



## CDR 900



**BOSCH**

en User Manual  
CDR 900

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# 1. Symbols Used

## 1.1 Warning Notices - Structure and Meaning

Warning notices warn of dangers to the user or people in the vicinity. Warning notices also indicate the consequences of the hazard as well as preventive action. Warning notices have the following structure:

Warning symbol	<b>KEY WORD – Nature and source of hazard!</b> <b>Consequences of hazard in the event of failure to observe action and information given.</b> <b>! Hazard prevention action and information.</b>
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The key word indicates the likelihood of occurrence and the severity of the hazard in the event of non-observance:

Key word	Probability of occurrence	Severity of danger if instructions not observed
<b>DANGER</b>	<b>Immediate</b> impending danger	<b>Death</b> or <b>severe</b> injury
<b>WARNING</b>	<b>Possible</b> impending danger	<b>Death</b> or <b>severe</b> injury
<b>CAUTION</b>	Possible <b>dangerous</b> situation	<b>Minor</b> injury

## 1.2 Symbols in this Document

Symbol	Designation	Explanation
!	Attention	Warns about possible property damage.
i	Information	Practical hints and other useful information.

## 1.3 Symbols on the Product

Observe all warning notices on products and ensure they remain legible. Important Information

# 2. User Information

To increase effectiveness with the CDR 900, users should familiarize themselves with the format and information contained in this guide. Every attempt has been made to provide complete and accurate technical information based on factory service information available at the time of publication. However, the right is reserved to make changes at any time without notice.

Before starting up, connecting and operating Bosch products it is absolutely essential that the operating instructions/owner's manual and, in particular, the safety instructions are studied carefully. By doing so you can eradicate any uncertainties in handling Bosch products and thus associated safety risks up front; something which is in the interests of your own safety and will ultimately help avoid damage to the device. When a Bosch product is handed over to another person, not only the operating instructions but also the safety instructions

and information on its designated use must be handed over to the person.

# 3. Safety Instructions

Please read and review all instructions, warnings and information included in this manual prior to start-up, connection and operation of the CDR 900 Vehicle Communication Interface.

This user manual is written for safe convenient setup and use of the product. We recommend that you carefully read the manual prior to using the CDR 900 and software.



### **DANGER – High Electrical Voltage**

Certain risk of personal injury or death  
! Always consult the vehicle's service manual for safety precautions and procedures when working with high voltage vehicle systems and/or passive restraint devices such as airbags, pretensioners and other deployable devices.



### **WARNING – Dangerous Exhaust Gas**

Possible risk of personal injury or death  
! When performing any checks with the engine running in an enclosed space such as a garage, be sure there is proper ventilation. Never inhale exhaust gases; they contain carbon monoxide - a colorless, odorless, extremely dangerous gas which can cause unconsciousness or death



### **WARNING – Parking Brake**

Possible risk of personal injury  
! To help avoid personal injury, always set the parking brake securely and block the drive wheels before performing any checks or repairs on the vehicle.



### **CAUTION – Battery Clamps - Polarity**

Possible risk of personal injury  
! Do not clasp battery clamps together when connected simultaneously to the vehicle's 12 volt cigarette lighter or power supply. Reverse polarity in the vehicle's cigarette lighter may be present. Damage could occur to the CDR 900 or to the vehicle. Make sure all cables and adapters are firmly connected before starting to use the CDR 900. Always read the instructions completely before attempting a new procedure.

### 3.1 Electromagnetic Compatibility

The CDR 900 satisfies the requirements of the EMC directive 2004/108/EG.

The CDR 900 is a class/category A product as defined by EN 61 326. The CDR 900 may cause high-frequency household interference (radio interference) so that interference suppression may be necessary. In such cases the user may be required to take the appropriate action.

### 3.2 Electronic Waste Disposal

This CDR 900 is subject to European guidelines 2002/96/EG (WEEE). Old electrical and electronic devices, including cables and accessories or batteries must be disposed of separately from normal household waste. Please use the return and collection systems in place for disposal in your area.

Damage to the environment and hazards to personal health are prevented by properly disposing of the CDR 900.

### 3.3 FCC Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her expense.

All work conducted on electrical devices may be performed by persons with sufficient knowledge and experience in the field of electronics.

#### 3.3.1 WiFi Compliance

This equipment complies with the following worldwide wireless standards.



### 3.3.2 Safety/Environmental Compliance

This equipment complies with the following worldwide safety and environmental standards.



## 4. Product Description

### 4.1 Overview

The CDR 900 is used by professionals who inspect vehicles involved in accidents, investigate vehicle accidents or perform vehicle accident reconstructions. It is used as an aid in accident investigations and vehicle inspections by retrieving stored data from vehicle electronic systems. The CDR 900 is designed to connect the vehicle to a host PC computer CDR software application which then functions through the CDR 900 for retrieval of certain data such as Event Data Recorder (EDR) data stored in Electronic Control Units (ECU).

Using the CDR 900 Manager PC application which is included with CDR software version 17.8 and later, you configure the CDR 900 to communicate with a host computer. The CDR 900 is capable of communicating over a USB cable or wireless (WLAN).

### 4.2 User group

The product should be used by skilled and instructed users only. It is recommended that users be trained, familiarized, instructed or to take part in a general training course before using the CDR 900 to download EDR data from vehicles or directly from a vehicle's ECU.

### 4.3 PC System Requirements

The CDR 900 Software runs on a PC/Laptop. The user interacts with the CDR 900 and CDR software for device setup.

The following table lists the minimum PC/laptop requirements for installing and running the CDR 900 and CDR Software:

Item	System requirements
Operating System	WIN 7, WIN 8, Or WIN 10 (32 bit and 64 bit PCs)
Available hard disk space	100 MB or greater
RAM	512 MB or greater
CPU	1 GHZ or higher
Communication Ports	2 USB
Video Resolution	1024 x 768 or higher

#### 4.4 CDR 900 Components

The CDR 900 components include cables and hardware needed to connect to and download EDR data from vehicles through the OBD connector or directly from the vehicle's ECU. Depending on the kit purchased, all of the cables and components shown below are included except for the Wireless Dongle. Wireless dongle availability depends upon the country the CDR 900 is sold.



