



# VSI NxGen PLUS

## User Manual



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CYBERGUARD

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This document describes the DG Technologies VSI NxGen PLUS. Per the SAE J2534 standard the VSI NxGen PLUS is a compliant diagnostic and programming (Pass-Thru) device. SAE J2534 describes this device as a pc-based, software-driven solution with the purpose being to connect to the vehicle network and provide OEM, dealer-level ECU (Electronic Control Unit) programming, diagnostic functionality and access to security features, such as key programming, airbag module programming and others.

The VSI NxGen PLUS has a very robust set of features, capabilities and functions including cybersecurity enhancements by CyberTech from DG Technologies and is protected by CyberGuard inside. It is also useful for vehicle ECU development, general design, hardware-in-the-loop simulation and anywhere bi-directional communications with a vehicle network are required.

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The DG Diagnostics OBDII and other DG Technologies software, provided for use with the VSI NxGen PLUS, 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 or 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.

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# 1 Contents

<b>2 Introduction .....</b>	<b>5</b>
2.1    Standards, Protocols Supported, and Features .....	5
2.2    VSI NxGen PLUS Hardware Specifications .....	6
2.3    System Requirements .....	6
2.4    Power Connector .....	6
2.4.1    Powering the Hardware .....	7
2.4.2    Vehicle Network Connection .....	7
<b>3 Hardware Details .....</b>	<b>7</b>
3.1    External Connections .....	7
3.1.1    DB-25.....	7
3.1.2    Auxiliary Power .....	7
3.1.3    USB .....	7
3.1.4    12V DC.....	7
3.2    Status Indicators .....	8
<b>4 Software Installation .....</b>	<b>9</b>
4.1    Installing the VSI NxGen PLUS Software .....	9
4.2    VSI NxGen PLUS Configuration Utility.....	13
4.2.1    How to Create Logging Files for Tech Support .....	14
<b>5 Hardware Connection to the PC.....</b>	<b>16</b>
<b>6 Included Software Applications .....</b>	<b>16</b>
6.1    DG Update.....	16
6.1.1    DG Update – Drivers Out of Date .....	18
6.1.2    Successful Connect – Update Available .....	18
6.1.3    Advanced Settings - Setting Default Time Check for Updates.....	19
6.2    AVT Software .....	20
6.2.1    AVT Startup .....	20
6.2.2    DG Data Recorder .....	21
6.2.3    DG Diagnostics .....	23
6.3    VSI NxGen PLUS Firmware Update .....	24
6.3.1    Launch the VSI NxGen PLUS Firmware Update Programs Manually .....	24
<b>Appendix A. Technical Support and Return Merchandise .....</b>	<b>25</b>

**Appendix B. Warranty Information and Limitation Statements ..... 26**

**Appendix C. List of Acronyms Used in this Document..... 28**

## 2 Introduction

**How it works:** A PC is connected to the VSI NxGen PLUS using the USB Cable and then to the vehicle network through the OBD II J1962 16 pin connector. The VSI NxGen PLUS provides the translation interface between the PC and the vehicle electronic network.

The user software application on the PC sends and receives data to the vehicle using the DG Technologies VSI NxGen PLUS.

**Provides support for:** the latest SAE J2534-compliant vehicle standard interface. Includes Diagnostics over Internet Protocol (DoIP) and Diagnostics Protocol Data Unit (D-PDU) API support.

**Any application claiming J2534 compliance should work if the application and adapter both support the same protocol(s) and operating system(s).**

### 2.1 *Standards, Protocols Supported, and Features*

VSI NxGen PLUS provides more protocol and standards support than any other commercially available diagnostic adapter in the automotive industry.

- ❑ SAE J2534 API (v04.04 & v05.00)
- ❑ D-PDU API (ISO 22900-2)
- ❑ DoIP (ISO 134-2)
- ❑ 4 Independent CAN Channels
- ❑ 1 Channel FT CAN
- ❑ 2 Channel CAN FD
- ❑ IESCAN - CAN@500k/J2284/GMLAN
- ❑ Embedded Hardware Security Module
- ❑ 2-Year Warranty
- ❑ US-based Technical Support Team
- ❑ Advanced Cybersecurity with CyberGuard
- ❑ J1850 VPW (GM Class II)
- ❑ J1850 PWM
- ❑ ISO9141
- ❑ ISO9141-2
- ❑ ISO14230
- ❑ GMLAN (HSCAN, SWCAN)
- ❑ GMUART (SAE J2740)
- ❑ Built in the USA
- ❑ Patented Secure USB Connection
- ❑ DG Data Recorder
- ❑ DG Software Updates

## 2.2 VSI NxGen PLUS Hardware Specifications

Feature	Data
Dimensions	6.625 x 4.375 x 1.312 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	USB Cable (up to 15 feet)
Vehicle-Side Connector	DB25 Female
PC-Side Connector	Standard B-Type USB Jack
Auxiliary Power Jack	12 Volt DC
PC Device Drivers	SAE J2534 and SAE J2534-2 Passthru Drivers

## 2.3 System Requirements

Item	Requirement
PC	IBM-Compatible
Processor	1GHz or faster
RAM	4GB
USB Port	USB Version 1.1 or Higher
Operating System	Windows 10 & 11 (32-bit or 64-bit)

## 2.4 Power Connector

The VSI NxGen has 3 possible sources of power:

- Power jack (12V DC)
- DB-25 connector powered by vehicle. Vehicle cable 16 PIN J1962 OBDII cable attached to the vehicle
- USB connection to host PC

There are limited uses for the 12V DC power jack. It may be used for benchtop programming.

### **WARNING**

**The VSI NxGen PLUS SHOULD NOT be powered via the 12V DC power jack and the supplied OBD II cable simultaneously.**

**Connecting to multiple power sources may cause damage to the hardware.**

## 2.4.1 Powering the Hardware

Once a power source has been connected, the POWER LED should be green. Vehicle ignition key ON.

## 2.4.2 Vehicle Network Connection

The vehicle network connection can be made by using the supplied vehicle cable or by a custom cable to the hardware's DB-25 (female) connector.

# 3 Hardware Details

The following figure shows the external features of the VSI NxGen PLUS:



Figure 1 - VSI NxGen PLUS Front & Sides

## 3.1 *External Connections*

### 3.1.1 DB-25

This is the connector where the OBDII cable connects and powers the VSI NxGen PLUS from the vehicle connection.

### 3.1.2 Auxiliary Power

This is an external power port required for some older Hyundai/Kia vehicles and is provided per the SAE J2534 specification.

### 3.1.3 USB

USB cable connection. Allows connection of the VSI NxGen PLUS to the PC.

### 3.1.4 12V DC

This is the external 12-volt Power Connector.

### 3.2 Status Indicators

The VSI NxGen PLUS has four status LEDs that indicate activity of the following functions:

- **Four Vehicle Network Connections** – Indicates that various vehicle network connections are established / active.
- **Power** – Indicates that the VSI NxGen PLUS is connected to a power supply plug, through a vehicle connection or by the USB cable connection. This LED supplies information on whether the unit is operating properly.

