USB-CAN-B User Manual



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1. PRODUCT FEATURES

1.1. PRODUCT OVERVIEW

USB-CAN-B-2 (A / C) bus adapter is an intelligent CAN-bus adapter with USB2.0 interface and 2 CAN interface.

USB-CAN-B is a CAN-bus adapter with USB2.0 interface and 2 CAN interfaces and have CAN-bus protocol analysis function that support SAE J1939, DeviceNet, CANopen, iCAN and customized advanced protocol analysis function, also It is compatible with ZLG CANPro software and Can carry out bidirectional transmission.

USB-CAN-B bus adapter/USB-CAN-B can be regarded as a standard CAN node, It is a powerful tool for CAN-bus product development, CAN-bus equipment test and data analysis. Using this interface adapter will enable PC to connect to standard CAN-bus network via USB interface, forming the CAN-bus network control nodes for the data processing, data communication and data collection applied in the CAN-bus networks such as bus laboratory, industrial control, intelligent residential zone, auto electronics network, and etc. Meanwhile, small size, easy installation features of USB-CAN-B Interface Adapter / USB-CAN-B makes it the best choice for the users who are using portable operation systems.

There are three independent types of CAN-bus adapter:

USB-CAN-B-2A: CAN-bus is not isolated, powered directly by the USB.

USB-CAN-B-2C: CAN-bus circuit adopt Independent isolated DC - DC power supply module and high-speed magnetic lotus root isolation module for electrical isolation, making the interface adapter having strong anti-interference ability, greatly improved the reliability of the system used in harsh environments. USB is isolated from CAN1 and CAN2, but CAN1 is not isolated from CAN2.

USB-CAN-B: USB, CAN1, CAN2 are completely isolated.

We can provide USB-CAN-B-Tool software to help you operating the USB-CAN-B adapter for CAN-bus configuration, sending and receiving directly. We also provide a uniform application programmable interface and the complete demonstration code including VC, VB, LabVIEW, Delphi and C++ Builder, which make it convenient for user to develop programs.

You do not need to understand the complicated USB interface communication protocol when you do your secondary software development with the USB-CAN-B bus interface adapter and USB-CAN-B.

1.2. PARAMETERS

- Support protocol conversion between USB and CAN-bus;
- USB-CAN-B-2(A/C) is dual-channel intelligent CAN interface module;
- USB-CAN-B is dual-channel intelligent CAN interface module;
- PC interface supports USB2.0 protocol and is Compatible with USB1.1;

- Support CAN2.0A and CAN2.0B protocols, support standard frame and extension frame;
- Support bi-directional transmission, CAN transmission and CAN receive;
- Support data frame and remote frame;
- CAN controller Baud rates from 10Kbps to 1Mbps, Can be configured by software;
- USB-CAN-B-2A products: CAN-bus interface is not isolated;

• USB-CAN-B-2C products: CAN-bus circuit adopt high-speed magnetic lotus root isolation and Independent isolated DC - DC power supply module, USB is isolated from CAN1 and CAN2, CAN1 is not isolated from CAN2.

• USB-CAN-B: CAN-bus circuit adopts high-speed magnetic lotus root isolation and Independent isolated DC - DC power supply module, USB, CAN1, CAN2 are completely isolated;

• Max data flow: more than 8000 fps (standard frame) for receiving and 8000 fps (standard frame) for transmitting and can be run at the same time;

• Buffer size: 1000 frames length buffer for transmission (with auto repeat transmission when failed) per channel, 2000 frames length buffer for receiving per channel;

- Adopt USB bus power supply, no need for an external power supply;
- USB-CAN-B-2A products: no electrical isolation;
- USB-CAN-B-2C products: adopt electrical isolation, the isolation voltage is: 2500V;
- USB-CAN-B, adopt electrical isolation, the isolation voltage is: 2500V;
- Operating temperature: $-20 \approx 85 \,^{\circ}\text{C}$;
- Physical size: (length) 70mm * (width) 45mm * (height) 24mm;

• Product compatibility: Function library is similar to the library of Guangzhou ZLG USB-CAN-B interface adapter.

