DG TECHNOLOGIES
Vehicle Network Solutions
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DG Data Recorder

User Manual for Version 1.1

This document describes DG Technologies Data Recorder Utility

I M P O R T A N T

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.
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1 Overview

Data Recorder allows the users to record data from vehicle networks with DG Technologies' vehicle adapters. It is capable of recording data on the connected channels and protocols. The adapter and DG Data Recorder application can be used in two modes. Dependency mode is used to record the interaction of a secondary application and its communication with the vehicle and tool. Standalone mode is used to monitor the raw CAN or J1708 traffic when no other applications are communicating with the tool. These modes are described in more detail later in the manual.

2 Quick Start

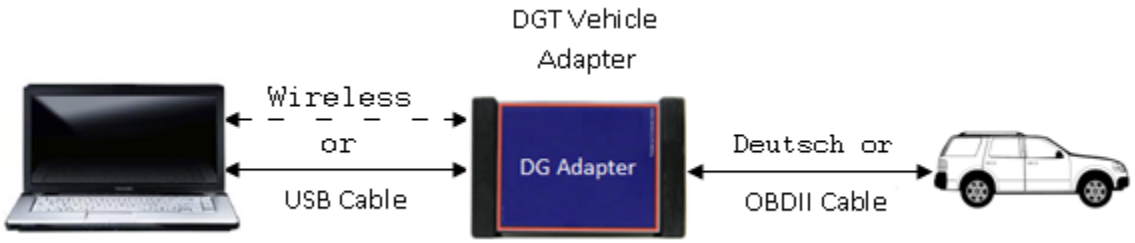

Figure 1 - PC, Tool, Vehicle Connection

Step 1. Connect vehicle side connector of diagnostic adapter to the vehicle network via OBDII or Deutsch cable

Step 2. If using USB connection to communicate with tool, connect the USB cable from PC to tool.

Step 3. Launch the Data Recorder

Start Menu -> All Programs –> DGTech Utilities -> DG Data Recorder

Step 4. Select the diagnostic tool you will be using on the device configuration screen and then click ***OK***

Step 5. The minimized recording screen will appear

Step 6. Click on  to start recording data. Once data recording is enabled this button will start blinking.

Step 7. To pause  or stop  recording select the appropriate button. These buttons are greyed out if you are not currently recording.

Step 8. Data will be recorded in the folder *C:\DGTech\DGTech Utilities\Logs* by default

3 Features and Functions

Data Recorder can be operated in two different modes – Standalone mode or Dependency mode. The mode must be pre-configured prior to recording the data.

3.1.1 Standalone Mode

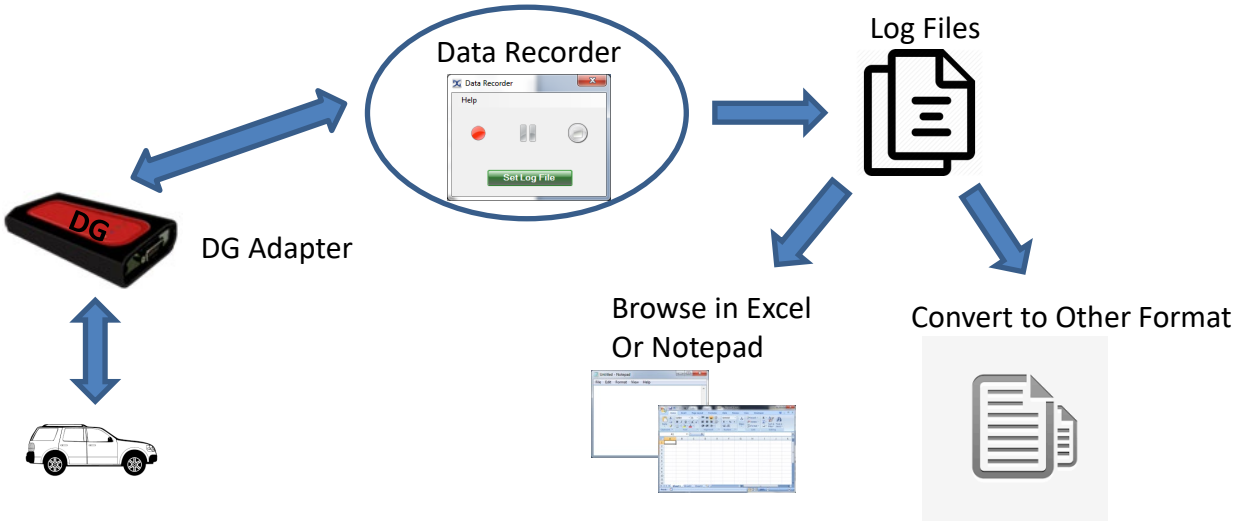

Figure 2 - Standalone Mode

In Standalone mode, data can be recorded only when no other application is using the vehicle adapter. In this mode, the users have an option to select CAN and or J1708 for recording.

