

DG Technologies 2534 SDK

User Documentation

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This document describes DG Technologies (DG) SAE J2534 compliant System Development Kit (SDK). The purpose of this application is to facilitate the use of the J2534 API functions using the DG Hardware.

This implementation is based on Version 04.04 of SAE J2534. Of the fourteen (14) functions, only one function is not supported: PassThruSetProgrammingVoltage. This is due to the DG hardware not having this capability at this time.

The protocols supported are: CAN, ISO15765, ISO14230, ISO9141, J1850PWM, and J1850VPW.

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1 Main Display Area

Gr	yphon 2534 SDK		
Eile	<u>1</u> 2534 Commands	About	
	<u>C</u> opy Hig	inlighted Lines	Exit
-			

When the "About" Menu Item is selected the Version of the 2534 SDK is displayed as shown below. (This example is for the Gryphon hardware.)

Gryphon 2534 SDK Version 4.04

Note: Select any text in the display area that is highlighted, then the "Copy Highlighted Lines" button will become enabled. If this button is selected, then the text is sent to the clipboard so other applications can use it.

When the "File" Menu Item is selected three selectable menu items are available:

Fiel 3253	Comm	nds Abo	at .
Save to Reset C	file spture	4 SD	κv
Ext			

- 1. Save to File
- 2. Reset Capture
- 3. Exit



12534 Compa	ods threat
Save to file Reset Capture	A SDK V
Ext	

Selecting "Save to file" will display a standard Windows "Save As" Dialog. This allows the user to save the contents of the Display area to a text file.

Save As				? 🔀
Savejn:	🧼 test (C:)	•	+ 🗈 💣 🎟 -	
My Recent Documents Desktop My Documents	dcx_jp32 DELL dddata Documents and Settings doslin DP5 dpsarch DRIVER5 GM Gryphon2534 I386 McA834.tmp MCAF90C.tmp MCAF960.tmp	My Music Nohau Program Files Python182534 Python2534 Shrinivas WINDOWS WUNDT WUTemp aol.ini DELL.SDR gb gb ID.SYS IPH.PH	📳 mcaf.log 💷 MSDOS,SYS	
My Network Places	File name: Save as type: All files (×.*)		<u>S</u> ave Cancel

Selecting "Reset Capture" will allow the user to clear any entries in the display area.

Selecting "Exit" will close the application.

The "J2534 Commands" section when selected displays the following items:

Note: PassThurSetProgrammingVoltage function is not supported. This is due to the Gryphon and Python hardware not having this capacity.





2 J2534 Commands

1. PassThruConnect has a dialog that allows the user to configure which protocol. The following lists the supported protocols that can be configured. The Cancel button closes the dialog.

PassThruConnect(CAN, 0, &usChannellD); PassThruConnect(ISO15765, 0, &ulChannellD); PassThruConnect(ISO14230, 0, &ulChannellD); PassThruConnect(ISO9141, 0, &ulChannellD); PassThruConnect(J1850PWM, 0, &ulChannellD); PassThruConnect(J1850VPW, 0, &ulChannellD);

Connect		
Protocol:		<u>C</u> onnect
, Flags (in Hex): 0	CAN Type C <u>S</u> tandard CAN C Extended CAN	Cancel

2. PassThruDisconnect ends a connection to a protocol channel. The Cancel button closes the dialog.

PassThruDisconnect(ulChannelID);

 PassThruReadMsgs has a dialog that allows the user to configure the number of messages placed in the display area. The number of messages or a Timeout period in milliseconds, whichever occurs first, will end the Read to the display area. After configuring, select the Read Msgs button to display the messages read from the vehicle/ECU. The Cancel button closes the dialog.

 Read Messages
 Image: Concentration of Mage

 Number of Mage
 Timeout (Mage)

 100
 100

 Cancel

PassThruReadMsgs(ulChannellD, ptrMsg, &ulNum, 100);



4. PassThruWriteMsgs has a dialog with a Message drop-down box that allows the user to add messages to the "Messages to Write" list. This is done by either directly entering the message, or selecting a previously entered message from the drop-down box. This drop-down box retains the last ten unique messages entered. The list can be edited with the "Remove From List" button. While there are messages in the List the "Write Msgs" button shall be enabled. The messages in the "Messages to Write" list are sent out to the vehicle/ECU when the "Write Msgs" button is selected. The Cancel button closes the dialog.

