



# User Manual

(Version 1.5 June 12, 2001)

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## Introduction & Logging In

### The Networkcar Service

**The Networkcar service allows car owners and their automotive service providers to get real-time information about the performance of a car over the Internet.**

#### How is that possible?

Networkcar's service is possible because of the "CARReader™", a device that plugs quickly into your car's computer. The CARReader™ retrieves information from the computer and transmits it over a wireless network (just like a pager or cell phone) to Networkcar's database. Networkcar then uses the information to predict and diagnose the car's performance. Each car owner has a personalized website that displays these results along with other useful information, such as maintenance records, recent recalls, emissions and mileage performance.

#### I am a car owner. Why would I want this service?

If something is wrong with your car, Networkcar sends you an email alert warning you about a potential problem so you can take care of it quickly. The diagnostic information collected by the CARReader™ is also available online. This means faster service, since your dealer or automotive service provider can "pre-examine" your car remotely long before you bring in your car. There are lots of other benefits. For instance:

- Receive e-mail alerts of potential car problems as they occur
- Decrease the risk of car failure through proactive monitoring in conjunction with your service provider
- Obtain faster service through special remote diagnostics conducted by your service provider
- Detect small problems before they develop into larger more expensive problems
- Receive e-mail alerts of regular service reminders and recalls
- Receive special service and sales discounts not available to the general public
- Monitor your family vehicles through your own vehicle maintenance website
- Review your vehicle's maintenance history online

#### I am an automotive dealer. Why would I want this service for my customers?

The answer is simple: Good customer service leads to strong customer retention. With the CARReader™, you can provide new, highly personalized services that

will keep your customers coming back to your dealership. The Networkcar service allows you to:

- Establish a direct electronic link with your customers
- Encourage customer loyalty
- Increase profit by increasing service visits
- Know what their car is thinking through remote diagnostics
- Improve your diagnosis of intermittent problems
- Facilitate the monitoring of leased vehicles
- Deliver electronic service and sales promotions.

#### What are the future applications of this technology?

- Remote smog checks
- Remote door unlock
- Real-time appointment booking
- Subscription-based nationwide database diagnostic data

#### The CAReader™

Networkcar's CAReader™ sends information on a car's vital signs over the Internet through a wireless network to car owners and automotive service providers. About the size of a cellular telephone, the CAReader™ is compatible with about 80 million vehicles on the road today; all cars manufactured since 1996. The device collects diagnostic information on a car's electrical, mechanical, fuel, and emissions systems, is quickly installed, and operates maintenance-free for the life of the vehicle. The CAReader plugs directly into the car's OBD-II connector, an industry standard communications port, and is hidden from view once installed.



## Logging onto the Networkcar Website

- Enter *http://www.networkcar.com* into the address bar of your web browser and hit the enter key. This will bring you to the Networkcar home page (Figure 1).
- Enter your username and password.
- Click on the **LOGIN** button. You are now logged-in to the Networkcar system. You should now see the Dealer Homepage (Figure 2).

Figure 1: Networkcar Website

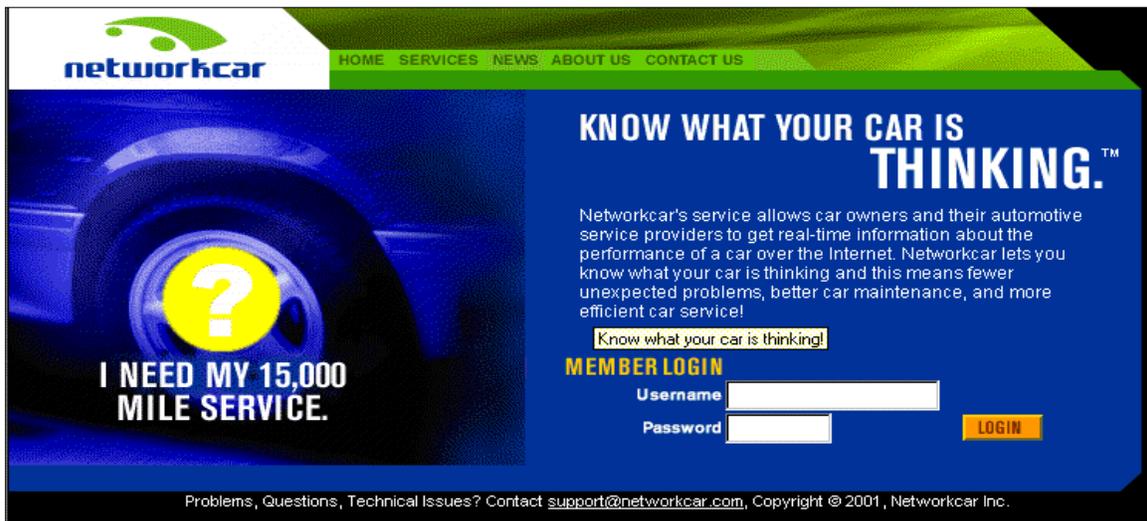
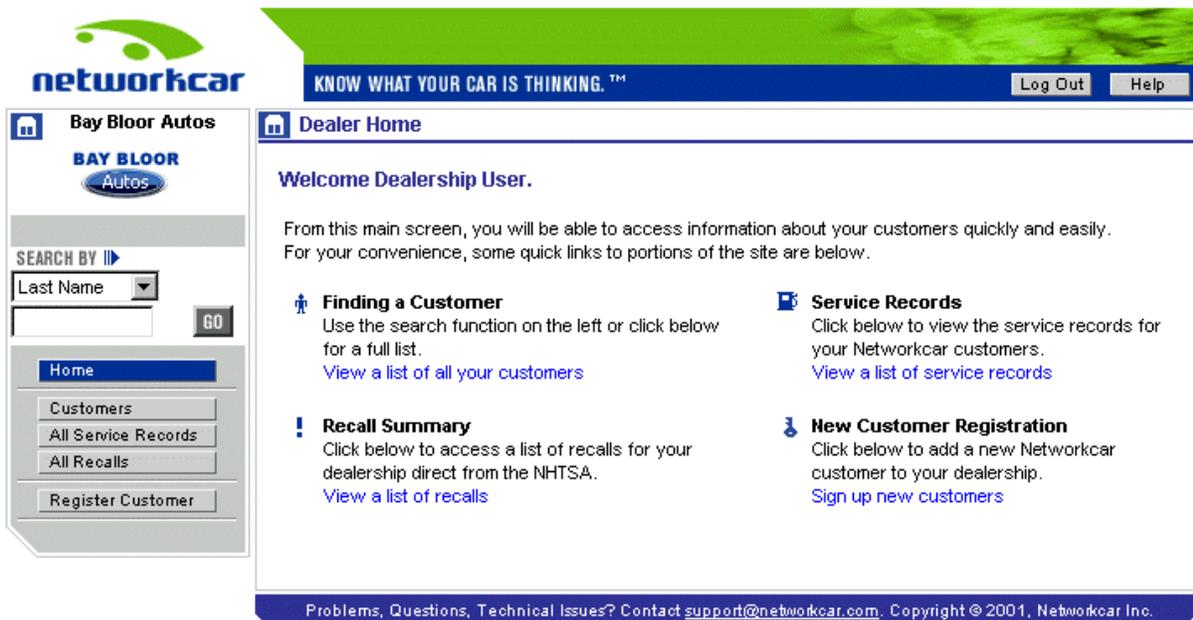


Figure 2: Dealer Home Page



## Navigation Tips

Below are some quick hints on how the navigation and menus on the site will help to guide you to your proposed destination.

