d-briDGe

Installation and User Manual

Driver Versions, FW Version

dbriDGe J2534 dbriDGe Main DLL	1.00.1.2
dbriDGe Drivers	1.32
dbriDGe Firmware	3.109
dbriDGe Hardware	7.00
Reflash Software	5.51.0.0
dbriDGeUtility.exe	1.0.0.10
dbriDGeSDK.exe	5.00.06
SAE J2534 Document	4.04
dbriDGe Validation Tool	1.0.0.6

Document Revision Revision 1.0.0
Document Date: 10/4/13

I M P O R T A N T

To ensure your success with this product, it is essential that you read this document carefully before using the hardware. Damage caused by misuse of the hardware is not covered under product warranty.

When using this manual, please remember the following:

- This manual may be changed, in whole or in part, without notice.
- DG assumes no responsibility for any damage resulting from the use of this hardware and software.
- Specifications presented herein are provided for illustration purposes only and may not accurately represent the latest revisions of hardware, software or cabling.
- No license is granted, by implication or otherwise, for any patents or other rights of DG or of any third party.

The DG DPA Product line and the products supporting the DPA have been awarded the following U.S. Patents. The d-briDGe utilizes these as well.

Patent #	Date	Patent Overview
6,772,248	08-03-04	Protocol adapter for in-vehicle networks.
7,152,133	12-19-06	Expanded functionality protocol adapter for in-vehicle networks.
7,337,245	02-26-08	Passing diagnostic messages between a vehicle network and a computer.
7,725,630	05-25-10	Passing diagnostic messages between a vehicle network and a computer using J1939 or J1708.
8,032,668	10-04-11	Passing diagnostic messages between a vehicle network and a computer using J1939 or J1708.
8,152,557	04-10-12	Positive locking mechanism for USB connected devices.
7,984,225	07-19-11	ASCII gateway to in-vehicle networks.
7,660,934	02-0910	ASCII gateway to in-vehicle networks.

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Table of Contents

1. Safety First

It is essential that the user read this document carefully before using the hardware.

The d-briDGe device is to be used by those trained in the troubleshooting and diagnostics of light-duty through heavy-duty vehicles. The user is assumed to have a very good understanding of the electronic systems contained on the vehicles and the potential hazards related to working in a shop-floor environment.

DG understands that there are numerous safety hazards that cannot be foreseen, so we recommend that the user read and follow all safety messages in this manual, on all of your shop equipment, from your vehicle manuals, as well as internal shop documents and operating procedures.

- Always block all wheels both front and back when testing.
- Use extreme caution when working around electricity. When diagnosing any vehicle, there is the risk of electric shock both from battery-level voltage, vehicle voltages, and from building voltage.
- Do not smoke or allow sparks or open flames near any part of the vehicle fueling system or vehicle batteries.
- Always work in an adequately ventilated area, and route vehicle exhaust outdoors.
- Do not use this product in an environment where fuel, fuel vapor, exhaust fumes, or other potentially hazardous liquids, solids, or gas/vapors could collect and/or possibly ignite, such as in an unventilated area or other confined space, including below-ground areas.

2. Introducing the d-briDGe

The d-briDGe product is used to connect vehicle and equipment communication networks to personal computers (PCs). This allows programs written for the PC to communicate with the respective vehicle through OEM software or 3rd party software applications to perform various actions with the vehicle retrieving fault codes, component information, as well as perform component level diagnostics, tests, and component reprogramming. All of these actions are controlled by the OEM or 3rd party software and vary by OEM and/or 3rd party. The d-briDGe communicates with the PC using a USB cable and comes standard with Society of Automotive Engineers (SAE) J2534-compliant drivers as well as Technology and Maintenance Council (TMC) Recommended Practice (RP) RP1210C-compliant drivers.

It is strongly recommended to review and read all documentation available regarding the d-briDGe as well as all documentation available from the respective OEM for the use of J2534/RP1210 devices with their applications. Proper set-up with the OEM applications is essential. OEM battery voltage maintenance requirements may vary, but regardless, it is very important to maintain proper battery voltage for the duration of communications with the vehicle. A battery voltage maintaining-type device is strongly recommended to be connected to the vehicle.

Features for the d-briDGe include:

- Illuminated power, pc connection, vehicle connection and warning indicators
- Lighted OBDII connector-end for dark connection areas
- J2534 Euro 5/6 compliant
- RP1210 Technology and Maintenance Council (TMC) compliant
- SAE J2534-2 and J2534-2

2.1. J2534 OEM Software Compatibility

The d-briDGe is a SAE J2534-compliant interface (an SAE standard for electronic module reprogramming – sometimes call the "Pass Thru Programming" standard). Per Euro 5 regulations, listed are the OEMs, compliancy status and service websites. Website links and information is subject to change at any time.

OEM	J2534 compliant?	Website
Alfa Romeo	No	www.technicalinformation.fiat.com
Audi	Yes	https://erwin.audi.com
BMW	Yes	https://oss.bmw.de/index.jsp
Chevrolet	Yes	www.gme-infotech.com
Chrysler	Yes	www.fiat-techinfo.com/Home.aspx
Citroen	Yes	http://service.citroen.com/
Dacia	Yes	http://www.infotech.renault.com/fo/accueil.action
Daewoo	Yes	
Dodge	Yes	www.fiat-techinfo.com/Home.aspx
Fiat	No	www.technicalinformation.fiat.com
Ford	Yes	www.etis.ford.com
Honda	Yes	www.techinfo.honda-eu.com
Hyundai	Yes	www.hyundaitechinfo.com
Jaguar	Yes	http://topix.jaguar.jlrext.com
Jeep	Yes	www.fiat-techinfo.com/Home.aspx
Kia	Yes	www.kia-hotline.com
Lancia	No	www.technicalinformation.fiat.com
Land Rover	Yes	http://topix.landrover.jlrext.com
Lexus	Yes	www.toyota-tech.eu
Mazda	Yes	https://mapps.mazdaeur.com/mud
Mercedes	Yes	www.service-and-parts.net
Mitsubishi	Yes	www.mitsubishitechinfo.com
Nissan	Yes	https://eu.nissan.biz
Opel	Yes	www.gme-infotech.com
Peugeot	Yes	http://public.servicebox.peugeot.com
Porsche	Yes	https://techinfo2.porsche.com/PAGInfosystem/VFModuleManager?Type=GVOStart
Renault	Yes	www.infotech.renault.com
Saab	Yes	http://saabtechinfo.com/Site/SAAB
Seat	Yes	https://erwin.seat.com
Skoda	Yes	https://erwin.skoda-auto.cz
Smart	Yes	www.service-and-parts.net
Subaru	Yes	www.subaru-repairinfo.com
Suzuki	Yes	http://serviceportal.suzuki.eu
Toyota	Yes	www.toyota-tech.eu
VW	Yes	https://erwin.volkswagen.de
Volvo	Yes	https://tis.volvocars.biz/tis

