

CAN/LIN Communication Simulator and Monitor

User's Manual April 30, 2015, Rel.1.21

For any inquiries about our services and products, please contact our technical support department at the following address.

ঝ P&A Technologies

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Thank you for purchasing ViCSiM.

By connecting the device to your PC with a USB cable, you can simulate and monitor CAN/LIN communication activities.

To make best use of this product, please read this manual carefully, and use it correctly.

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Important Notices

ViCSiM is a high-precision electronic device. When using the product, please follow the instructions below.

Operating Precautions

Be aware of static electricity.

To avoid damage from static electricity, please do not leave the device on places where static electricity frequently occurs.

Do not give strong impacts.

Do not drop, or give strong impacts to the device.

Be aware of usage and storage environment.

Do not use or store the device in areas where it will be subjected to direct sunlight, extreme heat or cold.

Do not use or store the device in areas of high dust density or humidity.

Do not give excessive force to the device.

Do not give excessive force to the device body or the connected cables.

Product Features

ViCSiM is a device to simulate and monitor CAN/LIN communication on your PC. ViCSiM interface (the device) is a small, lightweight, easy to carry device. Used with the application software, it can monitor CAN/LIN communication, acquire communication frames, simulate communication, and so on.

- □ When using only CAN, the device runs on USB bus power. (Requires no AC adapter. AC adapter is necessary when using LIN.)
- □ It can process CAN communication on 2 channels, and also monitor and simulate 2 channels of LIN communication. (In CAN communication, the device can transmit and receive frames continuously, and respond to single frames simultaneously.)
- □ The monitored communication frames can be saved into files. Also, you can process the saved communication frames and perform simulations.
- □ The application software has many features for confirming initial communications of newly developed CAN/LIN devices.
- □ The application software has the operability similar to a general integrated environment for software development. It can be used soon after the introduction, without being troubled.

Important Notices

Operating Precautions

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Chapter1 Introduction

1-1 Components of ViCSiM

The ViCSiM package includes the following components.





1-2 Part Names and Functions



CAN/LIN Connector

Connector port for CAN/LIN communication line.

LED

LED for indicating operation modes.

Blinks while in normal operation. (See "7-1-4 LED " for blinking status.)

USB Connector

Connector port for the USB cable.

Use a dedicated cable to connect the device with PC.

12V power connector port for LIN

You need to supply 12V power to the device when using LIN. For safty use, donot provide 12V power to other equipment (ex. ECU). (See " 7-1-3 Schematic of LIN " for details.)

1-3 Operation Environments

To use ViCSiM, the following environment is required.

PC

CPU·····Pentium compatible processor, 1.5GHz or faster
Memory ·····At least 256Mb
Hard disk ······At least 256Mb of free space is required
CD-ROM compatible drive ······Necessary when installing the software
USB port ······USB1.1 and/or USB2.0

Display

Use a display with screen resolution at least 1024 x 768 pixels.

OS

Use Windows XP, Vista or 7.

Windows 95, 98, Me, NT and 2000 are not supported.

Others

Keyboard, mouse, printer, and other input devices.

Chapter2 How to Install and Uninstall the Software

This chapter describes how to install and uninstall the software that comes with the package.

- · Do not connect the ViCSiM device to the PC until installation of the application software is done.
- The application software supports Windows XP, Vista and 7. (It does not run on Windows 95, 98, ME or 2000.)
- When you are installing or uninstalling the application software, please make sure you are logged in to your PC with an account that has administrative permissions.
 - If your PC does not have .NET Framework 3.5 installed, .NET Framework 3.5 installer will run automatically. You will need to connect to the internet. (Do not connect the device to the PC until the installation is done.)
 - To install .NET Framework 3.5 on Windows 8, please see the following URL.

http://msdn.microsoft.com/ja-jp/library/vstudio/hh506443.aspx

2-1 How to Install the Application Software

1. Insert the CD that comes with the package into the CD-ROM drive of your PC.

The installation will start automatically, and the following screen will open.

If the screen does not open, double click "setup.exe" icon in the CD-ROM.

	and the second second second		
Welcome to the	ViCSiM Setup Wizard		/iCSi
The installer will guide you I	through the steps required to install \	/iCSiM on your con	iputer.
WARNING: This computer Unauthorized duplication o or criminal penalties, and w	program is protected by copyright la r distribution of this program, or any p ill be prosecuted to the maximum ext	w and international iortion of it, may res ent possible under	treaties. ult in severe civ the law.

2. Click "Next" button. The following screen will open



To change the installation folder, click "Browse".

3. The following screen will open. Click "Next" button to start the installation process.



4. Confirm that the application software has been installed successfully.



5. When the application software is installed successfully, "P&ATechnologies Inc" folder will be created inside Program folder in Start menu. Inside this folder, a shortcut to the ViCSiM application, and a shortcut to the ViCSiM Interface updater (the program for updating the firmware) will be created. Also, a shortcut to the ViCSiM application will be created on the desktop.

Now the installation of the application software is completed. Next, the installation of the driver will start.

2-2 How to Install the Driver

The driver supports Windows XP, Vista and 7. (It does not run on Windows 95, 98, ME or 2000.)
When you are installing or uninstalling the driver, please make sure you are logged in to your PC with an account that has administrative permissions.

1. After the installation of the application driver, installation of the driver will start. Click "Next" to continue.

ViCSiM Driver Installation Wiza	Installation Wizard! This wizard helps you install the software drivers that VCSIM need in order to work.
	To continue, click Next.
	< Back Next > Cancel

The following screen will appear, and the installation of the driver is completed.

ViCSiM Driver Installation Wiza	ard	
	Completing the Vi Installation Wizar	CSiM Driver d
	The drivers were successfully in	stalled on this computer.
	You can now connect your dev	ice to this computer. If your device
	Driver Name	Status
	✓ P&A Technologies Inc. (Ready to use
	Back	Finish Cancel

2. Next, connect the ViCSiM device to your PC with a USB cable. (If you are using Windows XP, you need to connect the device to the PC before installing the driver.)

The following screen will open, and now ViCSiM is ready to use.

If the ViCSiM device is functioning normally, the status LED will start to blink. (See "7-1-4 LED" for blinking status.)

Driver Software Installatio	n	×
ViCSiM installed		
ViCSiM	Ready to use	
		Close

3. If the driver is successfully installed and the device is functioning normally, the following items will be shown on Device Manager.



Now the installation of the driver is completed.

2-3 How to Uninstall the Application Software

- 1. Click [Start] [Control Panel] and select "Programs and Features".
- 2. Select "ViCSiM" and uninstall the application software.



Now the uninstalling of the application software is completed.

Next, you will need to uninstall the driver.

2-4 How to Uninstall the Driver

- 1. Click [Start] [Control Panel] and select [Device Manager].
- 2. Right click the item "ViCSiM ", and select " Uninstall " from the right button menu.



Now the uninstalling of the driver is completed.

Chapter3 How to Use the ViCSiM Application Software

3-1 Simulation Mode and Monitor Mode

There are two main modes in the ViCSiM application software: **Simulation Mode** and **Monitor Mode**.

In Simulation Mode, you can display the communication data which flow through CAN or LIN bus. Also, you can create your own communication data, or execute automatic response.

In Monitor Mode, you do not intervene in the communication data flow; you can only display the ongoing data.

Here is a hint for choosing which mode to use:

- $\hfill\square$ If you want to intervene in the communication and execute the response commands and so
 - on, use Simulation Mode.

This mode is useful when you want to check the communication response of a newly developed device, or measure the response time of commands

ACK response is always valid

□ If you want to only monitor the communication state, use **Monitor Mode**.

This mode is useful when you are monitoring the communication state of a device during operation.

You can select whether ACK response is enabled or disabled. (See "6-1-4 Settings Menu, 1.Device Settings" for details.)

Simulation Mode and Monitor Mode are selectable at the startup of the application software.



If you want to change the mode after the startup, select Mode menu.

ViCSiM - default.s	pj [Simulati	ion Mode]							
File Mode Vie	w Settings	e Help							
Simulat	tion								
Log									
		● 駒 •	1 8 %	№ @ - 1	1 1	相關			
No. BLE	Dir Ch	Туре	ID	DLC Data			CS	Wait	Label
							-		
ame Simulation Response Frame	Send Frame								1
ame Simulation Response Frame ⊇ 🐖 🐼 I 👺 🔚	Send Frame	× 1 1	l						1

The windows shown right after selecting the mode are docked to the frame.

You can freely arrange the layout by dragging them.

•The windows shown in this manual are " tiled ".



Chapter4 Simulation Mode

4-1 Functions of the Windows

In Simulation Mode, there are three types of windows.



Log Simulation

In this area, you can type in continuous transmission/reception executing sequence. This area is for writing source codes.

Frame Simulation (frame response, frame transmission)

In this area, you can type in single transmission/reception behaviors. This area is for writing source codes.

Log Monitor

In this area, the actual communication frames that flowed through the line are displayed. This area is for monitoring communication frames. (It is for display only, and data cannot be modified.)

•Log Simulation and Frame Simulation can be executed **independently and simultaneously**. For example, you can execute single frame communications in Frame Simulation window, while executing continuous transmission and reception in Log simulation window.

4-2 Frame Simulation

In Frame Simulation area, you can type in single transmission and reception behaviors. It has two functions: the frame transmission and the frame response.

4-2-1 Frame Transmission

This is the function to transmit frames.

If you click on "Frame Transmission" tab and double click an appropriate row, the dialog for creating a frame will open.

In this dialog, you can specify the transmission channel, ID, Data and so on.

((VCSIM - default.sp) [Simulation Mode] File Mode View Settings Help E 😌 🕼 1 🚳 🚳	c ; 0
og Simulation 面面的是中来。"四字字影响在大学中。18月	Log Monitor 20 🖬 🗂 🖸 💷 🚺 🛅 🌆 📾 🐨 🎤 🛩 🐁 🖓
No. B L E Dir Ch Type ID DLC Date CS Hai	Time Ch Dir Type ID DLC Data CS Status d Frame data setting - List1 S: The sent frames are shown here. S: Status
Image: series Image: series Performe Frame Series C Dir Ch Upper Series C Dir Ch Upper Series Series Series Series Series	Derection Chennel Chennel Chennel Chennel Chennel Chennel Chennel Chennel Chennel Chennel Chennel Chennel Contractor Contrac

1. Items in Frame Transmission Area

Items set in Frame Transmission Dialog are shown.

Fran	ne	Sir	nulat	tion										2
F	les	pon	se Fr	ame	Send Frame									
	E	3	2			*	X	14						
Г		С	Dir	Ch	Туре	ID	DLC	Data	Wait	Int	Cnt	Keys	Label	^
	1		Tx	CAN1	Data	555	8	FF FF FF FF 00 00 00 00	0	0				
	2		Tx	LIN1	Master	3F			0	0		Cur	ent row	
•	3		Тx	CAN1	Data	555	8	FF FF FF FF 00 00 00 00	0	0	-	- C ull		
	4												-	
	5													-
4	L.	_					ŵ.	#1					i i	

С

The check specifies whether to transmit the frame. (Only the checked frames are sent.)