LED Name	LED State	Description
PC Connection	Off	PC has not initialized communication with VSI NxGen PLUS via the USB link.
Vehicle Connection	On Solid Red	PC has initialized communication with VSI NxGen PLUS via the USB.
	On Alternating Red / Green	Indicates communications activity on the PC VSI NxGen PLUS connection via USB.
	Off	No vehicle network protocol channel has been initialized for use.
Power	On Solid Yellow	One or more vehicle network protocol channels have been initialized for use. No bus activity.
	On Alternating Yellow / Green	There is activity on one or more vehicle network protocol channels.
	Yellow	Unit not configured properly - Contact Customer Support.
	Off	No power supplied to the VSI NxGen PLUS unit.
Bootloader Missing	Power Light On Solid Green	Unit is powered either via the vehicle connector or the external power jack. Unit is operating properly.
	Power Light On Solid Yellow	Unit is powered either via the vehicle connector or the external power jack. Unit is <b>not</b> operating properly. Contact Technical Support.
	All LEDs Off	If unit is properly powered up to a known, good power supply, the unit must be serviced. Contact Customer Support.
Bootloader New SW Image Needed	All LEDs Blue	The Firmware Update is needed.
Bootloader Reflash in Progress	All LEDs Blink	The Firmware Update is running.
Bootloader Manual Reboot Needed	All LEDs Green	The user must power cycle the unit. This should not normally happen.

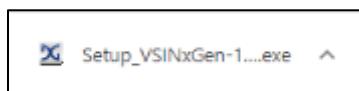
## 4 Software Installation

***Only the Windows 10 & 11 operating system is supported by the VSI NxGen PLUS.***

The installation for the VSI NxGen PLUS includes files that are specific to this tool (found at <https://www.dgtech.com/downloads/>). Most of the utility programs that DG distributes can be used by multiple DG tools and are distributed via DG Tech Utilities install, which is included with the VSI NxGen PLUS software installation.

### 4.1 *Installing the VSI NxGen PLUS Software*

1. Go to <https://www.dgtech.com/downloads/>, locate the VSI NxGen PLUS and select **Download**.



2. In the lower, corner of the window, locate the above file and double-click on it. Or, using the up-arrow, select **Open**.

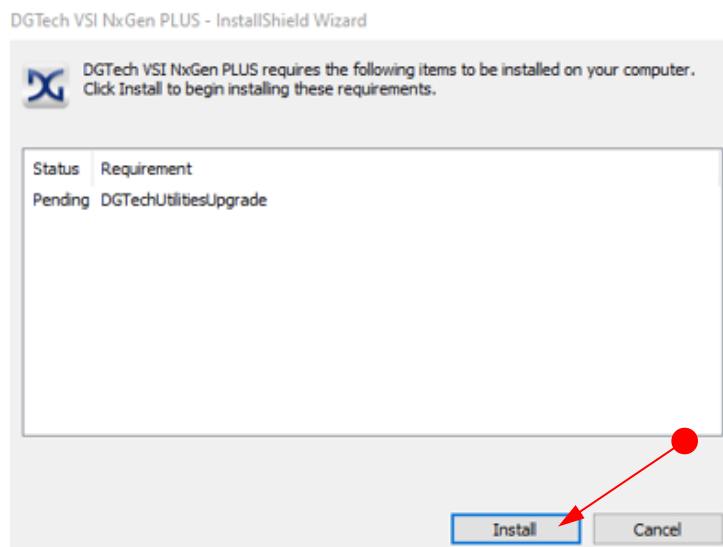


Figure 2 - Required Software Screen

3. Select **Install**. Note: The installation process is 2-fold. First, DG Utilities will install, then the VSI NxGen PLUS will install.

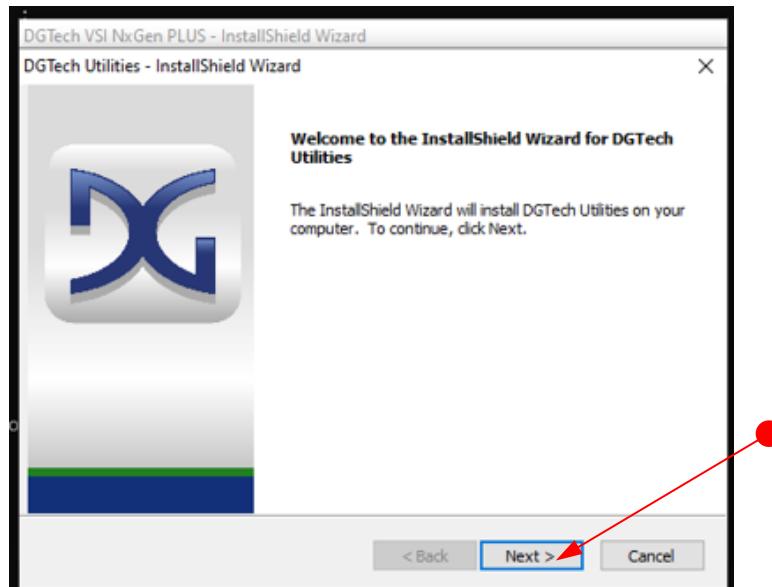


Figure 3 - Installation Welcome

4. After all the software requirements have been met, the InstallShield Wizard for DGTech VSI NxGen PLUS will now be displayed. Click **Next** to continue. Click **Cancel** to stop the installation.