1.3. TYPICAL APPLICATIONS

- Transmit or receive massages in CAN-bus network via PC or laptop's USB;
- data collection, data analysis in the fast CAN network;
- CAN-bus-USB gateway;
- USB interface to CAN network interface;
- Extend CAN-bus line length;
- Industrial site CAN network data monitoring.

2. APPEARANCE AND INTERFACE

2.1. APPEARANCE OF THE PRODUCT

There are two sets of external interfaces on USB-CAN-B/ USB-CAN-B intelligent CAN interface adapter: A standard USB interface, an 8-pin binding post terminals (USB-CAN-B for 6 pin), CAN-bus interface is available.

Power indicator light of our products is red except USB-CAN-B for highlighted in red.

When LED- CAN1 Channel1 indicator light is red (USB-CAN-B for blue) indicate the transmitting or receiving state of the channel1. When the USB-CAN-B adapter insert into a USB interface, the power is turned on, the LED- CAN1 indicator light flashes twice for system self-test.

When LED- CAN2 Channel2 indicator light is red(USB-CAN-B for highlighted in red) indicate the transmitting or receiving state of the channel 2. When the USB-CAN-B adapter insert into a USB interface, the power is turned on, the LED- CAN2 indicator light flashes twice for system self-test.



2.2. SIGNAL DEFINITION

	Series of USB-CAN-B products			
Name	Description			
R+	Terminal resistance R+, R + and R- shorted, the internal 120			
	ohm resistor will be access to the bus			
R-	Terminal resistance R-			
CANH	CAN_H signal cable			
CANL	CAN_L signal cable			
PWR	Power indicator light			
CAN1	CAN1 channel signal			
CAN2	CAN2 channel signal			
	USB-CAN-B products			
Name	Description			
R1	Terminal resistance R1, Down to the ON state, the internal 120			
	ohm resistor will be access to the bus.			
R2	Terminal resistance R2, in parallel with R1, same effect as R1			
Н	CAN_H signal cable			
S	Shielded wire interface, unconnected with the CAN transceiver			
	directly, connected with resistors and capacitors.			
L	CAN_L signal cable			
PWR	Power indicator light			
SYS	System status indication, under normal circumstances are			
	often off state			
CAN1	CAN1 channel signal			
CAN2	CAN2 channel signal			

Method of operation:

CAN Transmit: When a user application calls the Transmit Function, a message will be push to the channel T-Buffer (it's a FIFO buffer) in USB-CAN-B adapter immediately, then the CAN Controller transmit it to the CAN-Bus.

CAN Receive: The CAN Controller receives a CAN frame from CAN-Bus, and push it to the channel R-Buffer (also a FIFO buffer) in USB-CAN-B adapter immediately, when a user application call the Receive-Function, the message will be return.

2.3. FACTORY CONFIGURATION

1) CAN-bus Baud rate: 1Mbps;

- 2) Acceptance mask register: 0xFFFFFFF, means to accept all CAN frame;
- 3) Termination resistor is selectable: connect the R+ and R- (dial down the corresponding switch

for USB-CAN-B) to get 120 euro internal resistor.

Note: ensure that there are two 120 ohm termination resistors on the CAN-bus; otherwise it will lead to the CAN-bus work abnormality.

The above description is effective for each CAN channel.

3. DRIVER INSTALLATION AND USB-CAN-B TOOL

3.1. DRIVER INSTALLATION

3.1.1 WIN7 & WIN8& WIN10 & WIN11 SYSTEM

Connect USB-CAN-B intelligent interface module to the PC with USB cable correctly. The Windows will then auto run an installation wizard called "new hardware is found" after the hardware is detected. Select "Install the software automatically (Recommended)".

