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Introduction

Congratulations on purchasing the CarDAQ-Plus. Drew Technologies is the leader in J2534 technology. The CarDAQ-Plus allows ECU reprogramming and diagnostic communication to any modern vehicle. For all your vehicle communication needs, "Drew Technologies gets you on the bus."

This Quick Start Guide covers only the initial setup of the CarDAQ-Plus. Refer to the *CarDAQ-Plus Manual* for full documentation of all features and procedures.

What's in the box

You should have received:

- The CarDAQ-Plus
- This Quick Start Guide
- CD containing the CarDAQ-Plus Manual
- Two Ethernet cables: A standard cable (black) for plugging into a wall jack or hub, and a direct-connect cable (blue with red ends) for connecting a CarDAQ-Plus directly to a PC/laptop.
- (Optional) An MVCI to OBD-II (SAE J1962) vehicle cable, part number CDP-J1962
- (Optional) Compact Flash expansion cards, such as: Wi-Fi/802.11b Wireless Ethernet, CF Memory, or GPS (Global Positioning System) w/external antenna

If anything is missing, call Drew Technologies right away.

Getting to know the CarDAQ



On the front of the CarDAQ-Plus (from left to right):

- (optional) Compact Flash slot for installing expansion cards.
 - If you did not request the Compact Flash (CF) slot, your unit may be sealed to prevent dust and dirt from getting into the unit. If you have a sealed unit and want to use the expansion port, contact Drew Technologies.
- Green Indicator light for CF card status
- Black push button used to de-configure CF cards prior to removing them.
- Green light indicating data reception (Status 1)
- Green light indicating data transmission (Status 2)
- Green light for Heartbeat (Status 3)
- Orange light for Busy indicator (Status 4)
- Red light for Error indications (Status 5)
- RS-232 serial port for future expansion. The CarDAQ-Plus does not support the serial interface for J2534 at this time.



On the back of the CarDAQ-Plus (from left to right):

- Vehicle connector for the OBD-II (J1962) cable.
- Auxiliary banana plug for cars that require an off-bus programming voltage.
- Analog input connector for measuring voltage levels and temperatures with the Drew Technologies TempDAQ accessory
- Ethernet port for communicating to a PC with indicator lights for Link and Activity.

Setting up the CarDAQ

First, determine how the CarDAQ-Plus will receive power, but wait to connect it in step 2 below:

- a) Vehicle power: The optional MVCI to OBD-II cable provides power to the CarDAQ-Plus from a vehicle. Most vehicles built after 1996 have an OBD-II port somewhere under the dash on the driver's side, as specified in SAE J1962. (Do not leave the CarDAQ-Plus plugged into an inactive vehicle for several days, as it may drain the vehicle battery.)
- b) Bench top power supply: When using the CarDAQ-Plus on a bench, put power on pin 16 (VBATT) and ground on pin 5 (Signal Ground).

Second prepare to connect the CarDAQ-Plus to the PC. There are several different ways to do this, but this Quick Start guide explains the most common way. For more information, consult the *CarDAQ-Plus Manual*.

Direct-connect with automatic network configuration

Most computers are configured to ask the network for configuration at boot. The CarDAQ-Plus will attempt to send this configuration to your computer so it can communicate with the CarDAQ-Plus.

Procedure for automatic network configuration:

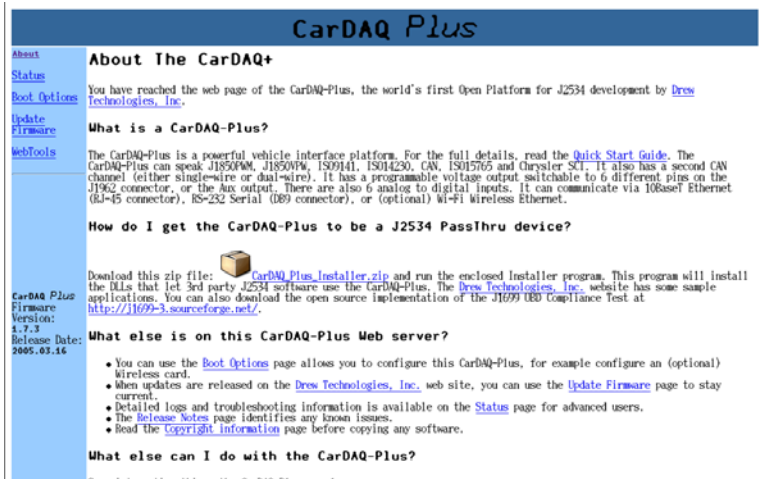
1. Connect the direct-connect Ethernet cable (blue with red ends) between a PC and the CarDAQ-Plus.
2. Connect power (determined above) to the CarDAQ-Plus. Verify that the Ethernet Link light (on the upper right of the Ethernet port) is on. Wait for the orange light on the front to stop blinking.
3. Verify that the green 'Heartbeat' light on the front panel is blinking in a regular pattern, two beats per second.
4. Finally, turn on the PC. If the computer is already on, reboot.
5. On the PC, start a web browser and enter <http://192.168.0.101/> in the location bar.

After connecting to the CarDAQ-Plus for the first time, install the J2534 DLLs on the PC.

