitations of claim 1 of the ’285 patent, including the limitation which was the basis for the allowance of the ’285 patent, *i.e.*, “wherein the request is received from a remote computer with a first identifier and the server being configured to determine a second identifier for identifying the position information device based on the received first identifier.” Tanaka describes the limitations of claims 11 and 12, and it would have been obvious to combine the teachings of Tanaka with the combination of Knockeart and Treyz.

33. Knockeart describes downloading “spot maps as small graphs around the starting location or the selected maneuver points” from the server system to the in-vehicle system. ¶ 257.

34. Tanaka, assigned to Hitachi, Ltd., published on March 6, 2003. Tanaka describes a system for remotely controlling on-vehicle devices, such as a navigation apparatus, allowing a user to enter a request for information associated with a particular location, e.g., an address, into a remote computer (stationary computer terminal 30<sub>1</sub> or mobile device 30<sub>2</sub>) as control content, and to transmit the request to a server (service center 10) with a user identifier. ¶¶ 38, 42–44, 57, 60; Fig. 1. The server (service center 10) stores the user identifier and the control content in control information database 105, and produces “control information” used to cause an on-vehicle navigation apparatus to execute, e.g., navigation. ¶¶ 44–47.

FIG. 1



35. As described by Tanaka, a vehicle transmits the user identifier to the server, and the server responds with all of the control information stored on the server associated with that user identification. ¶¶ 96–100. The control information may include commands for the navigation apparatus of the on-vehicle equipment 20, so that route guidance may be processed and displayed. ¶¶ 68–72.

36. Tanaka therefore describes the claimed server (service center 10), receiving a request from a remote computer (terminals 30<sub>1</sub> or 30<sub>2</sub>), determining an address for a location (searching point information database 108) and transmitting the determined address to a positional information device (on-vehicle navigation apparatus 20). The request includes a first identifier (ID information), and the server determines which position information device to send the information when the user later submits the ID information from the on-vehicle equipment.

37. Tanaka describes a map information request from the on-vehicle equipment 20 to map information database 106 of service center 10. ¶ 58. If the necessary map information is not included in the on-vehicle equipment's map information database 205, the on-vehicle equipment 20 requests the map information from the map information database 106, and the map information database 106 transmits the requested map information to the on-vehicle equipment 20. ¶ 110.

38. At the time that the '285 patent was filed, it would have been obvious to combine the teachings of Knockeart and Treyz with the teachings of Tanaka for acquiring map information from a database on a server. The prior art teaches that

system for acquiring map information from remote databases advantageously avoid requiring an on-vehicle database to store large quantities of map information. *See, e.g.,* Tanaka, ¶ 110; Knockeart, ¶ 11 (“An advantage of the invention is that the vehicle does not have to have a prestored map to plan a route to a destination.”); Demir, ¶ 11 (“it is possible to access a particularly voluminous and current data base . . . no memory is required in the motor vehicle for the complete storage of all destination addresses of the navigation system.”). For at least these reasons, it is my opinion that a person of ordinary skill in the art, at the time that the ’285 patent was filed, would have found it obvious to combine the teachings of Tanaka with the teachings of Knockeart and Treyz.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code.

Dated: 1/21/2014



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Scott Andrews

# Exhibit

# A

# Scott Andrews

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## Summary

Creative, energetic, and innovative internationally recognized executive experienced in general management, systems engineering, advanced product development, advanced technology, business development, strategic planning, and program management

- Vehicle Electrical/Electronics Systems
- Vehicle Information Systems
- Communications Systems
- ITS and Related Industries
- Program and Project Management
- Enterprise Software
- Multimedia/Internet Computing
- Vehicle Safety and Control Systems
- Spacecraft Electronics
- Mobile Information Technology

## Experience

### 12/2001-Present      Consultant

Systems engineering, business development and technical strategy consulting supporting automotive and information technology.

#### Current Engagements:

- Technical consultant to ARINC for connected vehicle application systems engineering and development of high precision connected vehicle test bed for FHWA (Federal High Way Admin.)
- Technical consultant to Booz Allen for connected vehicle performance measures development project for NHTSA (National Highway Traffic Safety Admin.)
- Technical consultant to Booz Allen for connected vehicle standards for FHWA
- Technical consultant to American Association of State Highway Transportation Officials (AASHTO) for connected vehicle deployment analysis and strategy
- Technical consultant to Michigan State DOT (Enterprise Pooled Fund) to develop a system architecture and deployment strategy for Rural ITS
- Expert witness for Toyota in a case brought by American Vehicular Sciences (AVS)
- Expert witness for Toyota in a patent case brought by Affinity Labs
- Expert Witness for TomTom in a patent case brought by AVS
- Expert witness for Liberty Mutual, Geico and Hartford in a patent case brought by Progressive Insurance
- Expert witness for Ford in a patent case brought by Medius.
- Expert witness for Ford in a patent inventorship case brought by Berry.
- Expert witness for Ford and GM in a patent case brought by Affinity Labs
- Expert witness for M/A Com in a patent case against Laird
- Expert witness for VW/Audi in a patent case brought by Velocity
- Expert witness for VW/Audi in a case brought by Beacon, GmbH.
- Expert witness for Wasica in a patent case against Shrader and Continental