3.1.2 Dependency Mode

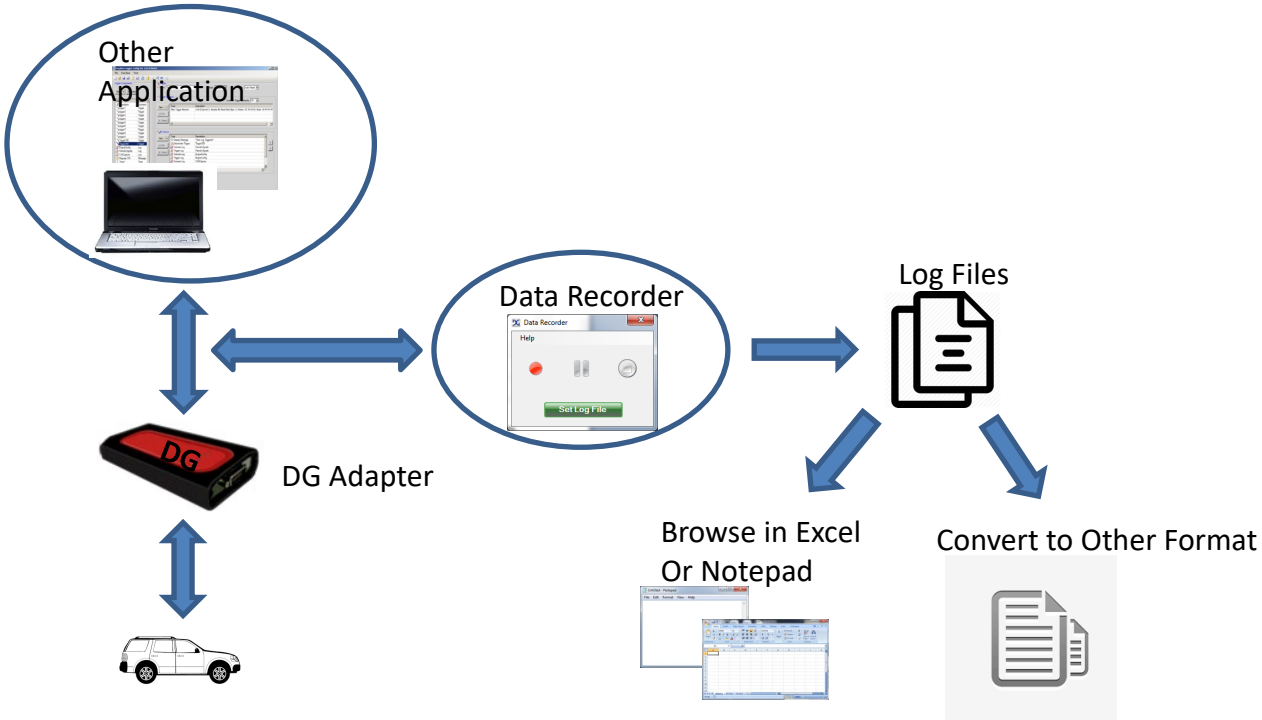

Figure 3 - Dependency Mode

In Dependency mode, data can also be recorded at the same time as an adapter is in use by other application. In this mode, an application establishes connection to vehicle network protocols and Data Recorder is simply used for recording data. DG Data Recorder logs data only on protocols and channels connected-to by other applications. Users have no control over what protocols are recorded in this mode.

Note: The DPA 5 family will only run in dependency mode for J2534 applications.

3.2 Selecting the Tool

Upon launching Data Recorder, a Device Configuration screen is displayed.

