



Dearborn Protocol Adapter 4 Plus (DPA 4 Plus)

Installation and User Manual

Driver Version:	5.55
Firmware Version DPA 4 Plus:	60.011
Firmware Version DPA 4:	37.149
Firmware Version DPA RF:	37.149
Firmware Version DPA III Plus (HW 5.00):	63.011
Native Drivers Version:	10.01



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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.
- ❑ Dearborn Group Technology 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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The DPA Product line has been awarded the following U.S. Patents:

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	Protocol Adapter for Passing Diagnostic Messages between Vehicle Networks and a Host Computer.

Dearborn Group Technology
33604 West Eight Mile Road
Farmington Hills, MI 48335
Phone (248) 888-2000
Fax (248) 888-9977
www.dgtech.com
sales@dgtech.com
techsupp@dgtech.com

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1. SAFETY FIRST

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

The DPA 4 Plus 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.

Dearborn Group Technology 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 drive, steer, and trailer 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 DPA 4 PLUS

The DPA 4 Plus product is used to connect vehicle communication networks and personal computers (PCs). This allows programs written for the PC to retrieve pertinent vehicle information such as fault codes, component information, as well as perform vehicle and component level diagnostics. Although the latest DPA product released is the DPA 4 Plus, this manual covers previous DPA models including the DPA 4, DPA RF, DPA III Plus, DPA III Plus /MH (Hardware 5.00) and the DPA RF.



The DPA 4 Plus

2.1 OEM SOFTWARE COMPATIBILITY

The adapter you have purchased is provided with a Technology and Maintenance Council (TMC) RP1210A-compliant interface and has been validated against the following OEM and component applications:

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

Any application claiming RP1210A-compliance should work if the application and adapter both support the same protocol(s) and operating system(s).

2.2. STANDARDS AND PROTOCOLS SUPPORTED

The adapter you have purchased provides more protocol and standards support than any other commercially available diagnostic adapter.

2.2.1. Operating Systems and Standards Supported

- ❑ Operating Systems
 - Windows 2000®
 - Windows XP®
 - Windows Vista® 32-bit and 64-bit Versions
 - Windows 7® 32-bit and 64-bit Versions
- ❑ TMC RP1210A
- ❑ CE Certification
- ❑ J1979
- ❑ Vehicle Electronic Programming Station (VEPS) J2214/J2461

2.2.2. RP1210 Defined Protocols Supported

- ❑ J1939
- ❑ CAN (ISO11898)
- ❑ CAN@500k/J2284/GMLAN
 - Supported under the IESCAN protocol name.
- ❑ J1708/J1587
- ❑ J1850 GM (Class 2)

2.2.3. Additional Protocols Supported by Native Drivers

- ❑ J2411 (GM SWCAN)
- ❑ ALDL

2.3. SYSTEM REQUIREMENTS

If you are not familiar with selecting a PC platform for your diagnostic applications, Dearborn Group Technology recommends starting with a computer that is compatible with the latest version of the TMC RP1208 (PC Selection Guidelines for Service Tool Applications).

In addition to the aforementioned 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 2000 Windows XP Windows Vista (32-bit or 64-bit) Windows 7 (32-bit or 64-bit)

3. WINDOWS VISTA AND WINDOWS 7 SUPPORT NOTES

Microsoft® has made great strides in updating their operating systems to protect against malicious software. With Windows Vista, Microsoft introduced User Account Control (UAC). UAC strictly enforces the differences between an administrator and a standard user account. When an action that could potentially compromise the PC such as writing files to the C:\Windows directory or registry is requested, the user is prompted for an administrator name and password. If the user is already an administrator, they are still prompted to confirm the action. Generally speaking, whenever you see the Microsoft security shield icon on a button, you will need an administrator's password to perform that operation.

3.1. UAC AND THE TMC RP1210 STANDARD

Before Windows Vista, it was common for applications to put INI and other types of configuration files in the default Windows directory, typically C:\Windows. The RP1210A standard requires that the RP121032.INI file be located in this directory, along with all of the vendor INI files (i.e. DG121032.INI). On Windows Vista, this means that a standard user cannot make changes to the main RP121032.INI file, nor can they make changes to the vendor INI files when UAC is enabled.

3.2. UAC AND THE DEARBORN GROUP ADAPTER VALIDATION TOOL (AVT)

A standard user will be able to run the AVT program and troubleshoot the PC-DPA-vehicle connection, but will not be able to fix a problem in the RP121032.INI file without an administrator password (see section on troubleshooting later in this document). The graphic below is from the Adapter Validation Tool (AVT), showing the Microsoft security shield on the **Fix/Change RP121032.INI File** button.



3.3. UAC AND THE DPA OPTIONS PROGRAM

Only an administrator will be able to run the DPA Options program.

3.4. UAC REQUIREMENTS FOR ALL DPA UTILITY PROGRAMS

The DPA utility programs (listed below) have been modified to conform to UAC. The following list shows these programs and privileges required to run them:

Program	Privileges Required	Notes
Adapter Validation Tool (AVT)	Standard User	Administrator needed for Fix/Change RP121032.INI File .
DPA Options	Administrator	
DG Diagnostics	Standard User	Cannot save/record data bus files to a protected directory.
DPA Firmware Updater	Standard User	
Sample Source Code	Standard User	

3.5. MORE INFORMATION ON UAC

For more detailed information on UAC, there is a helpful article at <http://www.wikipedia.org> or you can go directly to the Microsoft website <http://www.microsoft.com> and search for "UAC".

4. GETTING STARTED WITH THE DPA (STEPS 1-4 OF 6)

If you ordered the DPA 4 Plus as part of a kit, it should include the following items:

- ❑ DPA 4 Plus Diagnostic Tool
- ❑ 6-pin/9-pin Deutsch Connector Y Cable, for vehicle-side connection
- ❑ USB Cable, gold-plated
- ❑ Dearborn Group Technology DPA RP1210A Drivers Installation Disc

Please note that Dearborn Group Technology does customize our kits for our vendors, so what you receive may vary.