<pre>ptrMsg=new PASSTHRU_MSG[ulNumMsgs]; for(unsigned int count=0; count<ulnummsgs; count++)<="" pre=""></ulnummsgs;></pre>
<pre>{ memset(ptrMsg+count, 0, sizeof(PASSTHRU_MSG));</pre>
memcpy(ptrMsg[count].Data, ptrTempMsg, size); ptrMsg[count].DataSize=ulSize; ptrMsg[count].ExtraDataIndex=0; ptrMsg[count].ProtocollD=iCurProtocol; ptrMsg[count].TxFlags=0x00;

PassThruWriteMsgs(ulChannellD, ptrMsg, &ulNumMsgs, 10000); delete [] ptrMsg;

Write Messages	
Message:	Add to List Cancel
Messages to Write:	<u>R</u> emove From List

5. PassThruStartPeriodicMsg has a dialog that allows the user to enter the message to be sent out periodically and its time interval. The Cancel button closes the dialog.

memset(&ptrMsg, 0, sizeof(PASSTHRU_MSG)); memcpy(ptrMsg.Data, ptrTempMsg, size); ptrMsg.DataSize=ulSize; ptrMsg.ExtraDataIndex=0; ptrMsg.ProtocolID=iCurProtocol;

PassThruStartPeriodicMsg(ulChannelID, &ptrMsg, &ulPeriodicID, ulTimerDelay);



Start Periodic Message	
Periodic Message:	<u>S</u> tart Periodic
ļ	Cancel
Time Interval (msecs):	

6. PassThruStopPeriodicMsg has a dialog that allows the user to enter the periodic message number, which will identify and stop the periodic message when the "Stop Periodic" button is selected. The Cancel button closes the dialog.

PassThruStopPeriodicMsg(ulChannelID, 1);

Stop Periodic	
Periodic Msg Number	<u>S</u> top Periodic
ļ	Cancel

7. PassThruStarMsgFilter has a dialog that allows the user to select a filter type (Pass, Block, or Flow Control), and then enter a Pattern, a Mask, or a Flow Control Message. The Cancel button closes the dialog.

memset(&ptrMask, 0, sizeof(PASSTHRU_MSG)); memcpy(ptrMask.Data, ptrTempMsg, size); ptrMask.DataSize=ulSize; ptrMask.ExtraDataIndex=0; ptrMask.ProtocolID=iCurProtocol;

memset(&ptrPatter, 0, sizeof(PASSTHRU_MSG)); memcpy(ptrPattern.Data, ptrTempMsg, size); ptrPattern.DataSize=ulSize; ptrPattern.ExtraDataIndex=0; ptrPattern.ProtocollD=iCurProtocol;

PassThruStartMsgFilter(ulChannelID, PASS_FILTER, ptrMask, ptrPattern, &ulMsgID);





Start Message Filter	
Message Filter Type:	<u>S</u> tart
Pattern Message:	Cancel
Mask Message:	
Flow Control Message	

8. PassThruStopMsgFilter has a dialog that allows the user to enter the filter message number, which will identify and stop the filter message when the "Stop Filter Msg" button is selected. The Cancel button closes the dialog.

PassThruStopMsgFilter(ulChannellD, 1);

Stop Filter Message	
Filter Message Number:	<u>S</u> top Filter Msg
	Cancel

9. PassThruReadVersion will display the firmware version, DLL version, and the API version in the display area.

PassThruReadVersion(ucFirmware, ucDll, ucApi); Function returned: STATUS_NOERROR Firmware Version: 20041216 DLL Version: 4.00 API Version: 04.04

10. PassThruGetLastError will display the last error, if no error a "Function call successful" comment will be displayed.

Last Error: Function call successful

Or

Last Error: Function not supported

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11. PassThruloctl a dialog that allows the user to select from a list of IO controls (IOCTLS), and Set/Get their configuration parameter. The Cancel button closes the dialog.

ConfigList.NumOfParams=1; ConfigList.ConfigPtr=&Config; Config.Parameter=1; PassThruloctl(ulChannelIID, GET_CONFIG, &ConfigList, NULL);

Or

ConfigList.NumOfParams=1; ConfigList.ConfigPtr=&Config; Config.Parameter=3; Config.Value=0; PassThruloctl(ulChanneIID, SET_CONFIG, &ConfigList, NULL);

loctl	
IOCTL command Set/Get Config Parameter	<u>I</u> ssue IOCTL Cancel

12. PassThruOpen is the initial function to be issued, which opens the link to the hardware (Gryphon, Python or VSI 2534).

PassThruOpen();

13. PassThruClose ends the link to the hardware

PassThruClose();

3 Known Issues:

- 1. The Read Messages dialog shows the Timeout as Msecs, it should be msecs milliseconds
- 2. The function PassThruStartMsgFilter is shown in the display area as PassThruStartFilter
- 3. The function GetLastError is not shown in the display area, only the return value.