#### Recent Engagements:

- Expert Witness for Samsung, Nokia, ZTE and Sony in an ITC patent case brought by Pragmatus
- Expert Witness for TomTom in a case brought by AOT/Adolph
- Expert Witness for TomTom in a case brought by Cuozzo
- Expert Witness for Navico in a case brought by Honeywell

- Expert witness for Bentley in a case brought by Cruise Control Technologies.
- Expert witness for Google in a case brought by Walker Digital
- Expert witness for Emtrac in a case brought by GTT (3M)
- Expert witness for Motorola in a case brought against Microsoft
- Co-Principal investigator for Integrated Advanced Transportation System; research program funded by FHWA
- Expert Witness for Volkswagen/Sirius-XM in patent infringement case relating to traffic information systems
- Expert Witness for Pioneer in patent infringement related International Trade Commission matter
- Expert Witness for Volkswagen in patent infringement case relating to the iPod interface
- Chief System Architect for the Vehicle Infrastructure Integration (VIIC) program (BMW, Chrysler, Daimler Benz, Ford, GM, Honda, Nissan, Toyota, VW);
- Expert Witness for Honda in patent infringement lawsuit; 14 asserted patents dealing with telematics equipment interfaces and functions
- Expert Witness for Alpine, Denso and Pioneer Corporation in patent infringement related International Trade Commission matter relating to navigation systems
- Telematics delivery architecture development for a Fortune 100 service provider
- Technical consultant to the Vehicle Safety Consortium developing Dedicated Short Range Communications (DSRC) standards for safety systems;
- Expert Witness for BMW in patent infringement lawsuit (American CalCar, Inc. v BMW) included prior art search, invalidity & non-infringement reports, rebuttals reports, depositions, etc for 12 patents with 200+ asserted claims.
- Toyota Motor Sales – 10 year technology survey;
- Connected Vehicle Trade Association- Transferred AMI-C specifications to ISO TC 22, TC 204 AND OSGi. Developed OSGi Vehicle Interface Specification;
- Personal navigation device product feature and opportunity analyses for Thales-Magellan and Rand McNally

#### **4/2000 to 12/2001 Cogenia, Inc.**

President and Chief Executive Officer, Founder

Founded company in 2000 to develop enterprise class data management software system. Responsibilities included development of business concept and plan, corporate administration including financial and legal management, leadership of executive team in product development, fundraising, business development, organizational development, and investor relations. Raised \$2.2M between 8/00 and 5/01 from individuals and funds;

#### **1996 to 4/2000 Toyota Motor Corporation, Japan**

Project General Manager, R&D Management Division

Responsibilities included the conceptualization and development of multimedia and new technology products and services for Toyota's future generations of passenger vehicles in the United States and Europe, Heavy emphasis on strategy for information systems, and on development of technical concepts for computing and Internet oriented systems. Working under direction of Toyota board members, established the Automotive Multimedia Interface Collaboration (AMI-C), a partnership of the world's car makers to develop a uniform computing architecture for vehicle multimedia systems, and led all early technical, planning and legal work. Past responsibilities included leading Toyota's US Automated Highway Systems program, management of technical contracts with Carnegie Mellon University Robotics Lab (Image based collision warning systems), and the development of Toyota's position on the US Intelligent Vehicle Initiative.

Scott Andrews

Page 2

### **1983 to 1996 TRW, Inc.**

Held a series of increasingly responsible positions in program management, technology development and business development.

1993 to 1996 TRW Automotive Electronics Group

Director, Advanced Product Planning/Development

Specific responsibilities included leadership and overall management of advanced development programs such as Automotive Radar, Adaptive Cruise Control, Occupant Sensing, In Vehicle Information Systems, and other emerging transportation products; Managed remotely located advanced development laboratory performing approximately \$6M in annual development projects.

1983 to 1993 TRW Space & Electronics Group

Manager, MMIC Products Organization

Developed TRW's commercial GaAs MMIC business. Responsibilities included development of business strategy and business plan, and overall management of customer and R&D programs. Developed extensive international business base and took operation from start-up to \$5M sales per year in under two years. Developed the first single chip 94 GHz Radar (Used for automotive cruise control and anti collision systems).

### **1979-1983 Teledyne Microwave**

Developed high reliability microwave components. Developed CAD tools.

### **1977-1979 Ford Aerospace, Advanced Development Operation**

Designed, tested and delivered microwave radar receiver systems

## **Education**

MSEE Stanford University, 1982

BSEE University of CA, Irvine 1977

TRW Senior Leadership Program 1992

## **Publications**

1. Two Dimensional Vehicle Control for Obstacle Avoidance in Multi-Lane Traffic Environments; Published in the proceedings of the 1998 IEEE International Conference on Intelligent Vehicles.
2. Automotive Multimedia Interface Collaboration; Briefing Presented to the 9<sup>th</sup> VERTIS Symposium, April 1999, Tokyo Japan.
3. Privacy and Authenticity in Telematics Systems; Published in the Proceedings of the Society of Automotive Engineers World Congress, 1999
4. Automated Highway Systems Acceptance and Liability; Briefing presented to the Automated Vehicle Guidance Demo 98 Conference, Rinjwoude, The Netherlands, June 1998.
5. What is Telematics? Briefing presented at IIR Telematics Conference Scottsdale, AZ, December 2001



