



d-briDGe PRO

User Manual



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The accompanying software, provided for use with the d-briDGe PRO, is also copyrighted. Permission is granted to copy this software for back-up purposes only.

IMPORTANT

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.
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1. Safety First

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

The d-briDGe PRO device is to be used by those trained in vehicles troubleshooting and. 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.

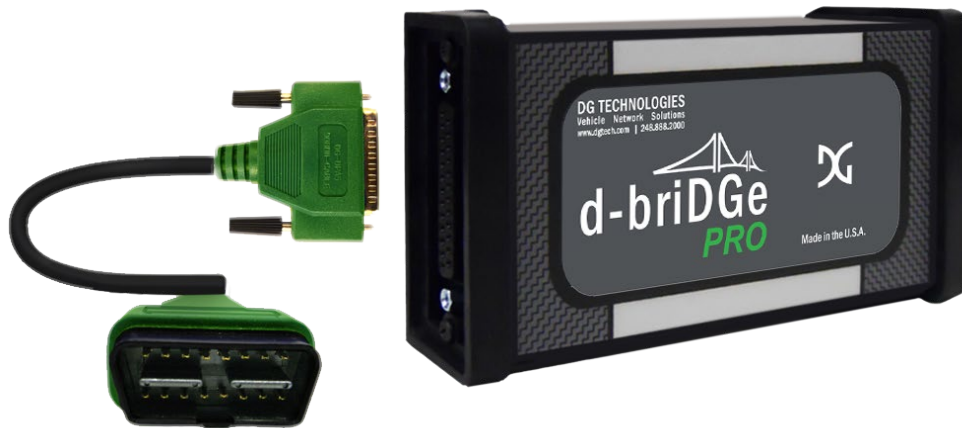
2. Introducing the d-briDGe PRO

The d-briDGe PRO 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 PRO communicates with the PC using a USB cable and comes standard with Society of Automotive Engineers (SAE) J2534-compliant drivers.

It is strongly recommended to review and read all documentation available regarding the d-briDGe PRO as well as all documentation available from the respective OEM for the use of J2534 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 PRO include:

- Illuminated power, pc connection, vehicle connection and warning indicators
- Molded OBDII cable with J1962 compliant connector
- SAE J2534-2



2.1. J2534 OEM Software Compatibility

The d-briDGe PRO is a SAE J2534-compliant interface (an SAE standard for electronic module reprogramming – sometimes call the “Pass Thru Programming” standard). Please utilize the following website for access to OEM service websites (website links and information are subject to change at any time):

<https://www.dgtech.com/oem-service-websites/>

Note: The d-briDGe PRO is not compatible with the Ford J1850PWM protocol commonly found on many Ford vehicles prior to 2008.

2.2. *Standards and Protocols Supported*

2.2.1. *Operating Systems and Standards Supported*

D Operating Systems

- Windows 7® 32-bit and 64-bit Versions
- Windows 10® 32-bit and 64-bit Versions

D Protocols Supported

- 4 DW HS CAN (CAN/ISO15765/J1939) Channels
 - (1 channel is selectable as SW CAN (CAN/ISO15765))
- 1 ISO9141/KWP Channel (K and L lines)
- 1 J1850 VPW Channel
- 1 HONDA UART Channel
- All Channels have the capability of operating simultaneously

D APIs Supported

- SAE J2534 with support for: CAN, ISO15765, J1939, SW CAN, ISO9141, KWP, J1850 VPW

2.3. *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.

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 7 (32-bit or 64-bit) Windows 10 (32 or 64 bit) |