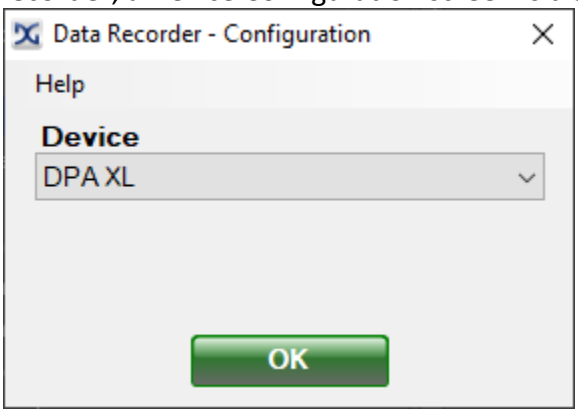

Figure 4 - Device Selection Screen

3.3 Recording Controls

This screen lets the users configure and control the recording operations.

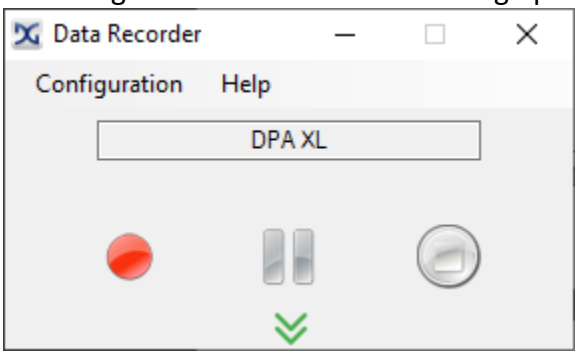

Figure 5 - Minimized Recording Screen

Button	Description of Functionality
	Enables recording. If flashing it indicates that recording is in progress.
	Pauses recording. If gray, recording is not in progress.
	Stops recording. If gray, recording is not in progress.
	Expands window button. If gray, recording is in progress so other operations are disabled.

3.4 Configuration and File Conversion

Select the Expand Window button if screen is minimized. This allows the users to view the expanded screen.

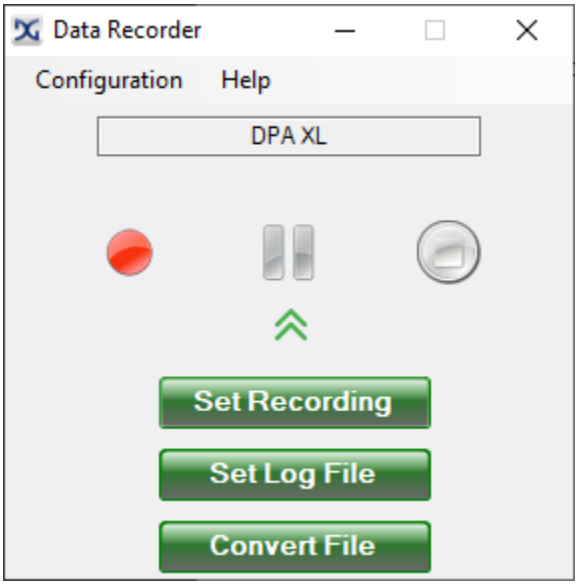

Figure 6 - Expanded Recording Screen

3.4.1 Set Recording

Set Recording button allows the users to set recording parameters as described below:

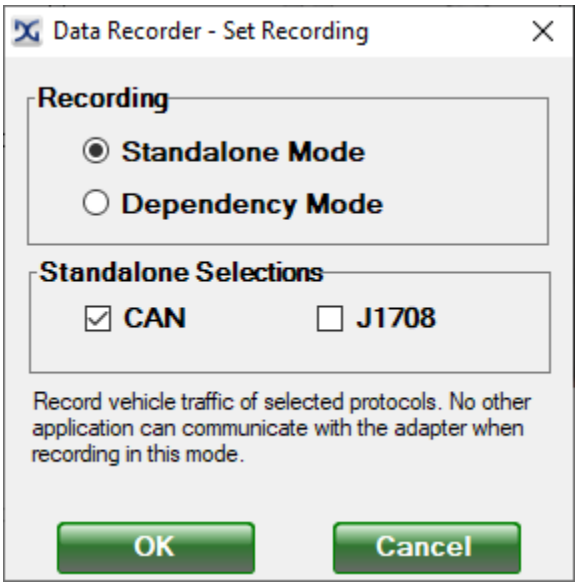

Figure 7 - Set Recording Screen

- **Recording**: The *Recording* group box allows the users to set the mode of operation - Standalone Mode or Dependency Mode.