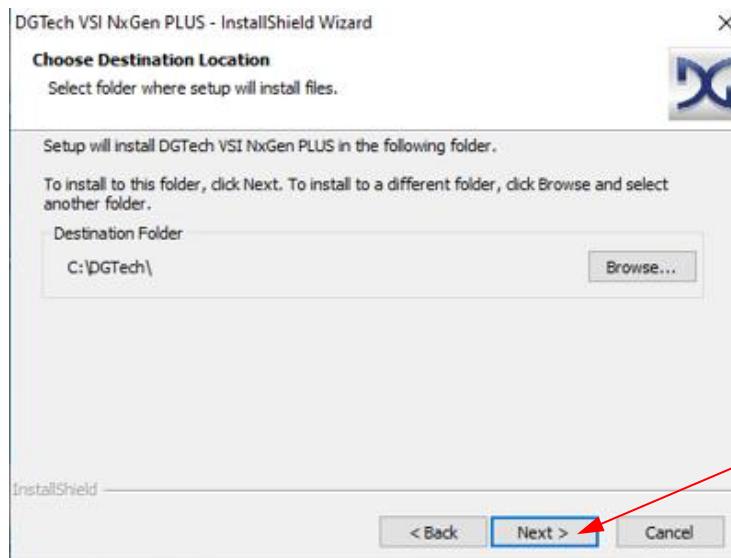


Figure 4 - Installation Select Destination Folder

5. The suggested destination location is C:\DGTech\. Click **Next** to continue.

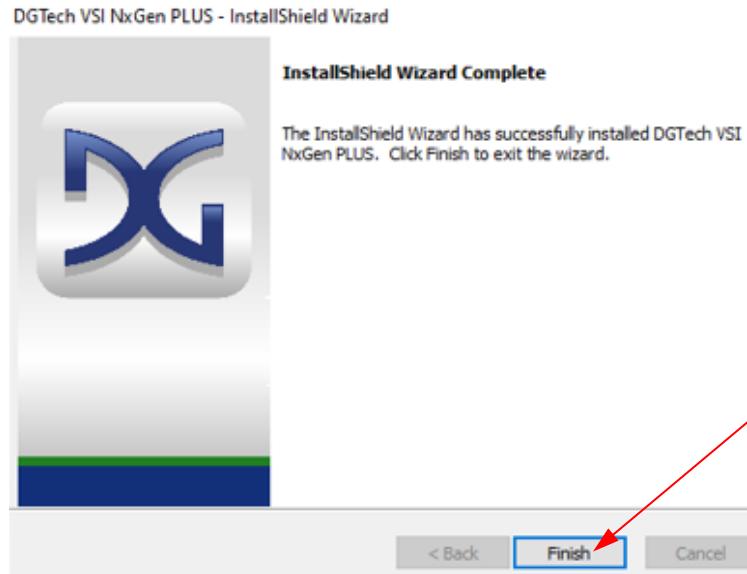


Figure 5 - DG Tech Utilities Select Finish

6. Select **Finish** when the installation of DG Tech Utilities is complete.

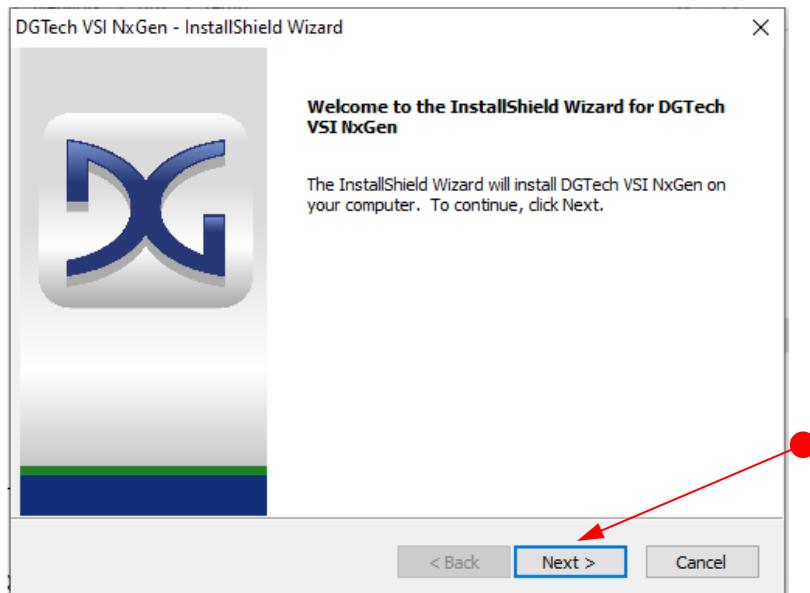


Figure 6 - DGTech VSI NxGen PLUS Installation Select Next >

7. Select **Next >** to install DG Tech VSI NxGen PLUS.

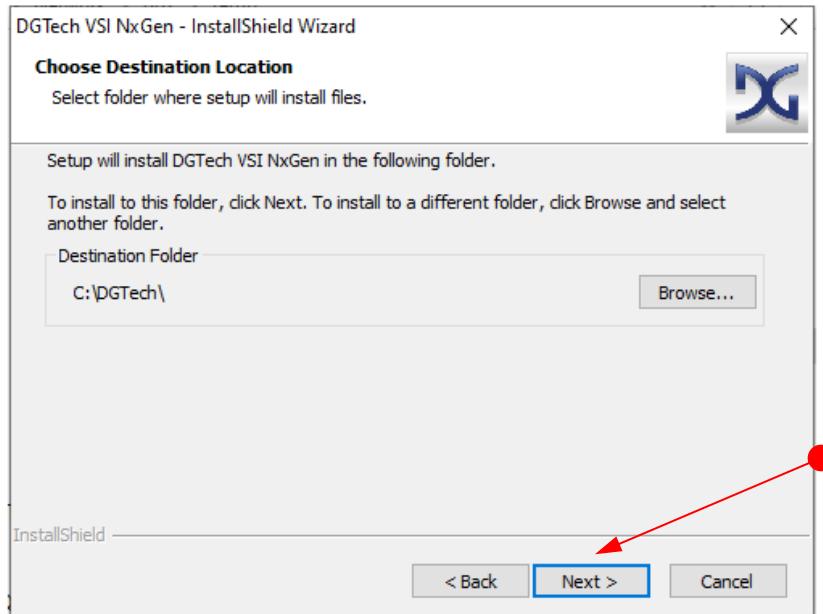


Figure 7 - DGTech VSI NxGen PLUS Installation Select Folder

8. Select **Next >** if you want to install VSI NxGen PLUS into the recommended destination folder. If you want to install the software into another folder, select **Browse** and choose the folder you want to use.

DG Technologies - User Registration Form

Your PC must have internet access and be connected to a DG Technologies tool with power for this process to complete. Should you not have both you can call 248-888-2000 to complete this process over the phone.

Submitting this form will extend your standard one year warranty by an additional year and give you access to future product updates.

Name	<input type="text"/>	Phone	<input type="text"/>
Company	<input type="text"/>	Email	<input type="text"/>
Address	<input type="text"/>	Device Name	<input type="text"/>
City	<input type="text"/>	Serial Number	<input type="text"/>
State/Province	<input type="text"/>	<input type="button" value="Register"/>	
Zip/Postal Code	<input type="text"/>	<input type="button" value="Cancel"/>	
Country	<input type="text"/>	DG TECHNOLOGIES 33604 West Eight Mile Road Farmington Hills, MI 48335 248.888.2000 <a href="http://www.dgttech.com">www.dgttech.com</a> <a href="mailto:sales@dgttech.com">sales@dgttech.com</a>	

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Figure 8 - DGTech User Registration Form

9. After all files are installed, you can register your tool with DG. When the Product Registration Form displayed above is submitted, you will receive the latest product update information.

To register your tool your PC must have internet access and be connected to a DG Technologies tool with power to complete the process. Enter the information in the form below and select the **Register** button.

- a. As an alternative to this you can call the number displayed on the screen to continue the process over the phone.

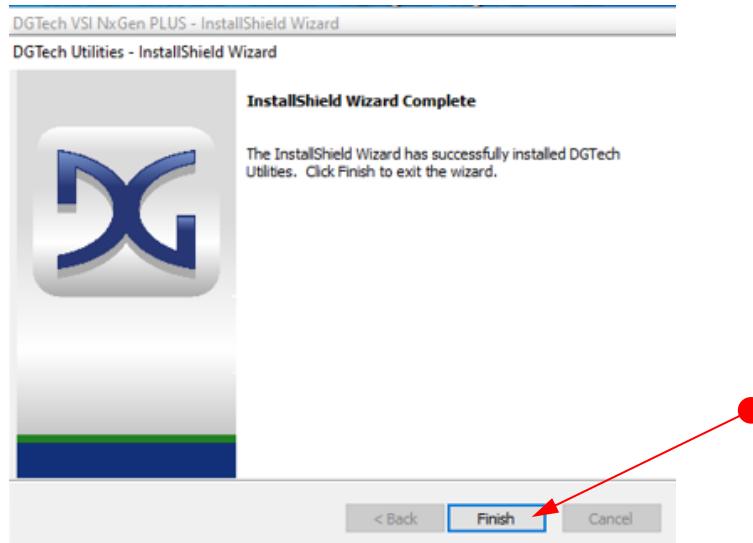


Figure 9 - DG Tech VSI NxGen PLUS Finish Selection

10. Select **Finish**, when the installation of VSI NxGen PLUS is successful.

## 4.2 *VSI NxGen PLUS Configuration Utility*

The VSI NxGen PLUS tool comes with support for many protocols (see [Standards and Protocols Supported](#)). The VSI NxGen PLUS Configuration Utility will tell you what protocols, API versions, and Product Version are supported. You can also use the VSI NxGen PLUS Configuration Utility to get the current firmware version. Utility can be found in:

Start → DGTech VSI NxGen PLUS → VSI NxGen PLUS Config Utility

#### 4.2.1 How to Create Logging Files for Tech Support

The VSI NxGen PLUS Configurations Utility has a feature to create a Log file (CSV) and save it in the PC.