**Dealership Menu Bar** – Located on the left side of your screen this navigation menu let's you access information for your dealership – All Customers, All Recalls, etc.

**Customer Menu Bar** – This navigation menu spans the middle portion of your screen once you have selected the customer or vehicle. The buttons access information particular to the customer/vehicle shown in the header.

The screenshot shows the networkcar website interface. At the top, there is a green header with the URL 'WWW.NETWORKCAR.COM' and the slogan 'KNOW WHAT YOUR CAR IS THINKING.™'. Below this is a blue navigation bar with 'Log Out' and 'Help' buttons. The main content area is divided into a left sidebar and a main header. The left sidebar contains a 'Your Dealership Name Here' section with a 'Your Dealership' button and a 'Logo Here' button. Below this is a search section with a 'SEARCH BY' dropdown set to 'Last Name' and a 'GO' button. The main header area includes a 'User Name' field, a 'YEAR MAKE MODEL' dropdown, and a 'Last CARReader Update: Dec 07 12:37:00 PST' timestamp. Below the header is a 'Vehicle Check' section with a 'Vehicle-Related Information' dropdown. The bottom of the page features a blue footer with contact information: 'Problems, Questions, Technical Issues? Contact Us Toll Free @ 1-866-CAR-READ or support@networkcar.com'.

**DEALERSHIP MENU BAR**  
These buttons access lists of information specifically for your dealership - customers, service records, recalls, and new customer registration.

**CUSTOMER MENU BAR**  
These buttons access information for the customer and vehicle shown in the header. To change customers use the customer list or search function on the dealer menu.

## Finding a Customer

### Viewing your Customer List

- From the Dealer Home Page click on the *CUSTOMERS* button, located on the menu on the left side of your screen. You should now see an alphabetical list of all your Networkcar customers (Figure 8). You may click on the bold customer, car, year, model, alerts, recalls, or service record headings as a way to refine your sort by alphabetical order, type of car or whether or not the customer has alerts or recalls.
- Click on the *NEXT* and *PREV* buttons or the skip box to scroll through the list or use the show per page dropdown in the bottom right to alter the number of records displayed on each page. (These functions are true for all lists within the Networkcar site.)

Figure 8: Customer List Page

networkcar KNOW WHAT YOUR CAR IS THINKING.™ Log Out Help

Bay Bloor Autos

**BAY BLOOR**  
Autos

SEARCH BY ▾  
Last Name ▾  
GO

Home  
Customers  
All Service Records  
All Recalls  
Register Customer

Customer List

Search for "All Customers" and found 51 record(s).

Next ▶ Skip to page 1 of 11 GO

Customer	Car (Year , Model )	Odometer	Alerts	Recalls ▲	Service Records	Last Active Read
Thompson, Mike	1997 TOYOTA COROLLA	36263	1	2	1	01/31/2001
Jones, James	1998 TOYOTA CAMRY	29063	1	2	3	01/31/2001
Doe, John	2001 TOYOTA CAMRY	16381	0	1	1	03/20/2001
Kirkman, Mark	2001 TOYOTA CAMRY	16381	0	1	1	03/20/2001
Rominger, Kathy	2001 TOYOTA CAMRY	16381	0	1	2	03/20/2001

Next ▶ Show 5 per page. GO

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## Quick Search by Customer, Vehicle or License Plate

The quick search function allows you to search your customer list by Customer Name, VIN, or License Plate (Figure 9). The Quick Search box is located on the left side of every page in the site.

- *Select the criteria that you wish to search by pulling down the drop down menu. In this case we searched for all customers with a last name starting with "jon". Type the first few letters of the customer's last name or car information that you want to search for in the box and click the GO button. You should now see a table of your search results.*

Figure 9: Customer List Search Results

The screenshot shows the networkcar website interface. At the top, there is a green banner with the slogan "KNOW WHAT YOUR CAR IS THINKING.™" and buttons for "Log Out" and "Help". Below the banner, the page is titled "Customer List". A search message states: "Search for customers with 'jon' in their Customer Last Name and found 1 record(s)." Below this message is a table with the following data:

Customer	Car (Year , Model )	Odometer	Alerts	Recalls	Service Records	Last Active
Jones, James	1998 TOYOTA CAMRY	29063	1	2	3	01/31/2001

Navigation and search controls are visible on the left side of the page, including a search box with "Last Name" selected and "jon" entered, and a "GO" button. A "Skip to page 1 of 1" control is also present. At the bottom of the page, there is a footer with contact information: "Problems, Questions, Technical Issues? Contact support@networkcar.com. Copyright © 2001, Networkcar Inc."

## Adding a Customer/Vehicle

### Registering a New Customer

Ask the customer to complete a Networkcar registration form (Appendix B). The customer should complete the customer information section and you should fill in the VIN and license number on side two of the form. Remember to remind the customer to login to the website to change their password once they get home.

Also have the customer sign Networkcar's legal disclaimer form and return the signed legal disclaimers to Networkcar.

After the registration form has been completed, you will give the form to the Assistant Service Manager (ASM) who coordinates installation, assigns the CARReader™ serial number and obtains the odometer reading. The service representative then enters the information from the paper form into the Networkcar system using the following screens (Figure 3 and 4).

The Networkcar customer registration section allows you to register new customers for the Networkcar service.

- *From the Dealer Home page click on the REGISTER CUSTOMER button, located on the menu on the left side of your screen. You should now see a blank customer registration form (Figure 3).*

Figure 3: Customer Registration Form: Customer Information

**networkcar** KNOW WHAT YOUR CAR IS THINKING.™ Log Out Help

**Bay Bloor Autos**  
BAY BLOOR Autos

SEARCH BY ▸  
Last Name ▾  
[ ] GO

Home  
Customers  
All Service Records  
All Recalls  
Register Customer

**Customer Registration: Customer Information**

Complete all required fields and press the Submit button at the bottom of the page. Fields marked with an \* are mandatory.