Click "Next" to continue;

elect the components you want nstall. Click Next when you are re	to install; clear the comp ady to continue.	onents you do not want to
典型安装		Ý
✓ MS VC++ 2008 Redistributable ✓ driver		4.3 MB 18.4 MB
☑ 驱动安装程序(首次安装必选)		6.6 MB

Setup - USB驱动安装工具		-	
Ready to Install Setup is now ready to beg	jin installing USB驱动安装工具 on your compute	r.	S
Click Install to continue wit change any settings.	th the installation, or click Back if you want to r	eview or	
Destination location: C:\Program Files (x86	i)\USB_CAN TOOL\driver		^
Setup type: 典型安装			
Selected components: MS VC++ 2008 Redis driver 驱动安装程序(首次安	tributable 家装必选)		
Additional tasks: Additional icons:			~

Device Driver Installation Wizard

Welcome installation	to the Dev on Wizard	vice Drive I oftware drivers the to work.	r nat some
To continue, clic	< Next.	Next >	Cancel

Device Driver Installation Wiza	Completing the De Installation Wizard	vice Driver 1
	The drivers were successfully in You can now connect your devi came with instructions, please re	stalled on this computer. ce to this computer. If your device ad them first.
	Driver Name Microchip Technology, I	Status Ready to use
	< Back	Finish Cancel

If the windows 7 do not run the wizard, Right click "My Computer" and select "Device Manager" and find the "other devices" in other devices list:

→ 设备管理器	
文件(F) 操作(A) 查看(V) 帮助(H)	
🔺 🚔 lenovo-PC	<u>^</u>
▷ - 🤮 DVD/CD-ROM 驱动器	
▷ · ca IDE ATA/ATAPI 控制器	
▷ 🔟 便携设备	
▶ 🛄 处理器	
▷ · □ 磁盘驱动器	
▶ 邊 电池	
▶ 1 및 计算机	
▶ ■ 监视器	
▷··□ 键盘	E
4 助 其他设备	
未知设备	
▶ → 声音、视频和游戏控制器	
▲ ● 通用串行总线控制器	
Generic USB Hub	
🟺 Generic USB Hub	
Intel(R) 6 Series/C200 Series Chipset Family USB Enhanced Host Controller - 1C26	
Intel(R) 6 Series/C200 Series Chipset Family USB Enhanced Host Controller - 1C2D	
USB Composite Device	
USB Root Hub	
USB Root Hub	
USB 大容量存储设备	

Right-click "unknown device", select "update driver software", manually add the driver of the device. Select the driver for installation from directory as showed in diagram below. Then it will prompt a message said whether to confirm the installation, click confirm to go.

```
www.waveshare.com
```

...

Select "Browse the computer to find the driver software" and click next.

>	Search automatically for drivers	
	Windows will search your computer for the best available driver and install it on your device.	
÷	Browse my computer for drivers	
	Locate and install a driver manually.	

Select directory and install (driver located in the directory of directory [hardware drivers]). Select directory and install <u>Usb_Drivers(Manual installation)</u> in the directory of [hardware drivers]. Use the "Browse for Folder" window selects where the driver is:

C 1.C 12 1.11.1 C	
Search for drivers in this location:	
Include subfolders	Drowse
→ Let me pick from a list of available drivers on pry o This list will show available drivers compatible with the device, an	computer d all drivers in the
vse For Folder ect the folder that contains drivers for your hardware.	
vse For Folder ect the folder that contains drivers for your hardware. This PC > WPS网盘 * Desktop > Mian	

In some cases, the system will prompt a message that the WinUSBCoInstaller2.dll cannot be found. Then, click "Browse", and select the WinUSBCoInstaller2.dll file from the i386 (for 32 bit system) or AMD64 (for 64 bit systems) folder in the directory of drive program directory "USB-CAN-B".

Browse for drivers on your computer
Search for drivers in this location:
vers(Manual installation)\Windows\win7 win8 win10 driver\inf\i386 🗸 Browse
✓ Include subfolders
ightarrow Let me pick from a list of available drivers on my computer

If installed "USB_CAN TOOL Setup. exe", the corresponding USB drive will generate in the software installation directory, so can also install the driver from the file of corresponding USB drive.