The CDR 900 and its components may be offered in a few possible kit configurations such as a CDR 900 Upgrade Kit (P/N 1699200630) or kits which may combine the CDR 900 and the CDR DLC Basic Kit with the older style CDR vehicle interface (CANplus Module). Regardless of the kit offered, the CDR 900 main components consist of the following:

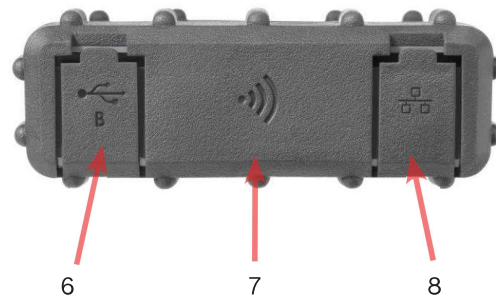
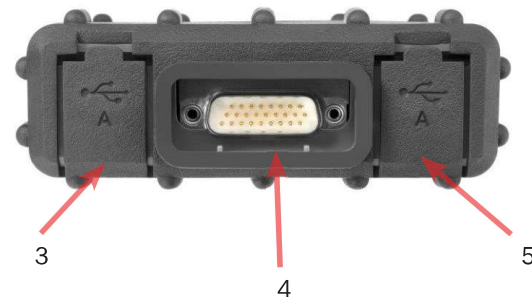
CDR 900 Components	Part Number	Qty
CDR 900 VCI Assembly	1699200598	1
CDR 900 Power and Interface Cable	1699200602	1
CDR 900 DLC/J1962 Cable	1699200615	1
CDR 900 Legacy Cable Adapter (D2ML)	1699200616	
CDR 900 1 m Extension Cable	1699200617	1
USB A to B, Heavy Duty 3m Cable	1699200385	1
Wireless 802.11n Dongle (optional depending on where kit is sold)	1699200155	2

Optional accessories for the CDR 900 are listed in the following table.

Item	Part Number
Bosch Storage Case (Nylon Case)	F00K108939
CDR 12V Power Supply, with Power Cord	F00E900104
CDR 12V Power Supply, without Power Cord	02002435
Wireless 802.11n Dongle (available only in certain countries)	1699200155

#### 4.5 CDR 900 Assembly Connectors, Lights and Controls

A number of standard connectors, controls and LEDs are available on the CDR 900 to facilitate operation and communication with vehicles, PCs and local area networks. These connectors and controls are shown in the following illustrations.



Item	Description
1	LED Indicators
2	Power Button with LED indicator
3	USB Port Type A (currently not used for CDR 900)
4	DB26 Connector (CDR Power and Interface cable)
5	USB Port Type A (currently not used for CDR 900)
6	USB Port Type B - PC Connection Port
7	Wireless Adapter
8	Ethernet Port (currently not used for CDR 900)



## 4.6 Universal Serial Bus (USB)

The CDR 900 has a fixed USB configuration which cannot be changed. This ensures that the CDR 900 can always be connected to a single PC running the CDR software version 17.8 or later and the CDR 900 Manager software so you can configure LAN or WLAN settings required by your local network. In addition, it is important to note that a USB connection and 12V DC power connected through the CDR 900 Power and Interface cable are required to configure and update the firmware on the CDR 900. USB connection must be made directly with the PC port. Do not connect through a USB hub.

## 4.7 Ethernet

The Ethernet connection is currently not applicable at this time for the CDR 900 device.

## 4.8 Wireless Local Area Network (WLAN)

The 802.11g WLAN connection on the CDR 900 is set up and configured while the device is connected over USB to a PC running the CDR 900 Manager software.

## 4.9 CDR 900 Manager Software

The CDR 900 Manager software is a host computer application which runs on the Microsoft Windows operating system to configure and update the CDR 900 device such that it can be used to retrieve EDR data from supported vehicles. The CDR 900 Manager is used to setup and configure your CDR 900 device so that you are able to use it with CDR version 17.8 and later CDR software. It is also used to update your CDR 900 firmware from time to time.

CDR 900 Manager software comes with CDR version 17.8 and later CDR software. Access to CDR 900 Manager software is automated through the CDR software application.

## 4.10 Additional CDR 900 Features

### 4.10.1 CDR 900 Power and Interface Cable

The CDR 900 communicates with vehicles and directly to Electronic Control Units through the *CDR 900 Power and Interface Cable* (P/N: 1699200602). When the Power and Interface is connected to the DLC J1962 Cable (P/N 1699200615), it provides the link to the vehicle's SAE J1962 Data Link Connector (DLC) or OBDII connector. The CDR 900 interface cable can be connected directly to an ECU using vehicle specific CDR cables for direct to module downloads. The CDR 900 Interface cable also switches power to ECUs during retrieval of EDR data directly from the ECU.

### 4.10.2 Power Source

The CDR 900 requires 12V DC power for the following operations:

- CDR 900 Setup & Registration, Reprogramming/Recovery and Wireless Setup
- Vehicle Communications/EDR retrieval through a vehicle's J1962 (OBD) connector
- Communications/EDR retrieval while directly connecting to an ECU

### 4.10.3 Power Source for CDR 900 Setup

When setting up your CDR 900 for the first time, reprogramming, recovering the device's firmware or setting up wireless communications with your PC, you will need to connect 12V DC to the CDR 900. To power the CDR 900 with 12V DC for this purpose, plug in the *CDR 900 Power and Interface Cable* into the device and then plug in 12V power connector from the *CDR Power Supply* (P/N: F00E900104 or 02002534) into the power jack on the *CDR 900 Power and Interface Cable*. Note that the CDR 900 power supply is the same as the power supply used with the CANplus CDR interface (P/N: F00E900104 or 02002534).

### 4.10.4 Power Source for DLC/OBD Downloads

The CDR 900 can be powered from the vehicle battery via the DLC Cable when retrieving data through the vehicle's J1962 (DLC/OBD) connector provided the vehicle has adequate voltage and the voltage & ground circuits are not damaged or shorted. If the CDR 900 does not have sufficient power (12V) to connect to the vehicle's network, the CDR 900 will inform you of insufficient power by blinking the *Vehicle LED* indicator on the CDR 900 in the color Red. For example, if there is no or insufficient 12V power (<~10.5V) to the CDR 900 and it is connected to the USB on your PC, the *Vehicle LED* indicator will flash red. If 12V power is lost or not detected while the CDR 900 is downloading EDR data from a vehicle, the CDR 900 speaker will also beep to inform you of the loss of power. Beeping may occur if the DLC is accidentally dislodged as well.

### 4.10.5 Power Source for Direct to ECU Downloads

The CDR 900 can be used to download EDR data while directly connecting to an ECU. 12V DC power must be plugged directly into the *CDR 900 Power and Interface Cable* before attempting to download EDR data directly from an ECU. Also, you must choose the correct CDR cable for the vehicle data is being retrieved from. Other external adapters are not required when using the CDR 900. Proper selection and use of the CDR cable and






vehicle application information is provided in the CDR help file. After connection of 12V DC power, the CDR software application will command the *CDR 900 Power and Interface Cable* to switch power to the ECU when needed and then switch it off when data retrieval is completed.

#### 4.10.6 Use of Older (legacy) CDR Cables

For users who have purchased CDR cables prior to the release of the CDR 900, they can reuse these cables with the CDR 900 by using the D2ML Adapter (P/N: 1699200616) to connect a supported ECU to the CDR 900 *Power and Interface Cable* for retrieving EDR data from a supported ECU. The legacy CDR cable's 15 pin connector plugs into one end of the D2ML adapter and the other end of the adapter plugs directly into the CDR 900 *Power and Interface cable*. The CDR software works the same as it does with the older CANplus module.

#### 4.10.7 LED Indicators

Seven Light Emitting Diodes (LEDs) are located on the front of the CDR 900. The LED indicators provide the following status information.