**Name**

**First Name\*** [ ]

**Last Name\*** [ ]

**Username and Password**

**Networkcar Username\*** [ ]

**Password\*** [ ]

**Confirm Password\*** [ ]

**E-mail Address**

**E-mail Address\*** [ ]

**Confirm E-mail Address\*** [ ]

**Phone Numbers**

**Daytime\*** [ ] Please enter without formatting. Numbers only.  
Ext. [ ]

**Evening\*** [ ]

**Cell** [ ]

**Pager** [ ]

**Fax** [ ]

**Address**

**Address\*** [ ]

**City\*** [ ]

**State\*** CA ▾

**Zip\*** [ ]

**Primary Contact Method**

Select a button to indicate the primary contact method.

Daytime Phone  Evening Phone  Cell Phone  E-mail

**SUBMIT**

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Enter the customer information that the form requests. All fields with a \* must be filled in.

Click the **SUBMIT** button when the customer registration form is complete. If any of the mandatory fields are left blank, you will be prompted to fill in the missing information. You should now see a blank car and CAReader™ registration form (Figure 4).

Figure 4: Customer Registration Form: Car and CAReader™ Information

The screenshot shows a web browser window with the Networkcar logo and navigation menu on the left. The main content area is titled "Customer Registration: Car and CAReader Info". It contains a "Car Information" section with fields for VIN#, License Plate, and Initial Odometer. A "CAReader Information" section has a field for Serial Number\*. A "Next Step" button is at the bottom. A warning message is displayed next to the VIN# field.

- Enter the car information that the form requests. All fields with a \* must be filled in. Make sure that the vehicle VIN and CAReader serial number are entered correctly. If you are registering a vehicle, and you do not have the license plate information, leave the license plate and state fields blank. This information can be entered later using the edit customer information form.
- Click the **NEXT STEP** button when the form is complete. If the VIN decodes with the year, make and model you should now see a confirmation form, containing the information that you just entered (Figure 6). Skip figure 5. If the VIN does not decode you will see an undecoded form (Figure 5). Enter the information requested and click the **SUBMIT** button when finished. You will now be taken to the confirmation form (Figure 6).
- Review the information that is displayed for accuracy. Use the **MAKE CHANGES** button to go back and modify any information. (Please refrain from using the **BACK** button on your browser during this process)

- When you are comfortable that all of the information on the confirmation page is accurate hit the CONFIRM button. You will now see a screen that indicates registration is complete (Figure 7).

Figure 5: Undecoded VIN

**networkcar** KNOW WHAT YOUR CAR IS THINKING.™ Log Out Help

Bay Bloor Autos  
BAY BLOOR Autos

SEARCH BY ▾  
Last Name ▾  
GO

Home  
Customers  
All Service Records  
All Recalls  
Register Customer

Customer Registration: VIN and CARReader Verification

**Error: VIN: 4T1BF22K6YU942264 could not be decoded, or only partially decoded.**

The following information was decoded from VIN#: 4T1BF22K6YU942264  
**Year:** 1900  
**Make:** UNKNOWN  
**Model:** UNKNOWN  
**Trim:**

Please enter the Year, Make, Model and Trim of the vehicle in the fields below and press SUBMIT.  
Fields marked with an \* are mandatory.

**Year\***  
  
**Note:** Please enter the year as a four digit number.

**Make\***  
  
**Note:** Please capitalize the first letter of the vehicle make (e.g. Toyota, Ford, etc).

**Model\***  
  
**Note:** Please capitalize the first letter of the vehicle model (e.g. Camry, Taurus, etc).

**Trim**  
  
**Note:** For a Camry LE, the trim would be "LE".

**SUBMIT**

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Figure 6: Customer Registration: VIN and CAReader™ Verification

**networkcar** KNOW WHAT YOUR CAR IS THINKING.™ [Log Out](#) [Help](#)

**Bay Bloor Autos**  
BAY BLOOR Autos

SEARCH BY ▾  
Last Name ▾

[Home](#)  
[Customers](#)  
[All Service Records](#)  
[All Recalls](#)  
[Register Customer](#)

**Customer Registration: Confirmation**

Please verify all information, especially VIN and CAReader Serial Number. If all information appears correct, press the "Confirm" button below.

**Customer Information**

<b>Name:</b>	John Smith
<b>Networkcar Login Name:</b>	JOHNSMITH
<b>E-mail Address:</b>	johnsmith@aol.com
<b>Daytime Phone:</b>	(858)555-1212 {pref}
<b>Evening Phone:</b>	(858)569-5987
<b>Cell:</b>	(619)453-6787
<b>Pager:</b>	
<b>Fax:</b>	
<b>Address:</b>	123 Main St. San Diego, CA 92111

**Car Information**

<b>VIN#:</b>	4T1BF22K6YU942264
<b>Year:</b>	2001
<b>Make:</b>	Toyota
<b>Model:</b>	Camry
<b>Trim:</b>	
<b>License Plate:</b>	

**CAReader Information**

<b>Serial Number:</b>	15660613
-----------------------	----------

Problems, Questions, Technical Issues? Contact [support@networkcar.com](mailto:support@networkcar.com). Copyright © 2001, Networkcar Inc.

Figure 7: Customer Registration: Registration Complete

**networkcar** KNOW WHAT YOUR CAR IS THINKING.™ [Log Out](#) [Help](#)

**Bay Bloor Autos**  
BAY BLOOR Autos

SEARCH BY ▾  
Last Name ▾

[Home](#)  
[Customers](#)  
[All Service Records](#)  
[All Recalls](#)  
[Register Customer](#)

**Customer Registration: Registration Complete**

Congratulations! You have successfully registered a new customer for the Networkcar Service. To find and view this customer/vehicle please use the search function on the left. The first read from the CARReader usually takes place within the first 24 hours.

**Customer Information**

**Name:** John Smith  
**Networkcar Login Name:** JOHNSMITH  
**E-mail Address:** johnsmith@aol.com  
**Daytime Phone:** (858)555-1212 (pref)  
**Evening Phone:** (858)569-5987  
**Cell:** (619)453-6787  
**Pager:**  
**Fax:**  
**Address:** 123 Main St.  
San Diego, CA  
92111

**Car Information**

**VIN#:** 4T1BF22K6YU942264  
**Year:** 2001  
**Make:** Toyota  
**Model:** Camry  
**Trim:**  
**License Plate:**

**CARReader Information**

**Serial Number:** 15660613

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## CARReader™ Installation Instructions



**Carefully follow all instructions to ensure a safe and functional installation. Improper installation may cause:**

***A Dangerous Hazard for Driver  
CARReader™ to not function***



**1) Locate the OBD-II port in the vehicle.**  
The port is generally located under the dash in the driver side cockpit area but may be located elsewhere in the cockpit area.