4.1. DRIVER INSTALLATION

Attention!

- ✓ Install DPA 4 Plus drivers before connecting DPA to your PC.
- ✓ To install drivers you must be logged into the administrator account or have administrator privileges.
- ✓ If you run into problems installing the drivers or the DPA, please do not hesitate to contact technical support at (248) 888-2000.

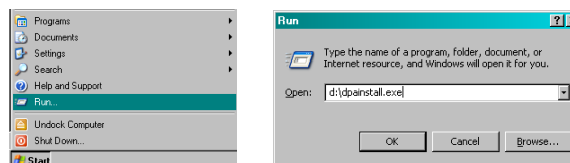
Attention!

DPA drivers are provided on the Installation CD and are installed by inserting the disc into your PC's CD-ROM drive. The latest drivers are also available at <http://www.dgtech.com/download.php>.

If you have any questions about the install, do not hesitate to call our Technical Support department.

If setup does not begin automatically, use the following sequence:

Start → Run → [CD_Drive_Letter]:\DPAInstall.exe and click **OK**



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

4.2. CONNECT USB CABLE TO THE DPA AND THEN TO PC

Remove the sticker covering the USB port and connect the USB cable to the DPA and PC. The USB cable that comes with the DPA 4 Plus has ears that allow the cable to be screwed into standoff screws on the DPA 4 Plus frame, greatly reducing the chance of breaking the USB connector on the DPA circuit board.

PC-side USB Cable



4.1. CONNECT VEHICLE-SIDE CABLE TO THE DPA

Connect the vehicle-side cable to your DPA. **Do not connect to vehicle first! Pins 6 and 8 on the DB15 connector are power and ground and can arc if not careful!**

Vehicle-side Cable



Example: 6-pin/9-pin Deutsch Y Cable

4.2. CONNECT VEHICLE-SIDE CABLE TO THE VEHICLE

Now, connect the DPA to the vehicle, verifying that the DPA Power LED is lit.

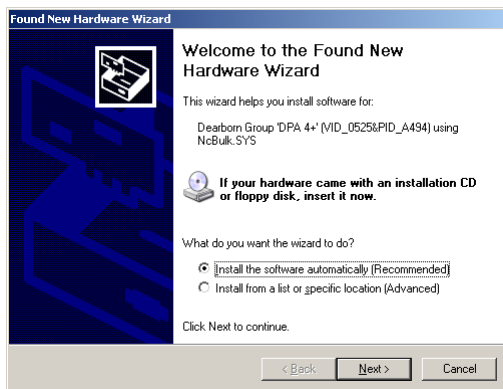
5. FINALIZE PC INSTALL (STEP 5 OF 6)

This step differs depending on which version of Microsoft Windows you are installing on.

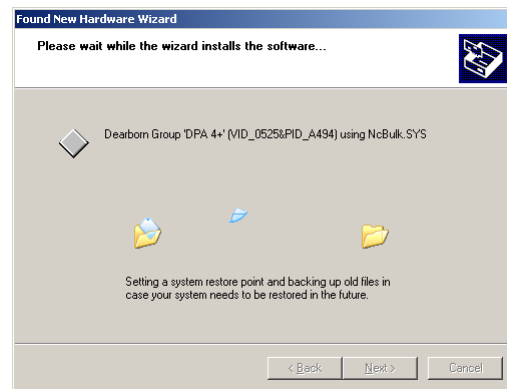
5.1. STEP 5. FINALIZE PC INSTALL (WINDOWS 2000/XP)

If you are installing on either Vista or Windows 7 64-bit version, go to section 5.2 “Finalize PC Install (Vista and Windows 7)”.

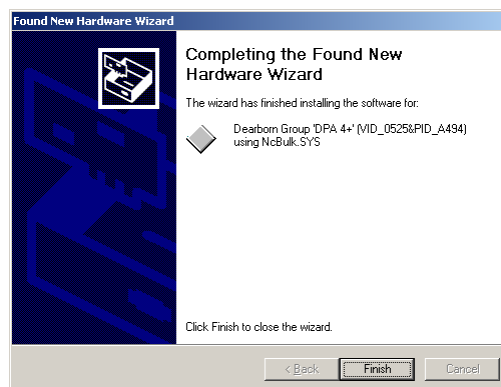
The DPA is now connected to the PC and powered on. In some versions of Windows the final step in driver installation is automatic. In others, the Windows Found New Hardware Wizard will run to finalize driver installation. What appears in Windows XP is shown below.



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 DPA drivers have been installed successfully.

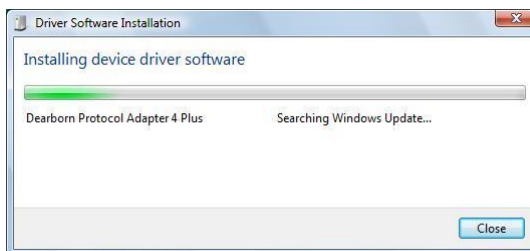
5.2. STEP 5. FINALIZE PC INSTALL (VISTA AND WINDOWS 7)

5.2.1. 64-bit Vista and Windows 7 New Hardware Found Wizard

When installing on Vista or Windows 7, the Found New Hardware Wizard requires a completely different set of instructions to correctly find the DPA 64-bit drivers. When the DPA is first powered up and connected to the PC, the Vista 64-bit Found New Hardware Wizard will run to start finalizing the driver installation. Follow the same procedure for Windows 7 64-bit.