		Browse For Folder	
÷	Update Drivers - WinUSB Device	Select the folder that contains drivers for your hardware.	
	Browse for drivers on your computer	> stvp	^
	Search for drivers in this location:	> TeamViewer	
	E:\FAQ-SIMCOM\Driver\SIM7600-Driver\SIM7600-driver new\SIM7C > Browse	> Thonny	
	☑ Include subfolders	> ToDesk	
		> tool > TortoiseSVN	
	→ Let me pick from a list of available drivers on my computer	VISE_CAN TOOL	
	This list will show available drivers compatible with the device, and all drivers in the same category as the device.	i386	~
		<	>
		Folder: driver	
	Next	OK Canc	:el
	ivext		1000

After installation, "USB-CAN-B or USB_CAN Device" will be added to the directory of device manager.

📇 Device Manager	- 0	×
File Action View Help		
(=		
✓ 書 WIN-AKVD2FHMD26		1
> 🖬 Audio inputs and outputs		1
> 💻 Computer		
✓ ↓ Custom USB Devices		
WinUSB Device		
> 👝 Disk drives		
> 🔙 Display adapters		
> 📕 Firmware		
> 🙀 Human Interface Devices		
> 📹 IDE ATA/ATAPI controllers		
> 💦 Imaging devices		
> 🔤 Keyboards		
> (I) Mice and other pointing devices		
> 📕 Modems		
> Monitors		
> 🖵 Network adapters		
> 🛱 Ports (COM & LPT)		
> 🚔 Print queues		
> 🚍 Printers		
> Processors		
> F Software components		
> Software devices		
> 👖 Sound, video and game controllers		
> Storage controllers		
> Tay System devices		
Universal Serial Bus controllers		•

After installation, "WinUSB Device" will be added to the directory of device manager. If installed "USB_CAN TOOL Setup. Exe", the corresponding USB drive will generate in the software installation directory, so can also install the driver from the file of corresponding USB drive.

3.1.2 WINDOWS XP

Connect USB-CAN-B intelligent interface module to the PC with USB cable correctly.

The Windows will then auto run an installation wizard called "new hardware is found" after the hardware is detected. Select "Install the software automatically (Recommended)".

Click "Next" to continue;



If the windows XP do not run the wizard, Right click "My Computer" and select "Device Manager" and find the "other devices" in other devices list:

📙 Device Manager	🗖 🗖 🔀
File Action View Help	
← → 📧 🖆 😫 🗷 🧏 📚 🧶	
E BINCKER-D710084	
🕀 🐙 Batteries	
🛨 🧝 Computer	
Disk drives	
Display adapters	
DVD/CD-ROM drives	
E Floppy disk controllers	
Hoppy alsk arives	
Keybuarus	
Mice and other politicity devices	
E Ports (COM & LPT)	
E Processors	
E CSI and RAID controllers	
🐨 🥘 Sound, video and game controllers	
🐨 🧕 System devices	
🗄 🕰 Universal Serial Bus controllers	
v	

Right click "Unknown device", and select "Update Driver" from the menu:

Disable	
Uninstall	
Scan for hardware chan	ges
Properties	

Select "Install from a list or specific location (Advanced)" .Click "Next" to continue:



Next, select "Search for the best driver in these locations", and check "Include this location in the search:" (do not select "Search removable media otherwise it is possible to come with an exclamation point or tips after successfully installed the driver and reboot the corresponding device in Device Manager which causing the device unusable.). Then click "Browse" button to browse the driver folder:

Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed. Search removable <u>m</u> edia (floppy, CD-ROM) Include this location in the search:
D:\ Browse
Don't search. I will choose the driver to install. Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< <u>B</u> ack <u>N</u> ext > Cancel

Select directory and install (driver located in the directory of directory [hardware drivers]). Select directory and install "USB-CAN-B" (Depending on the model) in the directory of [hardware

drivers]. Use the "Browse for Folder" window selects where the driver is:

Browse For Folder
Select the folder that contains drivers for your hardware.
Desktop Av Documents
My Computer
My Network Places Driver
For Win2K WinXP WinVista Win7,×86 ×64 mad64
i386
J Ta view severabledana aliak e alva sian alvava
To view any subroiders, click a plus sign above.
OK Cancel