**2) Use your best judgment to determine where to secure the CARReader™ and whether to use a long or short cable.**

***Keep in mind:***

The CARReader™, cable, and antenna must be installed away from any moving parts such as the steering column, throttle and brake areas.

**3) With the ignition off, plug the CARReader™ connector into the OBD-II port.**

**4) Check for a green LED to indicate that the unit is receiving power.**

**5) Start the vehicle and wait for 20-40 seconds for a yellow LED. If you do not see a yellow LED, remove the CARReader™ and begin again with a new CARReader™ at Step 3.**

**6) Record two important numbers; the CARReader™**

- serial number (located on the back of the device)
- odometer at the time of the install

**7) Pass two long tie wraps through the openings in the CARReader™. Tie wrap the CARReader™ to a convenient wire bundle under the dash. Do not block any moving parts.**

**8) Determine a suitable antenna routing that will hide the antenna cable and blade.**

**RF Exposure Warning:**

*When installed as directed, this equipment complies with radiation exposure limits for general population/uncontrolled exposure. To ensure user's safety and to satisfy RF exposure requirements, this unit must be installed so that a minimum separation distance of 33 cm (13 inches) is always secured between the transmitting structure and the body of the user or nearby persons.*

**9) Route the antenna cable underneath the interior moldings along the hinge of the driver door and onto the dash.**

- Do not coil the antenna cable.
- Route the cable between the windshield shade band and dashboard until you reach the antenna blade. Place the antenna blade between the windshield shade band and dashboard. A thin tool like a plastic putty knife helps push the cable and blade into the shade band.

**10) Return the information you recorded to the appropriate party.**

Your installation is now complete.

**NOTE:** This equipment has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Warning:** Changes or modifications not expressly approved by Networkcar could void the user's authority to operate the equipment.

## Add Car/CARReader™ to an Existing Customer Profile

**DO NOT USE** this form to register a new customer. Use this form only to add a vehicle to an existing Networkcar Account.

- To add a vehicle to an existing customer's information, click on a Customer Name link from the main customer page. This will bring you to a Customer Profile page. Click on the ADD CAR button located at the bottom of the Customer Profile page. You should now see an Add New CAR and CARReader™ Form (Figure 13).

Figure 13: Add New CAR and CARReader™ Form

The screenshot displays the Networkcar website interface. At the top, the Networkcar logo and slogan "KNOW WHAT YOUR CAR IS THINKING.™" are visible, along with "Log Out" and "Help" buttons. The user is logged in as "John Doe" and is viewing the profile for a "2001 TOYOTA CAMRY". The profile includes the VIN "JT2BG22K0W0189863", "Last CARReader Update: Mar 15 16:55:28 PST", "Emissions: [checked]", and "Vehicle Mileage: 4684 miles". Navigation tabs for "Customer Profile", "Vehicle Check", "Service", and "Recalls" are present. A "Back to Customer Profile" link is also available. The main section is titled "Add New Car and CARReader" and contains the following form fields and instructions:

- Instruction: "Complete all required fields and press the Next Step button at the bottom of the page."
- Section: "Car Information" with a "VIN\*" field and a "WARNING! The VIN is very important. Please ensure it is accurate." message.
- Fields: "License Plate", "State" (dropdown menu showing "CA"), and "Initial Odometer".
- Section: "CARReader Information" with a "Serial Number\*" field and a "WARNING! The CARReader serial number is very important. Please ensure it is accurate." message.
- Buttons: "Prev Step" and "Next Step".

At the bottom of the page, there is a footer: "Problems, Questions, Technical Issues? Contact support@networkcar.com. Copyright © 2001, Networkcar Inc."

- Enter the vehicle information that the form requests. Please confirm that the VIN and CARReader serial number are correct and that the correct Year/Make/Model is displayed for the vehicle you are registering.

- *Click the NEXT STEP button when the form is complete.* You should now see a confirmation form, containing the information that you just entered. If there are errors in the VIN or CARreader™ serial number you will be prompted to re-enter this information.

## Checking Vehicle Status

### Vehicle Alert Status

This section provides you with an overview of the current status of your customer's vehicle along with historical information. Each vehicle has been divided into 4 categories of systems: **Emissions, Engine/Fuel, Transmission/Brakes and Other Systems**. The status of each system will be displayed on this page under its particular heading.

- After choosing a vehicle from your customer list, click the **VEHICLE CHECK** button located on the Customer (See Below). You should now see the Vehicle Check page (Figure 14).

Figure 14: Vehicle Check Page

The screenshot displays the Networkcar interface for a vehicle check. At the top, the Networkcar logo and slogan "KNOW WHAT YOUR CAR IS THINKING.™" are visible, along with "Log Out" and "Help" buttons. The user is identified as "John Doe" and the selected vehicle is a "2001 TOYOTA CAMRY". The VIN is JT2BG22K0W0189863, and the last CARReader update was on Mar 15 16:55:28 PST. The vehicle has 4684 miles and no emissions issues.

The "Vehicle Check" section is active, showing the following system statuses:

- Emission System Status:**
  - ✓ Evaporative Emissions Control System
  - ✓ Exhaust Gas Recirculation System
  - ✓ Emission-Related Sensors
- Engine / Fuel System Status:**
  - ✓ Engine / Fuel Sensors
  - ✓ Engine Misfire Check
  - ✓ Fuel-Delivery System
- Transmission / Brake System Status:**
  - ✓ ABS Brake Control Systems
  - ✓ Electronic Transmission Control System
  - ✓ Transmission / Brake Sensors
- Other Systems Status:**
  - ✓ Supplemental Restraint System (Airbags)
  - ✓ Vehicle Electrical Systems
  - ✓ Vehicle Security Systems

Additional sections include:

- System Diagnostics:** See the latest diagnostics on this vehicle, from the most recent CARReader update.
- Scheduled Maintenance:** See recommendations for scheduled maintenance.
- Historical System Diagnostics:** See a table of the diagnostics on this vehicle for the past three months.
- History of Alerts:** See the history of Alerts for this car, organized by CARReader transmission time.

A legend at the bottom indicates: ✓ No Trouble Codes Detected, ⚠ Advisory, and 🚨 Warning.

- Click on the **System Details** links to review the status of each system.

**Emission System**

This page displays the status of Emission related systems within a vehicle.