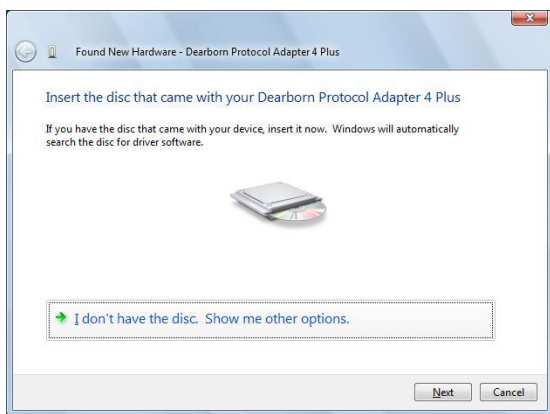


Choose **Locate and install driver software (recommended)**



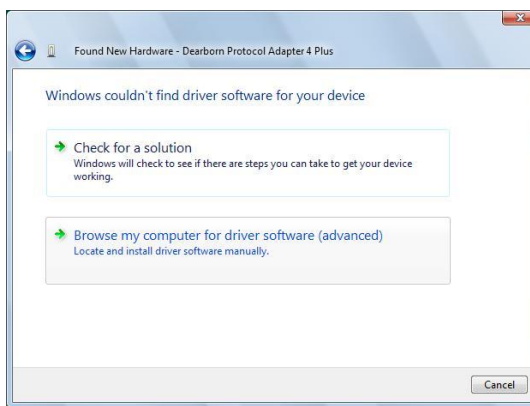
Windows will attempt to find the device drivers. This next screen will be displayed and may take a few minutes.

The following screen will be displayed:



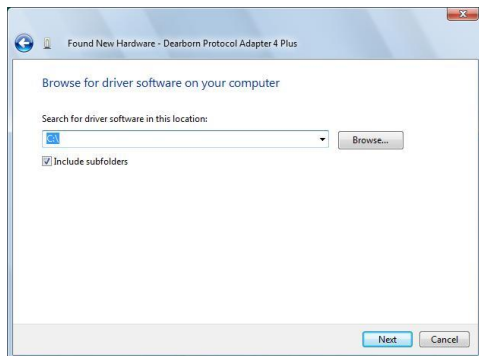
Choose **I don't have the disc. Show me other options.**

The following screen will then be displayed:



Choose **Browse my computer for driver software (advanced).**

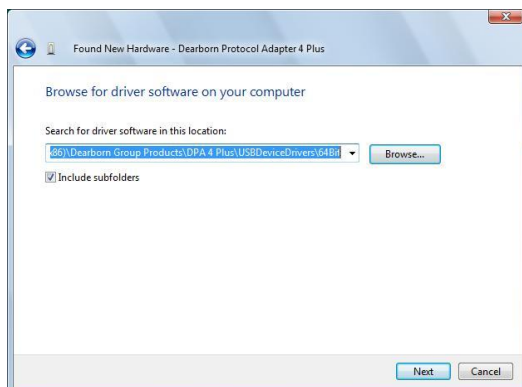
The **Browse for driver software on your computer** dialog will then be displayed.



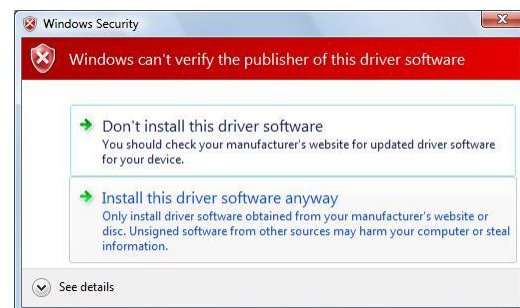
Click the **Browse** button and the **Browse For Folder** dialog appears. Go to the location where you installed the DPA 4 Plus drivers (the default directory for Vista 64-bit is **C:\Program Files (x86)\Dearborn Group Products\DPA 4 Plus**), double click on the **USBDeviceDrivers** folder and then select the **64Bit** folder and press **Ok**.



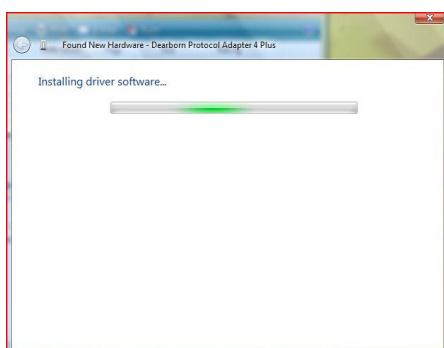
The previous screen remains, but shows the selected directory; click the **Next** button.



Windows Vista 64-bit will then display the following screen:



Select **Install this driver software anyway**.

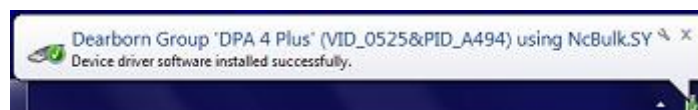


This screen appears as Windows copies driver files and configures the PC.



After Windows has finished adding the device drivers, the following screen indicates success. Press the **Close** button.

You will see the next image at the bottom of the Windows taskbar. Your drivers have been installed successfully.



6. FIRMWARE UPDATE (STEP 6 OF 6)

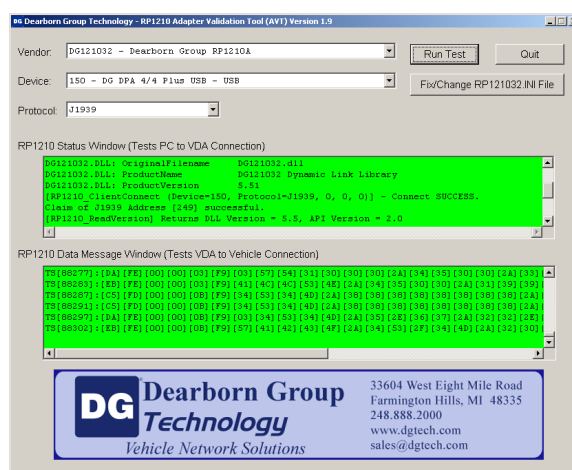
When a DPA drivers release is made, a specific set of DPA firmware is validated with that release for every DPA type supported by that API. In the 5.55 release the firmware that was validated was:

Model	Firmware
DPA 4 Plus	60.011
DPA 4	37.149
DPA RF	37.149
DPA III Plus /MH (Hardware 5.00)	63.011

DG strongly recommends that users keep their DPA up-to-date with the latest firmware revision.