##### What are Logs?

Logs are records of communication data that help track and diagnose issues when using the VSI NxGen PLUS tool. Capturing logs ensures that DG Technical Support has the necessary diagnostic data to analyze and resolve issues efficiently.

##### Why Capture Logs?

Logs are recommended when there is a communication problem while using the tool. They record traces to help engineers narrow down the root cause of problems. **It is essential to stop logging after creating the log file by deactivating the [Turn Logging On] checkbox to prevent any unnecessary data or logs from being stored on the PC.** See Figure 11.

##### How to Capture a Log File

1. Access the VSI NxGen PLUS Configure Utility.

Start ➔ DGTech VSI NxGen PLUS ➔ VSI NxGen PLUS Config Utility, and click the [Configuration] selection

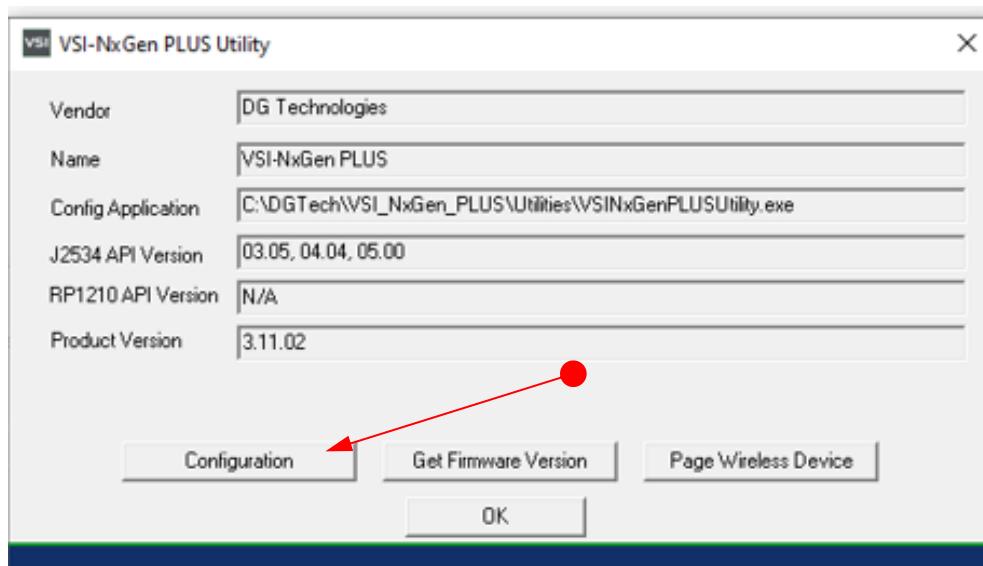


Figure 10 - VSI NxGen PLUS Configuration Utility

2. Activate the checkbox **[Turn Logging ON]**, then click on **[Configure Log]**.

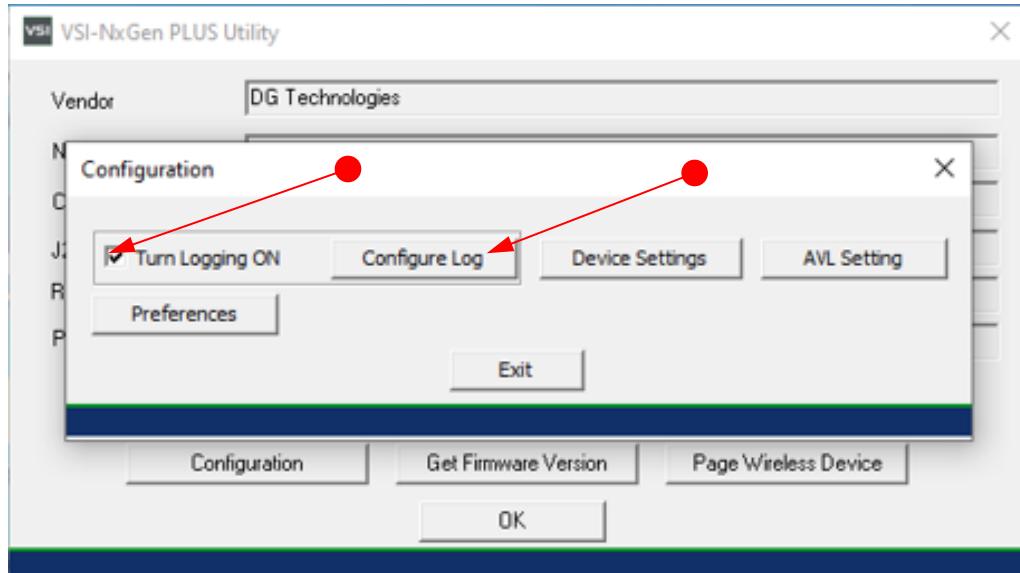


Figure 11 - VSI NxGen PLUS Configuration Utility – Select Logging Configuration

3. The Logging Configuration page pops up. Select **[Logging Type]** and **[Logging Method]** and click **[OK]**.

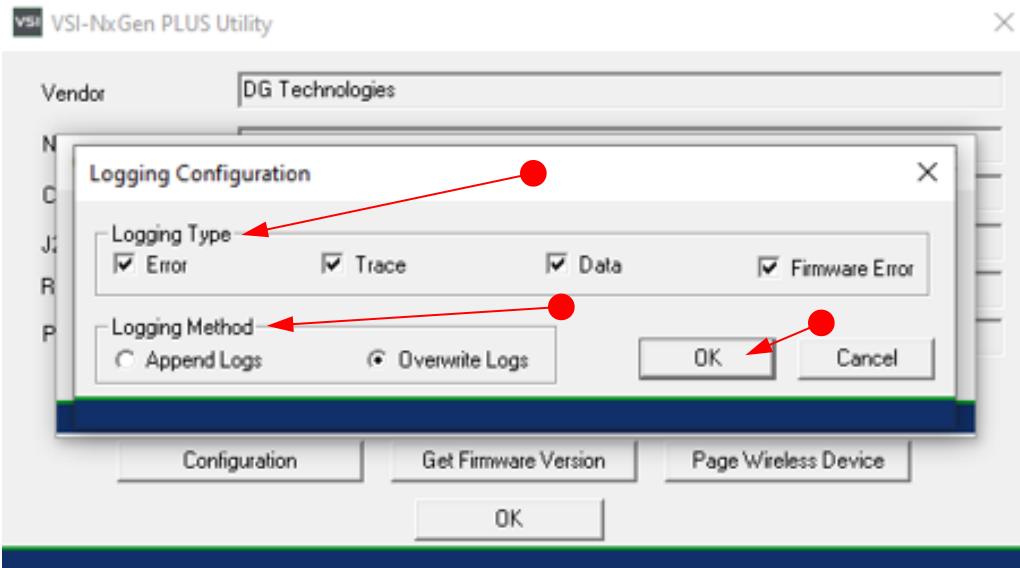


Figure 12 - VSI NxGen PLUS Select Logging Type and Method Configuration

4. The Log files will be saved in the path below:

My PC → Local Disk (C:) → DGTech → VSI NxGen PLUS → Utilities → Logs

## NOTE:

- **[Append]:** If you need to add new data to the end of an existing file, the Log file will be significant and challenging to send to Technical Support.
- **[Overwrite]:** Replacing the entire content of an existing file with new data.
  - The best practice is to use **[Overwrite]**, but rename the last log file before overwriting it. This approach ensures that you keep a backup of previous logs while maintaining a clean and updated log file.
- **[Logging Type] (Error, Trace, Data, Firmware Error):** Keep all active as shown in the Figure 12 unless you need to reduce the log file size.
- **Blue Tooth Configuration – is not available for the VSI NxGen PLUS tool**

## 5 Hardware Connection to the PC



The above image depicts the typical connection to the vehicle.