**Engine/Fuel System Status**

This page displays the status of Engine/Fuel related systems within a vehicle.

**Transmission/Brake System Status**

This page displays the status of Transmission/Brake related systems within a vehicle.

**Other Systems Status**

This page displays the status of general systems within a vehicle other than Emissions, Engine/Fuel and Transmission/Brakes. Reminders for scheduled maintenance fall into this category.

## System Diagnostic Measurements

(Figure 15) shows selected diagnostic data for the vehicle. This is the same data collected by a scan tool and corresponds to the timestamp in the header; the last time data was sent from the vehicle. This data can help you determine what is wrong with your customers' vehicles before they bring them in.

- *From the customer list page, click on a Customer Name link to go to a customer's profile page. From the customer profile page, click on the vehicle check button. From the vehicle check page, click on the detailed system diagnostics link. You should now see the Detailed System Diagnostic Measurements page (Figure 15).*

Figure 15: Detailed System Diagnostic Measurements Page

The screenshot shows the Networkcar website interface. At the top, there is a green banner with the Networkcar logo and the slogan "KNOW WHAT YOUR CAR IS THINKING.™". Below this, there are navigation links for "Log Out" and "Help". The main content area is divided into several sections:

- Bay Bloor Autos:** A sidebar with a search bar labeled "SEARCH BY" and a dropdown menu for "Last Name". Below the search bar are buttons for "Home", "Customers", "All Service Records", "All Recalls", and "Register Customer".
- User Information:** A section for "John Doe" with a dropdown menu for "2001 TOYOTA CAMRY".
- Vehicle Information:** A section for "2001 TOYOTA CAMRY" with a "VIN#: JT2BG22K0W0189863". It also shows "Last CARReader Update: Mar 15 16:55:28 PST", "Emissions: [checked]", and "Vehicle Mileage: 4684 miles".
- Navigation Tabs:** Tabs for "Customer Profile", "Vehicle Check", "Service", and "Recalls".
- System Diagnostics:** A section titled "System Diagnostics" containing a table of diagnostic measurements.

The "System Diagnostics" section contains the following table:

Diagnostic Measurements	
Pending DTCs - Pending DTCs	none
Injection duration - Toyota Specific Data	7.2 msec
Ignition Timing Advance - OBDII Data	11 deg
IAC duty ratio - Toyota Specific Data	46 %
Calculated Load Value - OBDII Data	30 %
Air Flow Rate MAF Sensor - OBDII Data	34.39 gm/s
Engine RPM - OBDII Data	1937 RPM
Engine Coolant Temp. - OBDII Data	199 degF
Intake Air Temp. - OBDII Data	91 degF
Abs. Throttle Position Sensor - OBDII Data	21 %
CTP switch - Toyota Specific Data	off
Short Term Fuel Trim /B1 - OBDII Data	3 %
Long Term Fuel Trim /B1 - OBDII Data	5 %
Total fuel trim bank 1 - Toyota Specific Data	102.7 %
Total fuel trim bank 2 - Toyota Specific Data	103.9 %
MIL Light - OBDII Data	off
PNP switch - Toyota Specific Data	off
Elect. load signal - Toyota Specific Data	on
Stop light switch - Toyota Specific Data	off
PS oil press. switch - Toyota Specific Data	off
B1S2 Voltage - OBDII Data	0.680 V
PS signal - Toyota Specific Data	on
Intake control VSV1 - Toyota Specific Data	off
Intake control VSV2 - Toyota Specific Data	off
A/C mag. clutch - Toyota Specific Data	off
Vapor pressure VSV - Toyota Specific Data	on
No. ignition - Toyota Specific Data	0

At the bottom of the page, there is a footer with the text: "Problems, Questions, Technical Issues? Contact [support@networkcar.com](mailto:support@networkcar.com). Copyright © 2001, Networkcar Inc."

## Historical System Diagnostics

(Figure 16), actually multiple pages, shows a 3-month record of diagnostic activity for a vehicle and may provide information that will be useful for solving intermittent vehicle problems.

- From the customer list page, click on a vehicle link to go to a vehicle check page. From the vehicle check page, click on the detailed historical diagnostic report link. You should now see the Detailed Historical Diagnostic Report Pages. You can scroll through the information by clicking the NEXT link.

Figure 16: Detailed Historical Diagnostic Report Page

**networkcar** KNOW WHAT YOUR CAR IS THINKING.™ Log Out Help

**Bay Bloor Autos**  
BAY BLOOR Autos

SEARCH BY ▾  
Last Name ▾  
 **GO**

Home  
Customers  
All Service Records  
All Recalls  
Register Customer

**John Doe** 2001 TOYOTA CAMRY ▾

**2001 TOYOTA CAMRY** Last CARReader Update: Mar 15 16:55:28 PST  
VIN#: JT2BG22K0W0189863 Emissions:  Vehicle Mileage: 4684 miles

Customer Profile **Vehicle Check** Service Recalls

[Back to Vehicle Check](#) Vehicle-Related Information ▾

**Detailed Historical Diagnostic Report**

Found 5 entries with information on your vehicle's performance.

Skip to page  of 1 **GO**

Parameter	Units	03/15/2001 16:55:28	03/15/2001 16:54:37	03/15/2001 16:51:23	03/15/2001 16:28:10	03/15/2001 15:59:36
<b>Pending DTCs</b>		none	none	none	none	none
<b>Injection duration</b>	msec	7.2	7.2	7.2	2.7	7.4
<b>Ignition Timing Advance</b>	deg	11	11	11	7	12
<b>IAC duty ratio</b>	%	46	46	46	40	85
<b>Calculated Load Value</b>	%	30	30	30	21	50
<b>Air Flow Rate MAF Sensor</b>	gm/s	34.39	34.39	34.39	2.42	39.85
<b>Engine RPM</b>	RPM	1937	1937	1937	680	2543
<b>Engine Coolant Temp.</b>	degF	199	199	199	190	186
<b>Intake Air Temp.</b>	degF	91	91	91	82	69
<b>Abs. Throttle Position Sensor</b>	%	21	21	21	10	23
<b>CTP switch</b>		off	off	off	on	off
<b>Short Term Fuel Trim /B1</b>	%	3	3	3	-6	-2
<b>Long Term Fuel Trim /B1</b>	%	5	5	5	8	3
<b>Total fuel trim bank 1</b>	%	102.7	102.7	102.7	105.1	102.7
<b>Total fuel trim bank 2</b>	%	103.9	103.9	103.9	50.0	104.3
<b>MIL Light</b>		off	off	off	off	off
<b>PNP switch</b>		off	off	off	off	off
<b>Elect. load signal</b>		on	on	on	off	off
<b>Stop light switch</b>		off	off	off	off	off
<b>PS oil press. switch</b>		off	off	off	off	off
<b>B1S2 Voltage</b>	V	0.680	0.680	0.680	0.875	0.650
<b>PS signal</b>		on	on	on	on	on
<b>Intake control VSV1</b>		off	off	off	off	off

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## Alert History

(Figure 17) shows you each alert or service advisory that the vehicle has triggered and then cleared over time.