2.2. RP1210 OEM Software Compatibility

The d-briDGe is provided with a Technology and Maintenance Council (TMC) RP1210C compliant (backwards compatible with RP1210B and RP1210A) interface and has been validated against the following OEM and component applications:

- Allison DOC™
- Bendix® ACOM
- Caterpillar® Electronic Technician
- Cummins® Insite™
- Dana Diagnostic Tool™
- Detroit Diesel Diagnostic Link™
- Detroit Diesel Reprogramming Station™
- Eaton ServiceRanger
- Freightliner ServiceLink
- International® Diamond Logic Builder
- International® InTune
- International® Master Diagnostics
- International® ServiceMaxx
- Mack and Volvo VCADS/PTT
- Meritor-WABCO Toolbox
- Vansco VMMS
- ZF-Meritor TransSoft

Any application claiming RP1210A, RP1210B, or RP1210C compliance should work if the application and d-briDGe both support the same protocol(s) and operating system(s).

Additional RP1210 support can be found in the separate d-briDGe RP1210 User Manual also provided and can be found here:

Start>Programs>Dearborn Group Products>d-briDGe RP1210>Documentation

2.3. Standards and Protocols Supported

2.3.1. Operating Systems and Standards Supported

- Operating Systems
  - Windows XP®
  - Windows Vista® 32-bit and 64-bit Versions
  - Windows 7® 32-bit and 64-bit Versions
  - Windows 8®
- Protocols Supported
  - 2 DW HS CAN (CAN/ISO15765/J1939) Channels (1 selectable as SW CAN (CAN/ISO15765)
  - 1 ISO9141/KWP Channel (Selectable as J1708 Channel)
  - 1 J1850 VPW Channel
  - All Channels have the capability of operating simultaneously
- APIs Supported
  - SAE J2534 with support for: CAN, ISO15765, J1939, SW CAN, ISO9141, KWP, J1850 VPW
  - RP1210B with support for: CAN, J1939, ISO15765, J1708, J1850 VPW, ISO9141, KWP2000

2.4. System Requirements

If you are not familiar with selecting a PC for your diagnostic applications, we recommend reviewing the respective OEM recommended J2534 minimum PC requirements and/or the TMC RP1208 (PC Selection Guidelines for Service Tool Applications).

In addition to the aforementioned TMC document, the following items are recommended or required.

Item	Requirement
PC	IBM-Compatible
Processor	1GHz or Faster
RAM	256MB (512MB Preferred)
USB Port	USB Version 1.1 or Higher
Operating System	Windows XP Windows Vista (32-bit or 64-bit) Windows 7 (32-bit or 64-bit)

3. Getting Started with the d-briDGe

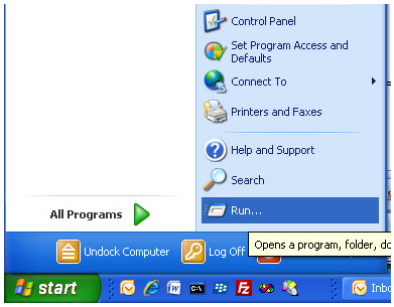
3.1. Driver Installation

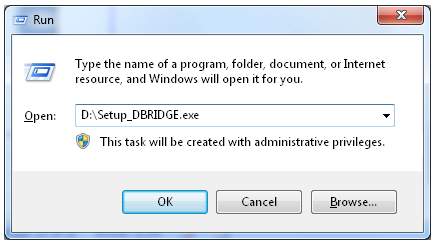
Attention!
✓ Install d-briDGe drivers from CD before connecting d-briDGe to your PC. ✓ To install drivers you must be logged into the administrator account or have administrator privileges.
Attention!

The d-briDGe drivers provided on the installation CD are installed by inserting the disc into your PC's CD-ROM drive.

If setup does not begin automatically, use the following sequence for Windows 2000 and XP:

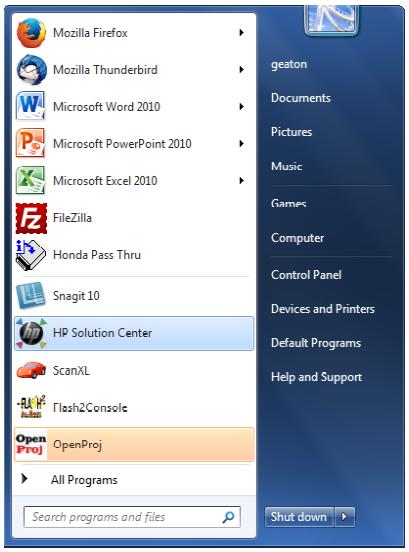
Start ➔ Run ➔ [CD_Drive_Letter]:\Setup_DBRIDGE.EXE and click **OK**