LED Symbol	Function
	Vehicle Communication
	Error Indicator
	PC Host Communication
	Power Button
	Power On Self-Test
F1	Function 1 (not used)
F2	Function 2 (not used)

### 4.11 Supported Interfaces

The following sections list the interfaces supported by the CDR 900. It is not typical that CDR users require this information but, it is important to note for those interested the capabilities of the CDR 900.

#### 4.11.1 CDR 900 Physical Layer Interfaces

The following physical network communications are supported by the CDR 900.

- CAN (3 independent channels)
- Channel 1 at 125/250/500/1000kbps
- Channel 2 at 125/250/500/1000kbps
- Channel 3 at 125/250/500/1000kbps
- Two UART channels (K & L Lines)
- One J1850
- One J1708

#### 4.11.2 Protocol Interfaces

The protocols interfaces supported by the CDR 900 are as follows. Depending on the vehicle the CDR Tool is connecting to, the CDR Software automatically chooses the necessary protocol and physical interface for communication with supported vehicle networks\*.

- SAE J1939 (3 independent channels) • SAE J1708/J1587
- SAE J1850 VPW / PWM
- SAE 2740 (GM UART)
- SAE J2818 – KWP1281
- SAE J2284 at 125/250/500kbps
- SAE J2411 (GM Single Wire CAN) • SAE J2610
- ISO 13400 - DoIP
- ISO 15765
- ISO 14230 – KWP 2K
- ISO 9141-2
- ISO 11898-1 CAN-FD
- ISO 11898-3 (Fault Tolerant CAN) • GMW 3110 (GM LAN)

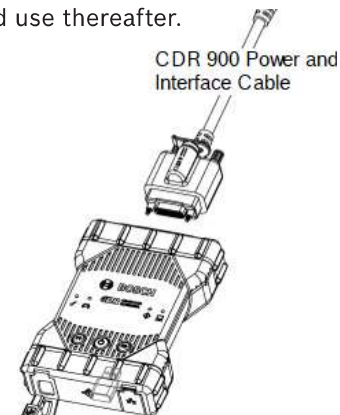
\*The CDR 900 is capable of supporting the above protocols and physical interfaces; however, this does not imply the CDR software actually utilizes all of the listed protocols and physical interfaces for currently supported vehicles.

### 4.12 CDR 900 Component Hardware Descriptions

#### 4.12.1 CDR 900 Power and Interface Cable (P/N:



This cable is essential for powering the CDR 900 device during setup, registration, programming and subsequently, connecting to vehicles and ECUs for downloading EDR data. Once connected, you may wish to leave the *CDR Power and Interface Cable* connected to your CDR 900 for continued use thereafter.



#### CDR Switching 12V Power to ECUs

The CDR Tool is capable of connecting to and retrieving EDR data directly from ECUs if the vehicle's DLC/OBD electronics are damaged or not accessible. Connecting the CDR 900 directly to an ECU to download EDR data requires a vehicle specific CDR cable and possibly an adapter such as the CDR 500 FlexRay Adapter. It also requires providing 12V DC power to the ECU prior to communicating with it. 12V DC power is supplied to the ECU through the *CDR 900 Power and Interface Cable* when an external 12V source such as the CDR Power Supply (P/N: 02002435) is connected to it. At the right time during the download, the CDR Tool software signals the CDR 900 to switch the 12V DC power through the CDR cable to the ECU prior to communicating with and downloading EDR data. When completed, the CDR Tool software switches the ECU power off.

An LED indicator lamp on the CDR 900 power cable provides status of the power switching to the ECU. The table below describes the colors of the LED during the download process.

LED Color	Status
Yellow	12V DC power is applied but the power is not switched to the ECU
Green	12V DC power is switched on to the ECU
No Illumination	12V DC Power is not applied or the cable is faulty

#### 4.12.2 DLC/OBD J1962 Cable (P/N: 1699200615)



The OBD/DLC J1962 Cable is used when downloading EDR data when connected to the vehicle's DLC/OBD connector and the other end plugs into the CDR 900 Power and Interface Cable.

#### 4.12.3 D2ML, CDR Cable Legacy Adapter (P/N: 1699200616)



This adapter is needed for connecting existing (legacy) CDR direct-to-module cables to the CDR 900

interface & power cable. Although new CDR 900 direct-to-module CDR cables will not require this adapter, many of the existing legacy CDR cables will require this adapter as older vehicle's support is migrated to the new CDR 900 device.

#### 4.12.4 1 m Extension Cable (P/N: 1699200617)



The CDR 900 Extension cable extends the reach of the CDR 900 during direct-to-module imaging.

#### 4.12.5 USB A to B, Heavy Duty, 3m Cable (P/N: 1699200385)



The USB A to B cable is a heavy duty, 3 meter cable providing a stable connection between the CDR 900 and PC. Even if wireless is an option, the USB cable is needed for configuration, reprogramming and registration of the CDR 900.

#### 4.12.6 Wireless 802.11 Dongle (P/N: 1699200155)



Two Wireless 802.11n Dongles provide point-to-point wireless communications between the CDR 900 and PC. Depending on the country the CDR 900 is sold, these dongles may not be provided with the CDR 900.

#### 4.12.7 CDR 12V DC Power Supply (P/N: F00E900104, kit / 02002435, P/S Only)

The CDR 900 utilizes the current CDR Tool 12V power supply included in the basic CDR DLC/OBD Kits offered today. Because most users are likely to own one already, the 12V DC power supply is not included in the CDR 900 kits.

## Getting Started

The following sections provide the information required to begin using the CDR 900 with CDR Tool Software version 17.8 and newer.

For installation and setup your CDR 900 users will need a CDR software subscription to download, install and activate CDR Tool Software version 17.8 or newer from the [www.boschdiagnostics.com](http://www.boschdiagnostics.com) at the following link: <https://www.boschdiagnostics.com/cdr/software->

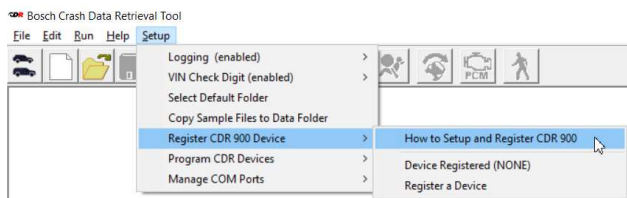


[downloads](#). CDR software a subscriptions can be purchased from an authorized CDR Tool distributor in the customer's region or country. Click on the following link or visit the URL listed for further instructions on installing the latest CDR Tool software: <https://www.boschdiagnostics.com/cdr/sites/cdr/files/CDR software Installation Manual 31 00 0 2.pdf>

### 4.13 CDR 900 Manager Software

Through out this manual, you will see references to the CDR 900 Manager Software (*VCI Manager (CDR)*). This software comes as part of the CDR Tool Software version 17.8 and newer and gets installed automatically during its installation. CDR 900 Manager software enables the connection of the CDR 900 to a PC, reprogramming the device with updates as needed, recovering it in case of rare error conditions and recovering the device for first time use. The CDR Tool Software will interact with the CDR Manager software when needed but users can also launch the Manager software from the program file start menu under the BOSCH menu as well.