6. Advanced Telematics Services: A Hard Look at Reality; Briefing presented at IIR Telematics Conference Scottsdale, AZ, December 2001
7. Consumer Electronics and Telematics; Briefing presented at Eye For Auto Telematics Update Conference Las Vegas, NV, January 2003
8. The Automotive Multimedia Interface Collaboration Software and Network Architecture: Extending the Concept of Platform Independent Computing; Briefing Presented to the Future Generation Software Architectures in the Automotive Domain Conference, San Diego, CA, January 2004
9. Quality, Choice and Value: How New Architectures are Changing the Vehicle Lifecycle; Briefing presented at IEEE Convergence Conference, October 2004
10. Critical Standards for the Next Generation of Telematics Systems and Services; Briefing presented at the Telematics Update Conference, December 2004
11. VII System Overview; Briefing presented To Transportation Research Board, ITS and V-HA Committees 2007 Mid-Year Meeting; July 2007
12. Testing and Development of In-Vehicle Equipment and Private Applications (P08-1634); Briefing presented to the Transportation Research Board Annual Meeting, Washington, DC, January 2008
13. A Comparison of Communications Systems for VII; Presented at the ITS World Congress, New York, NY, October, 2008
14. Vehicle Infrastructure Integration Systems Overview; Presented at the ITS America Annual Meeting, June 1 2009, National Harbor, Maryland
15. Telematics Standards: Logical Next Steps; ITS International, August 2009
16. IntelliDrive<sup>SM</sup> Overview; ITS International, May 2009
17. Time Synchronization and Positioning Accuracy in Cooperative IntelliDrive<sup>SM</sup> Systems; Presented at the 2010 ITS America Annual Meeting, June 2010, Houston, Texas

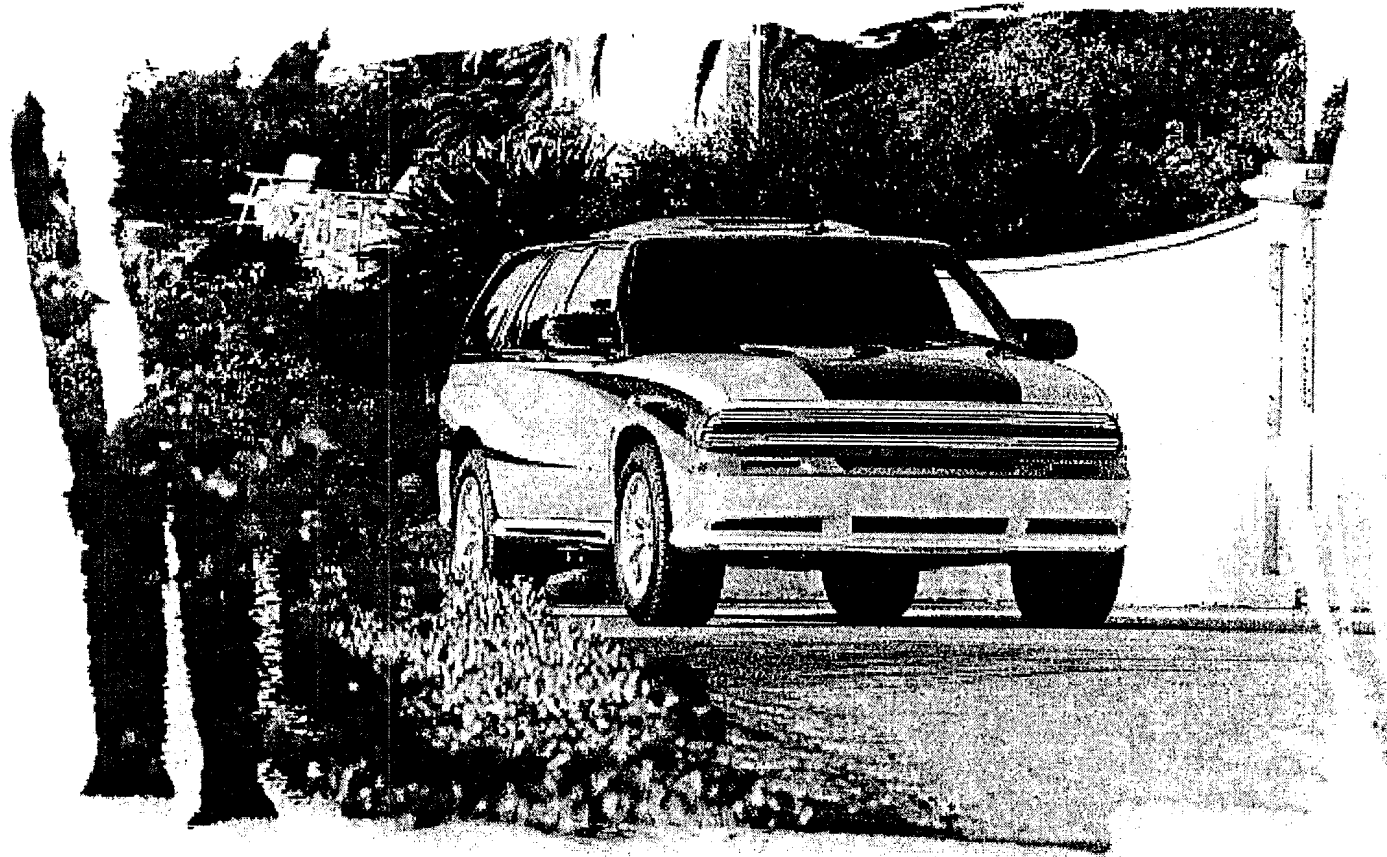
### **Patents**

1. Mobile Body Reporting Device And Its System; Patent Number: JP11118902; 4/30/1999
2. Multiformat Auto-Handoff Communications Handset; Patent Number: US5649308; 07/15/1997

