



CD-7/CD-7 Carbon

Part Number	Description
30-5500	Aluminum Enclosure, Non-Logging
30-5501	Aluminum Enclosure, Logging
30-5502	Aluminum Enclosure, Non-Logging with VDM
30-5503	Aluminum Enclosure, Logging with VDM
30-5700	Carbon Fiber Enclosure, Non-Logging
30-5701	Carbon Fiber Enclosure, Logging
30-5702	Carbon Fiber Enclosure, Non-Logging with GPS
30-5703	Carbon Fiber Enclosure, Logging with GPS
30-5700F	Flat Panel, Carbon Fiber Enclosure, Non-Logging
30-5701F	Flat Panel, Carbon Fiber Enclosure, Logging
30-5702F	Flat Panel, Carbon Fiber Enclosure, Non-Logging with GPS
30-5703F	Flat Panel, Carbon Fiber Enclosure, Logging with GPS

CD-5 Carbon

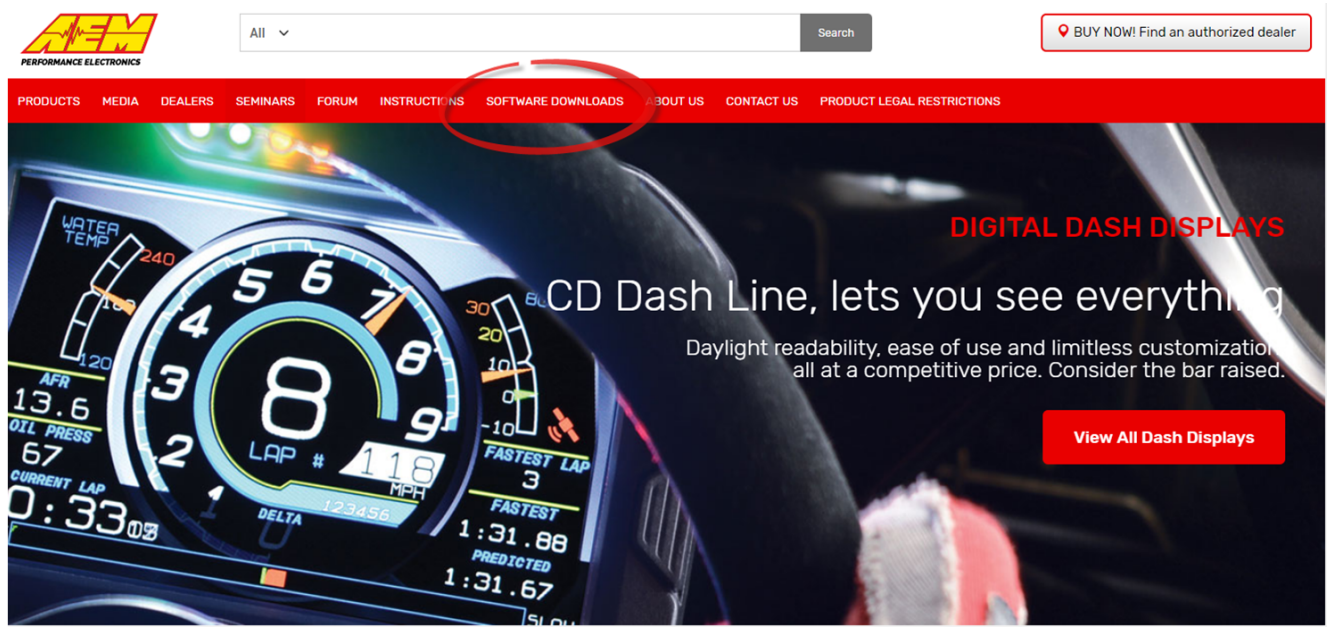
Part Number	Description
30-5600	Carbon Fiber Enclosure, Non-Logging
30-5601	Carbon Fiber Enclosure, Logging
30-5602	Carbon Fiber Enclosure, Non-Logging with GPS
30-5603	Carbon Fiber Enclosure, Logging with GPS
30-5600F	Flat Panel, Carbon Fiber Enclosure, Non-Logging
30-5601F	Flat Panel, Carbon Fiber Enclosure, Logging
30-5602F	Flat Panel, Carbon Fiber Enclosure, Non-Logging with GPS
30-5603F	Flat Panel, Carbon Fiber Enclosure, Logging with GPS

Introduction

Dash Design 2.0 is a powerful tool used to create and edit AEM CD-X dash setups. The graphics design possibilities are extensive and this help documentation is not intended to cover all possible options. It will provide an overview of tools and features. An interactive help feature is included in the application. Hovering your mouse over certain target areas will trigger a tool tip that contains helpful information. There are two versions of this document, a System User Guide and a Quick Start Guide. The Quick Start Guide is a subset of the information found in the System User Guide. Both documents are installed with the software and can be found at the following location: \Documents\AEM\DashDesign\Instructions. Additionally, the Windows online help feature located in the Help menu contains the exact same content.