Click "OK" to finish selection:

Hardware Update Wizard
Please choose your search and installation options.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM)
Include this location in the search:
C:\Documents and Settings\Administrator\Desktop\ 🖌 🔀
Don't search. I will choose the driver to install. Choose this option to select the device driver from a list. Windows does not guarantee that
the driver you choose will be the best match for your hardware.
< <u>B</u> ack <u>N</u> ext > Cancel

Click "Next" to search and install driver:

Hardware Update Wizard	
Please wait while the wizard searc	shes
Unknown device	
	< <u>B</u> ack <u>N</u> ext > Cancel

找到新的硬件向导	
向导正在安装软件,请稍候	
CANalyst-II Device	
WdtColnstallerU1UU9.dll 到 C:\WINDOWS\system32	
	< 上一步 (B) 下一步 (B) >] 取消

In some cases, the system will prompt a message that the WinUSBCoInstaller2.dll cannot be found. Then, click "Browse", and select the WinUSBCoInstaller2.dll file from the i386 (for 32 bit system) or AMD64 (for 64 bit systems) folder in the directory of drive program directory "USB-CAN-B".





	2.公理器 磁盘認动器 电池 / 端口 (COM 和 LPT) 计算机 確全	
系统设 音	战改支 Windows 已安装完新设备。支持这个设备的软件要求重新启动计算机。必须重新启动计算机才能使新的设置生效	×
	想现在就重新启动计算机吗?	
÷§		

When the system suggest to restart, or an exclamation point on a model in the device manager appear, please restart the system.

After installation, "USB-CAN-B or USB_CAN Device" will be added to the directory of device manager.

If installed "USB_CAN TOOL Setup. Exe", the corresponding USB drive will generate

in the software installation directory, so can also install the driver from the file of corresponding USB drive.

3.2. USB-CAN-B TOOL SOFTWARE

Run and install USB-CAN-B TOOL Setup.exe

[选择安装课	
	R	选择安装时要使用的语言:
		简体中文 English 简体中文
Retup - USB_CAN	TOOL	
		Welcome to the USB_CAN TOOL Setup Wizard 本程序将安装 [USB_CAN TOOL2.11版] 到您的计算机中。 强烈建议您在继续安装之前关闭其他所有正在运行的程序,以避免 安装过程中可能产生的相互冲突。 Click Next to continue, or Cancel to exit Setup.
关于		Next > Cancel

WAVESHARE



Setup - USB_CAN TOOL	
Select Destination Location	-
Where should USB_CAN TOOL be installed?	5
Setup will install USB_CAN TOOL into the followin	g folder.
To continue, click Next. If you would like to select a diffe	rent folder, click Browse.
C:\Program Files (x86)\USB_CAN TOOL	Browse
At least 64.6 MB of free disk space is required.	
B_CAN TOOL2.11版	

Which components should be installed?	Į
Select the components you want to install; clear the install. Click Next when you are ready to continue.	components you do not want to
自定义安装	
USB CAN TOOL	63.5 MB
MS VC++ 2008 Redistributable	4.3 MB
☑ LABVIEW运行基本环境(首次安装必选)	29.4 MB
Current selection requires at least 98.2 MB of disk sp	ace.

First time to install the USB-CAN-B please make sure to check "run Engine".this installation package is needed for the application developed from the LABVIEW environment.

First time to install the USB-CAN-B please make sure to check "run Engine" .this installation package is needed for the application developed from the LABVIEW environment.



Installing	_
Please wait while Setup installs USB_CAN TOOL on your co	mputer.
Extracting files	
C:\Program Files (x86)\USB_CAN TOOL\ControlCAN.dll	
_CAN TOOL2.11版	

Device Driver Installation Wizard





If you need termination resistor, connect R+ with R-.

Note: must ensure that there are two 120 ohm termination resistors connected to the bus, otherwise it will cause CAN-bus work abnormality.

Connect the USB interface of the device with PC via USB.