Dir

The direction of transmission/reception (Always Tx)

Ch

Channel

Туре

Frame type

ID

ID

DLC

Data Length Code

Data

Data to be transmitted

Wait

Wait time before transmission

Int

Interval time between frames in continuous transmission

Cnt

The number of times of transmission in continuous transmission

Keys

Shortcut keys

Label

Label

2. Icons

There are following operation icons in the frame transmission.

🛅 Open File

Loads the frames saved into a file. (Extension: " sfd ")

🔚 Save File

Saves the created frames into a file. (Extension: "sfd")

鄼 Import Log Data

Imports the frame information saved in Log Monitor. (See 4-3.)

Start Single Frame Transmission

Transmits the selected frame only once.

Start Continuous Frame Transmission

Transmits the selected frame for the number of times set in "4. Frame Transmission Dialog "



Transmits the checked frames only once.

Start Continuous Transmission of Checked Frames

Transmits the checked frames, for the number of times, and with interval of time between the frames, set in "4. Frame Transmission Dialog".

Stop Continuous Frame Transmission

Stops the continuous transmission.

🐌 Cut

Cuts the selected frames. (Multiple frames can be selected)



Copies the selected frames. (Multiple frames can be selected.)

🔋 Paste

Pastes the copied or the cut frames into the currently selected row.

All the data will be pasted as transmission frames (Tx).

× Delete

Deletes the currently selected row.

🧊 Up

Moves the currently selected frame one row up.

👃 Down

Moves the currently selected frame one row down.

3. Right Button Menu

These right button menu items are available in the frame transmission area. (See " 2.Icons " for details.)

1	Send Single	Ctrl+Space
23	Send Repeat	Ctrl+R
8	Cut	Ctrl+X
P	Сору	Ctrl+C
1	Paste	Ctrl+V
×	Delete	Del
Î	Up	Ctrl+U
1	Down	Ctrl+D

4. Frame Transmission Dialog

In frame transmission dialog, the following settings can be made.

•Some setting items are different between CAN and LIN.

Direction (Common between CAN and LIN)

Always "Tx ".

Channel (Common between CAN and LIN)

Select an item from CAN 1, 2, LIN 1 and 2.

Channel	CAN1 🗸	
Frame Type	CAN1 CAN2	•

Frame Type (CAN)

Select Data or Remote.

Direction	Tx v
Channel	CAN1 👻
Frame Type	Data
	Pata

Frame Type (LIN)

Always "Master".

Direction	Tx =	
Channel	LIN1 V	
Frame Type	Master	+

ID (CAN)

Select the number of bits in an ID, and enter the value.

Direction	IX +
Channel	CAN1 -
Frame Type	Data 🔹

ID (LIN)

Enter an ID value.

Direction	Tx +	
Channel	LINI	
Frame Type	Master	

DLC and DATA (CAN)

Specify the byte count of Data Length Code, and the value of Data. (In the picture below, the byte count is set to 6.)

If you right click the input area while entering Data, the BIT-entry mode dialog will open.

Channel CAN1 Frame Type Data ID EID (29bit) IFFFFFF DLC Data 6 0 00 00 00 00 00 00 00 00 Wait Int t click this area to open BIT-entry mode Intract work Continuous Transmission Interval 0		Direction	Tx –						
Frame Type Data ID EID (29bit) • 1FFFFFFF DLC Data 6 • 00 00 00 00 00 00 00 00 Wait Int ht click this area to open BIT-entry mode Interval 0		Channel	CAN1 -						
ID EID (29bit) IFFFFFF DLC Data 6 00 00 00 00 00 00 00 00 Wait Int t click this area to open BIT-entry mode Tritual Wait Continuous Transmission Interval 0		Frame Type	Data		•				
6 (a) 00 00 00 00 00 00 00 Int click this area to open BIT-entry mode Int Data bit setting Continuous Transmission Interval 0		ID EID (29bit) 🔹 1F	FFFFFF		-			
Continuous Transmission	ha al'al	6 🗟 00	00 00 00 00	0 00 00	00		Wait	Int	Cn
Interval 0		Continuous	Transmission	Data bit	settir	ng	1		
Data 00 00 00 00 00 00		Interval	0	Data	00	00 0	00.0	0 00 0	0 00

Initial Wait (Common between CAN and LIN)

Specify the initial wait time (in milliseconds) for both single and continuous frames.

When you send a single frame, it will be sent to the bus after waiting for the initial wait time entered here.

When you are sending the frames continuously, the first frame will be sent after waiting for the initial wait time, then following frames are sent at the interval time. (In the picture below, the first frame will be sent after waiting for 500msec.)



Continuous Transmission (Common between CAN and LIN)

Specify the interval time between the frames in milliseconds, and the number of times to send continuous frames (In the picture below, the first frame will be sent after waiting for 500msec, then the next two frames are sent at the interval of 123msec.)

This setting is ignored on single frame transmission.

nterval	123	msec

Shortcut Keys (Common between CAN and LIN)

A shortcut key can be applied to the frame, if necessary.

💟 Count	2	times	
Shortcut Keys		-	
Label First Tx	A		
	В		

Label (Common between CAN and LIN)

A label can be applied to the frame, if necessary.

Label	First Tx	
000000	Deserved.	_

4–2–2 Frame Response

In frame response function, Reception (Rx) and Transmission (Tx) always work in pair.

Rx receives the frame with specified condition, then ...

Tx sends the frame prepared in advance

If you click on "Frame Response" tab, and double click an appropriate row, the dialog for creating a response frame will open.

In this dialog, you can specify the receiving conditions and the frame to send.

VICS/M - default.spj [Simulation Mode]		
File Mode View Settings Help	Response Frame data setting - List1	
	Rx	1
Ling Simulation	Direction Rs +	
◎目40·□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	Channel CH12 •	💩 15日 👽 🏛 15日 🔑 🌾・ 🦄 164
No. 8 L E Dir Ch Type ID DLC Data	Frame Type Data •	Dir Type ID DLC Data CS Status
	10 [SID (11bit) • 7/F	
	DLC Dete	5: The received frames are shown here
	3: Dialog for creating a respor	nse
	frame will open.	
	Direction Ta =	
(C)	Channel CAN1 +	
	Frame Type Data •	
1: Click on "Frame Response" tab.	1D SID (11bit) • 7FF	
	DLC Date	
4: Operate with icons.		
	00 Transmit Wait 0 meec	
2: Double click a row	00	
2. Double click a row.	Label	
Checked rows will make		
	Circle Circle	

1. Items in Frame Response Area

Items set in the frame response dialog are shown.

Fram	e S	limu	ation								×
Re	spo	onse	Frame	Send Fra	ime						
B	1	•		1 %		1					
	E	D	ir Ch	Туре	ID	DLC	Data	CS	Wait	Label	*
	111	R	CAN1	Data	555	8	00 00 00 00 00 00 00 00		0		
	104	T	CAN1	Data	7FF	8	00 00 00 00 00 00 00 00	5	0		
		R									
	11.	" D	-					1			
		Ro									
		T	0								
4	1 E	Ro				_		_			-
		135									

Е

Enable (Checked lines will respond.)

Dir

Direction of transmission/reception

Ch

Channel

Туре

Frame type

ID

ID

DLC

Data Length Code

Data

Transmission/reception data

CS

Checksum (LIN only)

Wait

Wait time before sending the response frame (CAN only))

Label

Label

2. Icons

There are following operation icons in frame response.

🛅 Open File

Loads the frames saved into a file. (Extension: " sfd ")

🔚 Save File

Saves the created frames into a file. (Extension: "sfd")

鄼 Import Log Data

Imports the frame information saved in Log Monitor. (See 4-3.)



Start Frame Response

Starts responding to the checked row



Stop Frame Response

Stops the response procedure.



Cuts the selected frames (Multiple frames can be selected.)



Copies the selected frames. (Multiple frames can be selected.)



Pastes the copied or the cut frames into the currently selected row.



Deletes the currently selected row.

🧊 Up

Moves the currently selected frame one row up.

🌷 Down

Moves the currently selected frame one row down.

3. Right Button Menu

These right button menu items are available in Frame Response area. (See "2.icons" for details.)

*	Cut	Ctrl+X			
P	Сору	Ctrl+C			
自	Paste	Ctrl+V			
×	Delete	Del			
Î	Up	Ctrl+U			
1	Down	Ctrl+D			

4. Frame Response Dialog

In Frame Response dialog, you can specify the receiving condition frame and the frame to send.

- •LIN does not have transmission frames. In Frame Response, it will always work as Slave. (After receiving the header of the specified ID, the response set in DLC and Data will be sent.)
- •Some setting items are different between CAN and LIN.

4.1. Settings for Receiving Condition Frames

Direction (Common between CAN and LIN)

Always "Rx ".

Channel (Common between CAN and LIN)

Select an item from CAN 1, 2, LIN 1 and 2.

x						
Direction	Rx		*			
Channel	CAN1		•			
Frame Type	CAN1 CAN2					•
ID SID (1 LIN2		15	ŝ		- 1
DLC Data						
8 00	00 00	00	00	00	00	00

Frame Type (CAN)

Select Data or Remote.

Rx +		
CAN1 🔹		
Data		
Data Remote		
	Rx + CAN1 + Data Data 1 Remote	
Frame Type (LIN)

Always " Slave ".

λx					5.1 38			
Direction		R	¢		-			
Channel		u	N1		•			
Frame Ty	/pe	S	ave					1
ID I	LIN I	D		-	ЗF			
DLC D	Data							
8 🗐	00	00	00	00	00	00	00	00

ID (CAN)

Select the number of bits in an ID, and enter the value.

Rx	
Direction	Rx +
Channel	CAN1 🔹
Frame Type	Data 🔹
ID SID	(11bit) - 7FF
DLC SID	(11bit) (29bit)

ID (LIN)

Enter an ID value.

x						
Direction	1	Rx	7]		
Channel		LIN1	•]		
Frame T	ype	Slave				Ŧ
ID	LIN I	D	- 3	F		_
DLC I	Data					
8	00	00 00	00 0	00 00	00 0	00

DLC and Data (Common between CAN and LIN)

Specify the byte count of Data Length Code, and the value of Data.

If you enter "XX" from the keyboard, you can set a specific data byte as " don ' t care ".

If you right click the input area while entering Data, the BIT-entry mode dialog will open.

(If you enter "*", you can set a specific data bit as " don ' t care ".)

Direction	Rx +
Channel	CAN1 +
Frame Type	Data
	(11bit) • 7FF
8 00	00 00 00 00 00 00 00 00
Right click this m	area to open BIT-entry ode dialog.