3. Getting Started with the d-briDGe PRO

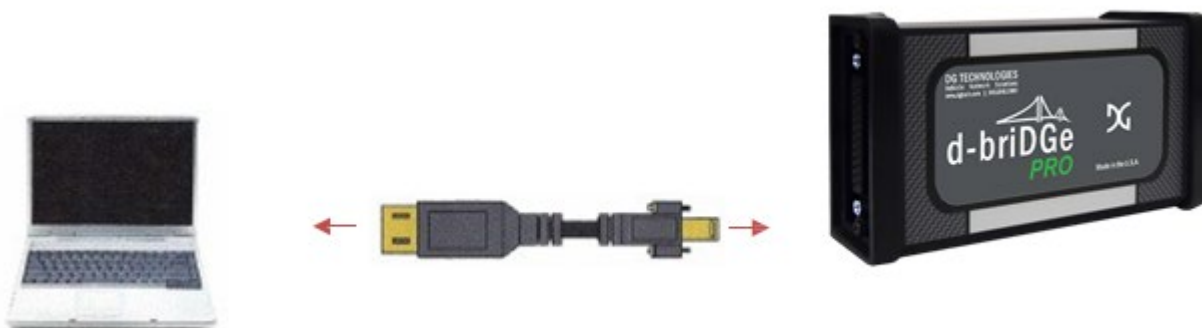
3.1. Driver Installation

| |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Attention! |
| <ul style="list-style-type: none">./ Install d-briDGe PRO drivers from CD before connecting d-briDGe PRO to your PC../ To install drivers, you must be logged into the administrator account or have administrator privileges. |
| Attention! |

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

3.2. Connect to the Vehicle

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



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



3.3. d-briDGe PRO Lighting Scheme

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



Detailed Strategy:

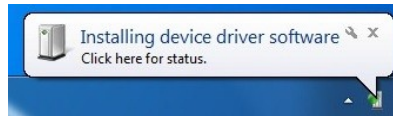
| Mode | LED |
|-------------------------------------------------------------------------|-------------------------------------------|
| Power / Start-up phase | White (running) |
| Power / Standby mode | White (steady) |
| Connected to PC | Blue (steady) |
| Connected to PC but no power from OBD-II | Red flashes interrupt steady Blue |
| Connected to PC and communicating with vehicle | Blue and Green alternating |
| Firmware download/update | Red flashing |
| 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 |
| Warning | Red (steady) |



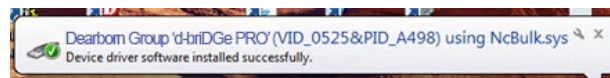
3.4. Finalize PC Install on Windows 7/10 64-bit

3.4.1. 64-bit Windows 7/10 installed successfully

After installing on Windows 7/10, simply plug the d-briDGe PRO into the PC via the USB cable. The d-briDGe PRO is powered on. The following screen will display in the lower right corner for about five seconds.



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



Note: Windows 10 displays no windows to confirm that the device is installed

USB-Related Issues

If you plug in a d-briDGe PRO (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 PRO WILL NOT WORK!**

4. Product Specifications

4.1 d-briDGe PRO Physical and Electrical

| Feature | Data |
|------------------------------|-------------------------------------|
| Dimensions | 5.0 x 2.75 x 1.125 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 PC Connection | USB cable (9 - 15 feet) |
| Vehicle-Side Connector | 25 pin D type |
| PC-Side Connector | Standard Type-B USB |
| PC Device Drivers | J2534 |

4.2 d-briDGe PRO Pinouts

| DB25 Female | Signal | Comment |
|-------------|------------------------|---------------|
| 1 | K-line | |
| 2 | CAN 3 Lo | |
| 3 | STG | |
| 4 | No Connect | |
| 5 | J1850 Bus + | |
| 6 | Gnd | Ground |
| 7 | No Connect | |
| 8 | VBatt | Vehicle Power |
| 9 | CAN 4 Hi | |
| 10 | SW CAN / DIAG-H | Pin switched |
| 11 | L-Line / STG | Pin switched |
| 12 | CAN 1 Lo / Diag-H | Pin switched |
| 13 | CAN 1 Hi | |
| 14 | No Connect | |
| 15 | No Connect | |
| 16 | GM UART / Prog Voltage | Pin switched |
| 17 | CAN 3 H | |
| 18 | No Connect | |
| 19 | CAN 4 Lo | |
| 20 | No Connect | |
| 21 | No Connect | |
| 22 | CAN 2 Lo | |

| | | |
|----|-------------------------------|--------------|
| 23 | No Connect | |
| 24 | CAN 2 Hi | |
| 25 | STG / Prog Voltage / CAN 2 Lo | Pin switched |

Note: Pins that are marked as 'No Connect' are reserved and should not have anything attached to them.

5. DG Update – Program Overview

DG Update is an application that is installed with your d-briDGe PRO 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 PRO products. With this application running regularly and Automatic Firmware Update turned on, this will keep your d-briDGe PRO 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 J2534 > DG Update

5.1 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.