Some areas of the CarDAQ-Plus website are password protected. Please enter user name "root" and password "powerful" to gain access to these areas.

Installing the J2534 DLLs

The CarDAQ-Plus J2534 DLLs must be installed before applications can use the CarDAQ-Plus. Follow these directions to install or upgrade the DLLs:



1. On the PC, start a web browser and enter <http://192.168.0.101/> in the location bar.
2. On the CarDAQ-Plus main page, find the link to the **CarDAQ_Plus_Installer.zip** file, under the section heading "**How do I get the CarDAQ-Plus to be a J2534 PassThru device?**"
3. Click on the link and select **Save to disk**.
4. Extract the contents of the zip file to a temporary directory. (You may need to install WinZip or a similar utility.)
5. Using Windows Explorer, find the directory with the extracted zip file. Click on the executable program **CDPLUSinstall.exe**. This will install the J2534 DLLs and configure the registry.
6. (Optional) Developers will want to copy the header and source files.
7. (Optional) Delete the temporary directory and the zip file.

Initial setup of the CarDAQ-Plus is now complete. The full *CarDAQ-Plus Manual* has further instructions for using the CarDAQ-Plus.

Troubleshooting Guide

This is an abbreviated troubleshooting guide. If problems persist, consult the *CarDAQ-Plus Manual*.

Verify the CarDAQ-Plus is getting power

The CarDAQ-Plus gets power via the vehicle cable or a bench power supply. When power is first applied to the CarDAQ-Plus, all the status lights will come on briefly. While booting, the Status 4 orange 'busy indicator' light will blink. When the CarDAQ-Plus is done booting, the orange light will stay off. The green 'Heartbeat' light blinks when the unit is powered. The pattern of blinking will indicate what mode the CarDAQ-Plus is in.

If no lights come on:

- Check that both ends of the vehicle cable are connected.
- Verify that the vehicle battery is supplying 7-26V on the OBD-II connector pin 16, with ground on pin 5.

Verify that Ethernet is connected

There are 2 LEDs on the Ethernet port. The LED on the upper right indicates a good connection.

If the upper right Ethernet LED is not on:

- Check that both ends of the Ethernet cable are plugged in.
- Verify the Ethernet cable type. The direct-connect cable (blue with red ends) is used when connecting directly between the CarDAQ-Plus and a PC. The LAN cable (black) is used when connecting the CarDAQ-Plus to a network wall socket, switch, or hub.
- Check the network speed. Some cards can 'auto negotiate' the network speed, but sometimes this must be set by the user. Go to the network control panel, get properties on your Ethernet card and look for a way to set the speed. Choose "10Mbps" instead of "auto detect" or "100Mbps". Choose "half-duplex" instead of "auto detect" or "full-duplex".
- Verify that your network hubs and switches support 10Mbps half-duplex Ethernet. The CarDAQ-Plus will not work in a 100Mbit-only hub.

Verify the network is configured correctly

There are two ways to do this:

- 1) Run a CarDAQ-Plus sample application and see if it connects. (Get sample applications from the Drew Tech website.)

2) Try to connect to the CarDAQ-Plus web page. Consult the networking section above for details.

If neither of these work, try:

- Turning off any firewall/antivirus software.
- Picking a different connection method. For example, try the fixed IP addressing mode. See the *CarDAQ-Plus Manual* for details.
- Using recovery mode to make sure the CarDAQ-Plus is configured correctly. Recovery mode is entered by holding down the front button during power-on. See the *CarDAQ-Plus Manual* for details on recovery.

If the CarDAQ-Plus web page works, but applications don't work:

- The DLL may not be installed. Install the DLL using the instructions on page 7 of this quick start guide.
- The network settings may be incorrect. Specifically, verify that the CarDAQ-Plus netmask setting is the same as the PC/laptop's netmask setting.
- The application may be looking for the wrong J2534 device. Make sure "CarDAQ-Plus" is selected.

If applications work, but not the CarDAQ-Plus web page:

- Verify that your web browser is not using a proxy. (Under **Tools >> Options >> Local Area Network Settings**)
- If your PC/Laptop is running firewall software, try turning it off to see if that is the problem.
- In DHCP Client mode, the IP address of the CarDAQ-Plus can change. Enter <http://CARDAQPLUS/> in your browser, but only after waiting a few minutes for the CarDAQ-Plus to register itself on the network. Alternately, look at the logs for your network DHCP server.
- Use recovery mode to verify the CarDAQ-Plus has the correct settings.

Verify application settings

If the CarDAQ-Plus works with some applications, but not others:

The problem is likely the application configuration. Each J2534 application will have configuration settings. Look for an option to change or select the J2534 DLL. Make sure that "Drew Technologies Inc. - CarDAQ-Plus" is selected.

If some applications work, but others do not, contact your application vendor for technical support.

If all else fails...

Please contact Drew Technologies for technical support at 810-231-3171. If technical support finds it necessary for the unit to be returned for repair, you will be asked for your contact information and then provided with a Return Merchandise Authorization number (RMA#) that Drew Technologies will use to track the unit through the repair department back to you. Please write this number on the outside of your shipping box so it can be routed to the correct department.

If the necessary repair is not covered by Drew Technologies' warranty, you will be contacted for payment arrangements.