3. A Communications Terminal Device, A Communications System, And A Storing Medium For Storing A Program To Control Data Processing By The Communications Terminal Device; Patent Number: EP0867850, A3; 09/30/1998
4. Communication System For Controlling Data Processing According To A State Of A Communication Terminal Device; Patent Number: US 6122682 3/23/1998
5. Method And Apparatus For Controlling An Adjustable Device; Patent Number: US5864105; 01/26/1999
6. Automatic Brake Device; Patent Number: JP2000108866; 4/18/2000
7. Visual Field Base Display System; Patent Number: JP2000029618; 01/28/2000
8. Intersection Warning System; Patent Number: US5926114; 07/20/1999
9. Security For Anonymous Vehicular Broadcast Messages; Patent Number: US 7742603 3/27/2006
10. Digital Certificate Pool; Patent Number: US7734050 3/27/2006
11. System, Method And Computer Program Product For Sharing Information In A Distributed Framework; Patent Number: US 7802263 12/15/2003

# Exhibit B

# THE NETWORK VEHICLE



**DELPHI**  
Automotive Systems

 **Sun**  
microsystems





NETSCAPE



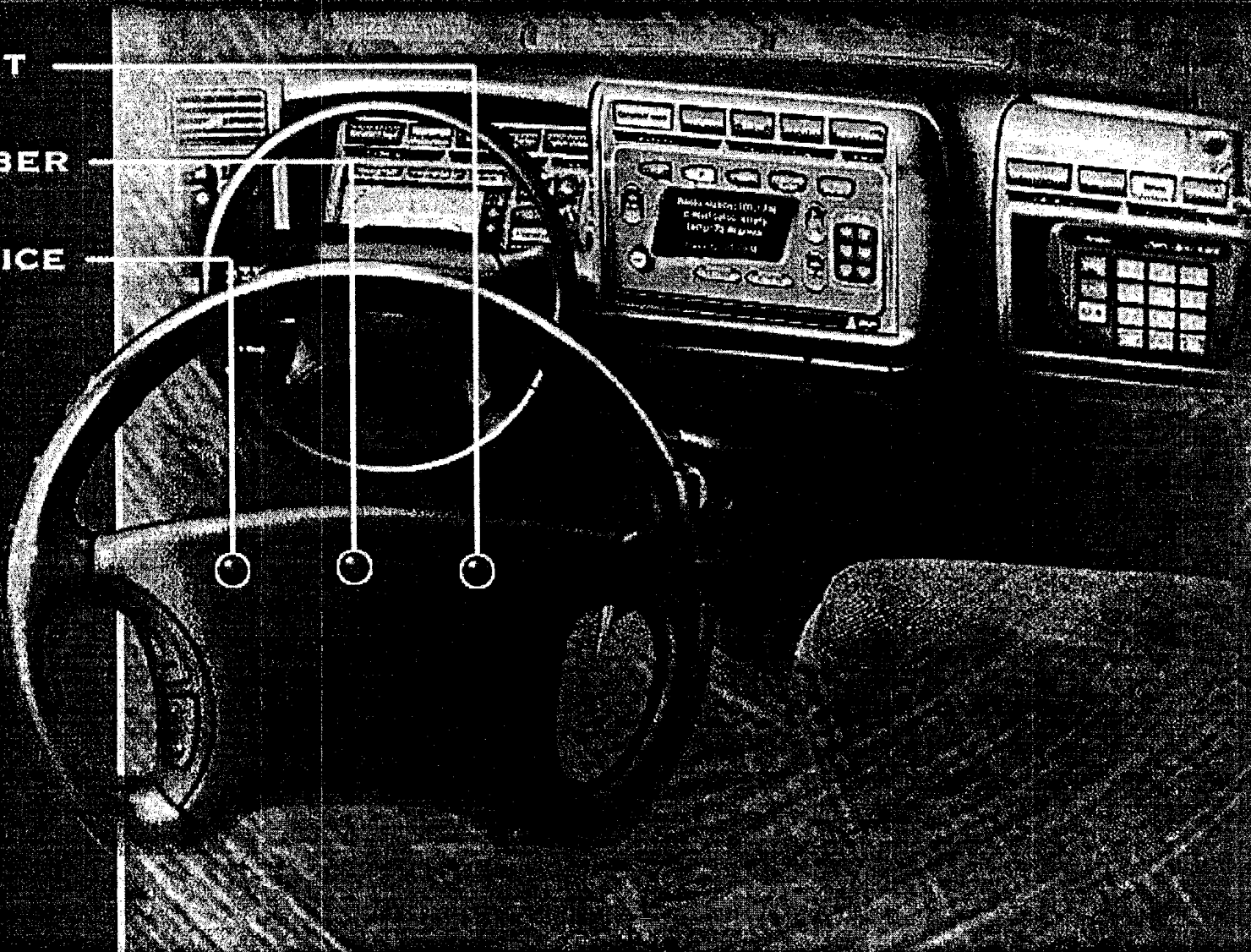


# the network vehicle @ COMDEX / Fall '97

GUEST

MEMBER

SERVICE





# the network vehicle @ COMDEX / Fall '97

**VEHICLE STATUS**

**TRAVEL ITINERARY**

**DRIVER PROFILE**

**VEHICLE RECORDS**

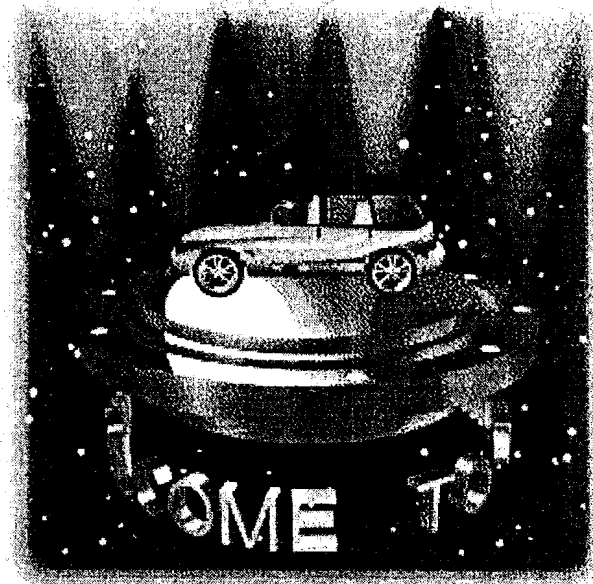
**HOME**

## Member home

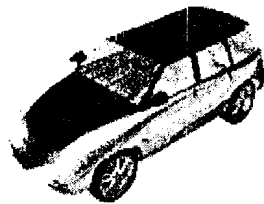
Welcome to the network vehicle member home page.

You have logged in as one of the owners of the Comdex Fall '97 network vehicle.

**Vehicle ID: J3792X04128**



### Start here



The member home page is where you begin your road trip through the network vehicle Web site. Move your cursor over the links at left and this space will change to show you a brief description of each network vehicle member function. When you are ready to take off, just click on one of the links.



# the network vehicle @ COMDEX / Fall '97

VEHICLE STATUS

TRAVEL ITINERARY

DRIVER PROFILE

VEHICLE RECORDS



HOME