Checksum (LIN)

Select the type of checksum. (Classic or Enhanced)

Direction	'n	RJ	6		*			
Channel		LI	N1		•			
Frame T	ype	SI	ave		2.0			-
ID	LIN 1	D		*	3F			
DLC	Data	}						
8	00	00	00	00	00	00	00	00
Checksu	m	d	assic	-	•			

4.2. Settings for Frame Transmission

Direction (CAN)

Always " Tx ".

Channel (CAN)

The channel specified at "4.1. Settings for Receiving Condition Frames" is set in here.

Frame Type (CAN)

Choose Data or Remote.

Direction	Tx +
Channel	CAN1 +
Frame Type	Data
	Data (1 Remote

ID (CAN)

Select the number of bits in an ID, and enter the value.

Direction	Tx	Ŧ
Channel	CAN1	*
Frame Type	Data	
	(29bit) •	1FFFFFFF
DLC SID	(11bit)	

DLC and Data (CAN)

Specify the byte count of Data Length Code, and the value of Data.

If you right click the input area while entering Data, the BIT-entry mode dialog will open.

F	Data					1.1	3		
Frame Type	Data								
ID SID (11bit)	-) [555						
DLC Data									
8 🗑 🛛 00	00 00	00	00	00	00	00		E	
Pigh	t click this are	ea to o	pen						
Transm B	T-entry mode	dialog	•						
Transm	T-entry mode	dialog	-						
Transm B	T-entry mode		00	00	00	00	00	00	00

Transmit Wait (CAN)

Specify the period of time in milliseconds, from when the receiving condition is fulfilled till when the data is sent. (In the picture below, the wait time is 123msec.)

Frame	Туре	Da	ata					
ID	SID	(11b	it)	•	555	2		
DLC	Data	Data						
	00	00	00	00	00	00	00	00

Label (Common between CAN and LIN)

A label can be applied to the frame, if necessary.

Data Frame Type ٠ ID SID (11bit) 555 • DLC Data 8 00 00 00 00 00 00 00 00 Transmit Wait 123 msec Label First Response

4-3 Log Monitor

In Log Monitor area, communication frames that actually flowed through the line are shown. The displayed frames can be saved into a file, read from the file, copied and pasted. Also, there is the logger function, which enables logging for a long period of time. At the start of monitoring, a log file is created automatically, and the data is automatically saved into this file while monitoring. (See " 4-3-7 Logger Function ".)

o Simulation	i too b	treators trains	#41.0									10
日初・門営業になったい対象ななたらないたとはない	1			1	彩牌。	1 100 100	2.42	10.37	5A			1.17
No. 9 L C Diel Ch. Tune 10 DIC Data CS Mai		Time	Ch.	Die	Tune	TD	Inc	Date	-	175	Centile.	-
to o c c our on type to occonce to the	- I	1000	CANE	1 10 23	type	40	1.055	11		1.00	348445	
		480.2093	LANT	EX.	Uata	021	- 10	11	00.00		CHE CHE	
		480.2203	CANI	RX	Data	020		00 05	00 00		OR OL	
		469.2313	CANS	100	Data	020	- 2	00 05	00 00		CH.	
	4	480,2523	CANI	BX:	Data	020	- 21	00 05	00 00		OF	
		490-2232	CANS	24	Data	020		00 05	00 00		OL.	
		480							10 90		04	
		101				0			0.00		01	
		Fram	nes tio	wea	Inrougn	the line	are sr	iown.	0.00		01	
		411							0.00		01	
		480.3082	CANT	Pre	Data	020	4	00 05	00 00		Ok	
Erames can be copied and pasted	-	480.3124	CANT	Re	Data	010	- ÷	00 00	00 DE 17 00 00 00		OV	
		480.3194	CAN1	Re.	Data	070	ā.	00.05	00.00		Ok	
ma sumueron		480.3196	CAN1	Ex.	Data	021	1	11			Ok	
Response Frame Send Frame		480.3306	CAN1	Re	Data	020	4	00 05	00 00		Ck	
		480.3415	CAN1	Rx	Deta	020	4	00 05	00 00		Ok	
		480, 3575	CANT	Ex	Dete	020	4	00.05	80.00		Ok	
		480.3635	CAN1	Rx.	Dete	020	4	00 05	00 00		Ok	
			A	Rx.	Deta	020	4	00 05	00 00		Ok	
E Dir Ch Type ID USte CS Keit Label		480.3745	LANI			10.00					Ok	
E Dir Ch Type ID Forts C5 Meit Label		480.3745 480.3746	CAN1 CAN1	Rx-	Data	041	1	11			01	
E Dir Ch. Type ID State CS Weit Label		480.3745 480.3746 480.3856	CAN1 CAN1 CAN1	Rx Rx	Data	020	4	00 05	00 00		040	
Dir Ch Type ID Vate C5 Meit Label 12 No. CANI Cette 5.0 No. 00 00 00 00 0 12 To CANI Cette 5.0 No. 00 00 00 0 0 12 To CANI Deta 7FF 0 00 00 00 00 00 00 00 00 0		480.3745 480.3746 480.3856 480.3965	CAN1 CAN1 CAN1 CAN1	Rx Rx Ra	Data Data Data	020	4	11 00 05 00 05	00 00 00 00		Ok	
Control Source Source C5 Meit Label E Dir Ch. Type TO Formation C5 Meit Label Image: CANT Data Source N N 0 00 00 00 00 0 <td></td> <td>480.3745 480.3746 480.3856 480.3965 480.4074</td> <td>CAN1 CAN1 CAN1 CAN1 CAN1</td> <td>RX RX RX</td> <td>Data Data Data</td> <td>020 020 020</td> <td>4 4</td> <td>11 00 05 00 05 00 05</td> <td>00 00 00 00 00 00</td> <td></td> <td>Ok Ok</td> <td></td>		480.3745 480.3746 480.3856 480.3965 480.4074	CAN1 CAN1 CAN1 CAN1 CAN1	RX RX RX	Data Data Data	020 020 020	4 4	11 00 05 00 05 00 05	00 00 00 00 00 00		Ok Ok	
E Dir Ch Type TD Conta C5 Mait Label 1 2 5 CANI Data 7F 8 00 00 00 0 0 0 0 0 2 1 2 2 2 <td< td=""><td></td><td>480.3745 480.3746 480.3856 480.3965 480.4074 480.4184</td><td>CAN1 CAN1 CAN1 CAN1 CAN1 CAN1</td><td>RX RX RX RX</td><td>Data Data Data Data Data</td><td>020 020 020 020</td><td>4 4 4</td><td>11 00 05 00 05 00 05 00 05</td><td>00 00 00 00 00 00 00 00</td><td></td><td>Ok Ok Ok</td><td></td></td<>		480.3745 480.3746 480.3856 480.3965 480.4074 480.4184	CAN1 CAN1 CAN1 CAN1 CAN1 CAN1	RX RX RX RX	Data Data Data Data Data	020 020 020 020	4 4 4	11 00 05 00 05 00 05 00 05	00 00 00 00 00 00 00 00		Ok Ok Ok	
Image: Control of the state of the		480.3745 480.3856 480.3856 480.3965 480.4074 480.4184 480.4293	CAN1 CAN1 CAN1 CAN1 CAN1 CAN1 CAN1	RX RX RX RX RX	Data Data Data Data Data Data	020 020 020 020 020 020	4 4 4 4	11 00 05 00 05 00 05 00 05 00 05	00 00 00 00 00 00 00 00 00 00		0k 0k 0k 0k	
E Dir Dh Type ID Conto CS Meit Label 1 2 5 CANI Data 77F 8 00<00<00		480.3745 480.3746 480.3856 480.3965 480.4074 480.4184 480.4293 480.4295	CAN1 CAN1 CAN1 CAN1 CAN1 CAN1 CAN1 CAN1	RX RX RX RX RX RX RX	Data Data Data Data Data Data Data	020 020 020 020 020 020 020 020	1 4 4 4 4 4 1	11 00 05 00 05 00 05 00 05 00 05 11	00 00 00 00 00 00 00 00 00 00		0k 0k 0k 0k 0k	
No. No. No. No. No. No. No. Label 10		480.3745 480.3746 480.3856 480.3965 480.4074 480.4184 480.4293 480.4295 480.4405	CAN1 CAN1 CAN1 CAN1 CAN1 CAN1 CAN1 CAN1	RX RX RX RX RX RX RX RX	Data Data Data Data Data Data Data Data	020 020 020 020 020 020 020 020 021 020	1 4 4 4 4 4 1 4	11 00 05 00 05 00 05 00 05 00 05 11 00 05	00 00 00 00 00 00 00 00 00 00		0k 0k 0k 0k 0k 0k	

4–3–1 Items in Log Monitor Area

The logged frames are shown here.

	-	Da la marci				
		10	B	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9.	
Time	Ch	Dir	Туре	ID	DLC	C Data CS Status
773.5450	CAN1	Rx	Data	020	4	00 05 00 00 0k
773.5560	CAN1	Rx	Data	020	4	00 05 00 00 0k
773.5669	CAN1	Rx	Data	020	4	00 05 00 00 Ok
773.5779	CAN1	Rx	Data	020	4	00 05 00 00 Ok
773.5780	CAN1	Rx	Data	021	1	11 Ok
773.5890	CAN1	Rv	Nata	Pight click to show	4	00 05 00 00 Ok
773.5999	Copy	1			4	00 05 00 00 Ok
773.6109		e 11 het die oordeel	-	020	4	00 05 00 00 Ok
773.6219	Add	to grap	h	020	4	00 05 00 00 0k
773.6311	Add	to alar	m	010	8	00 00 00 E2 0B 00 00 00 0k
773.6330	7100	co anon		020	4	00 05 00 00 0k

Time

The time that the frame was logged, or the time difference between frames (Set in "Log Monitor Settings")

Ch

The channel of the logged frame.

Dir

Direction of communication.

Туре

Frame type.

ID

Frame ID

DLC

Byte count of Data Length Code.

Data

Frame data.

CS

In LIN, checksum is shown.

Status

The status of the frame is shown.

1. Icons

Log Monitor has following operation icons.

🛅 Open File

Loads the frames saved into a file. (Extensions: " log ", " csv ")

🔚 Save Log

Saves the logged frames into a file. (Extensions: " log ", " csv ")

Clear Log

Clears the log.

Start Monitor

Starts monitoring.

Stop Monitor Stops monitoring.

Pause Monitor

Pauses monitoring.

🛅 Auto Save Log File

Switches Logger Function ON or OFF. (See "4-3-7 Logger Function ".) If Logger Function is ON, the received data will be saved into a file automatically when the logging starts.

🛐 Switch Time Display

Switches the display mode of time.

Shows the elapsed time since starting Log Monitor, or the time difference between frames (Δ T). See "4-3-2 Log Monitor Settings" for details.

Fixed to ID

Switches the display mode of Log Monitor.