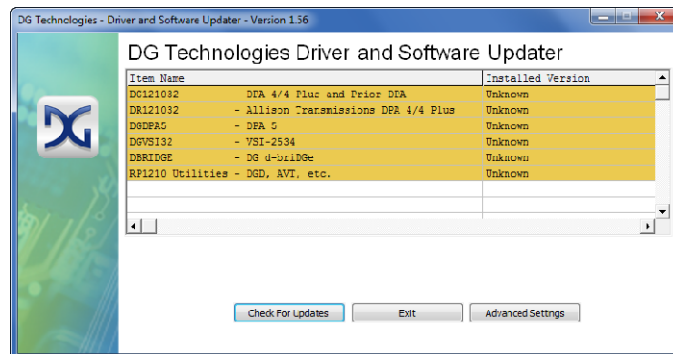
5.2 DG Driver Update – Initial Screen

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.



5.3 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.

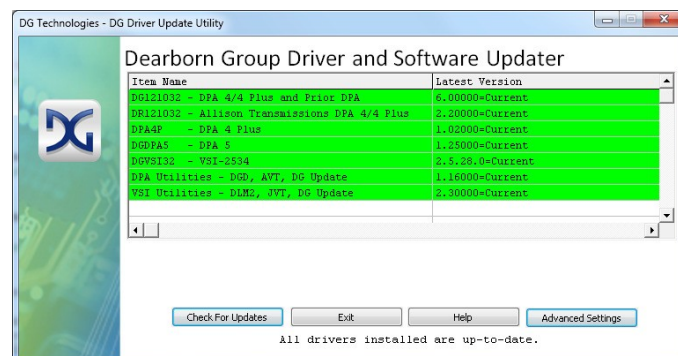


Connect your PC to the Internet and click the **Check For Updates** button. Due to the nature of TCP/IP communications, errors connecting or sending/receiving of data are slow to appear, however the user will eventually be notified if there was a problem.

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.

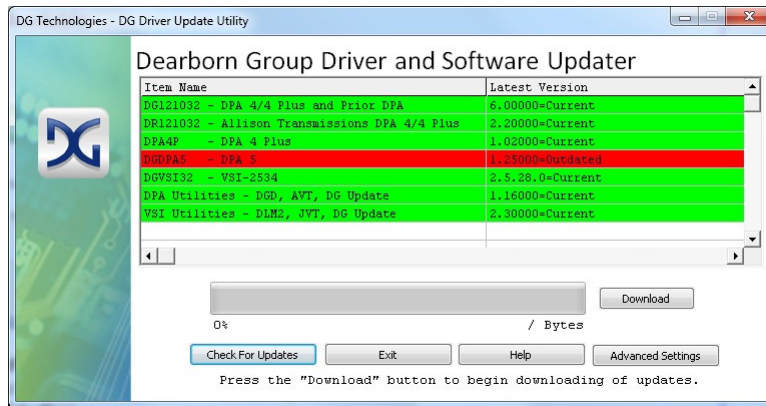
| Color | Description |
|-------|------------------------------------------------------------------------------------------------------------------------------------|
| Green | Drivers up to date. No update necessary. |
| Red | Drivers are outdated. Update recommended. |
| Blue | Drivers on your PC are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

5.3.1 Successful Connect – No Updates Available

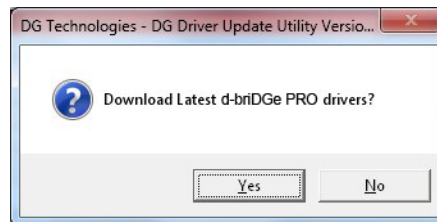


In this case, all drivers are current (green), and the **Download** button and progress bar do not display (see next paragraph). Clicking **Exit** will exit the program.