Quick Start

AEM DashDesign 2 is distributed as a single install executable. To install, visit aemelectronics.com and click on Software Downloads and navigate to CD Dash/DashDesign. Download the software and then run the AEM DashDesign Setup.exe and follow the on-screen instructions including restarting computer if prompted to do so. If using the logging version of dash, also download and install AEMdata for downloading and analyzing data logs.



Click on table to jump to a specific software section

Infinity EMS	Series 2 EMS	EMS-4	Series 1 EMS
Fuel/Ignition Controllers	AQ-1 Data Logger	AEMData Logging and Analysis	Wideband Failsafe
Water/Methanol Failsafe	Serial Gauge	X-WiFi	CD-5 CD-7 Carbon Dash Design

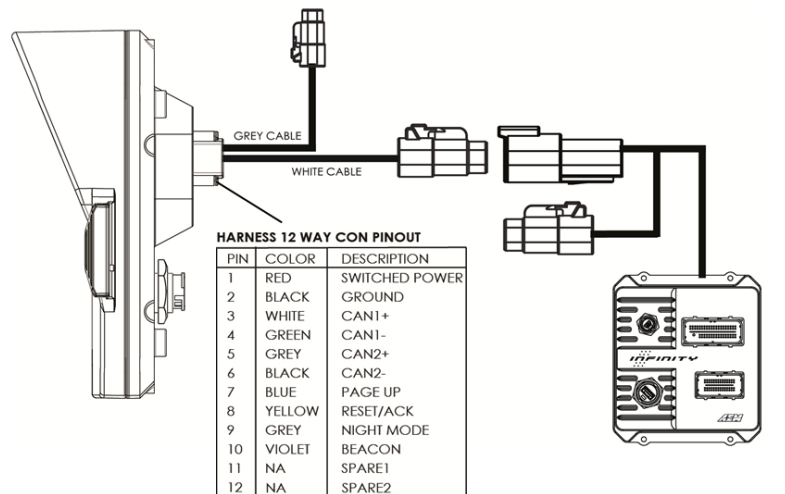
Follow the on screen prompts to install the application. Double click the shortcut to launch AEM Dash Design.



Infinity 71XX

If using an AEM supplied Infinity harness, simply plug the 4 pin Deutsch DTM connector from the dash harness into the corresponding connector on the Infinity harness labeled AEMNet. If using a custom designed harness, see the System User Guide Electrical & Wiring section for details. Note that a switched, 12V power source at the AEMNet connector is required for proper function of the Dash.

1. Be sure you have the latest software installed.
2. Connect the Dash to your PC using the supplied USB connector.
3. Turn the key on. Ensure the dash is powered up.
4. In the DashDesign software, go to Tools | Upload Firmware. The firmware files are located at \Documents\AEM\DashDesign\Firmware with the format CD-14x25.bin where x25 is an example version. See Updating the Firmware Version in the System User Guide for more detail.
5. In the DashDesign software, go to File | Open... and navigate to the library of pre-configured setup files for the Infinity. They are installed at the following location. \Documents\AEM\DashDesign\Setups\App Specific\AEM Infinity. Choose your file and click Open. See Uploading a Setup File in the System User Guide for more detail.



Series 2 or EMS-4

See Series II user documentation for location of the CAN1L and CAN1H circuits. Following is a pinout of the 4 pin Deutsch DTM connector on the Dash harness.