- From the customer list page, click on the vehicle link to go to the vehicle check page. From the vehicle check page, click on the alert history link. You should now see a list of the History of Alerts and Service Advisories for a vehicle.

Figure 17: Alert History Page

**networkcar** KNOW WHAT YOUR CAR IS THINKING.™ Log Out Help

Bay Bloor Autos  
BAY BLOOR Autos

SEARCH BY ▾  
Last Name ▾  
GO

Home  
Customers  
All Service Records  
All Recalls  
Register Customer

John Doe 2001 TOYOTA CAMRY

2001 TOYOTA CAMRY  
VIN#: JT2BG22K0W0189863  
Last CARReader Update: Mar 15 16:55:28 PST  
Emissions:  Vehicle Mileage: 4684 miles

Customer Profile Vehicle Check Service Recalls

Back to Vehicle Check Vehicle-Related Information

### Alert History

FOUND 2 dates in Alert history.

Skip to page 1 of 1 GO

Alert Name ▲	Initial Read, Odometer	Last Active Read, Odometer	Count
Other	Mar 15 16:28, 4684	Mar 15 16:28, 4684	1
<b>Please schedule your 5,000 mile service appointment</b> 5K SERVICE : Scheduled Maintenance			
Emissions	Mar 15 16:51, 13651	Mar 15 16:51, 13651	1
<b>Engine may not be consuming fuel efficiently</b> P0325 : Knock Sensor 1 Circuit Malfunction (Bank 1 or Single Sensor)			

Show 10 per page. GO

No Trouble Codes Detected  Advisory  Warning

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## Service Records

### Viewing an Individual's Service Records

This section contains a list of all service records for an individual customer. These service records are imported from your DMS system. The vehicle owner is also allowed to enter records for service outside your dealership, but these records are flagged as owner-entered. If the customer has more than one vehicle, use the drop down menu box located in the upper right portion of your screen to select another vehicle.

- Click on the **SERVICE** button. You should now see a list of the service records for this customer's car (Figure 18).
- Click a work order number. You should now see a detailed description of the service record.

Figure 18: Service History

The screenshot displays the Networkcar web application interface. At the top, the Networkcar logo and slogan "KNOW WHAT YOUR CAR IS THINKING.™" are visible, along with "Log Out" and "Help" buttons. The user is logged in as "John Doe" and is viewing the "Service History" for a "2001 TOYOTA CAMRY". The VIN is JT2BG22K0W0189863. The interface shows a navigation menu on the left with options like "Home", "Customers", "All Service Records", "All Recalls", and "Register Customer". The main content area includes a "New" button to create a service record, a message stating "Found 2 service record(s)", and a table of service records. The table has columns for Service Date, Workorder #, Complaint/Description, and Modified On. The records are: 12/1/2000, Workorder # 239, Oil Light on., Modified On 4/9/2001; and 10/20/2000, Workorder # OWNER, Rotated tires at Discount tires while on vacation in Wyoming., Modified On 4/9/2001. There are also pagination controls for "Skip to page 1 of 1" and "Show 10 per page".

Service Date	Workorder #	Complaint/Description	Modified On
12/1/2000	239	Oil Light on.	4/9/2001
10/20/2000	OWNER	Rotated tires at Discount tires while on vacation in Wyoming.	4/9/2001

## Dealer Wide Service Records

This page contains a list of all service records for the Networkcar customers within your dealership. Service records are automatically transferred to Networkcar from your DMS system.

- Click the **ALL SERVICE RECORDS** button on the menu on the left side of your screen. You should now see a list of all service records for your dealership (Figure 20).
- Click on a work order number. You should now see a detailed description of that service record.

Figure 20: Dealer Wide Service Records

**networkcar** KNOW WHAT YOUR CAR IS THINKING.™ Log Out Help

**Bay Bloor Autos**  
BAY BLOOR Autos

SEARCH BY ▾  
Last Name ▾  
GO

Home  
Customers  
All Service Records  
All Recalls  
Register Customer

**Dealer Service History**

Found 22 service record(s). Click the Service Date or Workorder # for details.

Next ▸ Skip to page 1 of 3 GO

Service Date	Workorder #	Customer	Car (Year, Model)
3/25/2001	OWNER	Atero, Richard	2001 TOYOTA CAMRY
3/14/2001	OWNER	Cowley, Tom	2001 TOYOTA CAMRY
3/14/2001	OWNER	Atero, Richard	2001 TOYOTA CAMRY
3/14/2001	OWNER	Reynolds, Beth	2001 TOYOTA CAMRY
3/14/2001	OWNER	Rominger, Kathy	2001 TOYOTA CAMRY
3/14/2001	OWNER	Frederickson, Cecilia	2001 TOYOTA CAMRY
2/2/2001	206	Jones, James	1998 TOYOTA CAMRY
2/1/2001	202	Jones, James	1998 TOYOTA CAMRY
1/2/2001	199	Thompson, Mike	1997 TOYOTA COROLLA
9/10/2000	200	Jones, James	1998 TOYOTA CAMRY

Next ▸ Show 10 per page. GO

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## Recalls

### Customer Associated Recalls

This page, (Figure 19), contains a list of recalls for a customer's particular car. If the customer has more than one vehicle, use the drop down menu located in the upper right portion of the screen to select another vehicle.

- *Click on the **RECALLS** button.* You should now see a list of the current recalls for this vehicle.

Figure 19: Recall List

The screenshot displays the Networkcar website interface. At the top, the Networkcar logo is on the left, and the slogan "KNOW WHAT YOUR CAR IS THINKING.™" is in the center. On the right, there are "Log Out" and "Help" buttons. Below the slogan, the user's name "John Doe" is shown, along with a dropdown menu currently set to "2001 TOYOTA CAMRY".

The main content area is divided into several sections. On the left, there is a sidebar for "Bay Bloor Autos" with a search function labeled "SEARCH BY" and a dropdown menu set to "Last Name". Below the search is a "GO" button and a list of navigation links: "Home", "Customers", "All Service Records", "All Recalls", and "Register Customer".