If you enable this item, frames are not scrolled, and each ID is displayed in a fixed row. (Scrolling will stop.) See "4-3-2 Log Monitor Settings" for details.



Switches the alarm operation mode. See " 4-3-6 Alarms " for details.

Switch Graph Display

Switches the display mode of the graph. See " 4-3-5 Graph Display " for details.

Switch Status Display

Switches the mode of status display. See " 4-3-4 Status Display " for details.

🌽 Log Monitor Settings

Makes settings for Log Monitor.

See " 4-3-2 Log Monitor Settings " for details.

📽 Import/Export Log Monitor Settings

Imports or Exports the setting state of Log Monitor.

🛅 Сору

Copies the selected frames. (Multiple frames can be selected.)

👬 Search

Searches through the logged frames. See " 4-3-3 Search " for details.

2. Right Button Menu

The following right button menu items are available in Log Monitor area.

Ð	Сору	
	Add to graph	
	Add to alarm	

Сору

Copies the selected frames. (Multiple frames can be selected.)

Add to Graph Display

See "4-3-5 Graph Display " for details.

Add to Alarms

See "4-3-6 Alarms " for details.

4–3–2 Log Monitor Settings

In Log Monitor Settings, you can make settings for the logger function, the log function, the graph display, the alarms, and other operation options.

1. Log Tab

In Log tab, you can set the logging behavior, display mode and display colors.

1.1. Settings for Logging Behavior

Auto-save the log data to a file at start of monitoring

Check this item to use the logger function. (See "4-3-7 Logger Function" for details.)

gging operation se			
	etung		
🗸 Log data is sav	ed automatically	in a file	
File type	.log	-	

File type

Select the file type.

If you select ".log ", the items will be separated with spaces. If you select ".csv ", the items will be separated with commas.



Destination

Specify the destination where you want to save the files.

Dectination folder	C: Hisers¥mori¥An	
Desunation folder	C.+OSCI SHIIOI HAD	
Display mode		Click here to open the folder browsing dialog
ID fixed	E De	
Max lines 100	🛔 ten th	
Display color		InstallShield
Rx	Tx E	Intel Corporation

1.2. Display Mode Settings

Fixed to ID

If you enable this item, frames are not scrolled, and each ID is displayed in a fixed row. (Scrolling will stop.)

V ID fixed	£.	Delta time (AT)	📃 Display status
Max lines	100	ten thousand lines (1 - 1	00)

Time difference (Δ T)

Switches the display mode of time.

Shows the elapsed time since starting Log Monitor, or the time difference between frames



Max rows

Specify the maximum number of rows to log.

ID fixe	d		📃 Delta time (ΔT)	📃 Display status
Max lines	100	*	ten thousand lines (1 - 100)	

1.3. Color Display Settings

Foreground and Background

Specify the foreground and the background colors of Rx frames, Tx frames and error frames.

	Rx	Tx	Err	
Fore				
Back				Return to default
Display ima	age		Color	×
pispidy inte			20	

2. Graph Tab

In Graph tab, you can enable or disable the graph display, and also make settings for X-axis display width. (See also " 4-3-5 Graph Display ".)

Enable graph display

Check this item to enable the graph display.

Log Monitor setting	x
Log Graph Alarm Option	
Enabled display graph	
Display setting	— I
XAxis draw width 1 sec	

X-axis display width

Specify the display width of the X-axis of the graph.

Log Monitor setting	
Log Graph Alarm Option	
Enabled display graph	
Display setting	
XAxis draw width 10 🗸 sec	
- 10000	
9000 - Specify the display width of	
8000 -	

Graph settings

Specify the Data to show on the graph display.

Double click a row to display the setting dialog. (See " 4-3-5 Graph Display " for details.)

With the right button menu, you can copy, paste and delete the graph settings.

E	Ch	ID	Data	Label
1 7	CAN1	1		
2	8	Cut	Ctrl+X	
3		Copy (Ctrl+C	
4		Paste	Ctrl+V	
5 🕅	×	Delete	Del	
12 24	î	Up (Ctrl+U	ĥi.
	1	Down (Ctrl+D	

3. Alarms Tab

In Alarms tab, you can enable or disable the alarms, and also make settings for alarm conditions. (See " 4-3-6 Alarms " for details.)

Enable alarms

Check this item to enable the entire alarm operation.

To enable or disable the individual alarm, check or uncheck each alarm which is previously set. If you double click an alarm setting row, the alarm setting dialog will open. (To make advanced settings for alarms, see "4-3-6 Alarms".)

With the right button menu, you can copy, paste and delete the alarm settings.

				13.3023 0101
Log Monitor setting	9			×
Log Gra	ph	Alarm	Option	
Enabled alarm]			
Alarm Settings				
E Ch	Туре	ID	Data	Color
▶ 1 🗹 CAN1	Data	7FF	00 00 00 00 00 00	00 00
2 () 3 () 4 () 5 () 6 () 7 ()		Cut Copy Paste Delete Up	Ctrl+X Ctrl+C Ctrl+V Del Ctrl+U	
8	4	Down	Ctrl+D	

4. Options Tab

In Options tab, you can enable or disable the alarms. (See also "4-4 Log Simulation" and " 6-2 Projects".)

Start monitoring on opening the project file

If you check this item, Log Monitor will start automatically when you open the project file.



Start monitoring on simulation execution

If you check this item, Log Monitor will start automatically when executing the log simulation operation.

ſ	Log Monitor setting							
	Log Graph Alarm Option							
	Start the monitor at project file open							
	☑ Start the monitor during simulation (Simulation mode)							

4-3-3 Log Monitor Search

This is the function to search through logged frames.

If you click this icon, the dialog for searching will open.

	Log Monitor														ų	ЧΧ
I	> 🖪 🗆 (6	E 6	1 🖪 😨 🎤 🌮	•		ã								
ſ	Tir	ne Ch	Dir	Туре	ID	DLC	Dat	a							CS	*
	0.00	59 CAN1	Rx	Data	020	4	00	02	00	00						
	0.009	97 CAN1	Rx	Data	010	8	00	00	00	03	BF	00	00	00		
	0.01	71 CAN1	Rx	Data	020	4	00	02	00	00						
	0.022	21 CAN1	Rx	Data	010	8	00	00	00	03	BF	00	00	00		
	0.028	33 CAN1	Rx	Data	020	4	00	02	00	00						

1. Search Dialog

In Search dialog, you can set conditions for searching frames.

•Some setting items are different between CAN and LIN.

Status (Common between CAN and LIN)

Select the status condition.

Log Find	CO. Mar. Came	States of the local division of the	×
Find conditions Please enter the find cor (The status is a mandat	nditions of the frame data. ory entry.)	Find All	
√ Status	Ok 🗸	Close	
Direction	Ok Non Header		
Channel	Invalid Synch Invalid Parity Header Timeout		
Frame Type	Non Response		
ID SID (Invalid Length Invalid Checksum		
DLC Data	Invalid Format		

Direction (Common between CAN and LIN)

Select the direction of communication.

Log Find		X
Find conditions Please enter the find (The status is a man	conditions of the frame data. datory entry.)	Find All
√ Status	Ok 🔹	Close
☑ Direction	Rx •	
Channel	Rx Tx	

Channel (Common between CAN and LIN)

Select an item from CAN 1, 2, LIN 1 and 2.

Direction	Rx •	
Channel	CAN1 -	
Frame Type	CAN1 CAN2	
ID SID (1	LIN1 LIN2	F

Frame Type (CAN)

Select Data or Remote.

Channel	CAN1
Frame Type	Data
D ID SID (Data 1 Remote

Frame Type (LIN)

If Direction is Rx, select Slave or Slave (receive response).

If Direction is Tx, select Master or Master (send response).

Channel	LIN1 +	
💟 Frame Type	Slave 🔹	
ID LIN	Slave ID Slave (receive response)	
DLC Dat	3	

$\textbf{ID} (\, \mathsf{CAN} \,)$

Select the number of bits in an ID, and enter the value.



ID (LIN)

Enter an ID value.

🖌 Frame	Type Slave 💌	
🔽 ID	LIN ID + 3F	
	🔲 Data	
8 🛊	00 00 00 00 00 00 00 00	

DLC and Data (Common between CAN and LIN)

Specify the byte count of Data Length Code, and the value of Data.

If you enter "XX " from the keyboard, you can set a specific data byte as " don ' t care ".

If you right click the input area while entering Data, the BIT-entry mode dialog will open. (If you enter "*", you can set a specific data bit as " don ' t care ".)



Checksum (LIN)

Select the type of checksum. (Classic or Enhanced)



4-3-4 Status Display

1. Displaying the Status

You can display the alarm status of CAN and LIN in the lower area of Log Monitor.

Log Moni	itor														ą	×
🖻 🖪 (6	Ξ 🥑 🛛	r 😨 🎤	9 ¹³ -			â							
	Time	Ch	Dir	Туре	ID	0	DLC	Dat	а						CS	-
	0.0059	CAN1	Rx	Data	020		4	00	02	00	00					
	0.0097	CAN1	Rx	Data	010		8	00	00	00	03 B	F 00	00	00		
	0.0171	CAN1	Rx	Data	020		4	00	02	00	00					-
•			-				•								•	
	CAN Data Fran	ne Remote	e Frame	Total Fram	e Rx Error	Count	TxE	Error	Cou	nt	Error	Status	3			
CAN1	3007	0		3007	0			0			AC	TIVE				
CAN2	0	0		0	0			0			AC	TIVE				
ELIN	LIN															_
	Normal Fr	ame Err	ror Frame	e Tota	l Frame											
LIN1	0		0	0												
LIN2	Alam	0	0	0												
Alarn	n / / ildin	<u> </u>														
		Alarm Cou	int	Alarm Cor	ndition											

In CAN1/2, the following frames are shown.

Data Frame

Remote Frame

Total Frame

Rx Error Count

Tx Error Count

Error Status

In LIN1/2, the following frames are shown.

Normal Frame

Error Frame

Total Frame

In Alarm, the following frames are shown. Alarm Count Alarm Condition

4-3-5 Graph Display

You can display the frame data information as a graph in the bottom area of Log Monitor. (See also "4-3-2 Log Monitor Settings, 2. Graph Tab".)

Log Monitor	-						Ļ	×
🖻 📰 🗖 🖸 🗉 🔟 🖥 🗄 📢 🔳	1 🖻 🎤	🌮 🛛 🖻	- A					
Time Ch Dir Type	ID	DLC	Data				CS	-
0.005 🖹 Copy	020	4	00 02	00 00				
0.009	010	8	00 00	00 03	BF 00	00 00		_
0.017 [.] Add to graph	020	4	00 02	00 00				
0.022 Add to alarm	010	8	00 00	00 03	BF 00	00 00		
0.0281	020	4	00 02	00 00				
0.0346 CAN1 Rx Data	010	8	00 00	00 03	BF 00	00 00		
0.0395 CAN1 Rx Data	020	4	00 02	00 00				Ŧ
- 10000					_			
-								
You can also open the	graph sett	inas						
dialog by double click	ring this are	22						
	any ans are	-a.						