To get started, users must *Setup and Register* the CDR 900 through the CDR software application by opening *CDR Tool Software version 17.8 or newer* and follow the instructions provided when clicking on *How to Setup and Register CDR 900* from the *Register CDR 900 Device* selection under the *Setup* menu in the CDR Tool Software.



The instructions will guide users through the process of setting up and registering their CDR 900. Below is a summary of the steps required before using the CDR 900:

1. Program (recover) the CDR 900 for the first time
2. Configure the CDR 900 for Wireless operation (optional)
3. Register the CDR 900 with the CDR Tool software

Setup and Registration is also covered in this user document. It is recommended however, that users refer to the CDR Tool Software for the latest instructions on getting the CDR 900 setup and registered for use.

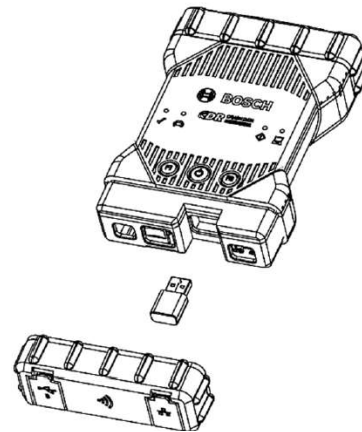
#### 4.13.1 CDR 900 Wireless Setup (Hardware)

The CDR 900 can be configured to communicate with the PC wirelessly using the two Wireless Dongles (P/N: 1699200155). Using the Wireless Dongles allows the

PC to connect to the CDR 900 through a simple point-to-point wireless connection. This is the preferred method for connecting the CDR 900 to a PC wirelessly.

First, the a wireless dongle must be installed into the CDR 900. Use the following procedure to install the wireless adapter into your CDR 900.

1. Ensure power is removed from CDR 900.
2. Remove the lower boot from the CDR 900.
3. Install the wireless adapter into the USB port.
4. Replace the lower boot on the CDR 900.



Next, install the second wireless dongle from your kit into the PC. Use the following procedure to install your wireless dongle into your PC.

1. Identify a USB 2.0 compatible port on your PC that is accessible. Do not plug wireless adapter into a USB hub.
2. Install the wireless adapter into the PC USB port. You may have to wait for your PC to install and configure the wireless adapter driver onto your PC.

Your PC and CDR 900 hardware is now ready for a wireless connection.

Reminder: You should always use Windows to Safely Eject the wireless adapter before physically removing it from your PC.

#### 4.13.2 Identifying Your CDR 900 by Serial Number

The best way to keep track of your CDR 900 is by referring to the Serial Number on the back label of the CDR 900. It is the last 8 characters of the product identification code located directly below the bar code on the label. The CDR 900 can be also identified electrically using the same serial number as imprinted on the label. You may need to refer to this serial number when you

are using or registering your CDR 900 with your CDR Tool Software.

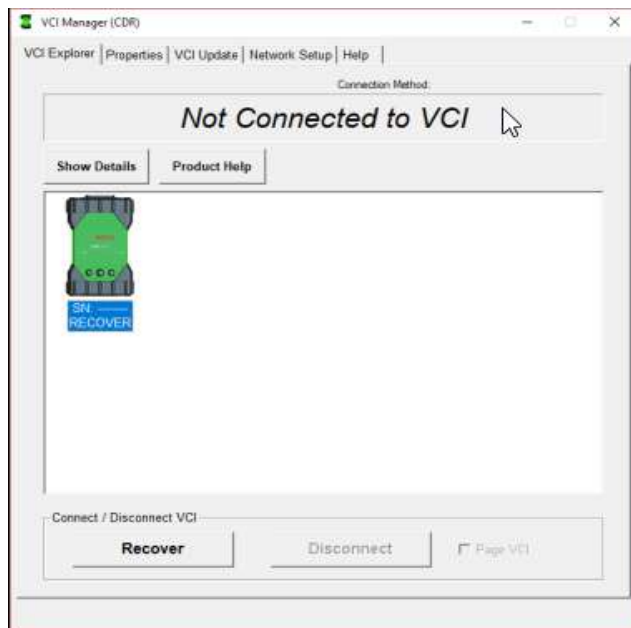
#### 4.14 CDR 900 Software Setup

This section outlines the setup of your CDR 900 software.

##### 4.14.1 CDR 900 and its First Time Use

The CDR 900 is shipped from the factory without firmware on the device. Your first connection to a PC involves programming the CDR 900 which consists of "recovering" the device with the new firmware. Before doing so, you will need to power up the CDR 900 and connect to the USB cable to configure your CDR 900. Follow the steps below to install CDR 900 firmware for the first time.

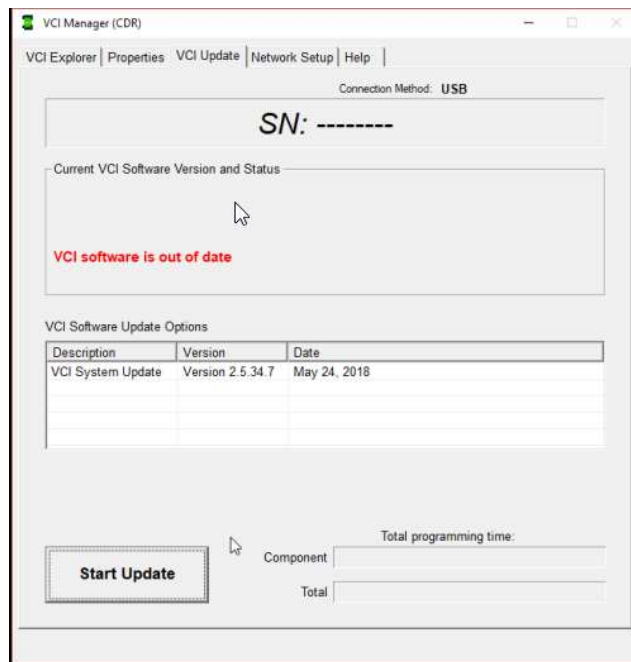
1. Launch CDR Tool Software and select *Program CDR 900* from *Program CDR Devices* under the *Setup* menu. The CDR 900 Manager will be displayed and ready to connect to the device. Before proceeding to the next step, make sure 12V DC power from your CDR Power Supply (P/N: 02002435) is plugged into the *CDR 900 Power and Interface Cable* and the CDR 900 is connected to the PC using the USB cable. The CDR 900 will boot in Recovery Mode (only in factory setup the first time use)






2. When you click on the new CDR 900 icon in the CDR 900 Manager screen, the Connect button will



change to the Recover button. Your CDR 900 will be displayed without the serial number when initially connected to CDR 900 Manager.

3. Select the Recover button to start the update process.
4. Select the Start Update button to install firmware on the CDR 900.