To find which version of firmware you have, use the Adapter Validation Tool after connecting the DPA to a power source.

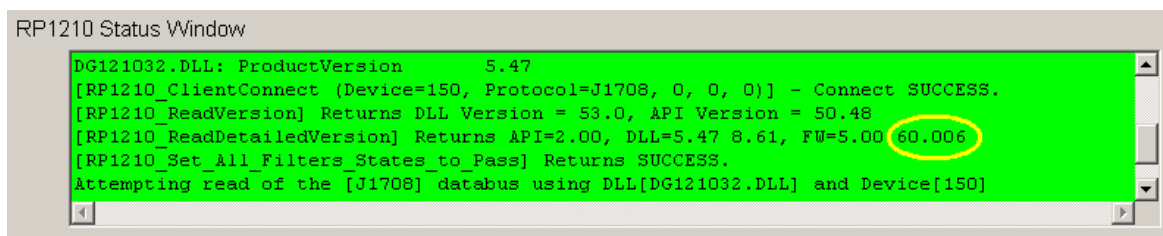
Start → Programs → Dearborn Group Products → DPA 4 Plus → Adapter Validation Tool



Select the correct DPA adapter:

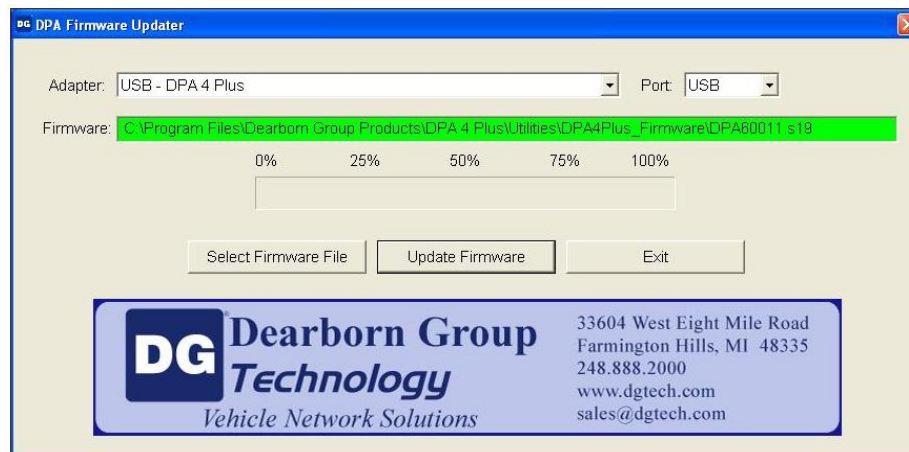
- ☐ **Vendor** DG121032 – Dearborn Group RP1210A
- ☐ **Device** 150 – DG DPA 4/4 Plus USB - USB
- ☐ **Protocol** J1708 (any protocol works)

Then click the **Run Test** button. When the test has finished running, go to the **RP1210 Status Window** and scroll down to the line that reads [RP1210_ReadDetailedVersion] and look for the entry “FW=”. The last numbers on the line indicates which version of firmware you have (note the yellow circle). If you are not at 60.011, then you need to run the DPA Flash Updater outlined in the following steps. The following screen shows the user is not at the current firmware revision, indicating they need a firmware update.



6.1. RUN THE DPA FLASH UPDATER

Start → Programs → Dearborn Group Products → DPA 4 Plus → DPA Flash Updater



1. Select **USB - DPA 4 Plus** with Port **USB** (already selected by default). If not using the DPA 4 Plus, select the correct adapter and COM port.
2. Select the correct firmware file (the latest version is already selected by default). If the firmware file exists, the Firmware box will turn **green**.
 - a. NOTE: Firmware files are located in separate sub-directories under the Utilities directory where the DPA drivers are installed, typically:
 - ❑ C:\Program Files\Dearborn Group Products\DPA 4 Plus\Utilities\DPA4Plus_Firmware
 - ❑ C:\Program Files\Dearborn Group Products\DPA 4 Plus\Utilities \DPA4_Firmware
3. Click on the **Update Firmware** button and select **Yes** if you receive a warning dialog.
4. After the download is finished, disconnect power from the DPA, wait 5 seconds and then reconnect power.

7. CONFIGURING OEM APPLICATIONS TO USE THE DPA 4 PLUS

The DPA works with all completely RP1210A compliant applications that support J1708/J1587, J1939, CAN, and J1850 protocols. The DPA also works with other applications that were written to use non-RP1210-compliant native drivers for other protocols, such as GM UART. This section shows how to configure the most common diagnostic applications to work with the DPA.

7.1. NOTES ON SELECTING AN RP1210 COMPLIANT ADAPTER

Selecting an RP1210 adapter (commonly referred to as a Vehicle Datalink Adapter or VDA) varies widely from application to application; however, the terminology remains pretty much the same. The following table helps to introduce you to the terminology and helps you to make the correct selections the first time.

You must configure every OEM application to use the DPA or that application will not work!!!

If You See These Terms	Select This
Vendor API DLL Manufacturer Adapter Manufacturer	Dearborn Group RP1210A or DG121032
Device Device Name Adapter Name	DG DPA 4/4 Plus USB DG DPA 4/4 Plus USB, USB
Device Number	150
Port COM Port Communications Port	USB
Protocol (Depends on Application)	Most Commonly Encountered: ✓ J1708 ✓ J1939

7.2. ALLISON DOC

1. Start program
2. Click **Connect to Vehicle**
3. Select the correct transmission type
4. Uncheck **Smart Connect**
5. Click **Connect**
6. Click **Advanced Setup**
7. Select vendor of **Dearborn Group RP1210A**
8. Select protocol of **J1939** or **J1708**
9. Select correct device of **DPA 4/4 Plus USB**
10. Click **OK**

7.3. BENDIX ABS DIAGNOSTICS

NOTE: DO NOT RUN Bendix ABS Diagnostics until you have done the following:

1. Start program
2. If **Diagnostic Interface Selection** dialog box does not appear, click on **Vehicle Interface Adapter** icon
3. Select **RP1210A Device Using J1708 Line: DPA 4/4 Plus USB**
4. Click **OK**

A screen appears indicating that device selection was a success.