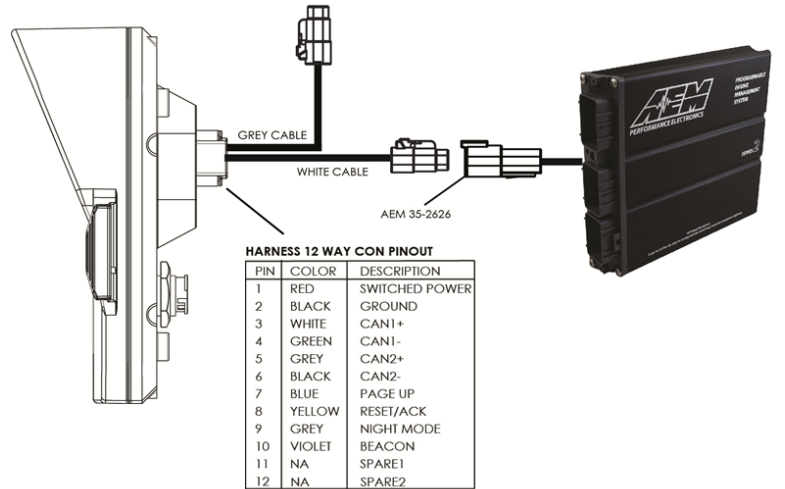
Pin	Function
1	AEMNet CAN+
2	AEMNet CAN-
3	+12V Power
4	Ground

Connect the CAN1H circuit from your Series II ECU to Pin 1 AEMNet CAN+. Connect the CAN1L circuit from your Series II ECU to Pin 2 AEMNet CAN-. Use optional AEM PN 35-2626 as mating connector.

1. Be sure you have the latest software installed.
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3. Turn the key on. Ensure the dash is powered up.
4. In the DashDesign software, go to Tools | Upload Firmware. The firmware files are located at \Documents\AEM\DashDesign\Firmware with the format CD-14x25.bin where x25 is an example version. See Updating the Firmware Version in the System User Guide for more detail.
5. In the DashDesign software, go to File | Open... and navigate to the library of pre-configured setup files for the AEM Series2 & EMS-4. They are installed at the following location.
 \Documents\AEM\DashDesign\Setups\App Specific\AEM Series2 & EMS-4. Choose your file and click Open. See Uploading a Setup File in the System User Guide for more detail.

The AEMNet CAN output must be enabled in your Series II ECU before the dash can receive messages.

1. In AEMTuner, select Wizards | Setup Wizard and choose Telemetry: AEMNet from the Wizard Types column.
2. Left click on the Configuration Name AEMNet Datastream and click the Apply button to enable.



Series 1 ECU

The Series 1 ECU uses RS232 Serial Communications to send data to the dash. This requires the user to use the AEM 30-2228, Serial2CAN Adapter for the Series 1 ECU.

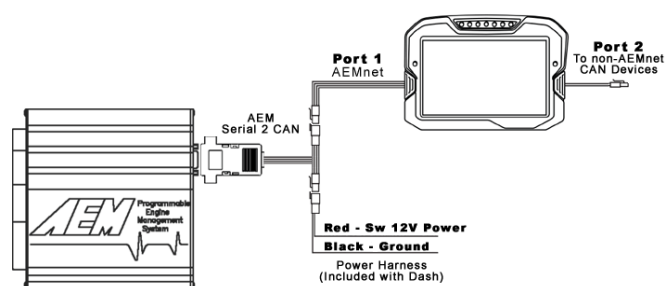
The Serial Telemetry must be enabled on the Series 1 ECU. This is done using the AEMPro Software.

Note: The serial datastream will only work with version 1.19 or newer firmware. When connected to the EMS, the firmware version is shown in the blue strip at the top of the screen. If your ECU is not running version 1.19 or later, you can download the required files from the aemelectronics.com website.

1. Open AEM Pro and connect to the EMS. Wait for the EMS to finish downloading.
2. Left click on "VIEW" and select the telemetry wizard from the wizards drop down menu.
3. In the telemetry wizard, left click on "AEM Serial Datastream Gauge:" and click OK. Close AEM Pro.
4. Connect the adapter to the EMS, and cycle power to the EMS. The EMS is now configured to output data to the gauge.