5. Do not unplug the CDR 900 from the PC or remove power from the CDR 900 during the update process. Select OK to continue.
6. The update process will take about 5 minutes to complete. Once the update process is complete the CDR 900 will automatically reboot. Wait until you hear the beep from the CDR 900 before proceeding to use your CDR 900. Proceed only after you hear the beep.
7. The CDR 900 icon in the CDR 900 Manager will indicate it is ready to connect to the PC. Click on the CDR 900 icon in the manager window and then click the Connect button on the screen. A green check mark will be displayed when you are successfully connected. Below are the possible connection icon statuses that may be displayed in the CDR 900 Manager window depending on how the CDR 900 is connected to the PC.

Icon	Description
	CDR 900 Manager will connect to CDR 900 via USB
	CDR 900 Manager is connected to the CDR 900
	CDR 900 Manager will connect to CDR 900 via Wireless

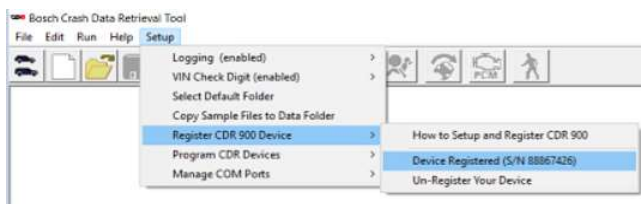
Icon	Description
	Wireless Point-to-Point is not set up. Connect CDR 900 to the PC using USB cable to complete setup.
	Wireless adapters in the PC and in the Tester are incompatible with each other.

Once the CDR 900 is able to communicate with your PC the CDR application all you need to do is register the device with the CDR Tool Software and then it is ready to use.

#### 4.14.2 Registering the CDR 900

The CDR Tool Software requires a CDR 900 device to be registered before downloading EDR data from supported vehicles. Follow the steps below to register you CDR 900 with the CDR software. If you wish to use another CDR 900 device after one is already registered then you will need to un-register it and register the new device in its place. Registration can only be completed when the CDR 900 is connected to the PC with the USB cable and 12V power is supplied to it. Registration cannot be performed over wireless connection.

1. Launch CDR Tool Software version 17.8 or newer.
2. Connect the CDR 900 to your PC using the USB cable. Make sure you also provide 12V power to the device.
3. Select *Register a Device* from the *Register CDR 900 Device* selection from the CDR Tool Software *Setup* menu
4. Your device will be registered and is evident when viewing the dropdown menu under *Register CDR Devices* (see below)



To un-register a device, simply select *Un-Register Your Device* from the same menu selection and your CDR 900 information will be removed.

### 4.15 Setting Up Wireless Communications (software)

The CDR 900 is capable of communicating with a PC over a Point-to-Point wireless connection. This connection requires the use of the two Wireless 802.11 Dongles (P/N: 1699200155) which may have been included in your CDR kit or can be purchase separately. Refer to section 5.2.2 *CDR 900 Wireless Setup (Hardware)* for setting up your CDR 900 and PC hardware to communi-

cate wirelessly. This section describes how to get your CDR 900 software to communicate wirelessly over a Point-to-Point network and assumes the wireless dongles are already installed.

The following illustration shows a CDR 900 connected to a laptop PC using Point-to-Point Wireless communication.



Note that the steps presented below assume you are running Windows 7 operating system on your PC. The steps for other versions of the Windows operating system may be slightly different.

1. Connect the CDR 900 to your PC using the USB cable. Do not plug the CDR 900 USB cable into a USB hub.
2. Apply 12V power to *CDR 900 Power and Interface Cable* then allow the CDR 900 to boot completely (listen for the beep).
3. Launch the CDR Tool Software and select *Program CDR 900* from the *Setup* menu. This step launches the CDR 900 Manager Software.
4. Click the CDR 900 Icon in the view and click Connect.
5. Remove the USB cable from the PC and CDR 900 and you should be connected wirelessly. You will see the following icon in the CDR 900 Manager screen confirming a wireless connection.



6. The next time you apply 12V power to the CDR 900 either through a DLC/OBD connection to a vehicle or when 12V power is supplied to the CDR 900 directly to the CDR 900 cable, the wireless connection is automatically configured. As long as your CDR 900 is registered prior to setting up the wireless, the CDR Tool application is ready to connect to the device when applicable.

! **IMPORTANT:** Wireless connections between the CDR 900 and PC may not be supported on all PC and network configurations including PCs running a Virtual Private Network (VPN). This is not due to limitations of the CDR 900 hardware and software but may be due to the users PC, corporate network and security requirements and settings. Operation limita-

tions presented by the above may not be resolved by Bosch and subsequent operation of the wireless features may not be possible.

**I** The range of the CDR 900 wireless may reach up to 100 meters with no obstructions between the CDR 900 and PC; however, this range cannot be guaranteed as it can vary based on background RF (radio frequency) noise in the environment it is used. Also, keep in mind that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through may limit the range and data communication rates significantly.

#### 4.15.1 Changing the Wireless Point-to-Point Pass-Phrase

A default wireless pass-phrase is provided through the CDR 900 Manager software and does not need to be entered during Point-to-Point wireless setup. If you have the need to reset your pass-phrase, you can use the following steps. The following steps assume you are running the Windows 7 operating system on your PC.

1. On the right-hand side of the Windows Task Bar, click the View Wireless Networks button. A list of the available wireless networks in range of your PC is displayed.
2. Select Open Network and Sharing Center.
3. Select Manage Wireless Networks from the left column.
4. Select Change adapter menu and choose CDR 900 from the list.
5. Remove your stored Point-to-Point network. The name will contain CDR 900 and the last 8 digits of the CDR 900 serial number, (CDR 900 xxxxxxx).
6. When you reconnect the CDR 900 to the PC using the USB cable, a new pass-phrase will be established.

### 4.16 Checking CDR 900 Firmware

The CDR Tool software has a *Test CDR 900* option which connects to the application to the registered CDR 900 and verifies the device can be communicated with and that it has the latest software. Users must ensure that the CDR 900 is connected via the USB cable and 12V power is applied to the CDR 900 before testing the device.

If the CDR 900 firmware needs to be updated, the user will be notified via a popup screen and asked if they wish to reprogram the device. The user may choose to update at that time or reprogram the CDR 900 at a later time using the Program CDR 900 from the Setup menu.

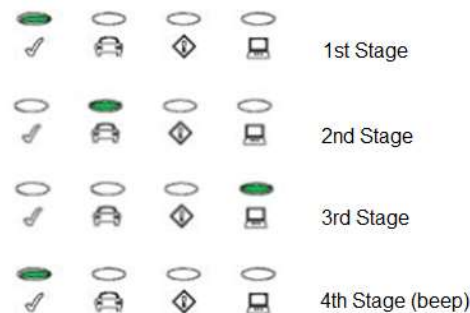
CDR 900 Software can only be updated when connected to the PC with the USB cable and not through a wireless connection.