**IMPORTANT:** the following sequence of connections must be followed, otherwise damage to vehicle or VSI NxGen PLUS may occur.

**Step 1:** Connect the VSI NxGen PLUS to the OBD II cable). Note: Do not power unit from multiple sources.

**Step 2:** Connect the VSI NxGen PLUS's USB cable to the PC that the software was installed on and note that the Power LED is a solid **Green** and the PC Connection LED is a solid **Red**.

**Step 3:** Connect the 16 PIN J1962 OBDII Cable to the vehicle. Note: *after this connection and Key is ON, the Vehicle Connection LED is a solid Red.*

## 6 Included Software Applications

### 6.1 **DG Update**

The purpose of this application is to ensure the most current version of the VSI NxGen PLUS software drivers are installed. For the best user experience, it is essential that the current version is used at all times. Also, refer to the Firmware Updater section to ensure the firmware is also up-to-date



### DO NOT DISCONNECT POWER FROM THE VSI NxGen PLUS DURING AN UPDATE!!!

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 used manually from the Windows Start Menu:

Start → DGTech Utilities → DG Update

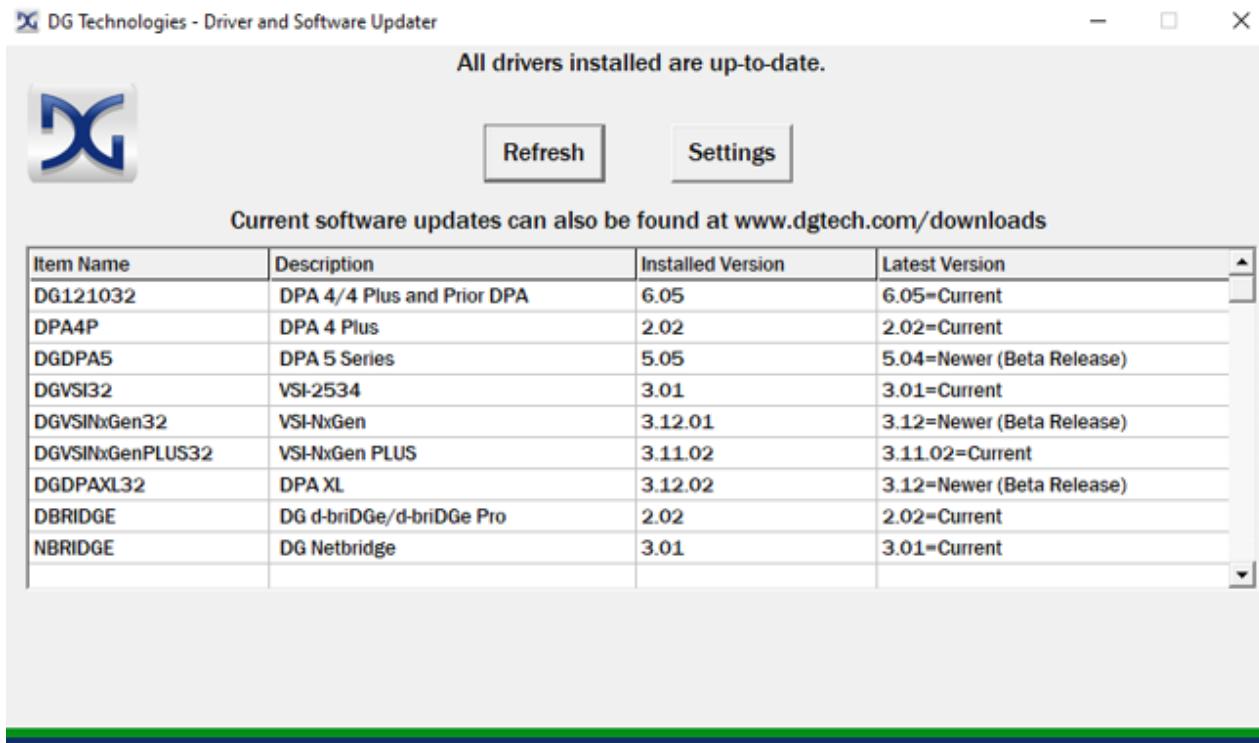


Figure 13 – All Drivers Installed are up-to-date

The above screen shows All drivers installed are up-to-date.

NOTE: The 30-day default setting can be changed by selecting the **Settings** button.

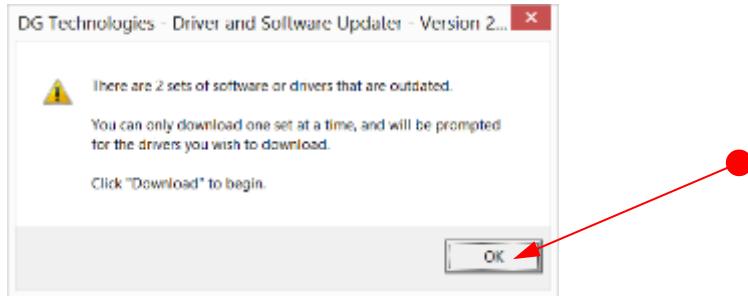


Figure 14 – Drivers are Out of Date

If Drivers are out of date, this message box will be shown. Select **OK**.

### 6.1.1 DG Update – Drivers Out of Date

In this example, the VSI-2534 drivers are out of date (Red). Only if updates are available will the Download button and progress bar appear on the screen. Select **Download**.