1. How to Display the Graph

To use the graph display, first, you will need to enable this function. (If you enable this function, you will be able to turn ON and OFF the graph display with the icon.)

Click the Log Monitor Settings icon, and enable the function in Graph tab.

Next, double click the graph settings area to open the graph settings dialog. (You can also open this dialog from the right button menu, as shown in the picture above.)

Log N	Monitor					С	lick	Log	Мо	nito	r Se	ettin	qs			д ;	×
					l 🖪 🖻 🥖	· •		0	-		-		0-)			
	This buttor	will be	ready if	you	ID	DLC	Dat	a							CS		*
	enable	the grap	n displa	у	020	4	00	02	00	00							
	0.0097	CANT	КX	υατά	010	8	00	00	00	03	BF	00	00	00			
	0.0171	CAN1	Rx	Data	020	4	00	02	00	00							
	0.0221	CAN1	Rx	Data	010	8	00	00	00	03	BF	00	00	00			
	0.0283	CAN1	Rx	Data	020	4	00	02	00	00		~~	~~				
	0.0346	CANT	Rx	Data	010	8	00	00	00	03	BF	00	00	00			-
	0.0395	CANT	KX	Data	020	4	00	02	00	00							-
											_	_	_				
-		10000 -	_														
-																	
				L	og Monitor settin	g											
		0000 -			las Cr	anh	Ale		Т	0-1							
		5000 -			Log	apri	Alar	m		Opt	Ion						
					Enabled displ	ay graph	~	Er	nabl	e th	e g	raph	n dis	splay			
					Display setting	ary group.									_		
		8000 -			Display seturig												
					XAxis draw wid	ith 10		•	sec								
		-															
		7000 -			Graph Settings												_
					E	Ch IC)		2	·						La	ıbε
					▶ 1 🔽 🛛 🗘	AN1	-	<u> </u>	Do	uble	e cli	ck tl	nis t	able			
		6000										_	_				

2. Graph Settings Dialog

In this dialog, the settings are categorized into three groups.

•Some setting items are different between CAN and LIN.

Graph conditions		Graph Display 9	Setting
Please input the Th	e area to specify the conditions of		The area to specify the conditions
	displaying frames		displaying frames
Direction	Rx 🔹	YAxis range -10	000 🚖 - 10000 🜩
Channel	CAN1 -	Marine and Indexes	1 1000
		TAXIS grid interva	a 1000
I Frame Type	• Data •	Color	
🔲 ID 🛛 🔲 EID	(29bit) 🔹 1FFFFFFF		TAL .
DLC Dat		DN digits	
8 🖨 🛛 00	00 00 00 00 00 00 00	Unit	
		Label	
Graph Data Setting Please define the dat	a of the grant to specify the Da frames to displa	Label	
Graph Data Setting Please define the dat	a of the g The area to specify the Da frames to displa 16 24 32 40 4	Label	t End Bit Size
Graph Data Setting Please define the dat	a of the grant of the Da frames to display 16 24 32 40 4	Label	t End Bit Size
Graph Data Setting Please define the dat	a of the g The area to specify the Da frames to displa 16 24 32 40 4	Label	t End Bit Size ★ - 0 ★ 1 ★ + 0 ★ 1 ★ 1 ★ 1 ★ 1 ★ 1 ★ 1 ★ 1 ★ 1 ★ 1 ★
Graph Data Setting Please define the dat	a of the g The area to specify the Da frames to displa 16 24 32 40 4	Label	$\frac{End}{\psi} = \frac{Da}{0} \frac{Bit Size}{\psi} = \frac{1}{0} \frac{b}{\psi}$
Graph Data Setting Please define the dat	a of the grant of the Da frames to displate the displate to th	Label	$t = End = Bit Size$ $\frac{1}{\sqrt{v}} = 0 \frac{1}{\sqrt{v}} = \frac{1}{\sqrt{v}}$ $\frac{1}{\sqrt{v}} = 0 \frac{1}{\sqrt{v}} = \frac{1}{\sqrt{v}}$ $\frac{1}{\sqrt{v}} = 1 \frac{1}{\sqrt{v}}$
Graph Data Setting Please define the dat	a of the grant of	Label	$\frac{1}{\frac{1}{\sqrt{2}}} = \frac{1}{0} \frac{1}{\frac{1}{\sqrt{2}}} = \frac{1}{0} \frac{1}{\frac{1}{\sqrt{2}}} \frac{1}{\sqrt{2}} \frac{1}{$
Graph Data Setting Please define the dat	a of the g The area to specify the Da frames to displa 16 24 32 40 4	Label	End Bit Size
Graph Data Setting Please define the dat	a of the g The area to specify the Da frames to displa 16 24 32 40 4	Label	$\frac{End}{\Psi} = \frac{End}{0 + 1} = \frac{Bit Size}{1 + \frac{1}{\Psi}}$ $\frac{A}{\Psi} = \frac{0 + 1}{0 + 1} = \frac{1}{1 + \frac{1}{\Psi}}$ $\frac{A}{\Psi} = \frac{0 + 1}{0 + 1} = \frac{1}{1 + \frac{1}{\Psi}}$ Clear
Graph Data Setting Please define the dat	a of the grant of	Label	End Bit Size
Graph Data Setting Please define the dat	a of the grant of	Label	$\frac{\mathbf{E}}{\mathbf{v}} = \frac{\mathbf{E}}{0} \qquad $

2.1. The Area to Specify the Frame Conditions

In this area, you can specify the conditions of the frames to display on the graph.

 $\ensuremath{\text{Direction}}$ (Common between CAN and LIN)

Select the direction of communication.

Graph display setting - List1	×
Graph conditions Please input the frame conditions of graph data.	Graph Display Setting
✓ Direction Rx ✓ Channel Tx	YAxis range -1000 (*) - 10000 (*) YAxis grid interval 1000 (*)

Channel (Common between CAN and LIN)

Select an item from CAN 1, 2, LIN 1 and 2.

Direction	Rx	+			
Channel	CAN1	•			
😨 Frame Type	CAN1 CAN2		*		
	LIN1	CCCCCC	a 11		

Frame Type (CAN)

Always "Data ".

✓ Direction	Rx +		
Channel	CAN1 +		
📝 Frame Type	Data		
ID EID	(29bit) • IFFFFF	Ŧ	

Frame Type (LIN)

To specify the frame type, check the checkbox. (If you want to ignore the frame type, do not check this item.)

If Direction is Rx, select Slave or Slave (receive response).

If Direction is Tx, select Master or Master (send response).

	Rx •	
Channel	LIN1 •	
V Frame Type	Slave 👻	
ID LIN	Slave Slave (receive response)	
	Slave (receive response)	

ID (CAN)

Select the number of bits in an ID, and enter the value. (If you want to ignore the ID, do not check this item.)

💟 Frame Type	Data		
ID EID (29bit) • 1FFFF	FFF	
	29bit)	0 00 00	

$\textbf{ID}~(~\mathsf{LIN}~)$

Enter the ID value. (If you want to ignore the ID, do not check this item.)

🔲 Frame 1	Гуре	Si	ave					•
🔽 ID	LIN	ID		+	3F			
DLC	Dat	а						
8	00	00	00	00	00	00	00	00

DLC and Data (Common between CAN and LIN)

If you want to specify the Data Length Code, check the checkbox and enter the DLC value. (If you want to ignore the DLC, do not check this item.)

If you enter "XX" from the keyboard, you can set a specific data byte as " don ' t care ".

If you right click the input area while entering Data, the BIT-entry mode dialog will open. (If you enter "*", you can set a specific data bit as " don ' t care ".)



Checksum (LIN)

Select the type of checksum. (Classic or Enhanced)

If you want to ignore checksum, do not check this item.

8 🗃 🕴	00 00	00	00	00	00	00	00
Checksum		lassio	- 5	•			
	-	lassi		-			
		in the second					

2.2. The Area to Specify Data

In this area, you can specify which part of the Data in the frame should be displayed on the graph

In the example below, "D7 (8 bits width) of the Data in the Frame" will be displayed on the graph.

Graph Data Setting								
Please define the data of the graph.	D4 D5 32 40 Select D7 (8 t dragging the r	You can bits bits) by nouse	also specify numerically.	the Bit Si 63 2 8 0 2 1	22 <u>x</u> <u>x</u> <u>x</u>			
Operation setting	Log Monitor		0 -	0 🔄 1 -	÷		д	×
		CI (C) (C)	16 E 🥑 🛙	I 😨 🔌	🌮 🔸 🛛 🕅	80		
	Time	Ch [Dir Type	ID	DLC	Data	CS	*
	1.2678 1.2788	CAN1 CAN1	Rx Data Rx Data	020 020	4	00 05 00 00 00 05 00 00	0.00	
	1.2040		This byte (07)	will be disp	played o	n the graph.	10 00	

In the example below, "The sum of D7 and D6 of the Data in the Frame "will be displayed on the graph.

In Arithmetic operation, you can specify the variables of A to D in the Data, constants, + (plus), - (minus), * (multiplication), / (division) signs.

Graph Data Settin Please define the da	ig ta of the gr	aph.					_									
D0 [01 D2	D3	D4	D5	D6	D7		Selec	ct D7							
0 8	16	24	32	40	48	56 63	Star	t	End	Bit	Size					
	eck						56	÷ -	63 🌲	8	*					
В							32	÷-	39 🌲	8	* *					
C	Sele	ct D6					0	* -	0 +	1	*					
D	a a k						0	* -	0 1	1	*					
Operation se	etting	Er	nter the													
A+B		cal	culation	J				Clea	ar							
Please input	a math for	mula Log N	Aonitor												ļ	p >
		B	3 🗆 🗖		10 15	E 🥑		B	js 💕	• 🏚	189					-
			Time	Ch	Dir	Туре	1	ID		DLC	Data				CS	
			1.2678	CAN1	R×	Data		020		4	00 05	00 0	0			-
			1.2788	CAN1	Rx	Data		020		4	00 05	00 0		00.00		
			The sum	of these	e two by	tes (06+	07) ۱	vill be	e displa	ayed	on the	grap	n.	00 00		

File Output

Check this item to save the graph-displaying data to a file.

The file will be saved in CSV format. (Time and Data will be saved into a file.)

🔽 Er	nabled file output		
C	: \Users \pa \Docume	nts\oj3\Gr.csv	

2. 3. The Area to Specify Display Color, Range of the Graph, and Name (Label) of the Graph **Label** (Common between CAN and LIN)

A label can be applied to the graph, if necessary.

	Graph Display Setting
Label D7	
	YAxis range 0 🚖 - 100 📥
	YAxis grid interval 10
Color (Common between CAN and LIN)	Color
Specify the color of the graph line.	DN digits 2
Color	
Color	Unit V
Basic colors	Label D7

Unit and Number of decimals

Specify the unit and the number of decimals of the value, which will be displayed on the caption area, on the left side of the graph.