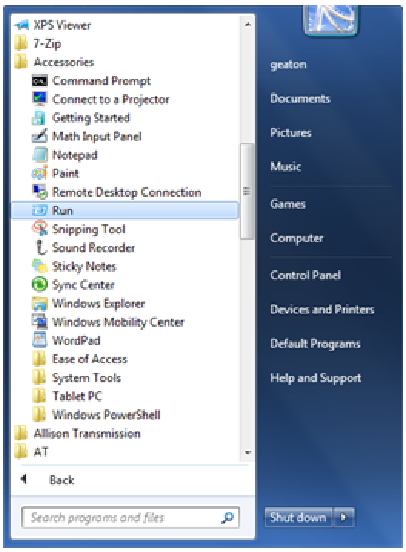


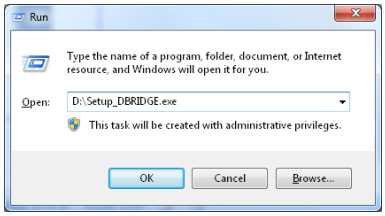


If setup does not begin automatically, use the following sequence for Windows Vista or Windows 7:

Start ➔ All Programs ➔ Accessories ➔ Run ➔ [CD_Drive_Letter]:\ Setup_DBRIDGE.EXE and click **OK**

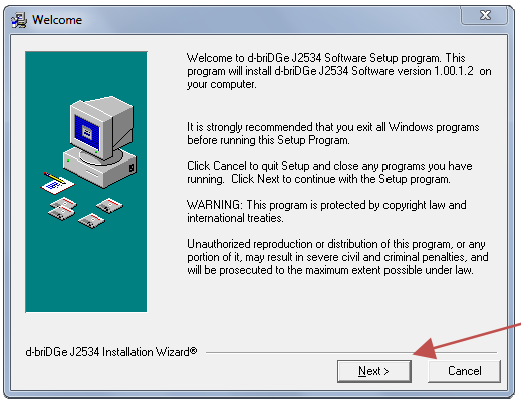




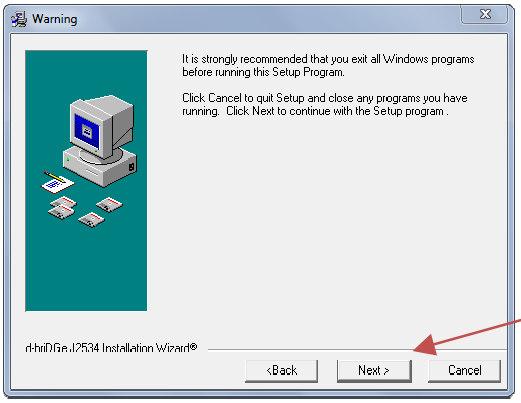


After the drivers are installed, you will be prompted to restart your computer. While your PC is rebooting, continue following the next instructions.

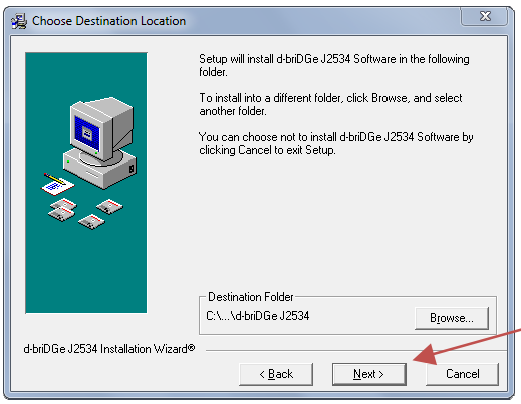
Installation screens:



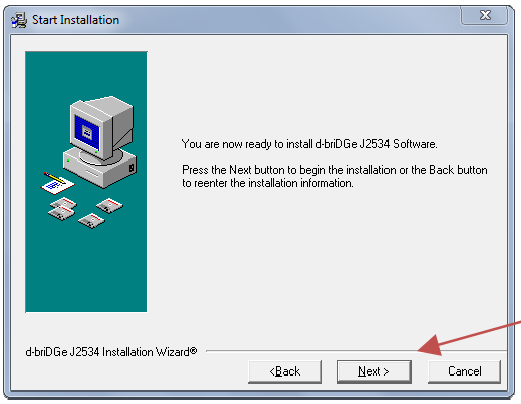
Click “Next”.



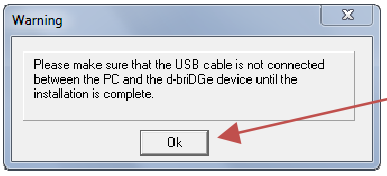
Click “Next”.



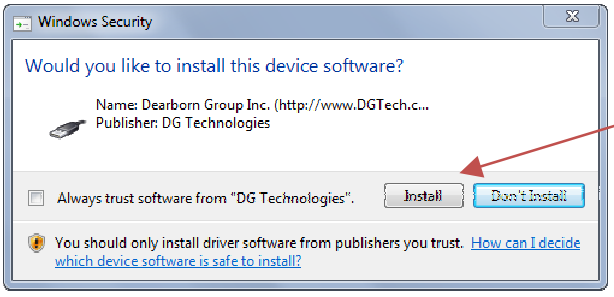
Click “Next”.



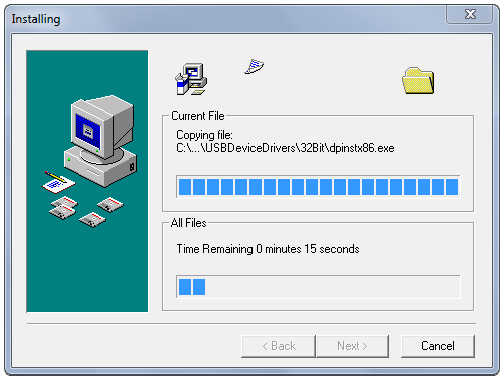
Click “Next”.