## Travel itinerary



### Currently stored

Download on vehicle start	Origin city	Destination city	Route maps	Origin maps	Destination maps
<input type="radio"/>	Detroit, MI	Malibu, CA			
<input type="radio"/>	Malibu, CA	New York, NY			
<input type="radio"/>	New York, NY	Raleigh, NC			

### Create new

Origin city

- Albany, New York
- Albuquerque, New Mexico
- Atlanta, Georgia
- Augusta, Maine

Destination city

- Albany, New York
- Albuquerque, New Mexico
- Atlanta, Georgia
- Augusta, Maine





# the network vehicle @ COMDEX / Fall '97

VEHICLE STATUS

TRAVEL ITINERARY

DRIVER PROFILE

VEHICLE RECORDS

HOME

## Driver profile



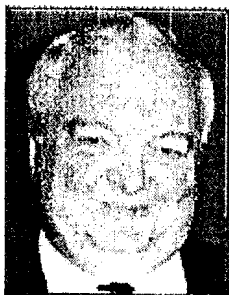
### Marjorie S. Freeman

Phone

Home: (111) 555-4985  
Office: (111) 555-5973  
Fax: (111) 555-5494

Address

123 Main Street  
Anytown, USA 11111



### Richard B. Freeman

Phone

Home: (111) 555-4985  
Office: (111) 555-5298  
Fax: (111) 555-5494

Address

123 Main Street  
Anytown, USA 11111



### Profile categories

- Personal data
- Personal data
- Entertainment preferences
- Information preferences
- Vehicle preferences
- Personal address book

### Profile categories

- Personal data





# the network vehicle @ COMDEX / Fall '97

VEHICLE STATUS

TRAVEL ITINERARY

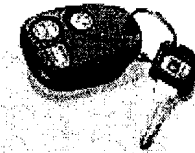
DRIVER PROFILE

VEHICLE RECORDS

HOME

## Entertainment preferences

Marjorie S. Freeman



### FM radio presets

1 - KLSX 95.5

2 - KRTH 101.1

3 - KPWR 105.9

4 - KWAV 94.7

Add

Change

Delete

### AM radio presets

1 - KFI 640

2 - KLET 570

3 - KABC 790

Add

Change

Delete

### Web browser presets

1 - Fedex Standard Tracking

2 - Better Homes and Gardens online

3 - Todays Joke

4 - TWA Flight Schedules

5 - American Airlines Flight Schedules

Add

Change

Delete



# the network vehicle @ COMDEX /Fall '97

VEHICLE STATUS

TRAVEL ITINERARY

DRIVER PROFILE

VEHICLE RECORDS

HOME

## Vehicle preferences

Marjorie S. Freeman



### Suspension (Ride)

Cruise

Cruise

Sport

### Engine

Normal

### Instrument panel

Normal

Digital

Submit changes:



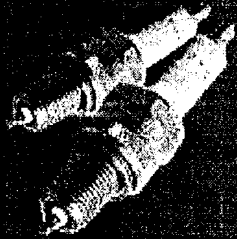
# the network vehicle @ COMDEX / Fall '97