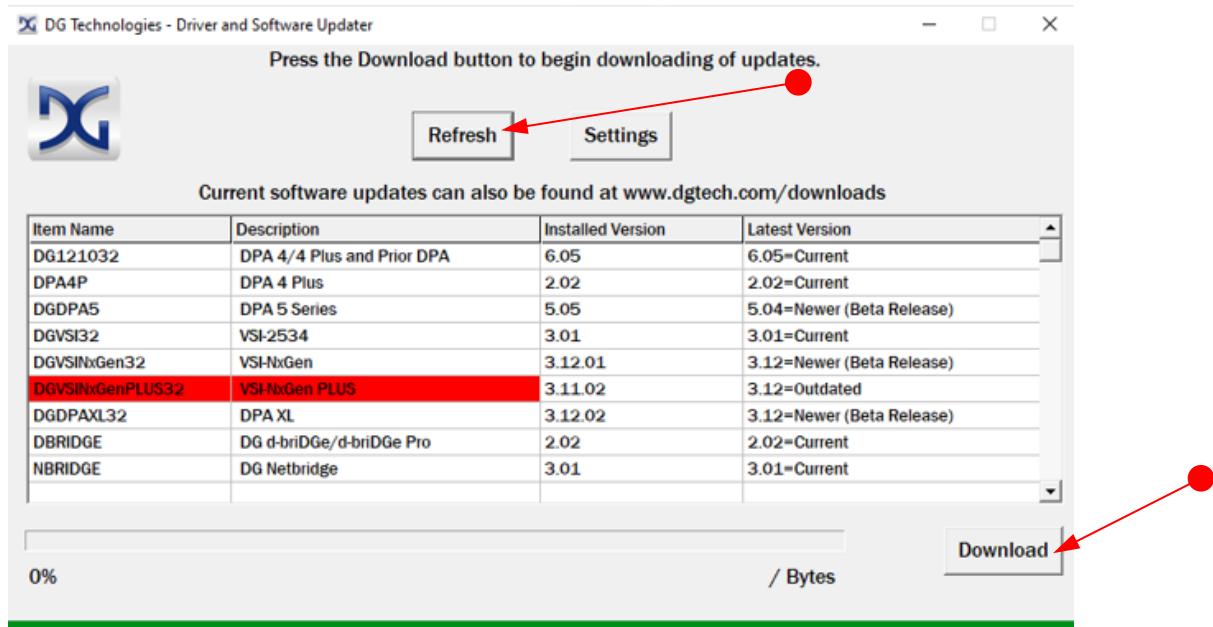


Figure 15 - DG Update Main Update Screen

Connect your PC to the Internet and click the **Refresh** button. If the check for updates was successful, the second column of will display information showing the most current versions. Should an install be out of date the color of the row will be red.

### 6.1.2 Successful Connect – Update Available

In this case above, two of the products are out of date (Red), the user will be automatically presented with a prompt notifying them that there are updates available. Only if updates are available will 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.

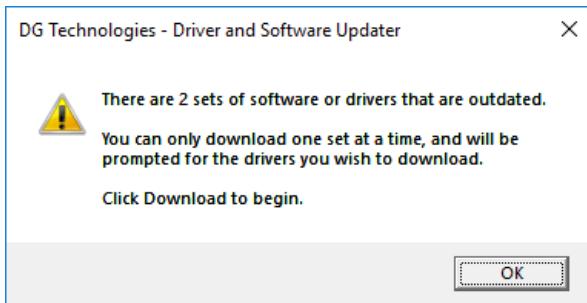


Figure 16 - DG Update Out of Date Message

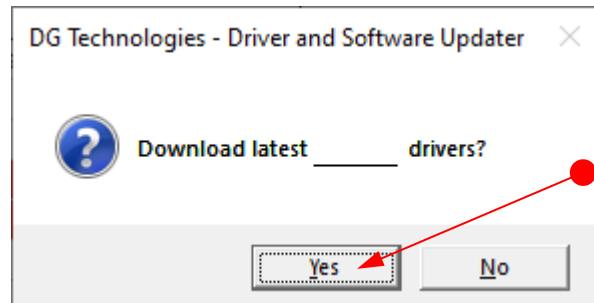


Figure 17 - DG Update Prompt for Download

*Note: The DG Update application can only download and install one item at a time. The user will be prompted for which ever one they want to update first.*

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.

**Do not disconnect your VSI NxGen PLUS or shut down computer until installation is complete.**

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. Follow the installation instructions in the appropriate User Manual.

### 6.1.3 Advanced Settings - Setting Default Time 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 Settings button. The advanced settings dialog box will be displayed. To turn off the checking prompt, set the value to 0 (zero). Otherwise, you can set the number of days between checks.

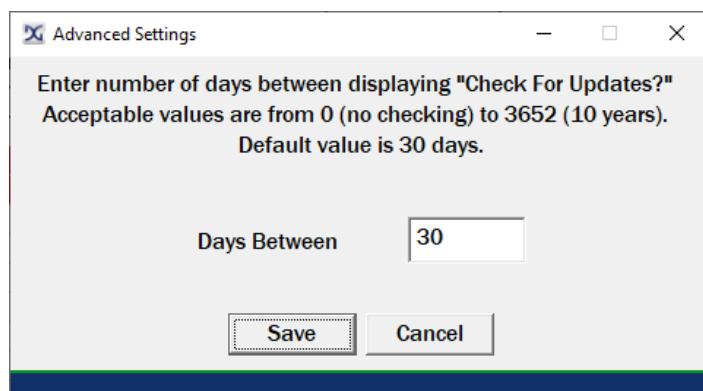


Figure 18 - DG Update Advanced Settings

## 6.2 *AVT Software*

If your OEM application is having trouble communicating with the VSI NxGen PLUS, you can use the Adapter Validation Tool (AVT) to help troubleshoot this problem. AVT allows you to determine:

- If your drivers are installed correctly
- If a connection to your tool can be made
- If a connection to your vehicle for PC communications is working
- Please check that the OEM application is configured to use the VSI NxGen PLUS, and the correct protocol is selected.

### 6.2.1 AVT Startup

Click AVT on the desktop or from the start menu. If you have RP1210 and J2534 drivers installed on your computer you will see the AVT Launcher screen. Since the VSI NxGen PLUS does not support RP1210 you should always choose the Car / OBDII image if you are presented with this screen.

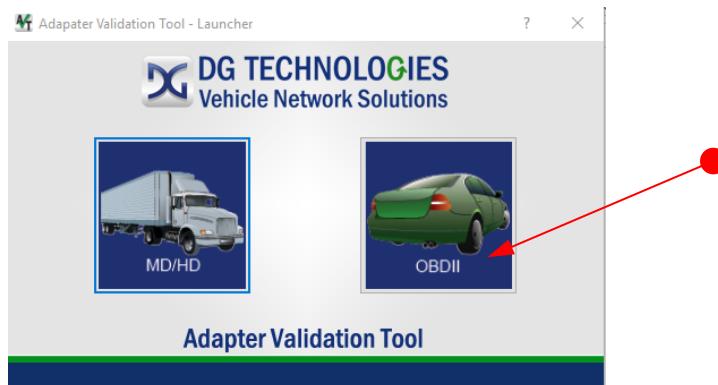


Figure 19 - AVT Startup

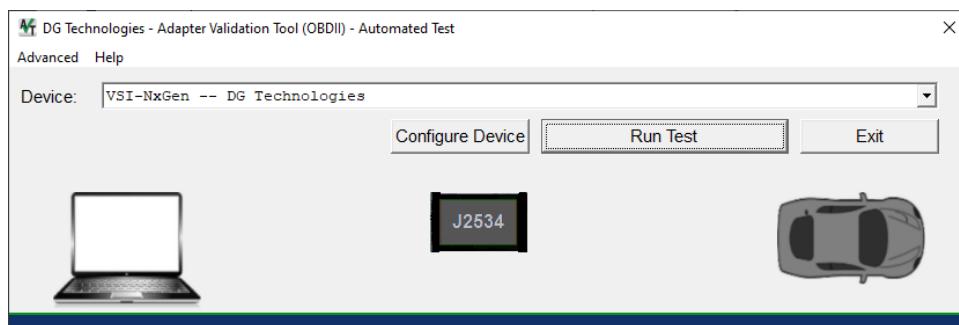


Figure 20 - AVT OBDII Automated Test

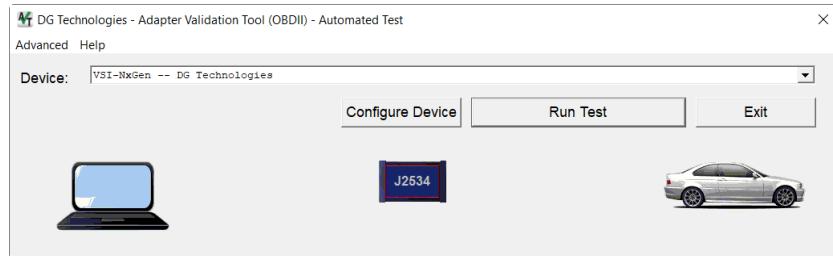


Figure 21 - AVT OBDII Automated Test Run Test

- Turn vehicle ignition to the key-on, engine-off (KOEO) position. Select **Run Test**.
- Note: In the **Device:** dropdown, the VSI NxGen PLUS is selected. If using a different device, make the applicable selection.