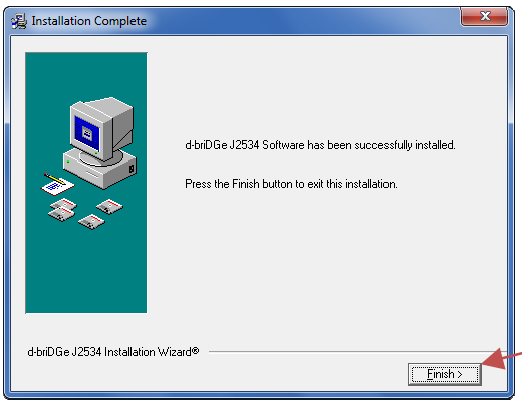
Click “OK”.



Click “Install”.



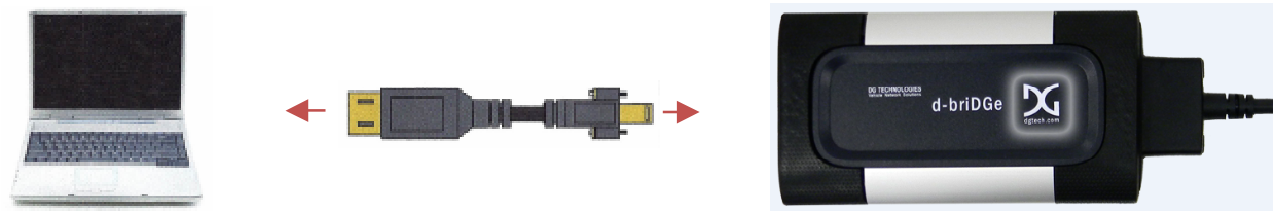
Wait…



Click “Finish”.

3.2. Connect to the Vehicle

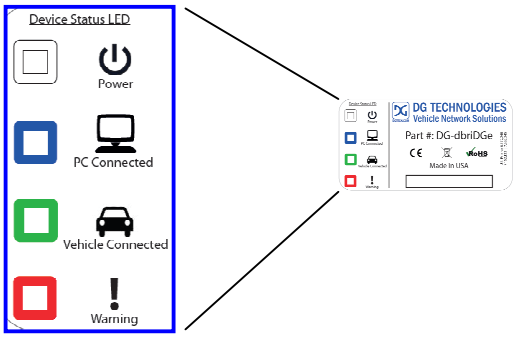
Connect the USB cable to the PC and to the d-briDGe.



Now, connect the d-briDGe to the vehicle, verifying that the d-briDGe ***Power*** LED is lit.

3.3. d-briDGe Lighting Scheme

On the reverse side of the d-briDGe unit, the label will provide a quick-reference visual as to the meaning of the different lighting schemes for the d-briDGe. However, review the detailed strategy below for more details in use.

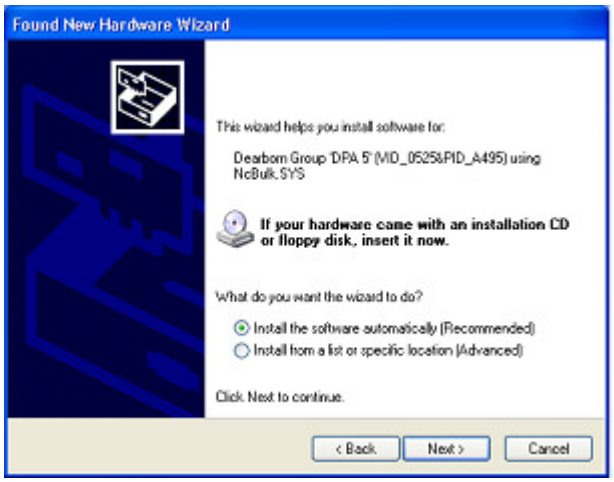


Detailed Strategy

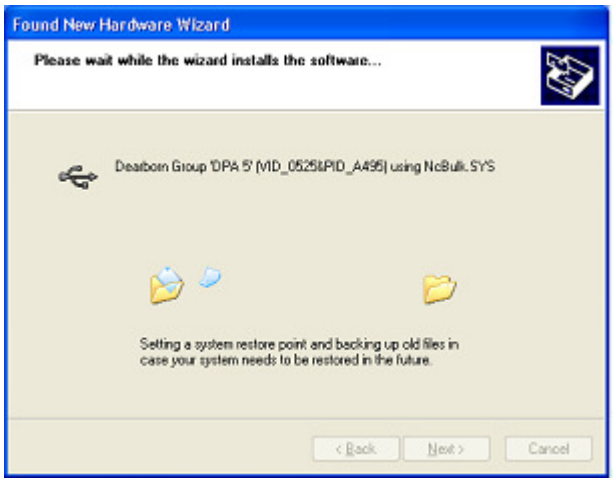
Mode	LED
Power / Start-up phase	White (running)
Power / Standby mode	White (steady)
Connected to PC	Blue (steady)
Connected to PC but no power from OBD-II	Red flashes interrupt steady Blue
Connected to PC and communicating with vehicle	Blue and Green alternating
Firmware download/update	Red
Connected to PC, trying to establish comm. with vehicle but no response	Blue and Green alternating -> Blue steady
Communicating with vehicle but lost USB connection	Blue flashes interrupt steady Green
General failure	Red

3.4. Finalize PC Install on Windows XP, Vista, 7 32/64-bit or 8

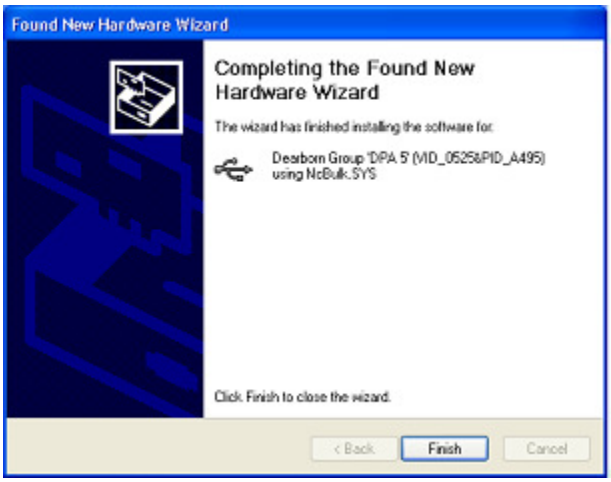
The d-briDGe is now connected to the PC and powered on. In some versions of Windows the final step in driver installation is automatic. In others, the Windows Found New Hardware Wizard will run to finalize driver installation. What appears in Windows XP is shown below.