7.4. CATERPILLAR ELECTRONIC TECHNICIAN

1. Start program
2. Click Utilities → Preferences → Communications from the menu bar
3. Click on **Communication Interface Device** dropdown box
4. Select **RP1210 Compliant Device**
5. Click **Advanced**
6. Select **(DPA 4/4 Plus USB)** in the RP1210 Communication Adapter Device box
7. Click **OK**
8. Check **Enable Dual Data Link Service**
9. Click **OK**

7.5. CUMMINS INSITE

1. Start program
2. Click on File → Connections → Add New Connection from the menu bar
3. Click **Next**
4. Click radio button for **RP1210A** and click **Next**
5. Select correct device (**DPA 4/4 Plus USB**), and protocol you want to use, J1708/J1939
6. Click **Next** and a **Connection Name** screen appears
7. Click **Next** and a screen prompts you to indicate whether you want to make this connection active or set up another connection
8. Click on **make this connection active**
9. Click **Finish**

7.6. DETROIT DIESEL DIAGNOSTIC LINK V7

7.6.1. From Windows Start Menu

1. Start → Programs → Detroit Diesel → Diagnostic Link → SID configure
2. Select **DPA 4/4 Plus USB**
3. Click **OK**

7.6.2. From Inside DDDL

1. Tools → Options → Connections Tab → SID Configure from the menu bar
2. Select **DPA 4/4 Plus USB**
3. Click **OK**

7.7. EATON SERVICERANGER 3.X

1. Start program
2. Click Tools → Settings → Connection from the menu bar
3. Under Driver choose **Dearborn Group RP1210A**
4. Select **DPA 4/4 Plus USB** for both the J1708 and J1939 device
5. Click **OK**

7.8. FREIGHTLINER SERVICELINK

1. Start program
2. From the top menu bar, choose **Admin**
3. From the left menu bar, choose **Vehicle**
4. Click on **Show All Devices**
5. In the Vendor box, choose **Dearborn Group RP1210A**
6. Select **DPA 4/4 Plus USB** in the J1708, J1939, and CAN dropdowns
7. Click **Save Settings**

7.9. INTERNATIONAL TRUCK AND ENGINE

7.9.1. Master Diagnostics (MD Fleet)

File → MD Settings → COM Device → Window with general VDA selection
Dearborn Group RP1210A → Window with specific port **DPA 4/4 Plus USB**

7.9.2. Navistar Hyd ABS

File → Hydraulic ABS Settings → COM Device → Window with general VDA selection
Dearborn Group RP1210A → Window with specific port **DPA 4/4 Plus USB**

7.9.3. Navistar IPC

File → Settings → COM Device → Window with general VDA selection
Dearborn Group RP1210A → Window with specific port **DPA 4/4 Plus USB**

7.9.4. Diamond Logic Builder (DLB)

Tools → Select Com Link → Listing of adapters **Dearborn Group RP1210A** → Listing of ports **DPA 4/4 Plus USB**

7.9.5. Service Assistant (The new MD Fleet)

1. Press the third button from the top along the left side (has an icon that looks like a miniature interface cable)
2. A window comes up that says Communication Device Selection
3. Box 1 is device selection **Dearborn Group RP1210A**
4. Box 2 is Device ID **DPA 4/4 Plus USB**

7.10. MERITOR-WABCO ABS TOOLBOX

1. Start program
2. Click **System Setup**
3. Select **COM Port**
4. Select **Dearborn Group RP1210A**; the protocol to use is J1939 or J1708
5. Select **DPA 4/4 Plus USB** and click **OK**

7.11. VOLVO/MACK VCADS PRO

7.11.1. From Initial VCADS Setup

1. When prompted to configure a **Communication Unit**, instead of the “9998555” or “88890020” entries, select **RP1210A adapter**
2. When prompted for the adapter, select **DPA 4/4 Plus USB**
3. Select **USB** for the Port
4. Select **J1708** for the protocol
5. When prompted for the Electrical Systems
 - a. Click **Volvo Trucks – VERSION2** and select **RP1210A Adapter**
 - b. Click **Volvo Trucks – Vehicle electronics ‘98’** and select **RP1210A Adapter**
 - c. Click **Mack Trucks – V-MAC I/II/III, ITC** and select **RP1210A Adapter**
 - d. Click **Volvo Trucks – V-MAC IV** and select **RP1210A Adapter**
6. Continue with installation

7.11.2. From Inside VCADS

1. Start program
2. Click the Tools → Options from the menu bar
3. Select the **Comm. Unit Configuration** tab
4. Select **RP1210A Adapter** and then select **DPA 4/4 Plus USB**
5. Select **USB** for the Port
6. Select **J1708** for the protocol
7. Go to the **Comm. Unit Selection** tab
 - a. Click **Volvo Trucks – VERSION2** and select **RP1210A Adapter**
 - b. Click **Volvo Trucks – Vehicle electronics ‘98’** and select **RP1210A Adapter**
 - c. Click **Mack Trucks – V-MAC I/II/III, ITC** and select **RP1210A Adapter**
 - d. Click **Volvo Trucks – V-MAC IV** and select **RP1210A Adapter**
8. Click **Ok**

7.12. VOLVO/MACK PREMIUM TECH TOOL (PTT)

1. Select PTT → Settings from the menu bar
2. Select **Communication Unit configuration** tab. It is here that you select the settings for each adapter that you may use. For example, if you have an RP1210A adapter, it is here that you select which adapter, port, and protocol. NOTE: This identifies the settings for each adapter. It does not select which adapter the PTT application will use to communicate with the vehicle.
3. **Comm unit selection** tab: It is here that you identify which adapter is to be used by the PTT application to communicate with the vehicle. You may have to change this selection depending upon the vehicle. For example, if you typically use an 88890020 adapter in direct mode, when you need to communicate with an older vehicle you will need to change to RP1210A adapter or the 9998555 adapters, depending upon the vehicle.