Run "<u>USB-CAN-B Tool.exe</u>" as shown in the following figure:

🔛 USB-CAN Tool V2.02 - CANalyst-II - SN:9000												
Device(D	Operation(C) Settings(<u>S</u>) Inform	ation(<u>I</u>) \	View(V) ⊦	Help(<u>H</u>) La	inguage(L)				
Send [Data											
Format: Standard Type: Data Frm ID: 00 00 00 01 Channel: 1 Number to send: 1 ID Inc. Data: 00 00 00 00 00 00 00 Send Send Cycle: 0 ms Ø Data Inc.												
1				J								
CAN Roy	iting	Receive	ID filter	(Direct ID)	Frm	saved: 0			Stop send	Send file	1
Unused Of 02 Setting Receive Enable Clear Save												
Statis	tics:Ch1					Statisti	es:Ch2					
Frm/s F	: 0 F1	rm/s T: 0	Check	Err: 0		Frm/s R:	0	Frm/s	T: 0	Check E	rr: 17	
						-						
Index	System Time	Time Stamp	Channel	Directio	Frame ID	Type	Format	DLC	Data			
00000	19:03:07.193	-	ch1	Send	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00001	19:03:07.207	0x169860EC	ch2	Receive	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00002	19:03:08.102		ch1	Send	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00003	19:03:08.107	0x16988467	ch2	Receive	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00004	19:03:08.813	-	ch1	Send	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00005	19:03:08.827	0x1698A028	ch2	Receive	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00006	19:03:09.423	-	ch1	Send	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00007	19:03:09.427	0x1698B7F9	ch2	Receive	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00008	19:03:10.033	-	ch1	Send	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00009	19:03:10.057	0x1698CFC8	ch2	Receive	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00010	19:03:10.543	-	ch1	Send	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00011	19:03:10.567	0x1698E3B0	ch2	Receive	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00012	19:03:11.253	-	ch1	Send	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
00013	19:03:11.257	0x1698FF6A	ch2	Receive	0x0001	Data	Standar	0x08	x 00 00	00 00 00 00	00 00	
												Ŧ
	-				m			_			•	

3.3. SOFTWARE OPERATION AND FEAT URES

• Select Device

If use USB-CAN-B-2(A/C) or USB-CAN-B product, select menu "Select Device"-> "USB-CAN-B" (the default option).

• Start/Stop Device

Select menu "Device Operation"-> "Start", to open specified channel, USB-CAN-B Tool forced to start all channels.

Select menu "Device Operation"-> "Stop", to close all running channels.

Registers

Select menu "Device Operation"-> "Registers", to view the registers' information (compatible the ZLG mode).

Current configuration
 Select menu "Information"-> "ParamNow", to view the current configuration.

Device Information

Select menu "Information"-> "Device Information", to view the device information such as product model, serial number, version number, etc.

Select Channel

USB-CAN-B-2(A/C) product have two channels, the index number is respectively 0, 1 (Ch1, Ch2). Set CAN parameters to ensure that the setting is correct for each channel.

CAN Baud Rate

Select menu "Settings" -> "CAN Settings", to modify the value into your needs

If connected with external devices, please must make sure baud rate is same to the external devices then click "Set", there is a message when success.

Note: We recommend that you first set baud rate, then connect it to CAN-bus.

Work mode

USB CAN products support 3 kind of work-mode: normal, listen, self-Test (loopback). Normal: The CAN module will appear on the CAN-bus, and it can send and receive

CAN messages.

Listen: The module will appear on the CAN-bus, but in a passive state. It can receive CAN messages, but cannot transmit CAN messages or answer. This mode can be used as a bus monitor because it does not affect CAN-bus communications but can observe the CAN-bus states.

Self-Test (loopback): For adapter self-test, CAN module receives its own messages. In this mode, the send part of the CAN module is connected internally with the reception one. This mode will provide a "false" response, so that don't need another node to provide the acknowledge bit. And the CAN messages will not sent to CAN-bus.

Filter

Users can set the filter-mode, ACR and AMR to filter the received CAN messages.

Note: please refer to "9.annex 2:CAN description parameter setting" for further information.