Select **Install the software automatically (Recommended)** and press the **Next** button.



This screen appears while Windows installs the drivers.

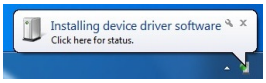


This screen appears when Windows has finished installing the drivers. Press the Finish button. Your d-briDGe drivers have been installed successfully.

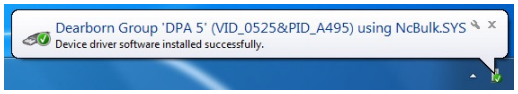
3.5. Finalize PC Install on Windows Vista, 7 64-bit or 8

3.5.1. 64-bit Vista and Windows 7 installed successfully

After installing on Vista or Windows 7/8, simply plug the d-briDGe into the PC via the USB cable. The d-briDGe is powered on. The following screen will display in the lower right corner for about five seconds.



This screen follows and the d-briDGe is now ready for use.

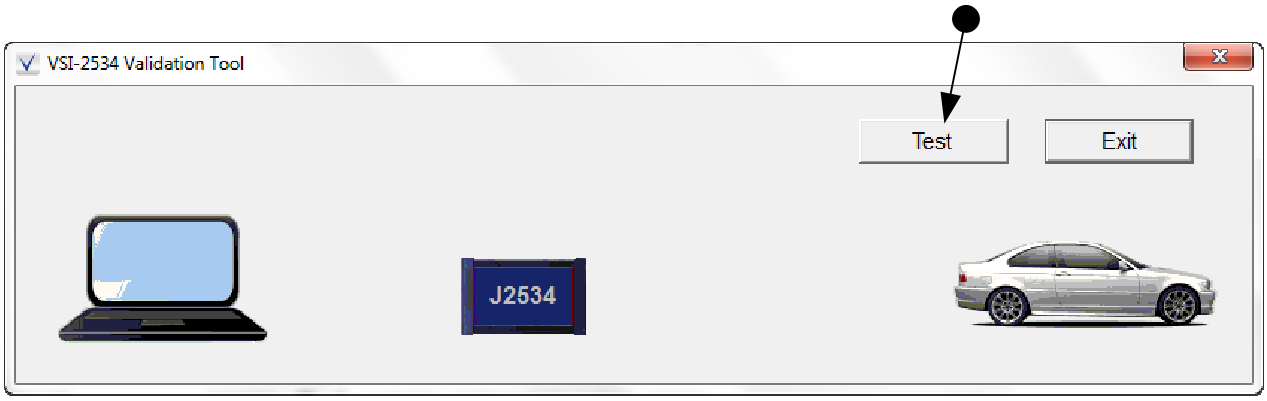


4. J2534 – Troubleshooting J2534

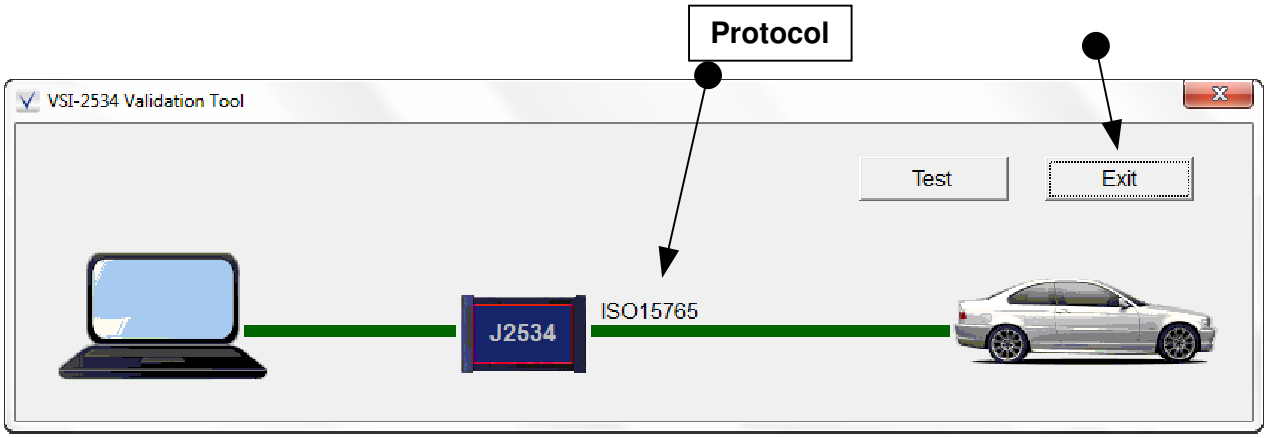
There are typically three problem areas with J2534 devices. Each problem is discussed in following sections:

4.1. Connection-Related Issues

After you have installed the d-briDGe drivers and connected the d-briDGe to both the PC and vehicle, make sure that the d-briDGe ***Power*** LED is turned on. Run the J2534 Adapter Validation Tool (JVT) to ensure that the PC is able to communicate with the d-briDGe, and that the d-briDGe is able to see vehicle data bus traffic.