8. TROUBLESHOOTING YOUR DPA

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

1. Connection related – unable to communicate with the adapter, vehicle, or both.
2. Inability to select the adapter in your OEM diagnostic application.
3. USB Issues.

8.1. CONNECTION-RELATED ISSUES

After you have installed the DPA drivers and connected the DPA 4 Plus to both the PC and vehicle, make sure that the DPA **Power** LED is lit. Then configure your OEM diagnostic program to use the DPA (see chapter 5). Should the DPA 4 Plus not work with the OEM software run the DG Adapter Validation Tool (AVT) to ensure that the PC is able to communicate with the DPA, and that the DPA is able to see vehicle data bus traffic.

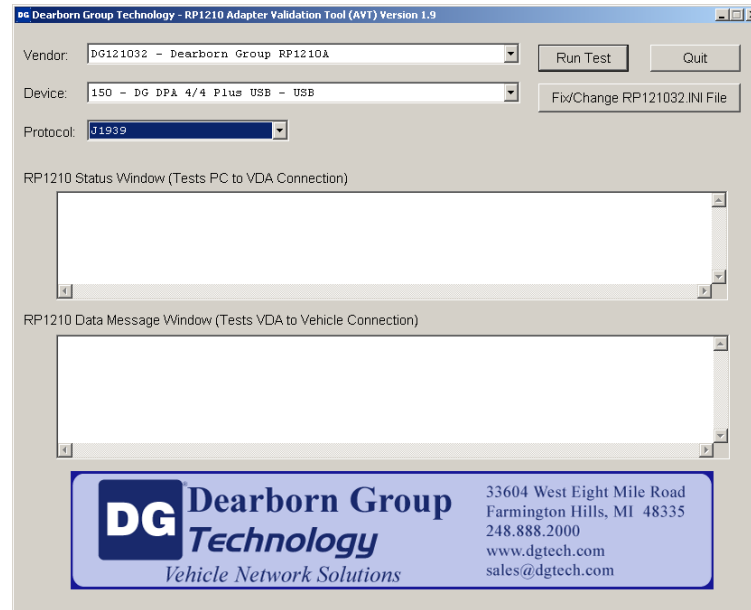
Start → Programs → Dearborn Group Products → DPA 4 Plus → Adapter Validation Tool

When the Adapter Validation Tool software is launched, you will be told if a problem exists in the main RP121032.INI file. If you wish to fix this issue, press the **Fix/Change RP121032.INI File** button. Windows Vista/Windows 7 users will be prompted for administrator privileges.

The following is the dialog box that will appear if a problem is found.



If there is not a problem, the following dialog box will be displayed.



Select the correct DPA adapter:

- ☐ **Vendor** DG121032 – Dearborn Group RP1210A
- ☐ **Device** 150 – DG DPA 4/4 Plus USB - USB
- ☐ **Protocol** J1708, J1850, CAN or J1939 (depending on your application)

Then click the **Run Test** button. Depending on the results of the test, both the **RP1210 Status Window** and **RP1210 Data Message Window** will turn **green** (pass) or **red** (fail).

8.1.1. AVT Test Outcomes

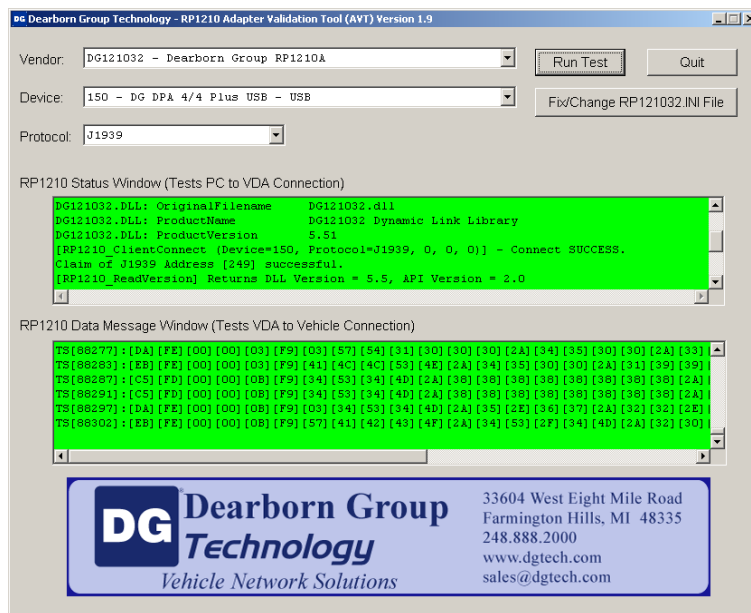
If the **RP1210 Status Window** turns red, then there is a problem with something causing the PC not to communicate with the adapter. This may be something as simple as having power to the adapter or having a USB cabling issue. Disconnect the adapter from the vehicle and PC; then reconnect them, this time connecting to another USB port on the PC.

If the **RP1210 Status Window** turns green and the **RP1210 Data Message Window** turns red, then the PC is seeing the adapter, but not seeing messages from the vehicle. Check the vehicle ignition switch and vehicle to adapter cabling; disconnect the adapter from the vehicle and PC; then reconnect them.

If you see data in the **RP1210 Data Message Window**, then the adapter is installed and functioning properly. Contact the manufacturer of the diagnostic software you are using and tell them the test scenario you just tried.

If after following the **Test Results Discussion and Next Steps** screen, you cannot get the adapter to read data, contact Dearborn Group technical support.