#### 4.16.1 Set Factory Default for Wireless

Selecting the Set Factory Default button on the Network Setup tab of the CDR 900 Manager reconfigures your CDR 900 to the Point-to-Point communications settings it had when it left the factory. Any software upgrades that have been installed to the CDR 900 are still installed. When the CDR 900 reset is finished, the CDR 900 Manager software displays the VCI Explorer tab. All wireless AP configurations will be lost.

### 4.17 Power On Self-Test (POST)

When you first apply power to a CDR 900 with firmware, the Power On Self-Test (POST) runs. You should observe a sequence of lights and hear the “BEEP” indicating that the CDR 900 is working properly.



If a failure occurs, one long audible beep will be heard and a Test Failure light sequence displays which includes the red Error LED.

### 4.18 Connecting the CDR 900 to a Vehicle

The CDR 900 kit includes an interface cable (CDR 900 Power and Interface Cable) and a DLC/OBD J1962 Cable. These cables are used to connect the CDR 900 to the vehicle's SAE J1962 Data Link Connector (DLC).

Refer to the electrical wiring diagram for the vehicle you are testing to determine the location of the DLC on the vehicle.

1. Connect the 26-pin end of the *CDR 900 Power and Interface* cable to the top of the CDR 900, then tighten the screws.
2. Connect the DLC/OBD J1962 to the CDR 900 Power and Interface cable
3. Connect the 16-pin end of the J1962 cable to the vehicle DLC connector.

#### 4.18.1 Powering the CDR 900

The CDR 900 will be powered by the vehicle's 12-volt battery. If power is not available through the vehicle's



DLC/OBD connector, the user can use the CDR Tool cigarette lighter adapter connected to the CDR 900 Power and Interface cable to power up the CDR 900.

#### 4.19 Connecting the CDR 900 to an ECU

The CDR 900 kit includes an interface cable (CDR 900 Power and Interface Cable) which connects directly to vehicle specific CDR cables for downloading data while directly connecting to an ECU. An adapter is also provided which allows the CDR 900 to connect with older CDR cables which were released prior to the CDR 900.

Refer to the CDR Tool Software help file for determining which CDR cable to use for supported vehicles.

##### 4.19.1 Powering the CDR 900 for Direct ECU connections

The CDR 900 is powered using the CDR power supply connected directly to the CDR 900 Power and Interface Cable. Also, the CDR Tool cigarette lighter adapter can also be used to power the CDR 900 utilizing a 12V power source from the vehicle.

## 4.20 Supported Vehicles

The CDR Tool Software (version 17.8 and later) help file contains a *Vehicle and Cable Lookup* section which lists all of the supported vehicles by the CDR Tool and the CDR 900. Always refer *Vehicle and Cable Lookup* section for vehicles which are supported by the CDR 900.

2018	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Mkt	Year/Make	Model	Module										
Z	2018 Chrysler	300	ACM	Data									
Z	2018 Chrysler	Pacifica	ACM	Data									

## 4.21 Finishing Up

After using the CDR 900, a few simple steps help you leave the vehicle electronic system(s) in the proper state and ensure that you get the most use out of your diagnostic tools:

1. Before turning the CDR 900 off, exit any running PC computer applications.
2. Turn the CDR 900 off by removing power. The Power LED turns off.
3. Disconnect the CDR 900's DLC cable from the vehicle.
4. Disconnect the USB cable from the PC and the CDR 900.
5. Store the CDR 900, cables, and other parts in a secure, dry location.

## 5. Troubleshooting

This section is intended to help you get back on track if the CDR 900 appears to be operating abnormally. In addition, the most likely cause for the condition is given as well as other possible causes and recommendations on how to isolate or eliminate the problem.

### 5.1 CDR 900 Does Not Pass Power On Self-Test (POST)

Most Likely Cause:

- Internal problem in the VCI.

Recommendations:

- Connect the CDR 900 to a PC using USB and perform the recovery procedure.

### 5.2 CDR 900 Error LED Lights After Power On

Most Likely Cause:

- A problem has been detected during power on.

Recommendations:

- Power down the VCI and verify that it has the same problem when you power up again.
- Connect the VCI to a PC using USB and perform the recovery procedure.

### 5.3 CDR 900 Fails to Power Up

The CDR 900 should power up as soon as external power is applied through the *CDR Power and Interface Cable*. If the CDR 900 does not turn on, first check the cable connections. Try supplying power to the device from two different power sources— the vehicle DLC connector and the USB connector.

Recommendations:

- Check that the cables are securely attached to the VCI and the connector pins are clean.
- If connecting to the vehicle DLC connector, try powering from the USB connector.
- If powering from USB, try powering from the vehicle DLC connector.

### 5.4 Vehicle LED is Blinking Red

If the CDR 900 does not detect 12V on Pin 16 of the DLC cable or that power is applied to *CDR 900 Power and Interface Cable*, the CDR 900 will inform the user by



automatically turning on and blinking the Vehicle LED icon red. This condition might be seen if the CDR 900 is only powered by a 5V USB connection from your PC or if the OBD Cable has accidentally been disconnected from the vehicle Data Link Connector (DLC/OBD) and is powered from the backup capacitor inside the device. When the CDR 900 detects 12V on Pin 16 or when powered through the cable, the Vehicle LED will stop blinking red.

Recommendations:

- Ensure 12V is applied to the CDR 900 Power and Interface Cable or Pin 16 of the DLC/OBD cable

### 5.5 CDR 900 Speaker is Beeping

If the CDR 900 is performing diagnostic services for the PC and does not detect 12V on Pin 16 of the DLC cable, the CDR 900 will inform the user of the loss of power by beeping the speaker. The CDR 900 will continue to beep until the backup capacitor is drained. When the CDR 900 detects 12V on Pin 16, the speaker will stop beeping.

Recommendations:

- Ensure 12V is applied to Pin 16 of the DLC cable during a download or that 12V power is supplied to the CDR 900 through the CDR 900 Power and Interface Cable.

### 5.6 CDR 900 Turns Off Immediately When Disconnected from the Vehicle During or After an EDR Download

If the CDR 900 does not remain on during a DLC disconnection, there may be a problem charging the internal capacitor.

The CDR 900 should remain powered up if power is lost during engine cranking or after it is disconnected from power (vehicle DLC) during a diagnostic session. The CDR 900 speaker will beep to notify the user that power has been lost unexpectedly during the diagnostic session.

Recommendations:

- Check for 12V power supply at the vehicle DLC connector

- Ensure that the CDR 900 has been connected to the vehicle DLC for at least 90 seconds to charge the internal capacitor.

### 5.7 CDR 900 Checkmark LED is Blinking

If the internal temperature of the CDR 900 has exceeded the maximum limit, the CDR 900 will automatically turn off the wireless adapter. This will be visible to the user by the Checkmark LED blinking. When the internal temperature of the CDR 900 lowers to an acceptable value, the wireless adapter will be re-enabled for wireless communication.