VEHICLE STATUS

TRAVEL ITINERARY

DRIVER PROFILE

VEHICLE RECORDS



HOME

## Vehicle records

Vehicle J3792X04128 | Richard B. Freeman | Marjorie S. Freeman



### Records categories

Maintenance and repair

Maintenance and repair

Service address book

Scrapbook





# the network vehicle @ COMDEX / Fall '97

**VEHICLE STATUS**

**TRAVEL ITINERARY**

**DRIVER PROFILE**

**VEHICLE RECORDS**

**HOME**

## Maintenance and repair



Vehicle J3792X04128 | Richard B. Freeman | Marjorie S. Freeman

01/05/95...587.....	Oil and filter change
04/10/95...3,045.....	Oil and filter change, free warranty .....service delivery inspection
07/15/95...6,129.....	Oil and filter change, rotate tires
09/22/95...9,038.....	Oil and filter change, warranty repair .....replace exhaust manifold
12/27/95...12,193.....	Oil and filter change, replace broken .....headlamp, rotate tires
02/30/96...15,188.....	Oil and filter change, lube chassis,

Add

Change

To

Delete

**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

CD disc 1 trk 1

Temp Control 81 deg

16:45

*Retrieve  
Preferences*

*Save  
Preferences*

## *AutoWeb*

*Enable Remote  
Monitoring*

*Display  
AutoWeb Page*

North on Brush St. 0.1 miles, Left on West Jefferson Ave.

**BACK**



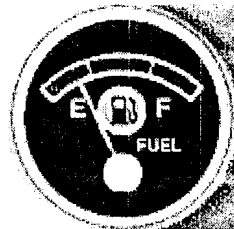
# the network vehicle @ COMDEX / Fall '97

- VEHICLE STATUS
- TRAVEL ITINERARY
- DRIVER PROFILE
- VEHICLE RECORDS
- HOME

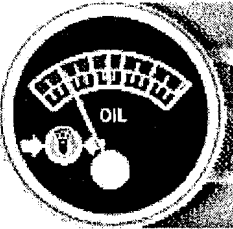
## Gauges and statistics



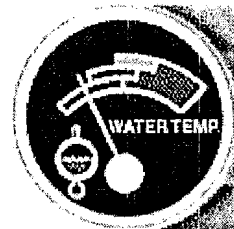
### Gauges



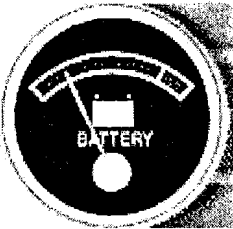
**FUEL**  
 Average Economy: 18.6 mpg  
 Average Timing: 12.7 deg  
 Exhaust Mixture: 5% rich



**OIL**  
 Distance/Oil Change: 2194 miles  
 Avg. Oil Pressure: 35psi  
 Min Oil Pressure: 34 psi



**WATER**  
 Max Coolant Temp: 223 degrees

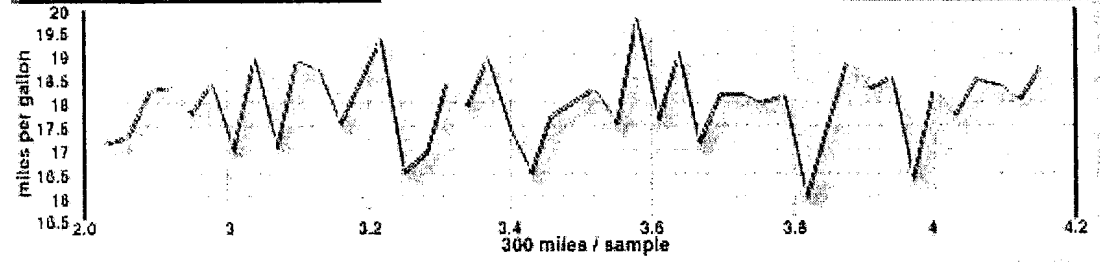


**BATTERY**  
 Battery Voltage: 13.7 Volts  
 Alternator Voltage: 14.7 Volts

### Status alerts

No alerts at this time

### Average fuel economy



Entertainment

Navigation

Office

AutoWeb

Information

Radio 530 AM

Temp Control 81 deg

16:30

AM

FM

CD

Internet  
Radio

Audio on  
Demand

VOL

band AM  
channel 530

SEEK

Presets

1

2

3

4

5

6

Volume III

TUNE

PWR

L BAL R

F Fade R

BACK

Entertainment

Navigation

Office

AutoWeb

Information

Audio on Demand Music

Temp Control 81 deg

16:31

AM

FM

CD

Internet  
Radio

Audio on  
Demand

VOL

Music  
Books  
Children

Volume III

PREV  
NEXT

Presets

1 2

3 4

5 6

PWR

L BAL R

F Fade R

SELECT

BACK



Entertainment

Navigation

Office

AutoWeb

Information

Audio on Demand Music

Temp Control 81 deg

16:32

AM

FM

CD

Internet  
Radio

Audio on  
Demand

VOL

Armstrong: Wonderful World  
Bach: Toccata and Fugue  
Crow: All I Wanna Do  
R. Travis: King of the Road

Volume III

PWR

L BAL R

F Fade R

PREV  
NEXT

PLAY  
PAUSE

Presets

1	2
3	4
5	6

BACK

Entertainment

Navigation

Office

AutoWeb

Information

CD disc 1 trk 1

Temp Control 81 deg

23:22

AM

FM

CD

Internet  
Radio

Audio on  
Demand

VOL

Play

disc 1  
track 1  
time 0.00

STOP

DISC

Presets

1

2

3

4

5

6

Volume |||||

PWR

L BAL R

F Fade R

TRACK

IBM 99.125 INTC 77.9375 NSCP 31.