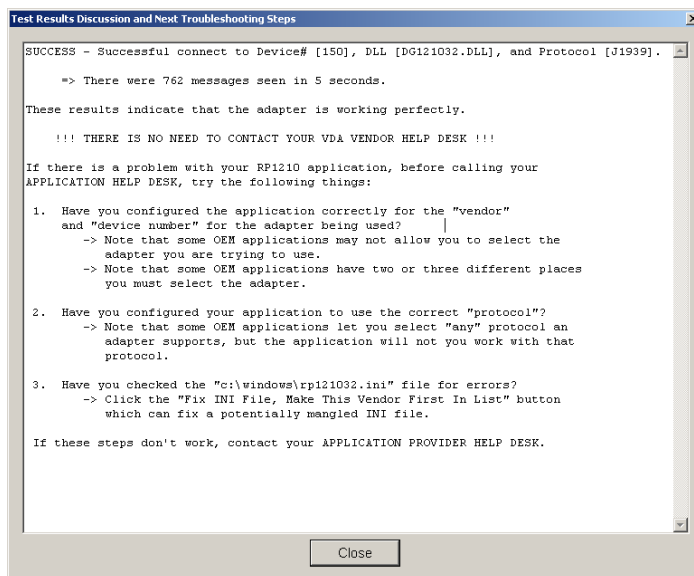
8.1.2. Good Connection (PC to DPA), Good Read of Data (DPA to Vehicle)



Screen snapshot showing the PC successfully connecting to the DPA 4 Plus and reading of vehicle data bus data.

8.1.3. Test Results Discussion and Next Steps

Once the test is complete, the application will display an informational screen listing some steps to correct the issues based upon what the results of the test were. If one of the windows turned red, then read the instructions carefully to see if you can determine where the source of the problem is.



8.2. NOT SEEING DPA 4 PLUS IN OEM APPLICATION VDA SELECTION LIST

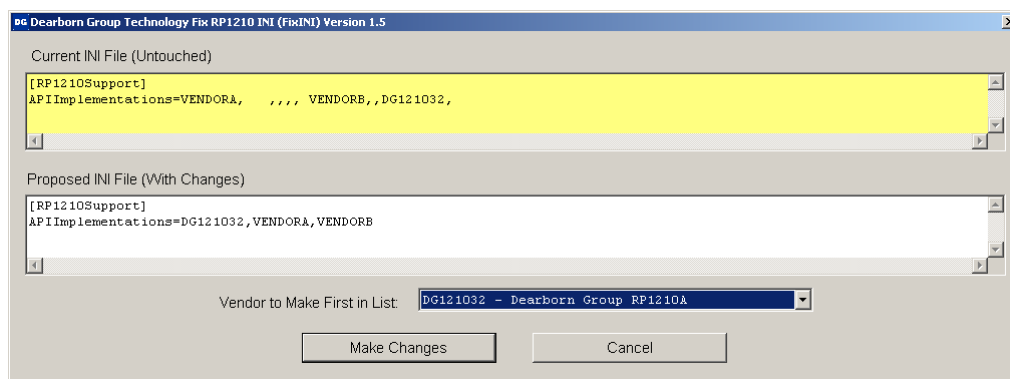
If you have installed the DPA 4 Plus drivers, and your diagnostic application does not display **DG DPA 4/4 Plus USB** in their VDA selection dialog box, this could indicate one of three things about the diagnostic application. Most oftentimes, item #3 is the main culprit, and has been causing problems for several years.

1. Application is not RP1210A compliant and does not work with the DPA 4 Plus.
 - a. Some applications require a specific, proprietary adapter.
2. Application is RP1210A compliant, but DPA does not support the protocol needed.
 - a. For example, ISO9141 in the RP1210 layer.
3. Problem with the main RP1210 INI file, typically C:\Windows\RP121032.INI.
 - a. Some VDAs create issues with the RP121032.INI file when they install/uninstall.
 - b. You will be notified by a dialog box when you run AVT if there is a problem. If so, you should fix the problem. On Windows Vista, you will be required to have administrator privileges.

The AVT application has a button **Fix/Change RP121032.INI File** that will allow you to view and fix the RP121032.INI file if there are errors detected. You can also change the VDA vendor that appears first in the list of the OEM diagnostic software applications.

In the example below, a bad INI file was detected and is depicted by a yellow background. Note the multiple commas and spaces between entries. The user then chose that they wanted DG121032 be the first vendor in the list. Click the **Make Changes** button and the INI file problem will be corrected.

NOTE: Many OEM diagnostic applications are aware of this issue and can read through the errors.



8.3. USB-RELATED ISSUES

If you plug in a DPA (or any other USB device) that does not have Microsoft Certification associated with it into a different USB port than where it was installed the first time, you are going to get the New Hardware Found wizard again. Repeat Section 4.3, Step 5 (Found New Hardware wizard) for each new USB port.

IF YOU SELECT **Cancel, THE DPA WILL NOT WORK!**

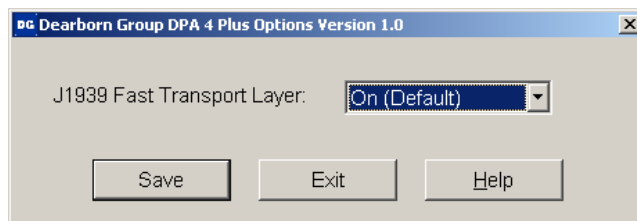
Other USB traits sometimes cause the DPA to lose communications with the PC. If this loss of communications with the PC occurs:

1. Unplug the USB cable from the DPA.
2. Unplug the vehicle-side cable from the vehicle (ensure power is off for 3-5 seconds).
3. Plug the USB cable into the DPA.
4. Reconnect the DPA to the vehicle.

9. MODIFYING DPA SETTINGS – DPA OPTIONS PROGRAM

The DPA Options program allows the user to adjust certain parameters pertaining to the DPA drivers.