Recommendations:

- Move the CDR 900 to a cooler location near the vehicle

### 5.8 Wireless Communication with Network Unsuccessful using the Wireless 802.11n Dongle

The wireless dongle communication to a network. The wireless dongle is only intended to be used with the CDR 900 for Point-to-Point communication or Infrastructure wireless communication.

Recommendations:

- Make sure you do not have two D-Link wireless dongles connected to the PC.
- Make sure you are not trying to connect the PC to your dealership network using the DWA131 E1 dongle.

### 5.9 CDR 900 Manager Displays the Yellow Icon over the VCI after previous use

There may be instances when Windows does not recognize the installation of the wireless dongle. In these cases, Windows may create a new wireless profile instead of using the existing one already stored on the PC. The yellow icon displayed over your CDR 900 instructs you to plug in the USB cable between the CDR 900 and the PC.

Recommendations:

- Always use Windows to safely Eject the wireless adapter before physically removing it from your PC.
- Unplug and then re-install your wireless adapter. Windows will attempt to recognize the wireless adapter. If successful, the yellow icon will disappear and the CDR 900 will be ready for wireless Point-to-Point communication.

### 5.10 PC Application is Unable to Communicate with the CDR 900 over USB

CDR 900 Manager Software must be installed on the PC, and the CDR 900 must be powered up before it

will communicate. The CDR 900 must be configured through USB before it will communicate using any other connection types.

Recommendations:

If other applications including the CDR 900 Manager are able to connect to the CDR 900 then:

- Check the Windows Firewall settings to see if the application is being blocked.

If all installed applications are unable to communicate with the CDR 900 then:

- Connect the CDR 900 to the PC using USB but do not connect it to the vehicle, Do not connect through a USB Hub or a repeater cable.
- Verify that the USB cables are securely attached and the CDR 900 has completed its power up sequence
- Launch the CDR 900 Manager Application by selecting *Program CDR 900* from the CDR Tool software
- Does CDR 900 Manager detect the device?

If NO, then:

- Try a different USB Cable / Port on the PC
- Check the Windows Firewall to see if the CDR 900 Manager is Blocked. Check that the CDR 900 USB connection is detected by Windows:
- From the Windows Control Panel, open the Network and Dial-up Connections window.
- Check for device name "Bosch VCI". If not running, then the USB driver has not been loaded on the PC. Perform the following troubleshooting steps.
  1. Unplug the USB cable from the PC and plug it back in to the same USB port on the PC. Continue if not resolved.
  2. Unplug the USB cable from the PC and plug it back in to a different USB port on the PC. Continue if not resolved.
  3. With the CDR 900 plugged into the PC with a USB cable, open the device manager from the Windows control panel. In device manager search for an unknown or improperly configured device. The CDR 900 will likely be detected as one of the following:
    - Other device – RNDIS/Ethernet Gadget with a yellow exclamation icon
    - Universal serial bus controllers – Unknown USB Device
    - Right click on the device name in device manager > Update Driver > Browse my computer for driver software > Browse > C:\Program Files (x86)\Bosch Software\USBDriver

4. Plug a different CDR 900 device (VCI #2) into the PC (PC #1). Continue if not resolved.
5. Plug the original CDR 900 device (VCI #1) into a different PC (PC #2) with CDR 900 Manager software installed on it.
6. Contact Technical Support.

If YES, then:

- Test if connection lost when the CDR 900 is connected to the Vehicle, then...
  - Check for Ground faults - (Battery Chargers, Hoists...) This issue may be resolved by correcting the ground fault or configuring the CDR 900 to connect wireless or Ethernet.
  - Check for an improperly wired DLC connector
- If the CDR 900 Manager is still not able to communicate with the CDR 900, perform the Recovery Procedure on the CDR 900.

## 5.11 PC Application is Unable to Communicate with the CDR 900 over Wireless

Check that the wireless card is properly seated in the CDR 900.

- Confirm the CDR 900 can connect over USB

Confirm the PC has a single dongle connected:

- Connect the CDR 900 to the PC using USB
- Confirm the communication is enabled and the IP configuration is properly set using the CDR 900 Manager software

## 6. Cleaning and Maintenance

### 6.1 Cleaning and Storing Your CDR 900

The housing of the CDR 900 module may only be cleaned using a soft cloth and a neutral cleaning agent. Do not use any abrasive cleaning agent or rough cleaning cloths.

There are no user serviceable components inside the CDR 900 Vehicle Communication Interface. Do not open the device. Opening the device will void the warranty.

- If the VCI, connectors, or cables become dirty, they may be cleaned by wiping them with a rag lightly

coated with a mild detergent or non-abrasive hand soap.

- Do not immerse the VCI or any of its parts or accessories in water.
- Although the VCI and accessories are water resistant, they are not waterproof; thoroughly dry them prior to storage.
- Avoid using harsh solvents such as petroleum based cleaning agents, Acetone, Benzene, Trichloroethylene, etc.

## 6.2 Recovering the CDR 900 Software

As a result of a power failure or a communications error during a software update, the CDR 900 software may become corrupted. You may see several symptoms such as error messages directing you to go to RECOVERY mode or an inability to connect to a detected CDR 900. The following two error messages generally occur during CDR 900 Tester Software download. If you see either of these messages, perform the Recovery Procedure.

- "Error reprogramming the VCI. Go to Recovery Mode."
- "There was a problem reprogramming the VCI"

### 6.2.1 Recovery Procedure

Use the following procedure to recovery the software on the CDR 900.

1. Press and hold the Power button of the CDR 900 down. Release the button when the red Error LED is illuminated. After Error LED is illuminated, the CDR 900 is ready for recovery and the Error LED will remain on.
2. Start the CDR 900 Manager software by clicking the CDR 900 Manager icon on your desktop. Your CDR 900 must be connected via USB or it will not be recognized.
3. When the CDR 900 is detected by the CDR 900 Manager software, the icon will be labeled with "Recover".
4. Select the CDR 900 without the serial number and click the Recover button. The CDR 900 Manager software switches automatically to the CDR 900 Update tab.
  - The Recovery Procedure removes any embedded application software loaded on the CDR 900. Your network settings will be retained.
5. Select the latest version of the CDR 900 Recovery Image and click Start Update. Do not unplug the CDR 900 from the PC or remove power from the CDR 900 during the recovery process.
6. When you see the message indicating that the CDR 900 will automatically restart, click OK. The CDR 900 Manager software switches automatically to

the VCI Explorer tab, and your CDR 900 appears when it has finished the restart and Power On Self Test (POST).

## 7. Glossary

Here is a glossary of terms commonly used in the Automotive Diagnostics industry. For CDR Tool terms, refer to the CDR Tool Software Help File.