Transmit messages

When transmit messages, need to select extend frame/standard frame, a remote frame/data frame, frame ID, data length, data and other information.

Please enter 16 hexadecimal format values In the CAN test software ID edit box and data edit box, and each value need space. When sending ID up from the top 4 values, data up to the first 8 values.

Note: The "System time" in data list is system time in computer, and compare with the actual eventuate-time there may be up to 50ms difference.

Attention: The USB-CAN-B products will not receive acknowledge message when it isn't connect to the CAN-bus or parameters settings error , then it will resend the messages automatic until the message is received by other node in CAN-bus or the USB-CAN-B product restart. There is 1000 frames length send buffer, it will return 0 when call the "VCI_transmit" function failure.

ID Format

There are two kind of format for ID format: SJA1000 mode (Align Left) and Real ID (Align Right). SJA1000 mode: SJA1000 internal registers format, the highest bit of the ID and ID byte Bit31 alignment. For example, standard frame ID = 2, make 0x00 00 00 02 shift left 21 bit, and the SJA1000 mode ID is 0x 00 40 00 00; if the frame is extended one, make 0x00 00 00 02 shift left 3 bit, then the SJA1000 mode ID is 0x00 00 00 10(temporary invalid).

Real ID: The lowest bit (Bit0) of ID is aligned with the ID byte Bit0.For example, if ID = 2, then file 00 00 00 02 in the ID edit box directly. This format is simple and intuitive.

Each time the data will be displayed in the list box on the interface.

• Enable/Disable Receive

Check "CAN receive enable" to open the receive thread. The latest messages will be shown in list control in time. If uncheck "CAN receive enable", when there are messages on CAN-bus, the receive buffer on the USB-CAN-B adapter may overflow.

When in the high-speed receiving, it is best not operating the CAN settings, query etc. Open the CAN bus receiver function, when check receiving box in the main interface, receiving function is opened at the same time.

If the data received from the other CAN node will be displayed on the interface.

High-speed mode, show list data, information save

These three items are located in "Display" menu.

When the "High-speed mode" is checked, "show list data" and "information saves" become invalid.

When the ""show list data" is checked, the latest messages will be shown in list control make CAN message monitoring more in time.

When the "information save" is checked, the messages will be save to the specified text-format excel-file for a long time.

We recommend that you check the "high-speed mode" in order to save memory and CPU consumption when using the high-speed transceiver.

3.4 SELF-TEST

Each channel supports self-test mode.

Do Self-test in the following steps:

1)Plug the USB-CAN-B adapter into the PC's USB, and then run the "USB-CAN-B Tool".

2)Select menu "Select Device" "USB-CAN-B 2.0", then select menu "Device Operation" "Start" to open the USB-CAN-B adapter, and set the "work mode" to "self-test" in next popup dialog.

3)In the main UI Send area, set "Frames=1", "Send Interval=1000", check "CAN receive enable", then, click "send" button to send message. It will receive the same message in same channel.

If there is no problem in the receiving function test shows that the USB - CAN adapter no fault in the work.

USB - CAN - 2 (A/C), USB-CAN-B has dual channel CAN interfaces, you also can interconnect channel1 and cchannel2 to test. This test is more comprehensive, and can direct response CAN transceiver failure, please refer to the "USB - CAN bus adapter testdocumentation" for more detail.

Tips:

If the above operation is not success, please check the correct steps carefully. If it still does not work, please contact us.

If it can't receive messages after the USB-CAN-B adapter restart, may need to restart the USB-CAN-B Tool.

When using the adapter for external CAN equipment debugging, please put the USB- CAN CANH, CANL corresponding connected with CANH, CANL of external CAN devices, other line do not need to connect.

3.5 SIMULTANEOUS USE OF MULTIPLE USB-CAN-B

USB-CAN-B Tool supports the same computer to connect up to four USB-CAN-B modules at the same time. Please refer to "multiple cards operation at the same time instruction handbook" for More details.

Note: more detailed information about USB - CAN tool, please refer to " the USB - CAN tool instructions".