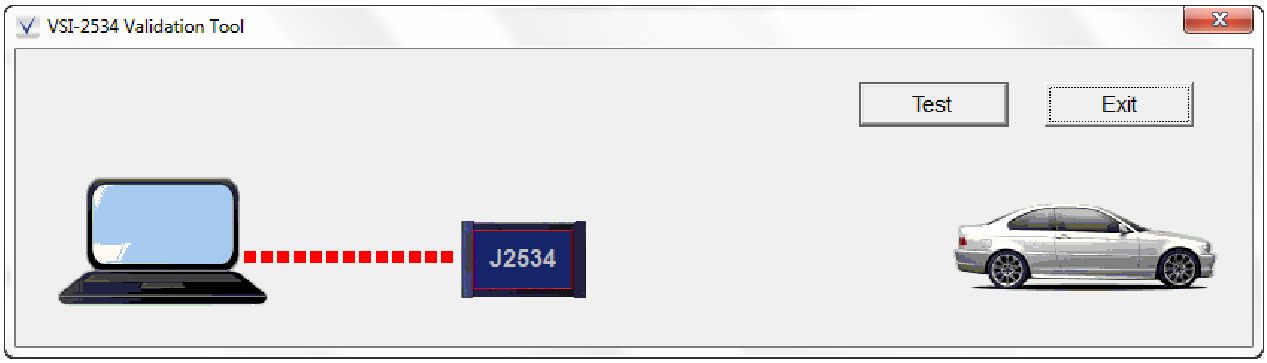


- Locate and click on the VSI Validation Utility by finding and executing the software application. Example: Start>Programs>Dearborn Group Products>d-briDGe>J2534 Validation Utility.
- Ensure proper connections of d-briDGe to vehicle and PC.
- Turn ignition key to “On” and click on “Test”.

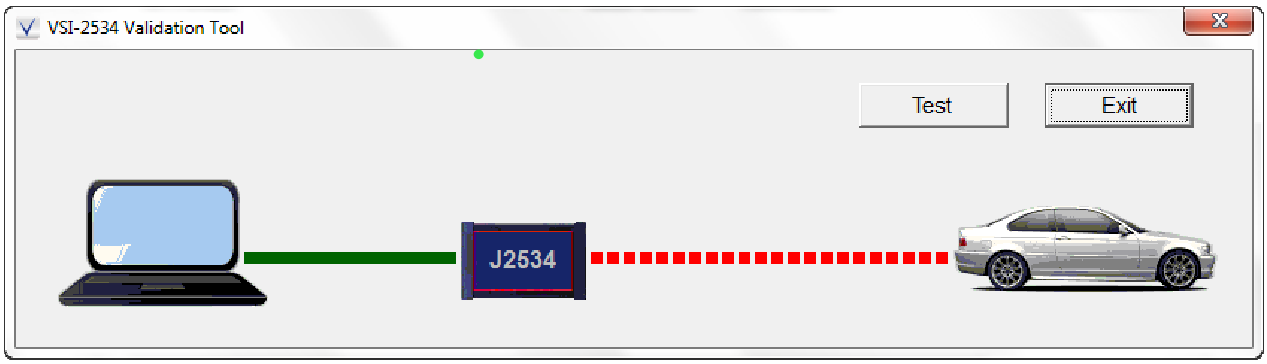


- This is a Pass/Fail test. Upon completion of a successful test, you will see the screen above. The two green lines indicate that communication from the J2534 device and the PC was successful as well as the communication from the J2534 device and the vehicle was successful. Vehicle protocol that was detected is also displayed.
- Click on “Exit” when done.

4.1.1. JVT Test Outcomes



- This screen indicates a communication problem between the J2534 device and the PC.
  - Ensure both connections at each end of USB cable, between the J2534 device and the PC, are secure.
  - Ensure J2534 device was properly installed on PC and possibly re-install.
  - Ensure the J2534 device is powered with power light illuminated.
  - If problem persists, try a different USB port and/or cable.



- This screen indicates a communication problem between the J2534 device and the PC.
  - Ensure both connections at each end of the OBDII cable between the J2534 device and the vehicle are secure.
  - Ensure vehicle ignition key is “On” and that J2534 device is powered.
  - If problem persists, ensure the J1962 and other vehicle wiring is connected correctly and securely. Keep in mind, it may be an issue on the vehicle itself.

4.2. USB-Related Issues

If you plug in a d-briDGe (or any other USB device) and get the New Hardware Found wizard, do not click cancel. Go through the wizard completely! IF YOU SELECT **Cancel**, THE d-briDGe WILL NOT WORK!

5. Product Specifications

5.1. d-briDGe Physical and Electrical

Feature	Data
Dimensions	6.0 x 3.25 x 1.25 inches
Voltage Requirements	9 – 32 Volts DC
Current Requirements	250mA maximum through voltage range
Operating Temperature Range	-40 to +85C
Wired PC Communications Type	USB Version 1.1 or higher
Wired Connection	Gold-plated USB cable 9up to 15 feet)
Vehicle-Side Connector	Attached OBD2 cable
PC-Side Connector	Standard Type-B USB
PC Device Drivers	J2534 and RP1210

5.2. d-briDGe Pinouts

DB26 Female	OBD-II Male	Signal	Comment
1	1	SW CAN, STG	Pin Switched
2	2	J1850 +	
3	3	CAN2 Hi	
4, 5	4, 5	GND (Chassis & Signal)	Tied together
6	6	CAN1 Hi	
7	7	K-line	
8	8	J1708+	
9	9	STG	
11	11	CAN2 Lo	
13	13	J1708	
14	14	CAN1 Lo	
15	15	L-line	
16	16	VBATT	

Note: Pins that are not mentioned are reserved and should not have anything attached to them.

6. DG Update – Program Overview

DG Update is an application that is installed with your d-briDGe drivers. It will run (by default) once every 30 days, and will keep you up-to-date with the latest versions of drivers for all your d-briDGe products. With this application running regularly and Automatic Firmware Update turned on, this will keep your d-briDGe up-to-date with drivers and firmware. DG recommends our customers keep up-to-date so that your OEM and component manufacturer diagnostic applications run smoothly.

The utility will run once every 30 days as a user logs on. This value is configurable, but defaults to 30 days. It can also be invoked manually from the Windows Start Menu:

Start ➔ Programs ➔ Dearborn Group Products ➔ d-briDGe ➔DG Update

6.1. DG Driver Update – Internet Connection Required

The DG Driver Update utility depends on successfully connecting to the Internet (to one of DG's servers) to retrieve the latest version information and to download the latest drivers and applications if necessary.