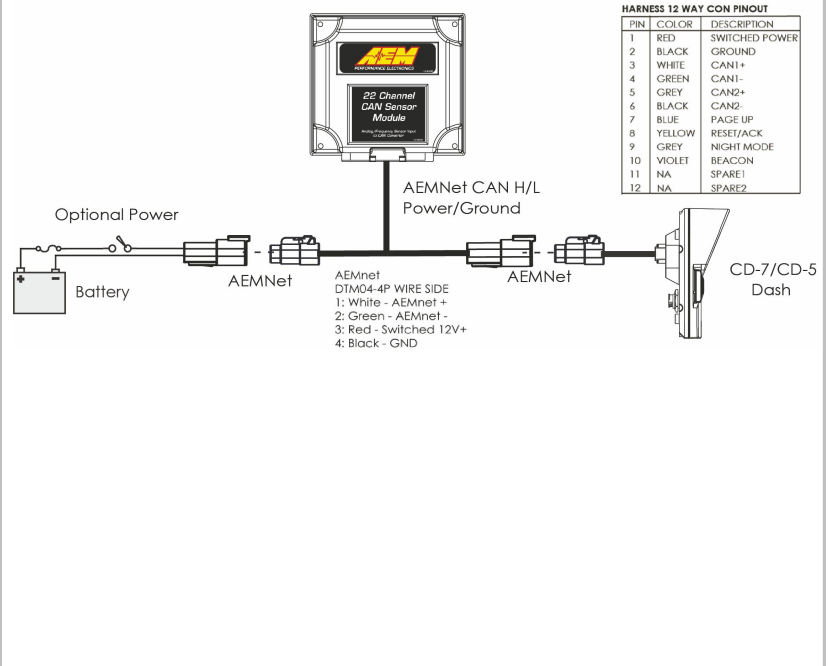
Since the Serial2CAN adapter shares the comms port with the PC communications cable, the ECU will always start in PC Comms mode when the power is cycled. If the ECU does not sense communications with a PC immediately it will then revert to data telemetry output. To initialize PC comms after the ECU has switched to telemetry mode you will need to power cycle the ECU.

The Serial2CAN adapter makes the Serial output from any AEM Series 1 ECU look like the CAN output of an AEM Series 2 ECU. So the fastest way to get something working on the dash is to use the AEM created setups for the Series 2 ECU. With the install of DashDesign2 on your computer there are many different base setups you can choose from.



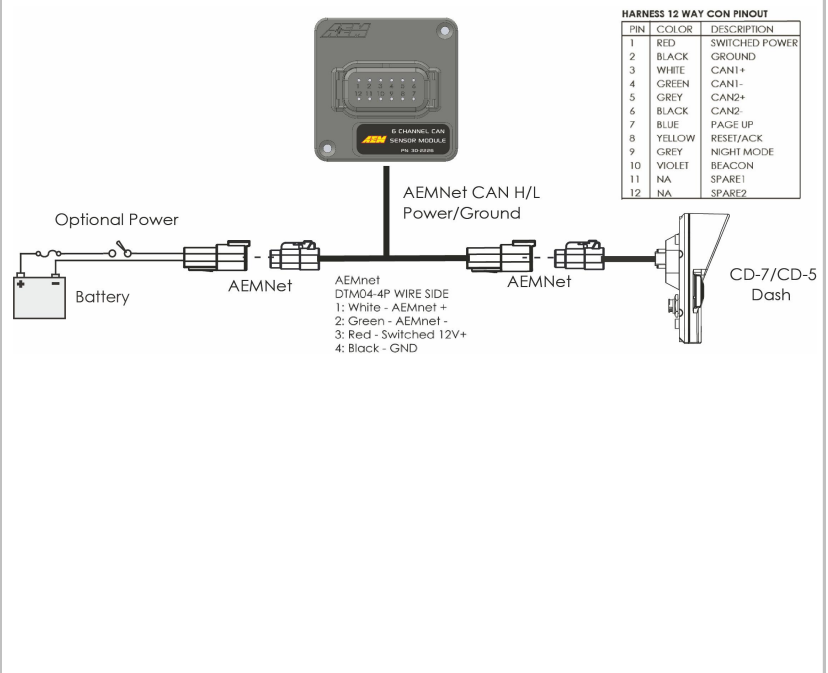
22 Channel CAN Sensor Module

1. Reference simplified connection diagram at right.
2. Be sure you have the latest software installed.
3. Connect the Dash to your PC using the supplied USB connector.
4. Turn the key on. Ensure the dash is powered up.
5. In the DashDesign software, go to Tools | Upload Firmware. The firmware files are located at \Documents\AEM\DashDesign\Firmware with the format CD-14x25.bin where x25 is an example version. See Updating the Firmware Version in the System User Guide for more detail.
6. In the DashDesign software, go to File | Open... and navigate to the library of pre-configured setup files for the 22 Channel CAN Sensor Module. They are installed at the following location: \Documents\AEM\DashDesign\Setups\App Specific\AEM 30-2212 22 Ch CAN Sensor Module. Choose your file and click Open. See Uploading a Setup File for more detail.
7. Alternatively, you may append a .dbc file for the 22 Channel CAN Sensor Module onto your existing setup. See the Managing DBC File Imports section for more detail. .dbc files for the 22 Channel CAN Sensor Module are located in the \Documents\AEM\DashDesign\CAN folder. They will have AEM 30-2212 in the filename.