Specify the number of decimal places. DN digit	ts 2	×				
Specify the unit to show						
	iog Monitor	0.01	o 💀 🗉 🥑 [📰 🖫 I 🌽 🐓	•	184
	Time	Ch	Dir Type	ID	DLC	Data
	1.6972 1.7082 1.7 <mark>1</mark> 91	CAN1 You ca dialo	Rx Data an also open the g by double click	021 graph settings ing this area.	1 4 4	11 00 05 00 00 00 05 00 00
	- V The	value is sho ecimal place	own with two es and the (=voltage).			

Unit and Number of decimals

Specify the range of Y (vertical) axis, and the spacing of the grids.

The designated range is from -10000 to 10000, and the spacing is 0 to 10000.

YAxis range	0	*	-	100	*
YAxis grid inte	rval	10			×

3. Displaying Multiple Graphs

If you want to display multiple graphs, you can specify them in Log Monitor settings.

Or, in Log Monitor area, right click on the frame you wish to display. In this case, frame conditions in the graph data settings dialog will be set automatically.

Log Monitor										1	ιx
🖻 🗐 🗖 🚺		6	E 🥑 🔤	Graph	settings dialog w	vill on	on				
Time	Ch	Dir	Туре	(Fram	e conditions will	be s	et			c	5 ^
1.2678	CAN1	Rx	Data		automatically.)			00	00		
1.2788	CAN1	Rx	Data					10	00		
1.2840	CAN1	Rx	Data	010	8	00	00	00	na I	53 00 00 00 53	
1.2899	CAN1	Rx	Data	020	4	00	05	00		Сору	
1.3009	CAN1	Rx	Data	020	4	00	05	00			-
1.3118	CAN1	Rx	Data	020	4	00	05	00		Add to graph	
1.3118	CAN1	Rx	Data	021	1	11				Add to alarm	
1.3228	CAN1	Rx	Data	020	4	00	05	00	~	Had to diditini	

Log	i li	Graph	Alarm	Option	
V E	nabled	display gra	aph		
Disp	lay set	ting			
XA	xis dra	w width	10 .	sec	
		6	200		
Graph	n Settin	igs			
Grapł	Settin	igs Ch	ID	Data	
Graph 1	E	Ch	ID	Data	Double click on the blank row
Graph	E	igs Ch CAN1	ID	Data	Double click on the blank row

The graphs will be displayed as the picture below.

		Log Monitor						
		2		B	E 🥑	🗷 😨 🌽 y	🖗 🔸 🖗	68
		Time	Ch	Dir	Туре	ID	DLC	Data
		1.6970	CAN1	Rx	Data	020	4	00 05
		1.6972	CAN1	Rx	Data	021	1	11
		1.7082	CAN1	Rx	Data	020	4	00 05
The graph o	f the values of D7	1			iii.			
		- D7	100					
The graph of	the values of D6	- temp - deg						
Y	ou can also double the graph sett	click here to open ings dialog.	90 -					÷.

4-3-6 Alarms

You can show alarms on the screen by specifying alarm conditions on the logging frames. (See also " 4-3-2 Log Monitor Settings, 3. Alarms Tab ".)

1. Switching the Alarm Operation

You can enable or disable the specified alarm operations.

Log Monitor				
🖻 📰 🗖 🗖 🗖	🔁 🎛 🗄 🥑 (🖪 😨 🎤	۴ ا 🖻 🖓	
Time Ch	Dir Type	It Swite	hes ON and OFF the alarn	ns. CS
7.2152 CAN1	Rx Data	021	1 11	
7.2263 CAN1	Rx Data	020	4 00 05 00 00	
7.2373 CAN1	Rx Data	020	4 00 05 00 00	
7 3403 6414	D D -	000	4 00 05 00 00	

2 . Add to Alarms

Choose a frame to set the alarms, and select "Add to alarms" from the right button menu. (Please execute this operation after stopping the monitor.)

Log Monitor						
🖻 🗒 🗖 I 🖸 🔲 I 🖉	1 12) 🗄 🥑	🌆 😨 🎤	🌮 🗕		
Time Ch		Stop mo	onitoring	DLC	Data	
7.2152 CAN1	Rx	Data	021	1	11	
7.2263 CAN1	Rx	Data	020	4	00 05	00 00
7.2373 CAN1	Rx	Data	020	4	00 05	00 00
7.2483 CAN1	Rx	Data	020	4	00 05	00 00
N1	Rx	Data	020	4	00 05	00 00
Open the right IN1	Rx	Data	020	4	00 05	00 00
button menu	Rx	Nata	021	1	11	
7.2812 CAN1	Rx 🗉	📄 Сор	у	4	00 05	00 00
7.2922 CAN1	Rx			- 4	00 05	00 00
7.3032 CAN1	Rx	Add	to graph	4	00 05	00 00
7.3141 CAN1	Rx	Add	to alarm	4	00 05	00 00
7.3251 CAN1	Rx-		~~~	4	00 05	00 00

3. Alarm Settings Dialog

Direction (Common between CAN and LIN)

To specify the direction of communication, check the checkbox, and select "Tx" or "Rx". (If you want to ignore the direction, do not check this item.)

Alarm setting - List4	×
- Alarm conditions	
Direction	Rx 👻
Channel	Rx Tx

Channel (Common between CAN and LIN)

Select an item from CAN 1, 2, LIN 1 and 2.

Alarm setting - List4		×	J
Alarm conditions]	
Direction	Rx	•	
Channel	CAN1	•	
Frame Type	CAN1 CAN2		
✓ ID SIE	LIN1 (1 LIN2	1	

Frame Type (CAN)

To specify the frame type, check the checkbox. (If you want to ignore the frame type, do not check this item.)

Channel	CAN1 -
V Frame Type	Data 🔹
☑ ID SID (Data 1 Remote

Frame Type (LIN)

To specify the frame type, check the checkbox. (If you want to ignore the frame type, do not check this item.)

If Direction is Rx, select Slave or Slave (receive response).

If Direction is Tx, select Master or Master (send response).

Direction	Tx •
Channel	LIN1
Frame Type	Master

ID (CAN)

To specify the ID, check the checkbox, select the number of bits in an ID, and enter the value. (If you want to ignore the ID, do not check this item.)



$\textbf{ID}~(~\mathsf{LIN}~)$

To specify the ID, check the checkbox, and enter the ID value. (If you want to ignore the ID, do not check this item.)

Channel		LIN1		٠
V Frame T	уре	Master		•
ID ID	IN ID	*	3F	

DLC and Data (Common between CAN and LIN)

If you want to specify the Data Length Code, check the checkbox and enter the DLC value. (If you want to ignore the DLC, do not check this item.)

If you right click the input area while entering Data, the BIT-entry mode dialog will open.

	✓ Data 11 00 00 00 00 00 00
BIT-entry	v mode dialog
F	Data 11 00 00 00 00 00 00 00 B7 B0 D0 0 0 0 1 0 0 0 1 D1 0 0 0 0 0 0 0 0 0

Checksum (LIN)

To specify checksum, check the checkbox, and select Classic or Enhanced. (If you want to ignore checksum, do not check this item.)

Checksum Classic			Class	sir	_	_	_	-
	Checksum	E.	Class	sic				

Display Color (Common between CAN and LIN)

Specify the display color at alarm occurrence.



4. Cancelling the Alarm (Delete)

Please see "4-3-2 Log Monitor Settings,3 . Alarms Tab " for details.

4-3-7 Logger Function

The logger function enables long-term logging. It creates a log file at the start of a monitoring, and data is automatically stored in this file while the monitoring is going on. While the logger function is active, all the received data is stored into this file endlessly.

- •To use the logger function, please enable the logging operation in the log monitor settings dialog in advance. (See4-3-2)
- •The file name consists of the date and time of the start of monitoring, and the serial number. The format will be "yyyymmddhhmmss_XXXX". If the maximum number of rows is reached on the display of Log Monitor, the file will be divided automatically, and the serial number is appended at the position of "XXXX" (0001, 0002, 0003...).

•The size of the files may become larger than expected. Please watch the remaining capacity of the storage.

Log	g Monitor	setting				X		
	Log	Graph	Alarm	Option				
	Logging operation setting							
	☑ Log data is saved automatically in a file							
	File typ	ype .log •						
	Destinat	ion folder	C: \Users \pa \A	ppData\Roar	ming\PandA\ViCSiM			

You can use the icon to turn ON and OFF the logger function.

Log Monitor				
		6	Ξ 🥑 🖪	P
Icon to turn ON and OFF	the logger	Dir	Туре	ID
23.3253	CAN1	Rx	Data	020
23.3290	CAN1	Rx	Data	010
23.3364	CAN1	Rx	Data	020
23.3366	CAN1	Rx	Data	021

4-4 Log Simulation

Log Simulation is the function to execute transmission and reception of frames sequentially. You can execute it with starting and ending lines specified, set breakpoints, or execute repeatedly, just like a source-level debugger.

•Log Simulation and Frame Simulation can be executed **independently and simultaneously**. For example, you can execute single frame communications in Frame Simulation window, while executing transmission and reception in the Log Simulation window.

4–4–1 Items in Log Simulation Area

Items setted by Log Simulation dialog will will be displayed.

Log Simulation														▼ X
≥ 🗑 🕸 • 🗖 🖫 🖷 🖫 🐠 🌳 🙌 • Ĉ 😕 % 🛍 🚔 📉 🗙 🛊 👪 🔤														
No.	В	L	E	D	ir	Ch	Туре	ID	DLC	Data	CS	Wait	Label	*
1			V	R	ĸ	CAN1	Data	020	4	00 01 00 00				
2				R	x	CAN1	Data	020	4	00 01 00 00				
3				R	ĸ	CAN1	Data	021	1	11				
4				R	x	CAN1	Data	020	4	00 01 00 00				
5			V	R	x	CAN1	Data	020	4	00 01 00 00				
6			V	R	x	CAN1	Data	020	4	00 01 00 00				

No.

The row numbers of simulation data.

В

The setting status of the breakpoints.

You can set and cancel the breakpoints by clicking this column.

L

The setting status of the loop points.

You can set and cancel the loop points by clicking this column.

Е

Enable

Enables or disables the corresponding row. (Only the checked rows are simulated.)

Dir

The direction of transmission/reception.

Ch

Channel

Туре

Frame type

ID

ID

DLC

Data Length Code

Data

Transmission/reception data

CS

Checksum (LIN only)

Wait

Wait time before sending the Tx frame

Label

Label

1. Icons

There are following operation icons in Log Simulation.