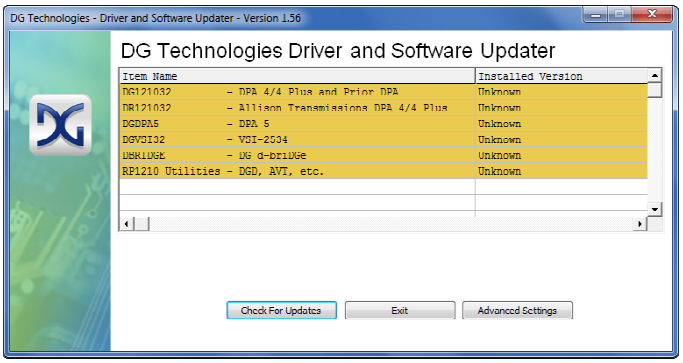
Many companies install firewalls and virus protection and these may block the DG server queries and responses. If you are connected to the Internet and have issues running DG Update (getting "Unable to connect to the internet to check for updates." messages), ensure that your firewall or virus protection will allow a connection to the following Internet host/site and port: **fh.dtech.com, port 8888**. There are too many firewall and virus programs on the market to cover in this manual, however if you contact your network administrator and give him the host and port number, he should be able to configure your PC to allow the communication. You may also consult the Windows help system and/or the documentation for your firewall and/or virus protection software.

6.2. DG Driver Update – Initial Screen

When the utility runs as a user logs on, the following screen will appear in the lower right hand corner of the screen. If you want to check for updates, ensure that your PC is connected to the Internet and click **Continue**. Clicking **Cancel** will cause DG Update to wait until the next time it is scheduled to run. Clicking **Continue** will bring up the main update screen.

6.3. DG Driver Update – Main Update Screen

The main screen appears looking like this. Depending on which DG products are installed on your PC, the grid will display pertinent information about them. When selecting DG Update from the Windows Start Menu, this is the first screen to appear.

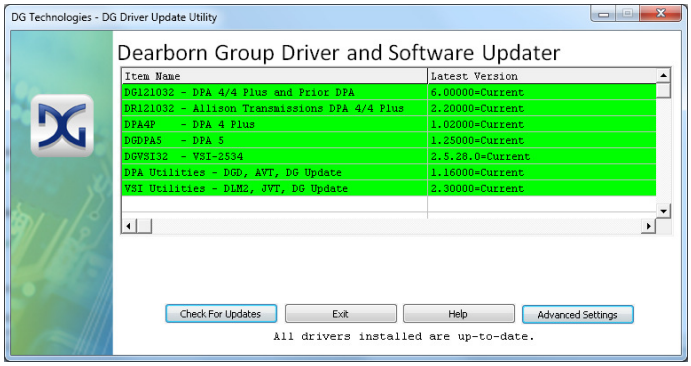


Connect your PC to the Internet and click the **Check For Updates** button. Due to the nature of TCP/IP communications, errors connecting or sending/receiving of data are slow to appear, however the user will eventually be notified if there was a problem.

If the check for updates was successful, the second column of the grid will display information returned from the DG server showing the most current versions and the **Install Status** row will change to red, green or blue.

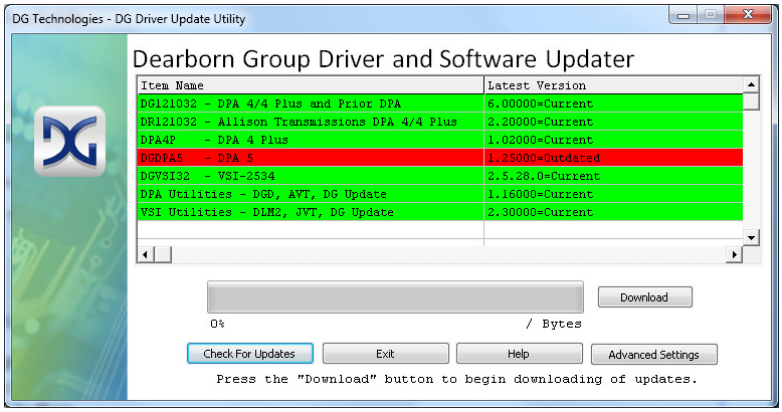
Color	Description
Green	Drivers up-to-date. No update necessary.
Red	Drivers are outdated. Update recommended.
Blue	Drivers on your PC are newer than current version. This usually indicates you are running a beta copy of the d-briDGe drivers.

6.3.1. Successful Connect – No Updates Available



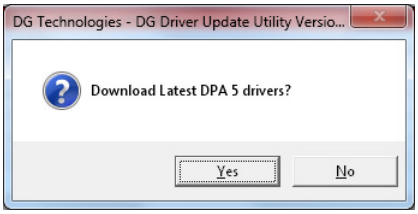
In this case, all drivers are current (green), and the **Download** button and progress bar do not display (see next paragraph). Clicking **Exit** will exit the program.

6.3.2. Successful Connect – Updates Available



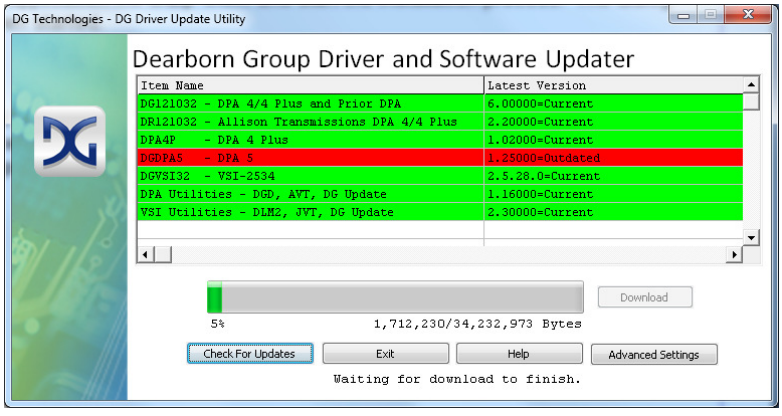
In this case, for example, the DG DPA 5 drivers are out of date (red), and the **Download** button and progress bar show up on the screen. The progress bar will keep you informed of the download progress should you choose to download the latest drivers by clicking the **Download** button.