The central area shows the vehicle details for "2001 TOYOTA CAMRY" with VIN# JT2BG22K0W0189863. It includes a "Last CARReader Update: Mar 15 16:55:28 PST" and "Emissions: [checked]" status. Below this are tabs for "Customer Profile", "Vehicle Check", "Service", and "Recalls", with "Recalls" being the active tab. A "Recall List" section is visible, containing a table with one entry:

ID #	Type	Component
01V012000	NHTSA	FUEL:THROTTLE LINKAGES AND CONTROL

Below the table, it states "Found 1 recall(s) for this car. Click the ID# to view details." At the bottom of the page, there is a footer with contact information: "Problems, Questions, Technical Issues? Contact support@networkcar.com. Copyright © 2001, Networkcar Inc."

*Click the ID # link to get a more detailed description of the recall. If you would like more information on the recall than is provided on this screen please visit the National Highway Transportation Safety Administration (NHTSA) website at [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov)*

## Dealer Wide Recalls

This page contains a list of recalls, from the National Highway Transportation Safety Administration (NHTSA), on all vehicles since 1996.

- Click the **ALL RECALLS** button on the menu on the left side of your screen. You should now see a list of all recalls since 1996 that are applicable to any Networkcar vehicles you have registered at your dealership (Figure 21).
- To narrow the list, click on the pull down button in the top right hand corner of the page. This allows you to search by vehicle make.
- Select a vehicle make and click on the go button. You should now only see recalls for the selected vehicle make.
- Click a recall ID number. You should now see a detailed description of that recall.

Figure 21: Dealer Wide Recalls

**networkcar** KNOW WHAT YOUR CAR IS THINKING.™ Log Out Help

**Bay Bloor Autos**  
BAY BLOOR Autos

SEARCH BY ▾  
Last Name ▾  
GO

Home  
Customers  
All Service Records  
All Recalls  
Register Customer

**Dealer Recall List**

Found 621 recall(s). Click on the ID# for details. View recalls for: ALL MAKES GO

Next ▶ Skip to page 1 of 63 GO

ID #	Car (Year, Model)	Type	Component
01V012000	2001, TOYOTA CAMRY	NHTSA	FUEL:THROTTLE LINKAGES AND CONTROL
00V218000	2000, FORD FOCUS	NHTSA	STRUCTURE:FRAME:MEMBERS AND BODY
00V208000	2001, AMTRAN RE	NHTSA	EQUIPMENT:CERTIFICATION LABEL
00V208000	2001, AMTRAN IC	NHTSA	EQUIPMENT:CERTIFICATION LABEL
00V208000	2001, AMTRAN FE	NHTSA	EQUIPMENT:CERTIFICATION LABEL
00V201000	2000, CHEVROLET CAVALIER	NHTSA	LIGHTING:SWTCH:BUTTON:RING:INSTRUMENT LIGHTS
00V200000	2000, FORD CROWN VICTORIA	NHTSA	EQUIPMENT:JACKS
00V200000	1999, FORD CROWN VICTORIA	NHTSA	EQUIPMENT:JACKS
00V200000	1998, FORD CROWN VICTORIA	NHTSA	EQUIPMENT:JACKS
00V189000	1991, CHEVROLET LUMINA	NHTSA	STRUCTURE:FRAME:MEMBERS AND BODY:OTHER PARTS

Next ▶ Show 10 per page. GO

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## Emails You Receive

### Alert Summary Email

You will receive this email on a daily basis in the inbox for the email address you specify in your dealer profile as the alert email address. This email contains a list of all of your customers that have generated an alert since the last email was sent to you. This data will allow you to get a jumpstart on who is having vehicle problems and whom you might expect to make an appointment with you for service. Below is a sample of the email along with details on how to interpret the alert and pending DTC information.

#### Sample Alert Summary Email

Dear Bay Bloor Service Department,

The customer(s) and vehicle(s) listed below have generated an alert since the last alert summary email sent April 04, 2001, 06:30 A.M.

NAME: George Bush  
VEHICLE: 1999 TOYOTA CAMRY  
VIN#: JT2BG22KX10550217  
MILEAGE: 21438  
CONTACT INFO: (760) 555-1111  
ALERTS  
P0115 : Engine Coolant Temperature Circuit Malfunction  
PENDING DTC's  
P0134 : O2 Sensor Circuit No Activity Detected (Bank 1 Sensor 1)

Please use the information above to help your customer(s) solve the problem they have encountered. The contact information included above for each customer is his or her preferred method of contact.

Additional customer information and specific vehicle diagnostic data can be obtained by logging onto Networkcar at: <http://www.networkcar.com>

Alerts – The first item displayed under an alert is the DTC (Diagnostic Trouble Code). Following this is a brief technical description of the problem. To qualify as an alert this code has completed the required number of trips to become “hard”.

Pending DTC's – The display of data for a pending DTC is the same as an alert. The difference is that this DTC has not completed the number of required trips to become “hard” and is thus pending. By analyzing a pending DTC prior to it becoming “hard” you can prevent potential problems with a vehicle before they occur.

## Book Appointment Email

This email is generated when your customer uses the book appointment form on their Networkcar personalized website. When they complete the form, the email is generated and sent to the address you specify during your account setup. The customer receives a copy of this email also as a receipt.

After you receive the appointment request email, log into your Networkcar account and search for the customer's vehicle. Use the information provided on the customer's vehicle to determine the services that will need to be performed on their visit. Contact the customer to confirm their appointment time along with the services that will be necessary.

### Sample Book Appointment Email

Dear Bay Bloor Service Department,

The customer listed below has used the Networkcar book appointment form to request a service appointment. Please use the information below to schedule and confirm an appointment with this customer.

#### Customer Information

NAME: George Bush  
DAYTIME PHONE: (760) 555-1111  
EVENING PHONE: (760) 555-2222  
CELL PHONE:  
EMAIL: gbush@thewhitehouse.com  
Preferred Method of Contact: Day phone

#### Vehicle Information

VIN: JT2BG22KX10550217  
YEAR: 2001  
MAKE: TOYOTA  
MODEL: CAMRY

Description of Problem/Service: oil change

Preferred appointment times for the upcoming week:

6am - 9am on Monday  
12pm - 1pm on Thursday  
1pm - 5pm on Thursday

Additional customer information and specific vehicle diagnostic data can be obtained by logging onto Networkcar at: <http://www.networkcar.com>

## Marketing (CRM Campaigns)

### What Your Customers See

The screenshot shows a customer's vehicle status page. A callout box labeled "General Information" points to the left sidebar containing contact information for Bay Bloor Autos (123 Main St., San Diego, CA 92125, (760)555-1212) and buttons for "E-mail Us", "Our Website", and "Book Appointment". A callout box labeled "Marketing Information" points to a red banner at the top of the main content area that reads "He received a FREE Car Wash and FREE shuttle service from Bay Bloor!". Below the banner, the page displays the customer's name (James Jones), vehicle details (1998 TOYOTA CAMRY, VIN#: JT2BG22K7W0151577), and various status indicators (Emissions: [checked], Vehicle Mileage: 29063 miles). A "FREE CAR WASH" coupon is also visible, with the text "Please present this coupon to receive a free car wash on your next service visit." and "Promotion Code: X13Z".