🛅 Open File

Loads the log simulation file previously saved. (Extension: "Isd ")

🔚 Save File

Saves the log simulation file. (Extension: " Isd ")



<table-of-contents> Import/Export Log Data

Imports the frame information exported from Log Monitor (see4-3). Or, exports the created simulation data in other formats. (Extensions: "log ", " csv ")



Clear All Simulation Data

Clears the simulation data.



Start From the Top Row

Starts the simulation from the top row. (See " 4-4-3 Executing the Simulation " for details.)

Execute From the Current Row

Executes the simulation from the currently selected row. (See 4-4-3 Executing the Simulation" for details.)

Stop Execution

Stops the simulation. (See "4-4-3 Executing the Simulation" for details.)

Step Execution

Starts stepping execution. (See " 4-4-3 Executing the Simulation " for details.)

Set/Clear Breakpoint

Sets or clears a breakpoint on the current row. (See " 4-4-3 Executing the Simulation " for details.)

Note: The set of the s

Sets or clears a loop point on the current row. (See "4-4-3 Executing the Simulation" for details.) You can also open the loop count setting dialog from the drop down list.
📋 New

Adds a new simulation data below the current row. (Opens a dialog.)

🔚 Insert

Adds a new simulation data above the current tow. (Opens a dialog.)

b Cut

Cuts the selected simulation data. (Multiple data can be selected.)

눹 Сору

Copies the selected simulation data (Multiple data can be selected.)

📔 Paste

Pastes the copied or cut simulation data to the current row.

Insert Copied Data

Pastes the copied or cut simulation data to the row above the current row.



Deletes the simulation data of the current row.

👔 Up

Moves the data of the current row one row up.

👢 Down

Moves the data of the current row one row down.

🜆 Replace

Replaces the contents of the simulation data with the specified data. (Opens a dialog.)

👬 Search

Searches through the simulation data. (Opens a dialog.)

2. Right Button Menu

These right button menu items are available in Simulation Data area. (See "1.lcons" for details.)

門	New	Ctrl+N
-	Insert 📕	Ctrl+E
b	Cut	Ctrl+X
à	Сору	Ctrl+C
	Paste	Ctrl+V
	Insert Copied Data	Ctrl+1
×	Delete	Del
î	Up	Ctrl+U
Î,	Down	Ctrl+D
19	Find	Ctrl+F
ba	Replace	Ctrl+R

4-4-2 Creating Log Simulation Data

You can use a special dialog to create, search and replace the simulation data.

If you click New (or Insert) icon, a dialog for creating data will open.

If you click Replace icon, a dialog for replacing data will open.

Log	Log Simulation × X																
28	🖗 🗕 📃		\$ 🖶		🔴 🙌 -		ا 🖻 🔥		X	t I	間	¢a.					
No.	BL	E	Dir	Ch	Туре	ID	DLC	Data					CS	Wait	Label	1	-
1		V	Rx	CAN1	Data	020	4	00 01	00 0	0							
2	2	V	Rx	CAN1	Data	020	4	00 01	00 0	00							
3	3	V	Rx	CAN1	Data	021	1	11									
4	Ļ	V	Rx	CAN1	Data	020	4	00 01	00 0	00							
5	5	V	Rx	CAN1	Data	020	4	00 01	00 0	00							
6	5	V	Rx	CAN1	Data	020	4	00 01	00 0	00							

1. Log Simulation Data Settings Dialog

In the log simulation data settings dialog, you can make settings for simulation data.

•Some setting items are different between CAN and LIN.

Direction (Common between CAN and LIN)

Select the direction of communication.

•In LIN communication, Direction will be the direction of the header. If you are sending the header as Master,

select Tx. If you are receiving the header as Slave, select Rx.

Direction Rx Channel Rx Tx	Log Simulation data	setting X
	Direction	Rx -
Frame Type Data	Frame Type	Data •

Channel (Common between CAN and LIN)

Select an item from CAN 1, 2, LIN 1 and 2.

Log Simulation data	setting	x
Direction Channel Frame Type ID SID (1	Rx CAN1 CAN1 CAN2 LIN1 LIN2	

Frame Type (CAN)

Select Data or Remote.

Log Simulation data	setting 📃 🔀
Direction	Rx •
Channel	CAN1 V
Frame Type	Data 🗸
ID SID (1	Data Remote

Frame Type (LIN)

If Direction is Rx, select Slave or Slave (receive response).

If Direction is Tx, select Master or Master (send response).

Master

ViCSiM sends the Header as Master, and waits for the Response from Slaves.

Master(send response)

ViCSiM sends the Header as Master, and also sends the Response to other Slaves.

Slave

ViCSiM waits to receive the specified Header as Slave, and sends the Response after receiving the Header.

Slave(receive response)

ViCSiM waits to receive the specified Header as Slave, and also waits for the Response from other Slaves.

Log Simulation data s	setting
Direction	Rx
Channel	LIN1 -
Frame Type	Slave 🗸
ID LIN ID	Slave Slave (receive response)

$\ensuremath{\text{ID}}$ (CAN)

Select the number of bits in an ID, and enter the value.

Direction	Rx •
Channel	CAN1 -
Frame Type	Data 🔹
ID EID (29bit) 🗸 1FFFFFF
DLC SID (11bit) 29bit) 00 00 00 00 00

 $\mathbf{ID}\;(\;\mathsf{LIN}\;)$

Enter an ID value.

Directio	n	Rx		•			
Channe	Ī	LIN1		•			
Frame	Туре	Slave					•
ID)	-	3F			
DLC 8 曼	Data 00 (00 00	00	00	00	00	00

DLC and Data (Common between CAN and LIN)

Specify the byte count of Data Length Code, and the value of Data.

If Direction is Rx, you can set a specific data byte as "don't' care" by entering "XX" from the keyboard. However, in LIN communication, you can only set "don't care" in the Data part if the Frame Type is Master or Slave (receive response).

If you right click the input area while entering Data, the BIT-entry mode dialog will open. (If you enter "*", you can set a specific data bit as " don ' t care ".)

Frame	Type Data 💌
ID	EID (29bit)
DLC 8 🖢	Data 00 00 00 00 00 00 00 00 00
	Right click this area to open BIT-entry mode dialog.
Tra	
Lab	Data 00 00 00 00 00 00 00 00
	D0 0 0 0 0 0 0 0 0 D1 0 0 0 0 0 0 0 0

$\textbf{Checksum} (\ \textsf{LIN} \)$

Select the type of checksum. (Classic or Enhanced)



Transmit Wait (Common between CAN and LIN)

If Direction is Tx, you can specify the wait time before sending the data in milliseconds. (In the picture below, the wait time is 123msec.)



Label (Common between CAN and LIN)

A label can be applied to the data, if necessary

Transmit Wait 123 msec	
Label NewProject	
OK Cancel	

4-4-3 Executing the Simulation

Simulation is executed row by row.

Use the icons to execute the simulation.

This section will describe how to use the execution operation icons.

1. Start from the Top Row

Starts the simulation from the top row.

The simulation data should already be set in the dialog shown below in advance.

This picture shows the example of the top row.

The set parameters are "Rx, ID=555, DATA=1".

Log Sir	mulati	on data	a setting	3		X	
	Direct Chanr Frame ID DLC 8	ion el SID Data 11	Rx CAN1 Data (11bit) 00 00	• • • 55:	Rx is selected		
	lation	(Durn	ning)		mace		- *
- Log Simu	ation	(run			21 00 00 N	- Res	
No B		Dir	Ch.	Type			Data (CS Wait Label
1		D	CANI	Туре	FEE	0	
2			CAN1	Data	200 7FF	8	
2			CAN1	Data	TEE	8	
4		Tx	CAN1	Data	7FF	8	00 00 00 00 00 00 00 04 500 4
5		Tx	CAN1	Data	7FF	8	00 00 00 00 00 00 05 1000 4

The settings in the second row are "Tx, ID=7FF, Data=01, Wait=0, Label=2nd row". As for the rows after the second row, please see the picture below.

1)If you click "Start from the Top Row" icon, No.1 (the top row) will be inverted to yellow, and waits for the frame of "ID=555, Data=1".

Log Simulation								
🖻 🗒 📲 📼								
No. B L	E Dir Ch Type ID	DLC Data	CS Wait Label					
1	🛛 Rx CAN1 Data 555	8 00 00 00 00 00	00 00 01 1					
2	📝 Tx CAN1 Data 7FF	8 00 00 00 00 00	00 00 02 0 2					
3	🔽 Tx CAN1 Data 7FF	8 00 00 00 00 00	00 00 03 100 3					
4	Tx CAN1 Data 7FF	8 00 00 00 00 00	00 00 04 500 4					
5	✓ Tx CAN1 Data 7FF	8 00 00 00 00 00	00 00 05 1000 4					

2)Received the target frame, therefore sent the rows below the top row (Tx).

Since No.3 (the third row) is unchecked (see column E), this row was not executed. The rest of the frames were sent (this can be checked in Log Monitor).

Log Simu	Ilati	on																					• ×	
🖻 🗒 🖓 •			-			P 0 -		- 🍾	Ð í			ĸ	î.	l	ñ	^b a								
No. B	L	Е	Dir	Ch	Туре		ID		DLC	Dat	а						0	5 W	ait	L	abe	1		
1		1	Rx	CAN1	Data		555		8	00	00	00	00 0	0 00	00	01				1				
2		1	Tx	CAN1	Data		7FF		8	00	00	00	00 0	0 00	00	02		0		2				
3		1	Tx	CAN1	Data		7FF		8	00	00	00	00 0	0 00	00	03		10	00	3				
This row is not	7		Tx	CAN1	Data		7FF		8	00	00	00	00 0	0 00	00	04		50	00	4				
executed		V	Tx	CAN1	Data		7FF		8	00	00	00	00 0	0 00	00	05		10	000	4				
1	Lo	s Mo	nitor	(Runn	ing)																			٦
		旧					130	1	1 📰			sed /	AT Dis	play	TÂ	å -								
	-	-	<u> </u>				100		1000	1		-	10	- loral	1.50	100								
			1	Time	Ch	1	Dir	Туре		I)		D	LC	Dat	а							CS	
			0.	0000	[Sta	rt]							Becau	se th	e frar	ne w	ith ID)=555	;					
			9.	1612	CAN1	F	Rx	Data		55	5	4		was	s rece	eived			00	00	00	01		
			9.	1612	CAN2	1	Гx	Data		55	5		3	В	00	00	00	00	00	00	00	01		
			9.	1618	CAN2	F	٢x	Data		71	F			В	00	00	00	00	00	00	00	02		
			9.	1618	CAN1		Гx	Data		76	F		-	В	00	00	00	00	00	00	00	02		
			9.1	2619	CAN2	F	X7	Data		76	F		15	В	00	00	00	00	00	00	00	03		
			9.3	2619	CAN1	7	Гx	Data		76	F			В	00	00	00	00	00	00	00	03		
			10.	2619	CAN2	F	Rx	Data		7F	F		Det	.04 .0	<u> </u>	0.5			23	00	00	05		
			10.	2619	CAN1	1	Гx	Data		7F	F		Data=	:01, 0)3 ha:	2, 04 s bee	, 05 n ski	were pped	sent.	00	00	00	05		

2. Breakpoints

Breakpoints can be set on the rows.