Start → Programs → Dearborn Group Products → DPA 4 Plus → DPA Options



Variable	Applies to RP1210 Drivers	Applies to Native Drivers
J1939 Fast Transport Layer	Yes	No

9.1 J1939 FAST_TRANSPORT

There has long been a DG121032.INI file option to speed up reprogramming times, called FAST_TRANSPORT. Many OEM and component manufacturers using the DPA for end of line (EOL) programming stations have known about this option and have used it successfully. DG has decided to turn FAST_TRANSPORT on by default to speed up your vehicle reprogramming times. In one instance after turning FAST_TRANSPORT on, reprogramming of an engine dropped from fifty minutes to eight minutes, however little if any difference will be seen during standard diagnostic sessions.

In the event that you have difficulty reprogramming or using your diagnostic software with the J1939 protocol (erratic behavior), try turning the FAST_TRANSPORT option off.

10. WARRANTY INFORMATION AND LIMITATION STATEMENTS

10.1. WARRANTY INFORMATION

The Dearborn Group Technology DPA 4 Plus is warranted against defects in materials and workmanship for two (2) years following date of shipment. Cables (both USB and vehicle) are warranted for 90 days.

Dearborn Group Technology 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 Technology determines has been damaged by the customer's abuse, misuse, negligence, improper assembly, modification, or improper 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 DPA is warranted for 90 days after a warranty repair, or to end of the original factory warranty period, whichever is longer.

10.2. LIMITATION STATEMENTS

10.2.1. General Limitation and Risk Assignment

To the maximum extent permitted by applicable law, Dearborn Group Technology 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.

10.2.2. Exclusion of Incidental, Consequential and Certain Other Damages

To the maximum extent permitted by applicable law, in no event shall Dearborn Group Technology 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 Technology or any supplier has been advised of the possibility of such damages.

10.2.3. 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 Technology 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.

10.2.4. Right to Revise or Update without Notice

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

10.2.5. 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.

10.2.6. Contact

Please direct all inquiries to:

Dearborn Group Technology
33604 West Eight Mile Road
Farmington Hills, MI 48335
Phone (248) 888-2000
Fax (248) 888-9977

11. PRODUCT SPECIFICATIONS

11.1. DPA 4 PLUS PHYSICAL AND ELECTRICAL

Feature	Data
Dimensions	6.1 x 2.5 x 1.2 inches
Voltage Requirements	9 – 32 VDC
Current Requirements	250mA max 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 (up to 15 feet)
Vehicle-Side Connector	DB15 Female
PC-Side Connector	Standard B-Type USB Jack
PC Device Drivers	TMC RP1210A Compliant Drivers DG Native Drivers

11.2. DPA 4 PLUS PINOUTS

Vehicle-Side Assignments for DPA 4 Plus (DB15 Female).

Pin	DPA 4/4 Plus
Ground	6
Power (9-32vdc)	8
J1708-	14
J1708+	15
CAN1 Shield	7
CAN1 Lo	12
CAN1 Hi	13
CAN1 Term 1*	3
CAN1 Term 2*	4
SW CAN	10
ALDL	1
J1850 Hi	5

* Connecting these two pins (Term1/Term2) applies a 120-Ohm terminating resistor to the CAN/J1939 network.

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

12. TECHNICAL SUPPORT AND RETURN MERCHANDISE AUTHORIZATION (RMA)

12.1. 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 Dearborn Group Technology representative.

Phone: (248) 888-2000
Fax: (248) 888-9977
E-mail: techsupp@dgtech.com
Web site: www.dgtech.com

12.2. RETURN MERCHANDISE AUTHORIZATION (RMA)

Once technical support has deemed that there may be a physical problem with your DPA, technical support will issue 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:

Dearborn Group Technology
Product Service/Repairs
Attn: RMA# xxxxxxx
Dearborn Group Technology
33604 West Eight Mile Road
Farmington Hills, MI 48335

Telephone: (248) 888-2000
Fax: (248) 888-9977

13. APPENDIX A – SOFTWARE DEVELOPER/INTEGRATOR NOTES

This section is relevant only to software development engineers and systems integrators.

13.1. BUNDLING THE DPA WITH YOUR OEM INSTALLATION – SILENT INSTALL

13.1.1. Silent Installation Now Available

With the 5.50 release, DG has introduced a silent installation that software installation engineers can call that will install all DPA files that would normally be installed by running the installation interactively.

- ❑ The silent installation will not prompt the user or display a screen at any point.
- ❑ After the install, a reboot of the PC is necessary.

13.1.2. Silent Install Command Line

DPAInstall.exe /s /d_SILENT_[components to install]

The [components to install] can be any combination of the following:

A = Serial DPA III

B = DPA RF

C = DPA 4 and DPA 4 Plus USB

Examples:

Silently install serial DPA III drivers:

DPAInstall.exe /s /d_SILENT_=A

Silently install DPA 4 and DPA 4 Plus USB and serial DPA III drivers:

DPAInstall.exe /s /d_SILENT_=CA

Silently install serial DPA III, DPA 4 and DPA 4 Plus USB, and DPA RF drivers:

DPAInstall.exe /s /d_SILENT_=ACB

NOTE: Please test and ensure that the command line you provide to DPAInstall.exe is correct. Otherwise, only the baseline components will be installed, but the RP1210 API will not be functional.

13.2. NATIVE DRIVER DEVICE IDs MATCH RP1210 DEVICE IDs

Many OEM customers use our native drivers to get to protocols not covered under RP1210 (such as GM UART).

DG native driver device identification numbers that are found in the file

C:\Windows\DG_DPA32.INI

will now match our RP1210 device numbers that are found in the file

C:\Windows\DG121032.INI.

NOTE: **Device 601** (DPA 4 and DPA 4 Plus USB) which has been hard-coded by numerous applications will be considered an alias for the RP1210 device number 150. We request that in the future you parse the DG_DPA32.INI file to obtain the correct device ID.