Your marketing information can be updated whenever you would like to create a new campaign. A campaign will consist of a banner along with the promotional title and message. In addition there are marketing messages and coupons that are contained in the emails your customer receives. There are four emails that can be sent to the consumer during the life of their vehicle.

Welcome Email – This email is sent when the customer/vehicle are initially registered. This email contains all of their user information along with a coupon created by you.

Service Reminder Email – This email is sent when a customer's vehicle mileage is within 500 miles of a service interval recommended by you or the vehicles manufacturer. You can create a coupon that will display in this email.

Alert Email – This email is sent when Networkcar detects a potential problem within your customer's vehicle. You can create a coupon that will display in this email.

Update Email – This email gives your customer an update on the status of their vehicle. You can dictate when and to which customers this email is sent. In addition, you can create a coupon and a marketing message to display in the email. (See broadcast a message for more detail)

## **How to Create a New Campaign**

Contact your Networkcar representative to coordinate the creation and insertion of a new campaign.

## **Broadcast a Message (CARReader Update Email)**

Contact your Networkcar representative to coordinate the marketing message and coupon you would like to send to your Networkcar customers. You can determine how often your customers will receive this email with a status update on their vehicle along with your marketing message.

## Support

### Frequently Asked Questions

#### How does the CARReader™ work?

The CARReader™ plugs into your car's computer and sends information about your car's performance through a wireless network to your personal vehicle website and your service provider.

#### Where is the CARReader™ installed in my car?

It is plugged into your car's computer port under the dash.

#### Will the CARReader™ ever need to be removed?

No, but it may need to be unplugged in the event that your service professional needs to access your car's computer port with a diagnostic scan tool to investigate a mechanical problem.

#### Will another service provider know what this is?

There is a good chance that many service providers are not familiar with the CARReader™ device since it is such a new technology. Simply remind them that the device is there and to plug it back in if they have unplugged it to use a diagnostic scan tool.

#### Is the CARReader™ a tracking device?

No, the CARReader™ does not have a Global Positioning System (GPS) and cannot be used to track your car's location. The purpose of the unit is to monitor your vehicle's performance.

#### Can the CARReader™ interfere with my car's operation making it unsafe to drive?

No. The CARReader™ only collects data from your car's computer. It does not interfere in any way with the car's operation.

#### Does the CARReader™ need maintenance?

No. There is no need to have contact with the device after it has been installed. It does not need batteries or maintenance.

#### Who do I call if I feel my CARReader™ is not working properly?

Call your service provider and they will replace your CARReader™ with a new unit, if necessary.

#### What happens if I drive in an area that has poor wireless coverage?

The CARReader™ continues to collect and store information even if you are driving in an area that does not have wireless coverage. Once you drive into an area with wireless coverage, the CARReader™ sends the stored information back to your website and service provider.

### What doesn't the CARReader™ do?

While the CARReader™ is a good overall vehicle monitoring system, it is not a “cure all” for car problems. For instance, it doesn't guarantee that your car won't break down or that you won't have repair bills. It doesn't take the place of a warranty or normal maintenance. It also doesn't detect failures in internally lubricated parts and systems not monitored by the car's computer.

## Contact Information

### Networkcar

Feel free to contact us via email at [support@networkcar.com](mailto:support@networkcar.com) or via phone at 1-866-CAR-READ. Support hours are from 9am to 5pm PST.

## Glossary of Terms/Icons

This section contains a glossary of terms and icons to help clear up any questions you might have.

The available terms in this section are:

- Alerts
- Recalls
- Diagnostics
- DTC - Diagnostic Trouble Code
- VIN
-  - Last CARReader Update
-  - Emissions
-  - Vehicle Mileage
-  - Fuel Level

### Alerts

Inform you of the status of systems within your vehicle and whether the system is ok or if there is a problem. Each alert will have a description as well as a color code to help you determine its severity. Please see the Alert color codes below:

#### No Trouble Codes Detected

Indicates that the CARReader has checked this system and there are currently no trouble codes (DTC's) present.

#### Advisory

Indicates that there is a possible problem within a system or that the vehicle is due for scheduled maintenance.

**Warning**

The CARReader has detected a problem within this system. Please refer to the alert description for an understanding of its severity along with the trouble code (DTC).

**Recalls**

Notices that inform car owners of possible defects in their vehicles and their associated risks.

When Is a Recall Necessary?

- When a motor vehicle or item of motor vehicle equipment (including tires) does not comply with a Federal Motor Vehicle Safety Standard.
- When there is a safety-related defect present in the vehicle or equipment.

Federal Motor Vehicle Safety Standards set minimum performance levels for those parts of the vehicle which most effect its safe operation (brakes, tires, lighting) or which protect drivers and passengers from death or serious injury in the event of a crash (air bags, safety belts, child restraints, energy absorbing steering columns, motorcycle helmets) and are applicable to all vehicles and equipment manufactured for sale in the United States certified for use on public roads and highways.

For more information regarding the scope and remedy of a recall or for more information on recalls in general please visit the National Highway Traffic Safety Administration (NHTSA) at [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov)

**Diagnostics**

Refers to data generated by various sensors distributed in the vehicle. Once generated, this data is stored in the vehicle's engine control module (ECM), where it can be accessed through an OBD-II interface.

**DTC - Diagnostic Trouble Code**

A "Diagnostic Trouble Code" is a 6-digit code that alerts a driver to a fault or problem with a vehicle. The value of the DTC indicates a specific system or component associated with the fault.

**VIN**

"Vehicle Identification Number", a 17-digit alphanumeric character string that identifies, e.g., the vehicles make, model, country of manufacture, body style, and engine type.

** - Last CARReader Update**

This is the date and time stamp of the last transmission received from your CARReader.

** - Emissions**

This is a symbol of your current emissions status. A green checkmark indicates a pass scenario and a red exclamation point indicates that this vehicle may not pass a smog test.

** - Vehicle Mileage**

This is a measurement of your vehicles odometer in miles.

** - Fuel Level**

This is a measurement of the vehicles fuel level at the time of the Last CARReader Update. (Only present for certain vehicles)