5.3.2 Successful Connect – Updates Available

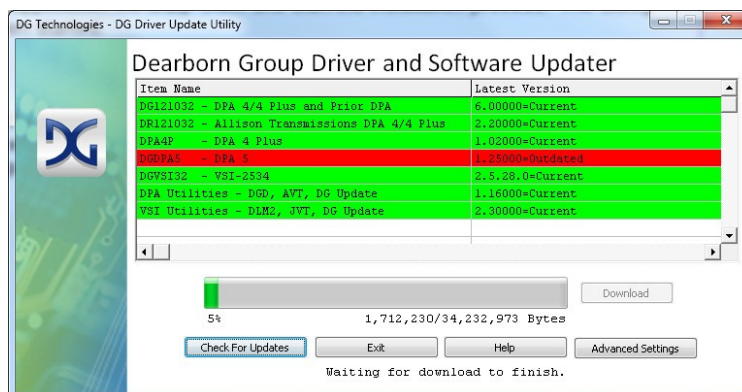


In this case, for example, the DG DPA 5 drivers are out of date (red), and the **Download** button and progress bar show up on the screen. The progress bar will keep you informed of the download progress should you choose to download the latest drivers by clicking the **Download** button. When you click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



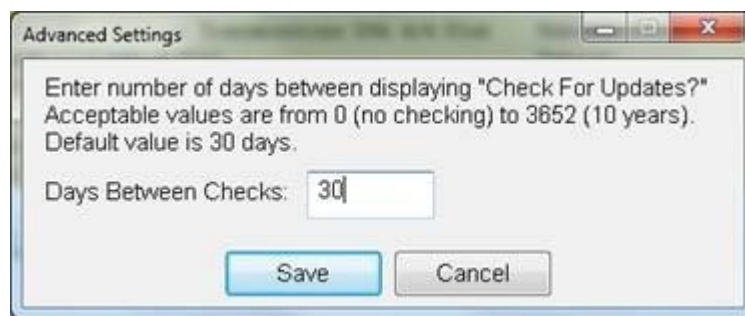
After the drivers have been downloaded (to the Windows temp directory – if you wish to save them for other machines), they will be unzipped and the program will exit right after starting the new driver installation.

5.4 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.



6. J2534 Configuration Utility

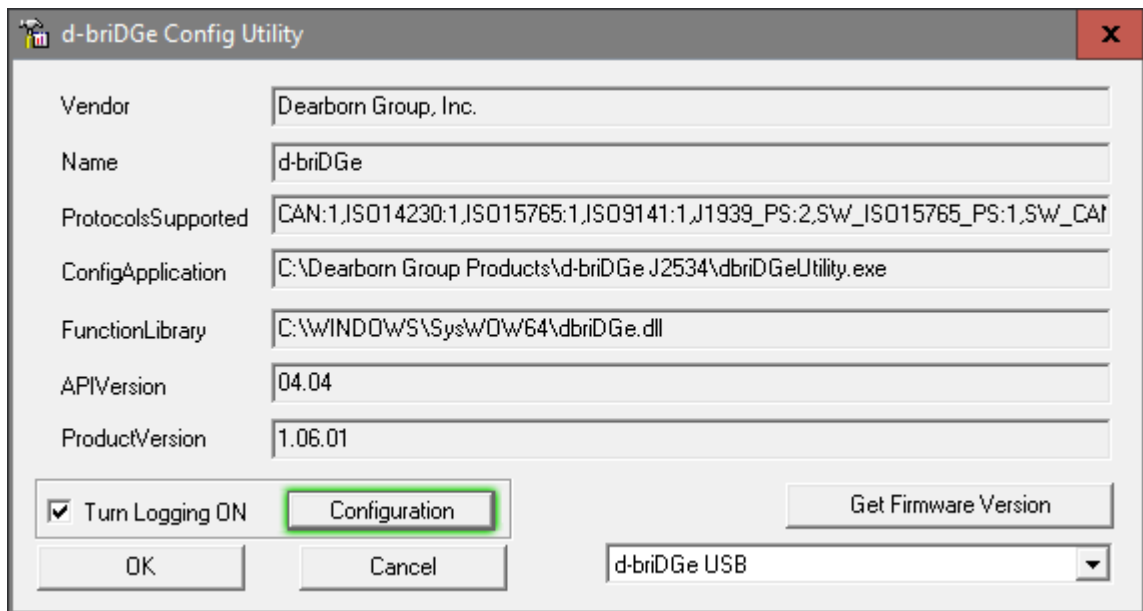
Locate and click on the J2534 Validation Utility by finding and executing the software application:
Start > Programs > Dearborn Group Products > d-briDGe J2534 > J2534 > d -briDGe Config Utility

Firmware version can be obtained from powered device only.