BACK

**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

CD disc 1 trk 1

Temp Control 81 deg

16:48

- 1 Baseball
- 2 Basketball
- 3 Football
- 4 Hockey
- 5 Soccer
- 6 Tennis

## Sports Selections

Clear All

Ticker On / Off

SUNW 42.625 Knicks 82 Piston 78 Hornets 102 Bulls 98 Bears 10 P

**BACK**

**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

CD disc 1 trk 1

Temp Control 81 deg

16:47

- 1 GM
- 2 GMH
- 3 IBM
- 4 INTC
- 5 NSCP
- 6 SUNW

## Stock Selections

**Clear All**

**Ticker On / Off**

**Voice**

**Read On / Off**

GMH 49.625 IBM 116 SUNW 42.625

**BACK**

**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

CD disc 1 trk 1

Temp Control 81 deg

16:46

***Stocks***

***Sports***

***Information Manager***

***Weather***

***Headlines***

North on Brush St. 0.1 miles, Left on West Jefferson Ave.

**FM**

Entertainment

Navigation

Office

AutoWeb

Information

CD disc 1 trk 1

Temp Control 81 deg

16:50

AM

FM

CD

Internet  
Radio

Audio on  
Demand

VOL

Play  
disc 1  
track 1  
time 0:00

STOP  
DISC

Presets

1	2
3	4
5	6

Volume |||||

TRACK

PWR

L BAL R

F Fade R

Click Here to Exit

BACK

Entertainment

Navigation

Office

AutoWeb

Information

Audio Off

Temp Control 81 deg

14:19

*Virtual Radio*

*DirecTV*

*Entertainment*

*Games*

*Web Browser*

BACK







**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

CD disc 1 trk 1

Temp Control 81 deg

16:34

**Travel Plan**

**Map Overlays**

**Route**

- 1 Boston
- 2 Chicago
- 3 Dallas
- 4 Detroit
- 5 Las Vegas
- 6 Los Angeles
- 7 St. Louis

**Virtual Navigation**



**Start**

**Destination**

**Planned Trip**

© START

**BACK**

**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

CD disc 1 trk 1

Temp Control 81 deg

16:34

**Travel Plan**

**Map Overlays**

**Route**

**Virtual  
Navigation** 

- 1 Airports
- 2 Banks
- 3 Hotels
- 4 Restaurants
- 5 Shopping
- 6 Theaters
- 7 Tourist Attractions

**Street Address**

**Points of Interest**

© START

**BACK**

**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

CD disc 1 trk 1

Temp Control 81 deg

16:35

**Travel Plan**

**Map Overlays**

**Route**

**Virtual Navigation** 

- 1 Atheneum
- 2 Double Tree
- 3 Hyatt Regency
- 4 Marriot
- 5 Omni
- 6 Pontchartrain
- 7 St. Regis

**Destination  
Hotels**

© START

**BACK**

Entertainment

Navigation

Office

AutoWeb

Information

Audio Off

Temp Control 81 deg

11:39

Travel Plan

Map Overlays

Route

Virtual Navigation 

Current Location to Hyatt Regency



ZOOM

START DEST

BACK

**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

CD disc 1 trk 1

Temp Control 81 deg

16:37

**Travel Plan**

**Map Overlays**

**Route**

**Virtual  
Navigation** 

- 1 Airports
- 2 Hospitals
- 3 Gas Stations
- 4 Restaurants
- 5 Shopping
- 6 Tourist Attractions
- 7 Weather