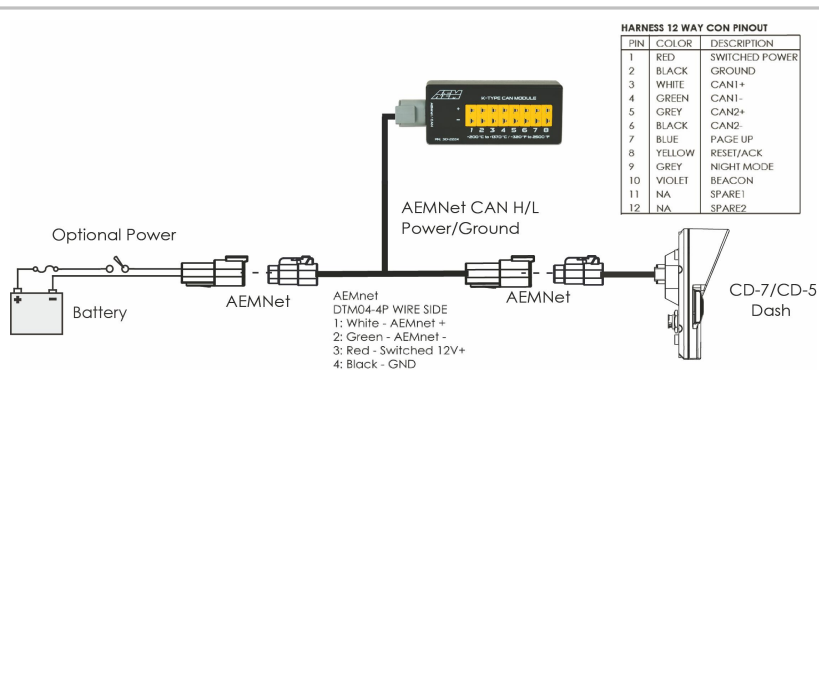
6 Channel CAN Sensor Module

1. Reference simplified connection diagram at right.
2. Be sure you have the latest software installed.
3. Connect the Dash to your PC using the supplied USB connector.
4. Turn the key on. Ensure the dash is powered up.
5. In the DashDesign software, go to Tools | Upload Firmware. The firmware files are located at \Documents\AEM\DashDesign\Firmware with the format CD-14x25.bin where x25 is an example version. See Updating the Firmware Version in the System User Guide for more detail.
6. In the DashDesign software, go to File | Open... and navigate to the library of pre-configured setup files for the 6 Channel CAN Sensor Module. They are installed at the following location: \Documents\AEM\DashDesign\Setups\App Specific\AEM 30-2226 6 Ch CAN Sensor Module. Choose your file and click Open. See Uploading a Setup File for more detail.
7. Alternatively, you may append a .dbc file for the 6 Channel CAN Sensor Module onto your existing setup. See the Managing DBC File Imports section for more detail. .dbc files for the 6 Channel CAN Sensor Module are located in the \Documents\AEM\DashDesign\CAN folder. They will have AEM 30-2226 in the filename.