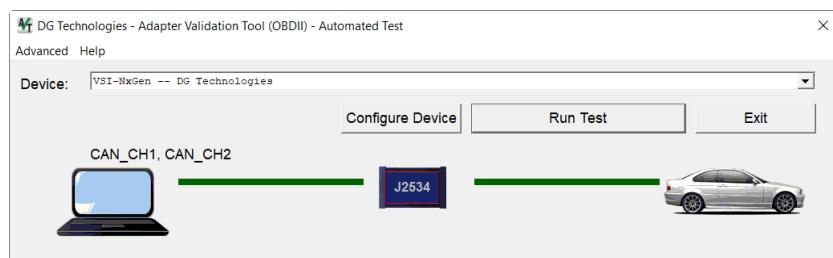


Figure 22 - AVT OBDII Automated Test Successful Connection

- Solid **Green** lines will appear in the successful connection locations. If a **Red** line appears between either side, check those connections and Run Test again.
- Note: By selecting **Help** from the menu, a more detailed User Manual for this application is available.

## 6.2.2 DG Data Recorder

The purpose of this Data Recorder allows the users to record data from the vehicle networks via DG Technologies' vehicle adapters. It is capable of recording 100% data on the connected channels & protocols. It can be used to record data at the same time as an adapter is in use by another application or it can be used in standalone mode to record data when no other application is running.

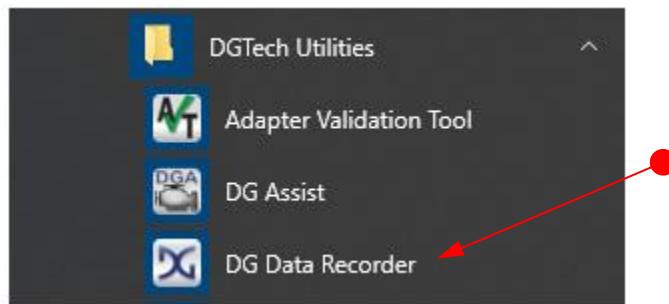


Figure 23 – Data Recorder Selection Under DGTech Utilities

The Data Recorder selection can be found under DGTech Utilities from the desktop or from the start menu.

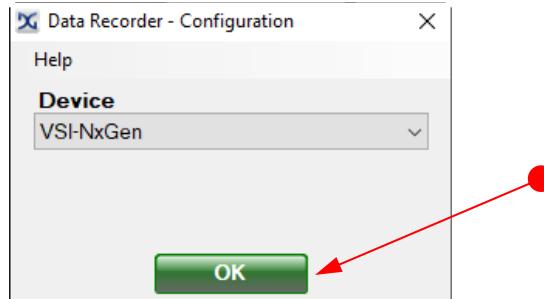


Figure 24 – DG Data Recorder Configuration

- Go to: → DGTech Utilities → DG Data Recorder.
- Device being used, VSI NxGen PLUS, should be shown. If not, use drop-down arrow and select. Select **OK**.

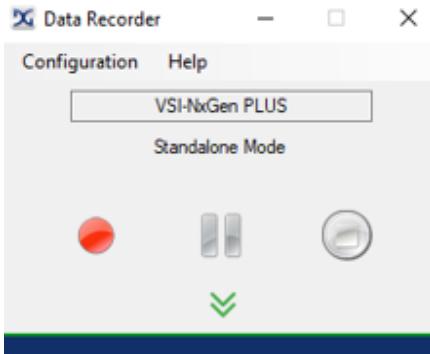


Figure 25 – DG Data Recorder Drop-Down Arrow

- Indicator Table

Indicator	Definition
	Start Recording
	Pause Recording
	Stop Recording

Figure 26 – DG Data Recorder Indicator Table

- Make appropriate selections to Start, Pause and Stop recordings.
- To view, print or email log file, the log file is found here: C:\DGTech\DGTech Utilities\Logs. File will read: DataRecorder-VSI-NxGenPLUS.csv. Check the file date/time to ensure it coincides with the log date/time.
- Note: By selecting **Help** from the menu, a more detailed User Manual for this application is available.

### 6.2.3 DG Diagnostics

This application provides all available data from the vehicle as it relates to OBDII and other applicable SAE standards.



Figure 27 – DG Diagnostics

- The icon above, on the left, was added to the PC desktop during software installation. Select the icon OR go to: → DGTech Utilities → DG Diagnostics. Select **OBDII** for automotive. Note: The larger window on the right will not appear if only the VSI NxGen PLUS software is installed. Go to the next step.

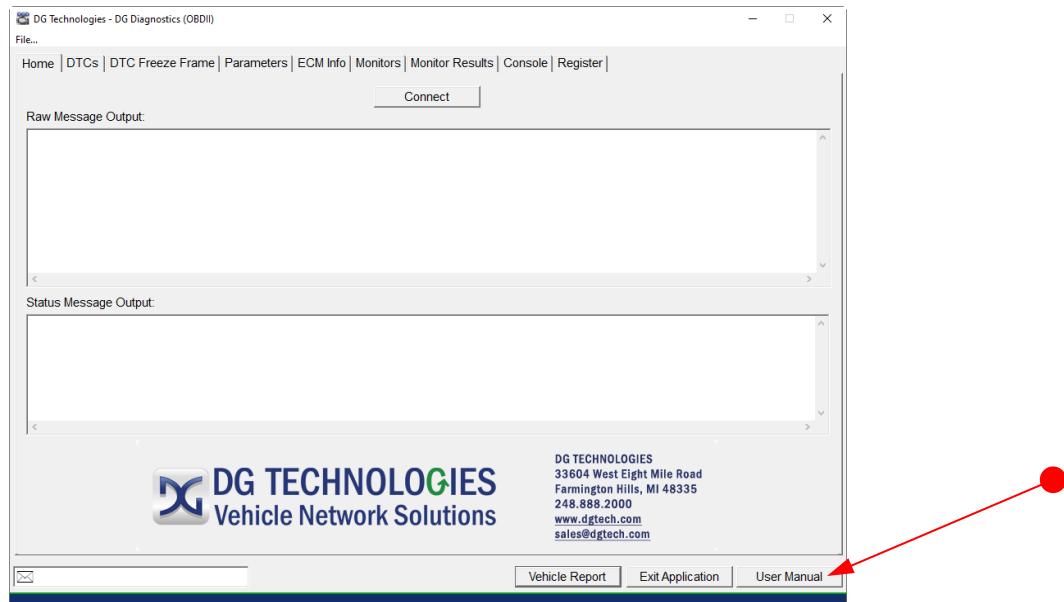


Figure 28 – Connection Screen

- Ensure proper connections of VSI NxGen PLUS with PC and vehicle. Key is ON, Engine is OFF.
- Using the tabs shown, choose and review available information.
- Note: A more detailed User Manual for this application can be found by selecting the **User Manual** button located on the lower, right-hand corner of the application.