**Clear All**

**Show Overlays**

⊙ START ⊕ DEST

**BACK**

Entertainment

Navigation

Office

AutoWeb

Information

Audio Off

Temp Control 81 deg

11:44

Travel Plan

Map Overlays

Route

Virtual Navigation 

Current Location to Hyatt Regency



ZOOM



Copyright © Esak, Inc. 1984-1997

SEARCH DEST AIRPORT SHOPPING

BACK



BACK



Entertainment

Navigation

Office

AutoWeb

Information

CD disc 1 trk 1

Temp Control 81 deg

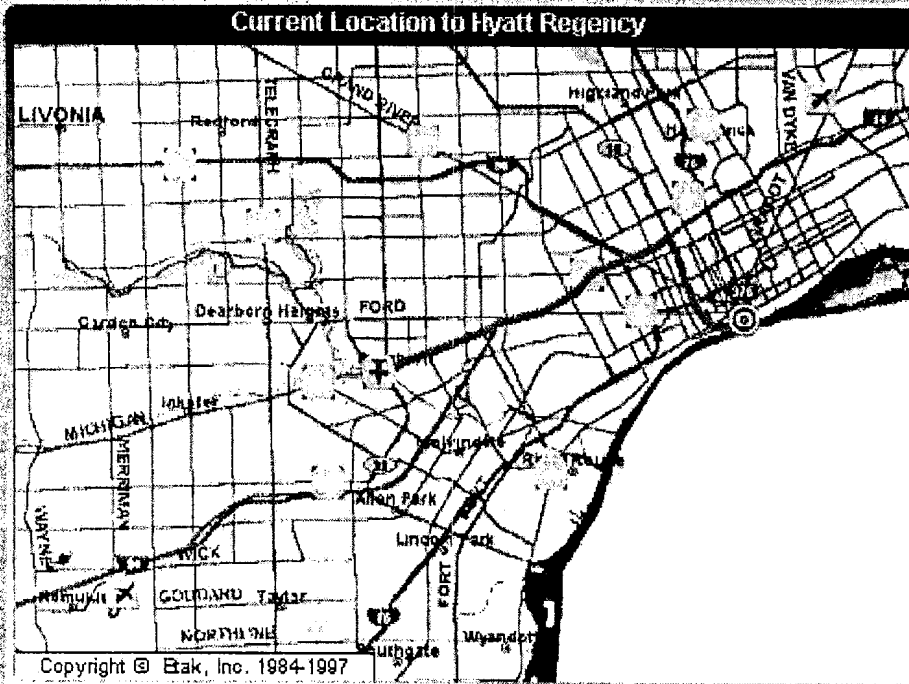
16:41

Travel Plan

Map Overlays

Route

Virtual Navigation 



ZOOM



Quickest Time

Shortest Distance

Traffic Avoidance

Guidance On/Off

START DEST AIRPORT SHOPPING

North on Brush St. 0.1 miles, Left on West Jefferson Ave.

BACK

Entertainment

Navigation

Office

AutoWeb

Information

CD disc 1 trk 1

Temp Control 81 deg

16:42

# E-mail

- |   |             |                |
|---|-------------|----------------|
| 1 | Dick Lind   | AHS Demo       |
| 2 | Library     | Overdue Book   |
| 3 | Rtech       | Parts Order    |
| 4 | pat@amc.com | Farewell Lunch |

North on Brush St. 0.1 miles, Left on West Jefferson Ave.

BACK

Entertainment

Navigation

Office

AutoWeb

Information

Audio Off

Temp Control 81 deg

15:17

## E-mail Message

To: Richard Freeman Date: 11/15/97  
Subject: Overdue Library Book  
From: HRL Library (lib@hrl.com)

According to our records, you have the following book checked out: Robot Vision, 1994 TA 1632 D35. This book is overdue. Please return it ASAP.

Delete

Voice

Read On / Off

North on Brush St. 0.1 miles, Left on West Jefferson Ave.

BACK

Entertainment

Navigation

Office

AutoWeb

Information

CD disc 1 trk 1

Temp Control 81 deg

16:44

# Fax

1	(310)	555-5475	11/16/97	5:30	pm
2	(310)	555-1212	11/16/97	3:04	pm
3	(805)	555-4567	11/15/97	7:00	am

North on Brush St. 0.1 miles, Left on West Jefferson Ave.

BACK

Entertainment

Navigation

Office

AutoWeb

Information

CD disc 1 trk 1

Temp Control 81 deg

16:44



WILLIAM H. WISHON  
DELCO ELECTRONICS  
Bldg 250, MS RL71  
3011 Malibu Canyon Road  
Malibu, CA 90265-4799

Fax

F A X C O V E R S H E E T

DATE: November 16, 1997      TIME: 5:30 PM  
TO: Richard Freeman      PHONE:  
FAX: (310) 555-5273  
FROM: William H. Wishon      PHONE: (310) 555-5936  
AED, Malibu      FAX: (310) 555-5475  
RE: \_\_\_\_\_  
CC:

Delete

North on Brush St. 0.1 miles, Left on West Jefferson Ave.

BACK

Entertainment

Navigation

Office

AutoWeb

Information

CD disc 1 trk 1

Temp Control 81 deg

16:43

1	Sam Borden	(310)	555-2314
2	Michele	(310)	555-5478
3	Richard	(317)	555-6658
4	Home	(310)	555-4985
5	Work	(310)	555-5298
6	Tammy Smith	(818)	555-7934

## Phone Book

Manual Dial

North on Brush St. 0.1 miles, Left on West Jefferson Ave.

BACK

**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

**Audio Off**

**Temp Control 81 deg**

**15:11**

**3105554985**

**SND**

**1**

**2**

**3**

**END**

**4**

**5**

**6**

**CLR**

**7**

**8**

**9**

**\***

**0**

**#**

**North on Brush St. 0.1 miles, Left on West Jefferson Ave.**

**BACK**

**Entertainment**

**Navigation**

**Office**

**AutoWeb**

**Information**

CD disc 1 trk 1

Temp Control 81 deg

16:42

***Pager***

***Fax***

***E-mail***

***Mobile  
Office***

***Voice Mail***

***Phone***

North on Brush St. 0.1 miles, Left on West Jefferson Ave.

**BACK**



Entertainment

Navigation

Office

AutoWeb

Information

Audio Off

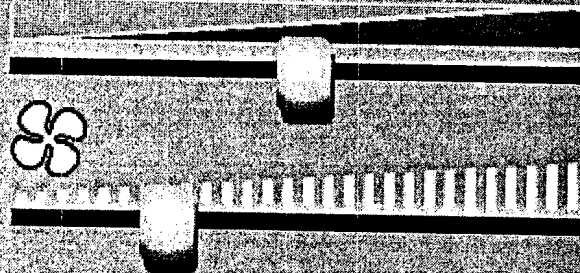
Temp Control 81 deg

16:29

81°F INTERIOR



ECON



AUTO

ECON



OFF

BACK