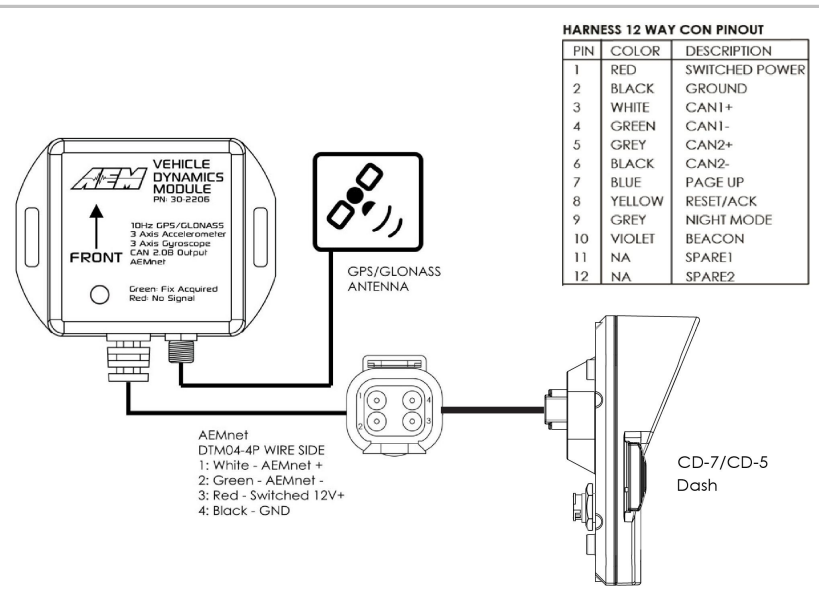
8 Channel K-Type EGT CAN Module

1. Reference simplified connection diagram at right.
2. Be sure you have the latest software installed.
3. Connect the Dash to your PC using the supplied USB connector.
4. Turn the key on. Ensure the dash is powered up.
5. In the DashDesign software, go to Tools | Upload Firmware. The firmware files are located at \Documents\AEM\DashDesign\Firmware with the format CD-14x25.bin where x25 is an example version. See Updating the Firmware Version in the System User Guide for more detail.
6. In the DashDesign software, go to File | Open... and navigate to the library of pre-configured setup files for the 6 Channel CAN Sensor Module. They are installed at the following location:
 \Documents\AEM\DashDesign\Setups\App Specific\AEM 30-2224 8 Ch EGT. Choose your file and click Open. See Uploading a Setup File in the System User Guide for more detail.
7. Alternatively, you may append a .dbc file for the 8 Channel EGT onto your existing setup. See the Managing DBC File Imports in the System User Guide for more detail. .dbc files for the 8 Channel EGT are located in the \Documents\AEM\DashDesign\CAN folder. They will have AEM 30-2224 in the filename.



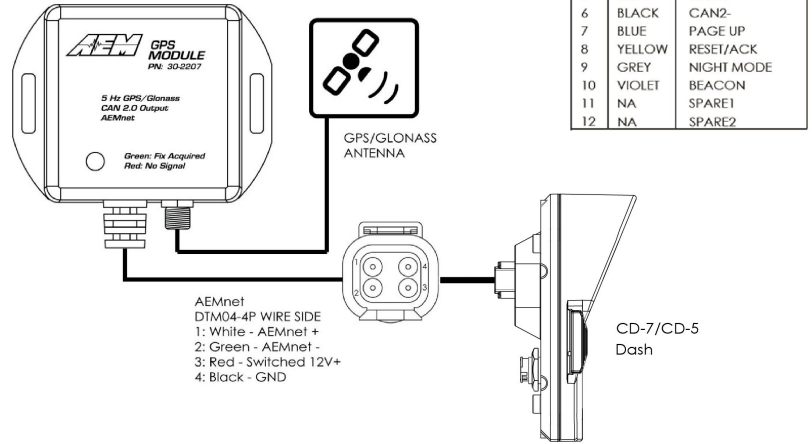
Vehicle Dynamics Module

1. Reference simplified connection diagram at right.
2. Be sure you have the latest software installed.
3. Connect the Dash to your PC using the supplied USB connector.
4. Turn the key on. Ensure the dash is powered up.
5. In the DashDesign software, go to Tools | Upload Firmware. The firmware files are located at \Documents\AEM\DashDesign\Firmware with the format CD-14x25.bin where x25 is an example version. See Updating the Firmware Version in the System User Guide for more detail.
6. Append a .dbc file for the Vehicle Dynamics Module onto your existing setup. See the Managing DBC File Imports in the System User Guide for more detail. .dbc files for the Vehicle Dynamics Module are located in the \Documents\AEM\DashDesign\CAN folder. They will have AEM 30-2203 in the filename.



GPS Module

1. Reference simplified connection diagram at right.
2. Be sure you have the latest software installed.
3. Connect the Dash to your PC using the supplied USB connector.
4. Turn the key on. Ensure the dash is powered up.
5. In the DashDesign software, go to Tools | Upload Firmware. The firmware files are located at \Documents\AEM\DashDesign\Firmware with the format CD-14x25.bin where x25 is an example version. See Updating the Firmware Version in the System User Guide for more detail.
6. Append a .dbc file for the GPS Module onto your existing setup. See the Managing DBC File Imports in the System User Guide for more detail. .dbc files for the GPS Module are located in the \Documents\AEM\DashDesign\CAN folder. They will have AEM 30-2203 in the filename.