## 6.3 VSI NxGen PLUS Firmware Update

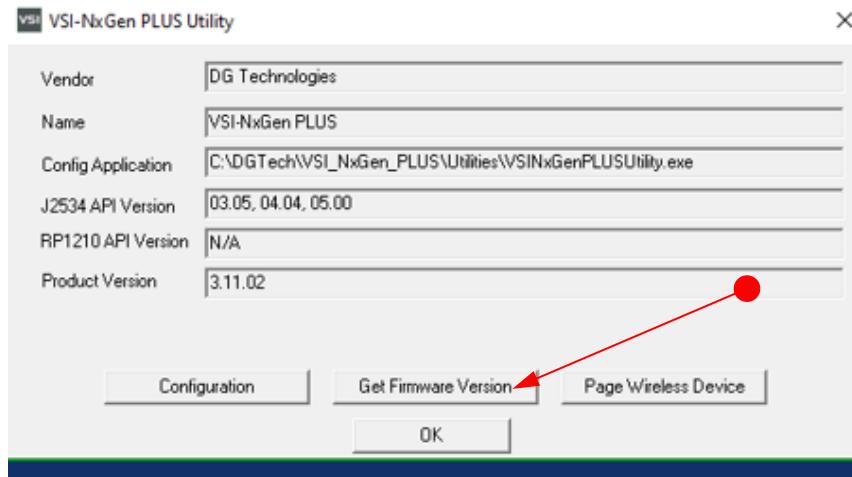


Figure 29 - VSI NxGen Get Firmware Version

### 6.3.1 Launch the VSI NxGen PLUS Firmware Update Programs Manually

1. Stop all applications that are using the VSI NxGen PLUS (if any)
2. Start the VSI NxGen PLUS Firmware Update program
3. Start → DGTech VSI NxGen PLUS → Get VSI NxGen PLUS Firmware Version
4. Select “Update Device”
5. Firmware files are in separate sub-directories under the Utilities directory where the VSI NxGen drivers are installed, typically:  
C:\ DGTech\VSI NxGen PLUS\Reflash
6. Click on the **Update Device** button, if you want to update the firmware in your device.

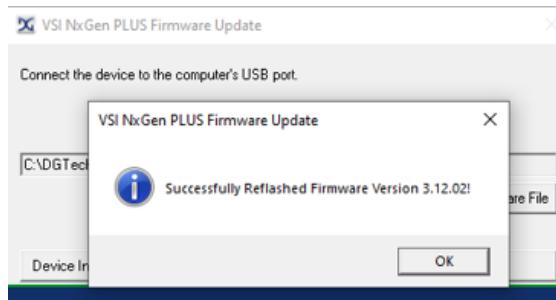


Figure 30 - Firmware Update Success

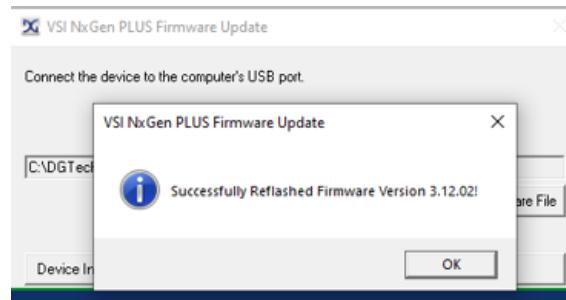


Figure 31 - Firmware Update Error

#### NOTE:

The [Page Wireless Device] selection is NOT Available in VSI NxGen PLUS.

**DO NOT DISCONNECT POWER FROM THE VSI NxGen PLUS DURING A FIRMWARE UPDATE!!!**  
**ALLOW THE UPDATE TO FINISH!**

## Appendix A. Technical Support and Return Merchandise

### Technical Support

After reading and following the troubleshooting and validation procedures in this document please check the FAQ page at [www.dgtech.com/faqs/](http://www.dgtech.com/faqs/). If you are still not 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 and the serial number.



DG Technologies Technical Support

Phone: 1-248-888-2000

Fax: 1-248-888-9977

E-mail: [techsupp@dgtech.com](mailto:techsupp@dgtech.com)

Website: [www.dgtech.com/tech-support](http://www.dgtech.com/tech-support)

**Users not residing in the United States should contact your local DG representative or e-mail [techsupp@dgtech.com](mailto:techsupp@dgtech.com)**

### Return Merchandise Authorization (RMA)

If technical support has deemed that there may be a physical problem with your VSI NxGen PLUS, 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 Repair Services  
Attn: RMA# xxxxxxx  
DG Technologies  
33604 West 8 Mile Road  
Farmington Hills, MI 48335

## **Appendix B. Warranty Information and Limitation Statements**

### ***Warranty Information***

DG Technologies, Inc. the VSI NxGen 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.

DG Technologies 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 DG Technologies, 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 1-248-888-2000 and must be included with the product being returned (for more details, see section *Return Merchandise Authorization (RMA)*). A VSI NxGen PLUS is warranted for 90 days after a warranty repair, or to end of the original factory warranty period, whichever is longer.

### ***Limitation Statements***

#### **General Limitation and Risk Assignment**

To the maximum extent permitted by applicable law, DG Technologies 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.

#### **Exclusion of Incidental, Consequential, and Certain Other Damages**

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

### **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 DG Technologies 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.

### **Right to Revise or Update Without Notice**

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

### **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.

### **Contact Information**

Please direct all inquiries to:

DG Technologies  
33604 West 8 Mile Road  
Farmington Hills, MI 48335  
Phone 1-248-888-2000  
Fax 1-248-888-9977

Changes not expressly approved by DG Technologies, Inc. to the VSI NxGen PLUS could void the user's authority to operate the VSI NxGen PLUS.

## Appendix C. List of Acronyms Used in this Document

Acronym	Description
API	Application Programming Interface
CAN	Controller Area Network
CAN FD	Controller Area Network Flexible Data
DG	DG Technologies
DolP	Diagnostics over IP
DPDU API	Diagnostic Protocol Data Application Programming Interface
DW CAN	Dual Wire Controller Area Network
Class2	GM's implementation of SAE J1850 Protocol
ECU	Electronic Control Unit.
FTCAN	Fault Tolerant Controller Area Network
FW	Firmware
ID	Identification
ISO	International Standards Organization
ISO14230	Keyword protocol running over UART
ISO9141	Serial Communication Protocol implemented in Ford & CARB
J2534	SAE Specification for Legislated Reprogramming Support
LED	Light Emitting Diode
KWP	Keyword Protocol
KWP2000	Keyword Protocol 2000 (ISO 14230)
OBD	On Board Diagnostics
OEM	Original Equipment Manufacturer
PC	Personal Computer
PWM	Pulse Width Modulation, used in Ford's implementation of J1850
RP1210	TMC recommended practice Windows Application Programming Interface (API)
RAM	Random Access Memory
SAE	Society of Automotive Engineers
SCI	DCX's proprietary UART based protocol
SCP	Standard Corporate Protocol, Ford's implementation of J1850 (J1850 PWM)
STG	Short to Ground
SWCAN	Single Wire Controller Area Network
TMC	Technology and Maintenance Council
UAC	User Account Control
USB	Universal Serial Bus
VBAT	Vehicle Battery
VDA	Vehicle Datalink Adapter
VNI	Vehicle Network Interface
VPW	Variable Pulse Width Modulation used in GM implementation of J1850