Standalone Mode: Standalone mode allows the users to record data, only when no other application is using the vehicle adapter. In this mode, users have an option to select protocols for recording data.

Dependency Mode: Dependency Mode allows the users to also record data at the same time as an adapter is in use by other application. In this mode, users cannot select the protocols as the connection to protocols is driven by other application that is using the adapter.

- **Protocol**: The *Protocol* group box allows users to select protocols for recording. Protocols can only be selected for Standalone Mode.
- **Save Settings**: Select ***OK*** button if you want to save the current settings. Settings are immediately effective for the current session and saved in a non-volatile memory for use in subsequent sessions. ***Cancel*** button allows the users to discard the modified settings.

3.4.2 Set Log File

Set Log File button allow the users to set log file parameters.

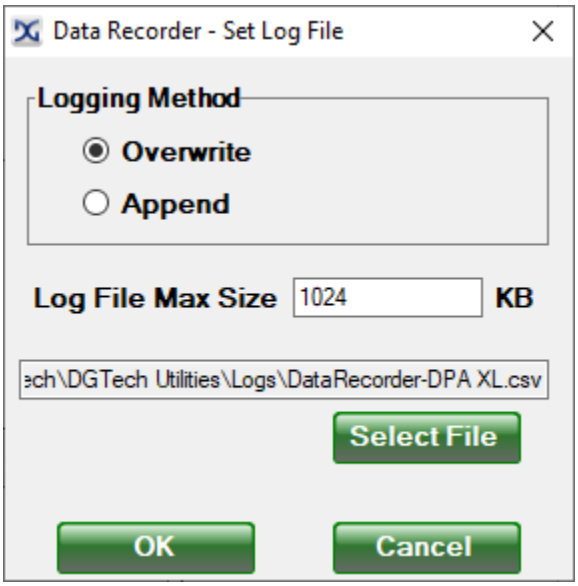

Figure 8 - Set Log File Screen

- **Logging Method**
  There are two options for logging data – Overwrite or Append. If ***Overwrite*** is selected, existing data in log file shall be overwritten at the time of recording. If ***Append*** is selected, recording data shall be appended to existing data at the time of recording.

- **Log File Max Size**
  This is used to configure maximum size (in kilobytes) for the Log File. Log file is terminated when the file size reaches its maximum size configured.
- **Filename & Pathname**
  The edit box shows filename and pathname of the recording file. This can be modified by using ***Select File*** button.
- **Select File**
  Allows users to select a new file name/path for recording.
- **Save Settings**
  OK button is to save current settings. Settings are immediately effective for the current session and saved in non-volatile memory for use in subsequent sessions. ***Cancel*** button allows the users to discard the modified settings.

3.4.3 Convert File-Format

Convert File button opens a window to allow users to convert the log file-format (e.g. Vector format).

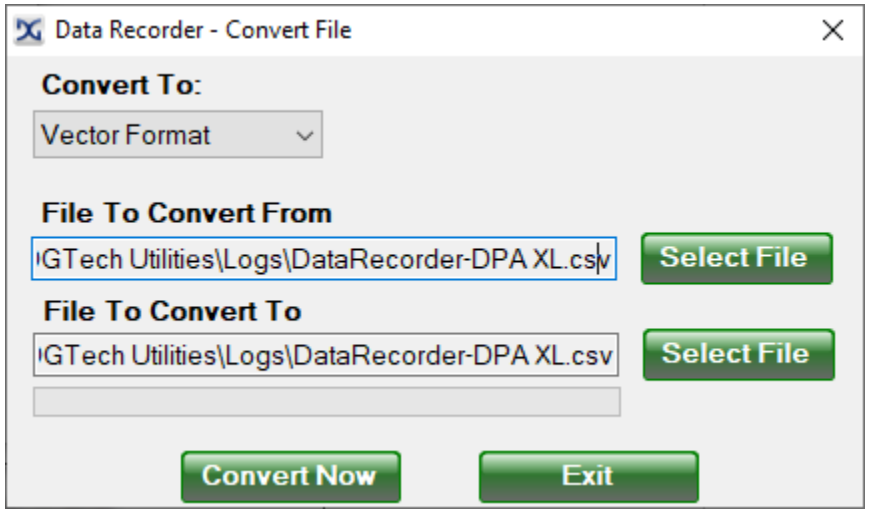

Figure 9 - Convert File Screen

Steps to convert file-format:

Step 1. Select the file-format by clicking on the ***Convert To*** drop-down box.