TERM	DESCRIPTION
TERM	DESCRIPTION
AC	ALTERNATING CURRENT
BAUD RATE	THE SPEED AT WHICH DATA IS TRANSFERRED OVER A SERIAL DATA LINK
BPS	BITS PER SECOND
CDR	CRASH DATA RETRIEVAL
CURSER	HIGHLIGHTED TEXT OR DATA ON A DISPLAY SCREEN
DC	DIRECT CURRENT
DCE	DATA COMMUNICATION EQUIPMENT
DLC	DATA LINK CONNECTOR
DTE	DATA TERMINAL EQUIPMENT. A TERM USED TO DESCRIBE A DEVICE CONNECTED TO AN RS232 LINK.
ECM	ENGINE CONTROL MODULE
ECU	ENGINE CONTROL UNIT
EEPROM	ELECTRONICALLY ERASABLE PROM
ETHERNET	STANDARDIZED IEEE 802.3 TWISTED-PAIR WIRE FOR CONNECTING SYSTEMS TO A NETWORK.
HZ	HERTZ - A UNIT OF MEASURE FOR FREQUENCY
I/F	INTERFACE
I/O	INPUT/OUTPUT
I/P	INSTRUMENTATION PORT
LAN	LOCAL AREA NETWORK
LED	LIGHT-EMITTING DIODE
OBD	ON BOARD DIAGNOSTICS
OEM	ORIGINAL EQUIPMENT MANUFACTURER
PC	PERSONAL COMPUTER
RCV	RECEIVE
RS232	SAME AS RS232C
RS232C	THE MOST STANDARD SERIAL COMMUNICATION INTERFACE USED IN THE COMPUTER INDUSTRY
SCI	SERIAL COMMUNICATION INTERFACE
USB	UNIVERSAL SERIAL BUS - A COMMON STANDARD FOR INTERFACING WITH A PC
VCI	VEHICLE COMMUNICATION INTERFACE
CDR 900 MANAGER	PC SOFTWARE THAT CONFIGURES, TESTS, AND UPDATES THE CDR 900
VDC	VOLTS DC
WLAN	WIRELESS LOCAL AREA NETWORK

## 8. Hardware Specifications

The following table lists the various hardware characteristics of the CDR 900.

CDR 900 HARDWARE SPECIFICATIONS	
HOST INTERFACE	
Wired	USB High Speed Client Port (480 Mbps) Ethernet 10/100 Mbps
Wireless	802.11b/g/n on USB Dongle Bluetooth Version 2.0 EDR on USB Dongle
PROCESSOR SYSTEM	
Microprocessor Type	LMX6 Solor Processor
Clock Speed	800 MHz
RAM	SDRAM : 512 Mbytes DDR3: 64M X 32
ROM	NAND Flash: 256 Mbytes
Mass Storage	Micro SD Card Slot – No card installed (Optional from 4Gbyte to 128Gbyte)
USER INTERFACE	
LED	4 LED's - two LED's are dual color
Audio	Beeper (software frequency controlled)
Keypad	3 momentary switches plus 3 back-lighting LED's
Switch	Recovery switch (for restoration of fail-safe software)
POWER	
Vehicle (12V)	From vehicle battery via DLC
External (12V)	- From CDR Power Supply (P/N: 02002435) - From vehicle battery via battery clips - From 12V jump box
External	USB power
Backup	15 seconds typical (5F Ultra-Cap)
MECHANICAL CHARACTERISTICS	
Size	1635mm x 115mm x 40mm
Weight	240 grams
Input Voltage	6VDC to 16VDC
Power Sources	<ul style="list-style-type: none"> <li>9 - 16 Volt vehicle power</li> <li>USB power</li> </ul>
Operating temperature	-20°C to 70°C using intelligent staged temperature management and shutdown



## 9. Warranty Information

### 9.1 Limited Warranty

Bosch Automotive Service Solutions Inc. warrants the CDR 900 and related cables and adapters (Bosch CDR Products) it distributes through distributors authorized to sell Bosch products to be free from defects in material and workmanship, in accordance with the following:

For 24 months after delivery to you of the Bosch CDR 900 Product, the original end user, we will repair or at our option replace at no charge to you any such Bosch CDR Product which, under normal conditions of use and service, proves to be defective in materials or workmanship (excluding batteries). The warranty period for cables, adapters and accessories is 12 months. The warranty on replaced parts is 90 days.

This warranty does not cover expenses incurred in the removal or reinstallation of any Bosch CDR Products, whether or not proven defective, and does not cover products not purchased from a distributor authorized to sell Bosch CDR Products. This warranty is limited to the original end-user and is not transferable. Repaired and replacement Bosch CDR Products shall assume the identity, of the original for purpose of this warranty and this warranty, shall not be extended with respect to such products.

To obtain performance of this warranty, contact the nearest Bosch authorized repair facility or Bosch CDR Product distributor. A dated purchase receipt or other proof that the product is within the warranty period will be required in order to honor your claim. Carefully pack the unit and ship prepaid to the servicing location.

### 9.2 Warranty Exclusions

Specifically excluded from this warranty are failures caused by misuse, neglect, abuse, improper operation or installation, dropping or damaging a Bosch CDR Product, excessive temperatures, shipping damage, unauthorized service or parts, or failure to follow maintenance instructions or perform normal maintenance activities. Also excluded from this warranty are the correction of improper installation and the elimination of any external electromagnetic interference.

SETS FORTH YOUR EXCLUSIVE REMEDIES WITH RESPECT TO THE PRODUCTS COVERED BY IT. WE SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES ARISING FROM THE SALE OR USE OF ANY BOSCH PRODUCTS, WHETHER SUCH CLAIM IS IN CONTRACT OR NOT. NO ATT-

EMPT TO ALTER, MODIFY, OR AMEND THIS WARRANTY SHALL BE EFFECTIVE UNLESS AUTHORIZED IN WRITING BY AN OFFICER OF Robert Bosch GmbH OR ITS AFFILIATED ENTITIES. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY IMPLIED BY LAW, WHETHER FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE AND SHALL BE EFFECTIVE ONLY FOR THE PERIOD THAT THIS EXPRESS WARRANTY IS EFFECTIVE.

ANY IMPLIED WARRANTY SHALL BE LIMITED IN DURATION TO ONE YEAR FROM DATE OF PURCHASE. SOME LOCATIONS DO NOT ALLOW LIMITATIONS ON HOW LONG IMPLIED WARRANTY LASTS. SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY BY LOCATION.

In the event any provision, or any part or portions of this warranty shall be held invalid, void or otherwise unenforceable, such holding shall not affect the remaining part or portions of that provision or any other provision hereof.

### 9.3 Warranty Repair Procedure

If you are experiencing an issue with your CDR 900, please contact Bosch technical support using the contact information below for assistance. To save time on technical support calls, please read the troubleshooting section prior to calling technical support.

Technical Support

Tel.: 1 (855) 267-2483 (1 855 Bosch Tech)

Fax: 1 (800) 955-8329

Email: techsupport.diagnostics@us.bosch.com

If your CDR products are under warranty, the Bosch Technical Support can assist with the process for warranty returns.



**Bosch Automotive Service Solutions**

2030 Alameda Padre Serra

93103 Santa Babara, CA

USA

**[www.boschdiagnostics.com/CDR/](http://www.boschdiagnostics.com/CDR/)**

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