When you click the **Download** button, you will be prompted to confirm starting of the download.



Note: The DG Update application can only download and install one item at a time. The user will be prompted for whichever one they want to update first. The reason that only one can be downloaded at a time is that the after the drivers are unzipped the installation program begins automatically. The DG Update program must exit because the installation program may have a newer version of the DG Driver Update utility to install.

After choosing **Yes**, the program will download the drivers and update the progress bar while doing so. Once the drivers have been downloaded, the application will unzip them and start the installation process. The dialog box will go away after the install has been started.

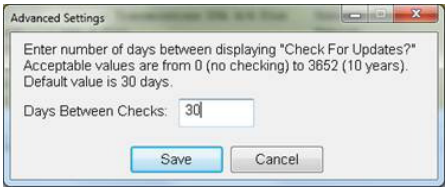


After the drivers have been downloaded (to the Windows temp directory – if you wish to save them for other machines), they will be unzipped and the program will exit right after starting the new driver installation.

6.4. Advanced Settings – Setting Default Time for Check for Updates

If you want to turn off, or alter the timeout period where the user is prompted to check for updates (the dialog below), press the **Advanced Settings** button.

The following dialog box will be displayed. To turn off the checking prompt, set the value to zero. Otherwise, you can set the number of days between checks.

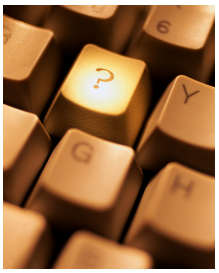


7. Technical Support and Return Merchandise Authorization (RMA)

7.1. Technical Support

After reading and following the troubleshooting and validation procedures and not being able to resolve an issue, please feel free to contact DG technical support. For users in the United States, technical support is available from 9 a.m. to 5 p.m. Eastern Time. You may also fax or e-mail your questions to us. For prompt assistance, please include your voice telephone number.

Users not residing in the United States should contact your local DG representative.



DG Technologies Technical Support

Phone:	(248) 888-2000
Fax:	(248) 888-1188
E-mail:	techsupp@dgtech.com
Web site:	www.dgtech.com

7.2. Return Merchandise Authorization (RMA)

If technical support has deemed that there may be a physical problem with your d-briDGe, you will be issued you an RMA number. You would then return the product along with any documentation of ownership you have (proof of purchase/price) to the following address:

Product Service/Repairs
Attn: RMA# xxxxxxx
DG Technologies
33604 West 8 Mile Road
Farmington Hills, MI 48335

8. Warranty Information and Limitation Statements

8.1. Warranty Information

The Dearborn Group, Inc. d-briDGe is warranted against defects in materials and workmanship for two (2) years following date of shipment. Cables (both USB and vehicle) are warranted for 1 year.

Dearborn Group, Inc. will, at its option, repair or replace, at no cost to the customer, products which prove to be defective during the warranty period, provided the defect or failure is not due to misuse, abuse, or alteration of the product. The customer is responsible for shipment of the defective product to DG. This warranty does not cover damage to any item that Dearborn Group, Inc. determines has been damaged by the customer's abuse, misuse, negligence, improper assembly, modification, or operation of the product.

A Return Merchandise Authorization (RMA) number must be issued to the customer by our Technical Support Department at (248) 888-2000 and must be included with the product being returned (for more details, see section *Return Merchandise Authorization (RMA)*). A d-briDGe is warranted for 90 days after a warranty repair, or to end of the original factory warranty period, whichever is longer.

8.2. Limitation Statements

8.2.1. General Limitation and Risk Assignment

To the maximum extent permitted by applicable law, Dearborn Group, Inc. and its suppliers provide support services on an “as-is” basis and disclaim all other warranties and conditions not specifically stated herein, whether express, implied or statutory, including, but not limited to, any warranties of merchantability or fitness for a particular purpose, lack of viruses, accuracy or completeness of responses, results, lack of negligence or lack of workmanlike effort, and correspondence to description. The user assumes the entire risk arising out of the use or performance of the device, its operating system components, and any support services.

8.2.2. Exclusion of Incidental, Consequential and Certain Other Damages

To the maximum extent permitted by applicable law, in no event shall Dearborn Group, Inc. or its suppliers be liable for any special, incidental, indirect or consequential damages whatsoever, including but not limited to: damages for loss of profit, loss of confidential or other information; business interruption; personal injury; loss of privacy, failure to meet any duty (including good faith or of reasonable care); negligence; and any other pecuniary or other loss related to the use of or the inability to use the device, components or support services or the provision of or failure to provide support services or otherwise in connection with any provision, even if Dearborn Group, Inc. or any supplier has been advised of the possibility of such damages.

8.2.3. Limitation of Liability and Remedies

Notwithstanding any damages that you might incur for any reason whatsoever (including, without limitation, all damages referenced above and all direct or general damages), in no event shall the liability of Dearborn Group, Inc. and any of its suppliers exceed the price paid for the device. The user assumes the entire risk and liability from the use of this device.

8.2.4. Right to Revise or Update without Notice

Dearborn Group, Inc. reserves the right to revise or update its products, software and/or any or all documentation without obligation to notify any individual or entity.

8.2.5. Governance

The user agrees to be governed by the laws of the State of Michigan, USA, and consents to the jurisdiction of the state court of Michigan in all disputes arising out of or relating to the use of this device.

8.2.6. Contact

Please direct all inquiries to:

Dearborn Group, Inc.
33604 West 8 Mile Road
Farmington Hills, MI 48335
Phone (248) 888-2000
Fax (248) 888-1188