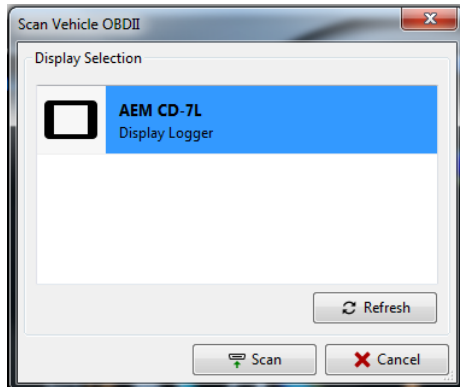


OBDII

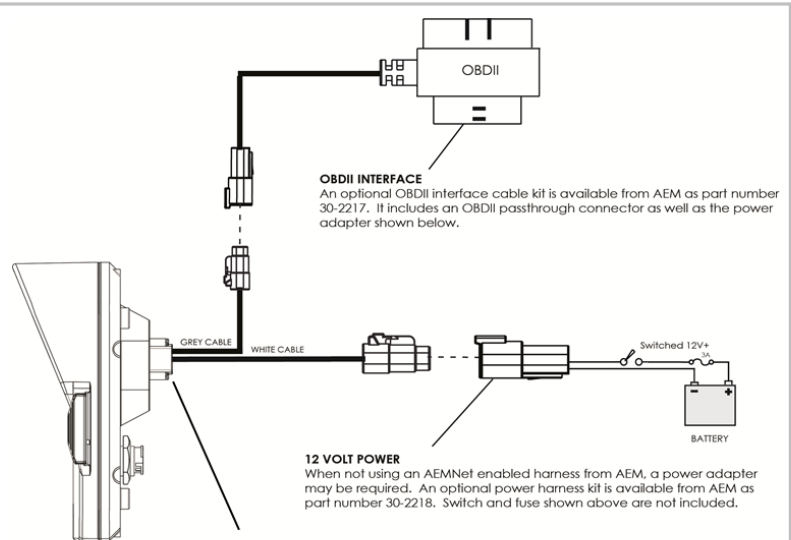
1. Be sure you have the latest software installed.
2. Connect the Dash to your PC using the supplied USB connector.
3. Turn the key on. Ensure the dash is powered up.
4. In the DashDesign software, go to Tools | Upload Firmware. The firmware files are located at \Documents\AEM\DashDesign\Firmware with the format CD-14x25.bin where x25 is an example version. See Updating the Firmware Version in the System User Guide for more detail.
5. In the DashDesign software, go to File | Open... and navigate to the library of pre-configured setup files for OBDII. They are installed at the following location. \Documents\AEM\DashDesign\Setups\App Specific\OBDII. Choose your file and click Open. See Uploading a Setup File in the System User Guide for more detail.

To configure your dash for OBDII data display, the dash must scan your vehicle's OBDII port to identify all ECUs and available PIDs. PID stands for Parameter ID. These are codes used to request specific data from a vehicle.

Connect the OBDII interface cable to your vehicle's OBDII connector. To begin the scan process, launch AEM DashDesign and go to Tools | Scan Vehicle OBDII...



Click *Scan* and follow the on screen prompts. See OBDII PID Scan in the System User Guide for more detail.



HARNESS 12 WAY CON PINOUT

PIN	COLOR	DESCRIPTION
1	RED	SWITCHED POWER
2	BLACK	GROUND
3	WHITE	CAN1+
4	GREEN	CAN1-
5	GREY	CAN2+
6	BLACK	CAN2-
7	BLUE	PAGE UP
8	YELLOW	RESET/ACK
9	GREY	NIGHT MODE
10	VIOLET	BEACON
11	NA	SPARE1
12	NA	SPARE2

A 3 amp fuse is required for switched power!