6.1 Create J2534 Log File

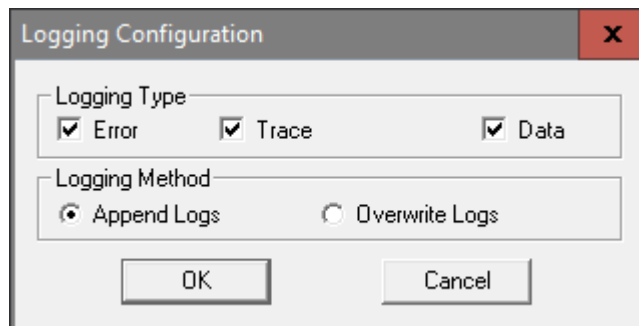
Log file might be requested by DG Customer support in some cases.
To create J2534 Log File check **Turn Logging ON**.

Click on **Configuration** button to specify the logging.



The image shows the 'd-briDGe Config Utility' dialog box. It contains several text input fields for configuration: Vendor (Dearborn Group, Inc.), Name (d-briDGe), ProtocolsSupported (CAN:1,ISO14230:1,ISO15765:1,ISO9141:1,J1939_PS:2,SW_ISO15765_PS:1,SW_CAN), ConfigApplication (C:\Dearborn Group Products\d-briDGe J2534\dbriDGeUtility.exe), FunctionLibrary (C:\WINDOWS\SysWOW64\dbriDGe.dll), APIVersion (04.04), and ProductVersion (1.06.01). At the bottom, there is a checkbox for 'Turn Logging ON' which is checked, and a 'Configuration' button highlighted with a green border. Other buttons include 'OK', 'Cancel', and 'Get Firmware Version'. A dropdown menu at the bottom right shows 'd-briDGe USB'.

Below is the recommended selection:



The image shows the 'Logging Configuration' dialog box. It has two sections: 'Logging Type' with three checked checkboxes for 'Error', 'Trace', and 'Data'; and 'Logging Method' with two radio buttons, 'Append Logs' (which is selected) and 'Overwrite Logs'. At the bottom are 'OK' and 'Cancel' buttons.

Append Log selection will continue to add to the log file. Many applications connect with the device multiple times. Turn Off the logging when finished.

Overwrite selection will capture only the last connection.

Confirm by clicking on **OK** button all the way up.

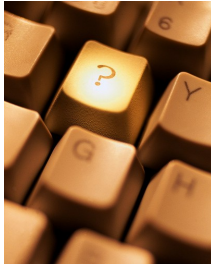
The log file will have extension “.csv” and can be found under:
“C:\Dearborn Group Products\d-briDGe J2534\ J2534d-briDGe.csv”

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) 888-9977
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 device, you will be issued you an RMA number. You would then return the product to the following address:



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

8. Warranty Information and Limitation Statements

8.1 Warranty Information

Dearborn Group, Inc. Tool is warranted against defects in materials and workmanship. Check the DG website for the device warranty conditions.

Cables (both USB and vehicle) are warranted for 90 days.

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 DG Tool 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.

9. **Contact**

Please direct all inquiries to:

DG Technologies

33604 West Eight Mile Road Farmington Hills, MI 48335

Phone (248) 888-2000

Fax (248) 888-9977

www.dgtech.com

Sales Support sales@dgtech.com

Technical Support techsupp@dgtech.com

E-Store <http://store.dgtech.com/>

Resellers and Distributors <https://www.dgtech.com/distributors/>

For product FAQ see Technical Support section on the DG website.

Appendix A – List of Acronyms Used in this Document

Various acronyms have been used throughout this document.

| Acronym | Description |
|---------|--------------------------------------|
| API | Application Programming Interface |
| AVT | Adapter Validation Tool |
| CAN | <u>Controller Area Network</u> |
| CD | Compact Disk |
| CD-ROM | Compact Disk - Read Only Memory |
| DG | Dearborn Group |
| DPA | Dearborn Protocol Adapter |
| DTC | <u>Diagnostic Trouble Codes</u> |
| ID | Identification |
| ISO | International Standards Organization |
| LED | Light Emitting Diode |
| OBD | On Board Diagnostics |
| OEM | Original Equipment Manufacturer |
| PC | Personal Computer |
| RAM | Random Access Memory |
| RP | Recommended Practice (see TMC) |
| SAE | Society of Automotive Engineers |
| TMC | Technology and Maintenance Council |
| UAC | User Account Control |
| USB | Universal Serial Bus |
| VDA | Vehicle Datalink Adapter |