Step 2. The path of the file in ***File To Convert From*** edit box specifies the file you want to convert. Use the corresponding ***Select File*** button to select the file to be converted.

Step 3. The file in ***File To Convert To*** edit box specifies the file name to be saved as after the conversion is completed. Use the corresponding ***Select File*** button to change the converted file name.

Step 4. Click on ***Convert Now*** button to start converting. The progress bar shows the status of conversion while converting.

Step 5. Click on ***Exit*** button to close the window.

4 Log File Example

Log file contains recorded data in a specific format. It can be browsed in Microsoft Excel or Notepad. A sample of the actual log file is as shown below:

Opening Log File. Current time is 12:56:55 PM - 11/25/2015
C:\Windows\system32\dbriDGe.dll Version 1.05
C:\Windows\system32\dbriDGe.dll File Size 242296 bytes
C:\Windows\system32\dbriDGe.dll Time modified : Mon Nov 23 19:03:14 2015

Channel/Pins	Protocol	Rx/Tx	Timestamp (us)	ID	Data
Channel 1	DWCAN	Rx	587129000	02 C2	D0 56 56 00 00 0E 55
Channel 1	DWCAN	Rx	587134000	02 C4	00 00 04 18 44 80 11 BF
Channel 1	DWCAN	Rx	587138000	02 C6	00 00 00 00 00 00 00 D0
Channel 1	DWCAN	Rx	587140000	02 D2	0
Channel 1	DWCAN	Rx	587144000	02 C1	00 00 00 00 00 C0 00 8B
Channel 1	DWCAN	Rx	587157000	02 D0	00 00 00 00 08 00 00 E2
Channel 1	DWCAN	Rx	587158000	02 C4	00 00 04 18 44 80 11 BF
Channel 1	DWCAN	Rx	587161000	02 C2	D0 56 56 00 00 0E 55
Channel 1	DWCAN	Rx	587170000	02 C6	00 00 00 00 00 00 00 D0
Channel 1	DWCAN	Rx	587172000	02 D2	0
Channel 1	DWCAN	Rx	587172000	03 40	10 00 00 00 80 00 00 DB
Channel 1	DWCAN	Rx	587176000	02 C1	00 00 00 00 00 C0 00 8B
Channel 1	DWCAN	Rx	587181000	02 C4	00 00 04 18 44 80 11 BF
Channel 1	DWCAN	Rx	587188000	02 D0	00 00 00 00 08 00 00 E2
Channel 1	DWCAN	Rx	587192000	02 C2	D0 56 56 00 00 0E 55
Channel 1	DWCAN	Rx	587202000	02 C6	00 00 00 00 00 00 00 D0
Channel 1	DWCAN	Rx	587204000	02 D2	0
Channel 1	DWCAN	Rx	587205000	02 C4	00 00 04 18 44 80 11 BF
Channel 1	DWCAN	Rx	587208000	02 C1	00 00 00 00 00 C0 00 8B
Channel 1	DWCAN	Rx	587220000	02 D0	00 00 00 00 08 00 00 E2
Channel 1	DWCAN	Rx	587220000	03 40	10 00 00 00 80 00 00 DB

5 Definitions and Abbreviations

DGT	DG Technologies Inc.
OBD	On-Board Diagnostics
OEM	Original Equipment Manufacturer
SAE	Society of Automotive Engineers
ISO	International Standard Organization
J2534	SAE Standard Specification
RP1210	TMC Recommended Practice 1210
TMC	Technology and Maintenance Council, division of American Trucking Association
CAN	Controller Area Network
ISO15765	ISO Standard protocol for In-Vehicle Communication
J1939	SAE Standard protocol for In-Vehicle Communication
J1708	SAE Standard protocol for In-Vehicle Communication

Technical Support

After reading and following the procedures in this document please check the FAQ page at www.dgtech.com/faqs if any issues are present. 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.

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Users not residing in the United States should contact your local DG representative or e-mail techsupp@dgtech.com