3rd Party Hardware

AEM has validated CAN setups for many 3rd party hardware platforms. For a continuously updated list of validated setups, please visit our forum at <https://www.aemelectronics.com/?q=forum/can-configurations-3rd-party-hardware>

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DIGITAL DASH DISPLAYS

CD Dash Line, lets you see everything

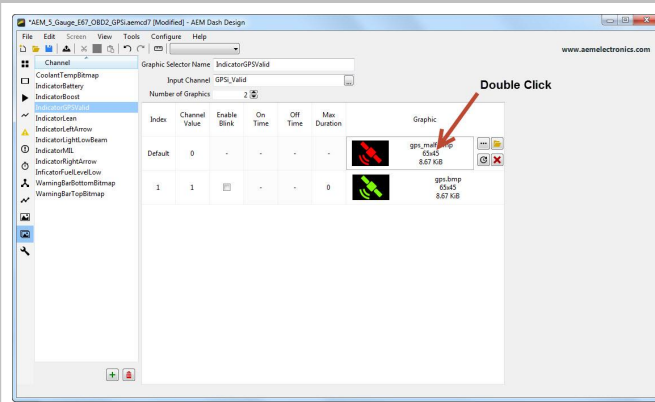
Daylight readability, ease of use and limitless customization, all at a competitive price. Consider the bar raised.

[View All Dash Displays](#)

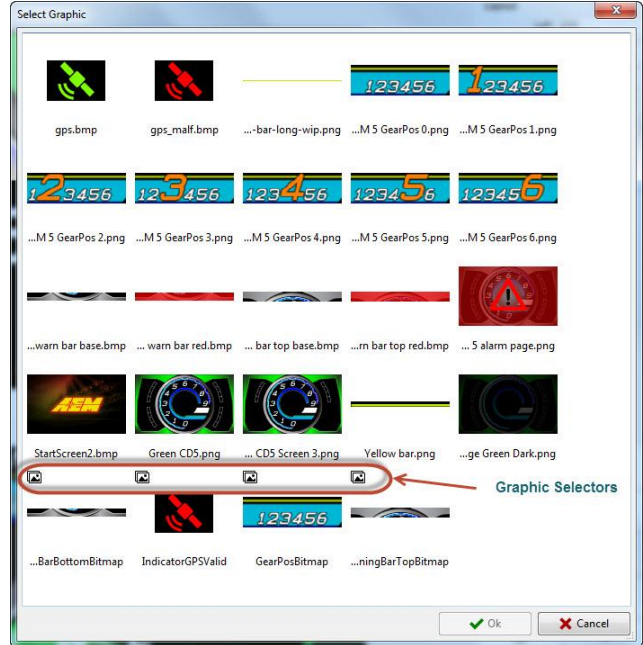
AEM ELECTRONICS				
FORUM	TOPICS	POSTS	LAST POST	
<p>CD-7 Digital Racing Dash Display Post comments/questions regarding the CD-7, CD-7L and Dash Design software</p>	114	533	Can Bus data not showing available after scan by Mkeisling 1 hour 57 min ago	
<p>AEM Fuel Delivery Post comments/questions regarding AEM Fuel Delivery</p>	15	59	AEM 50-1000 compatible with PWM control? by ChesLans	

TOPIC / TOPIC STARTER	REPLIES	LAST POST
<p>Sticky: CAN Configurations for 3rd Party Hardware by AEM_JR » Fri, 01/06/2017 - 15:33</p>	29	by AEM_JR Fri, 08/03/2018 - 08:47

Selectors



Graphic Selector Name is the unique name of the graphic selector channel. Images defined as part of a graphics selector will have a unique identifier when they appear in a selection window. See example below.



Input Channel is the channel used as the reference index, controlling which image to display.

Number of Graphics is the number of different image possibilities this selector will have. The table below will update based on this value.

Graphic Selector Name: GearPosBitmap

Input Channel: GearPosCalculated

Number of Graphics: 7

Index	Channel Value	Enable Blink	On Time	Off Time	Max Duration	Graphic
Default	0	-	-	-	-	AEM 5 GearPos 0.png 121x38 2.19 KiB
1	1	<input type="checkbox"/>	-	-	0	AEM 5 GearPos 1.png 121x38 2.60 KiB
2	2	<input type="checkbox"/>	-	-	0	AEM 5 GearPos 2.png 121x38 2.76 KiB
3	3	<input type="checkbox"/>	-	-	0	AEM 5 GearPos 3.png 121x38 2.70 KiB
4	4	<input type="checkbox"/>	-	-	0	AEM 5 GearPos 4.png 121x38 2.73 KiB
5	5	<input type="checkbox"/>	-	-	0	AEM 5 GearPos 5.png 121x38 2.63 KiB
6	6	<input type="checkbox"/>	-	-	0	AEM 5 GearPos 6.png 121x38 2.87 KiB

The example to the left shows how you can use a graphics selector to display gear position information using different graphics images.