1)Set a breakpoint on the row where you want to stop the simulation.

/Loo	g Si	mu	latio	on			bre	Use this icc eakpoint on the second s	on to set a he current r	ow		×	Î	ļ	đ	自日	20			• X
No.	E	1	L	E	Dir	Ch	Туре	ID	DLC	Dat	a							CS	Wait	Label
	1			V	Rx	CAN1	Data	555	8	00	00	00	00	00	00	00	01			1
	2		\sum	You	can a	lso set o	or clear a	7FF	8	00	00	00	00	00	00	00	02		0	2
	3 🤇) (7	brea	akpoin	t by clic	king the	7FF	8	00	00	00	00	00	00	00	03		100	3
	4				cc	olumn B		7FF	8	00	00	00	00	00	00	00	04		500	4
	5			V	Tx	CAN1	Data	7FF	8	00	00	00	00	00	00	00	05		1000	4

2)Click on Start from the Top Row icon to execute the simulation

In the example below, the simulation is breaking (stopping), after the frame with ID=555 was received and the frame No.2 was sent.

0.	B	L	E	Dir	Ch	Туре	ID	DLC	Dat	а							CS	Wai	t	Lab	ε		
1			1	Rx	CAN1	Data	555	8	00	00	00	00	00	00	00	01				1			
2			1	Tx	CAN1	Data	7FF	8	00	00	00	00	00	00	00	02		0		2			
З	٢			Tx	CAN1	Data	7FF	8	00	00	00	00	00	00 (00 0	3		100		3			
4	2			Тx	CAN1	Data	7FF	8	00	00	00	00	00	00	00	04		500		4			
5			177561	T	CAN4	n	766	0	~~~	~~	~~~	~~	00	~~	00	A.C.		1000	60				
								E 🥑	1	Ŗ		<u>ß 1</u>	ş.	*	à	鹃							
					Ti	me Ch	Dir	Туре		IC)			DLC	Da	ata	1						1
				1	32.85	17 CAN1	Rx	Data		55	5			8	0	0 00	00	00	00	00	00	01	
				1	32.85	17 CAN2	Tx	Data		55	55			8	0	0 00	00	00	00	00	00	01	
				1	32.85	24 CAN2	Rx	Data		7F	F			8	0	0 00	00	00	00	00	00	02	
				1	22 25	2A CAN1	Tv	Data		75	F			8	0	0 00	0.00	0.0	0.0	00	0.0	02	

3. Loop Points

If you want to repeat the execution of certain rows, use the loop points.

To execute a loop, you need to specify the following three points.

- a) The start row of the loop
- b) The end row of the loop
- c) The loop count

1)Set the start row of the loop.

1.07	e:	.1.4:						Use this ic	on to s	et a	loop									_ v
Log	SIMU	паті	on	_				point on t	he curr	ent r	ow.				_					• X
	•		T				- 14					X	Î	1	đ	H .	a			
No.	В	L	Ε	Dir	Ch	Type		Loop Start/E	nd									CS	Wait	Label
1			V	Rx	CAN1	Data	R	Loop Delete				00	00	00	00	00	01			1
2			V	Tx	CAN1	Data	Ph:	Loop Count	Setting	È		00	00	00	00	00	02		0	2
3			V	Tx	CAN1	Data	-	are	ö	ψU		00	00	00	00	00	03		100	3
4		Z	Yo	u can :	also set	or clea	r a	7FF	8	00	00	00	00	00	00	00	04		500	4
5			lo	op poi	nt by cli	cking th	e	7FF	8	00	00	00	00	00	00	00	05		1000	4
				c	olumn l	L.														

2) Set the row to repeat the loop.

Log	; Sirr	nulati	ion																~ ×
2 🗒		• 🗖	置			. 🕘 🚇	• 🖻 🖺	*	@ 1		×	Î	Î	lê	8	?a			
No.	В	L	E	Dir	Ch	Туре	ID	DLC	Dat	a							CS	Wait	Label
	1		1	Rx	CAN1	Data	555	8	00	00	00	00	00	00	00	01			1
2	2		V	Tx	CAN1	Data	7FF	8	00	00	00	00	00	00	00	02		0	2
3	3	1	9	et the i	row held	w the	7FF	8	00	00	00	00	00	00	00	03		100	3
4	4			start rov	w of the		7FF	8	00	00	00	00	00	00	00	04		500	4
	5	E	M	1 x	CANT	Vata	7FF	8	00	00	00	00	00	00	00	05		1000	4

3)Set the loop count, if needed. (By default, the count is infinity.)



4)Click Start from the Top Row icon to execute the simulation.

If the frame with ID=555 is received, the frames from No.3 to No.5 are sent repeatedly.

To stop the loop execution, click Stop Execution icon.

Log	Sim	ulati	on (Runn	ning)	Stop Exe	cution							~ >	< (
e F		-		-		• Ph -		* • •		日日	10 gl								
No.	В	L	Е	Dir	Ch	Туре	ID	DLC	Data		CS	Wait	Lab	el					
1			1	Rx	CAN1	Data	555	8	00 00 00 0	0 00 00 00	0 01		1						
2			1	Tx	CAN1	Data	7FF	8	00 00 00 0	0 00 00 00	02	0	2						
3			1	Tx	CAN1	Data	7FF	8	00 00 00 0	0 00 00 00	03	100	3						
4	-		V	Tx	CAN	1 Data	7FF	8	00 00 00 00	00 00 00	04	500	4						
5		E	1	Тx	Log	Monitor		-							1				
					100				E 🖉 📼		NS 💷 🕞								
						Time	e Ch	Dir	Туре	ID	DLC	Data						CS	
						29.919	4 CAN2	Rx	Data	7FF	8	00 00	00 0	0 00	00	00	03		
						29.9194	4 CAN1	Tx	Data	7FF	8	00 00	00 0	0 00	00	00	03		
						30.4194	4 CAN2	Rx	Data	7FF	8	00 00	00 0	0 00	00	00	04		
						30.4194	4 CAN1	Tx	Data	7FF	8	00 00	00 0	0 00	00	00	04		
						31.4194	4 CAN2	Rx	Data	7FF	8	00 00	00 0	0 00	00	00	05		
						31.4194	4 CAN1	Tx	Data	7FF	8	00 00	00 0	0 00	00	00	05		
						31.5194	4 CAN2	Rx	Data	7FF	8	00 00	00 0	0 00	00	00	03		
						31.5194	4 CAN1	Tx	Data	7FF	8	00 00	00 0	0 00	00	00	03		
						32 019	4 CAN2	Ry	Data	7FF	8	00 00	00 0	0 00	00	00	04		

4. Other Operations

4.1. Step Execution

If you click this icon, the simulation will be executed one row at a time.

Log	Sim	ulati	on(B	Ireak	Point)															• ×
BR	1			₩,	I		¶- ≣ ≌ %	b (×	Î	Î	18	1	3				
No.	В	L	E	Dir	Ch	Туре	ID	DLC	Dat	а							CS	Wait	Label	
1			1	Rx	CAN1	Data	555	8	00	00	00	00	00	00	00	01			1	
2			V	Tx	CAN1	Data	7FF	8	00	00	00	00	00	00	00	02		0	2	
3			1	Tx	CAN1	Data	7FF	8	00	00	00	00	00	00	00	03		100	3	
4	-		V	Tx	CAN1	Data	7FF	8	00	00	00	00	00	00 (00 ()4		500	4	
5		E	1	Tx	CAN1	Data	7FF	8	00	00	00	00	00	00	00	05		1000	4	

4. 2. Continue

If the execution is paused by a breakpoint, this operation will continue the execution.

4.3. Execute from the Current Row

Executes the simulation from the current row.

4.4. Stop Execution

Force stops the execution.

For example, it stops the loop execution.

4–4–4 Search Function in Log Simulation

This function enables searching of log simulation data.

Click this icon to open the dialog for searching. (Stop the simulation before operating this function.)

Log Simulati	ion									
🖻 🗒 🖓 - 🗖	1		🔴 🙌 - 🛅 🚆	- 🍌 🖻 🛙		XI	î l	副	ba ba	
No. B L	E Dir	Ch 1	Type ID	DLC	Data					CS Wait
1	🔽 Rx	CAN1 D	ata 555		00 00	00 0	0 00	00	00 01	
2	🔽 Tx	CAN1 D	ata 7FF	8	00 00	00 0	0 00	00	00 02	0
3	🔽 Tx	CAN1 D	ata 7FF	8	00 00	00 0	0 00	00	00 03	100
4	🔽 Tx	CAN1 D	ata 7FF	8	00 00	00 0	0 00	00	00 04	500
5	🔽 Tx	CAN1 D	ata 7FF	8	00 00	00 0	0 00	00	00 05	1000

1. Search Dialog

In the search dialog, set the conditions for searching the simulation data, and click Search button.

- •You can use checkboxes to enable or disable searching options.
- •Some setting items are different between CAN and LIN.
- •For details about the setting items, see " 4-4-1 Items in Log Simulation Area ".

Enable Simulation Data (Common between CAN and LIN)

Specify the search condition of the E column (simulation target).

To search for only the data with the column E checked, select "True"; to search only for the data unchecked, select "False".



Direction (Common between CAN and LIN)

Select the direction of communication.

🔽 Enabled Simulati	ion Data 🛛 🔫
✓ Direction	Rx 🔹
Channel	Rx Tx

Channel (Common between CAN and LIN)

Select an item from CAN 1, 2, LIN 1 and 2.

Direction	Rx 🔻
Channel	CAN1 👻
Frame Type	CAN1 CAN2
D ID SID (1	LIN1 LIN2 F

Frame Type (CAN)

Select Data or Remote.

Channel	CAN1 -
🔽 Frame Type	Data 🔹
ID SID	Data (1 Remote

Frame Type (LIN)

If Direction is Rx, select Slave or Slave (receive response). If Direction is Tx, select Master or Master (send response).

Channel		LIN1 V
V Frame Type		Slave 🔹
	ID	Slave Slave (receive response)

$\ensuremath{\mathsf{ID}}$ (CAN)

Select the number of bits in an ID, and enter the value.



ID (LIN)

Enter an ID value.



DLC and Data (Common between CAN and LIN)

Specify the byte count of Data Length Code, and the value of Data.

You can set a specific data byte as "don't' care" by entering "XX" from the keyboard. If you right click the input area while entering Data, the BIT-entry mode dialog will open. (If you enter "*", you can set a specific data bit as "don't care".)

✓ DLC ✓ D	oata 00 00 0	0 00	00	00	Righ	t click	this a	area to open
Checksu)ata bit se	tting						x
Transmit								
🔲 Label	Data	00	00 00	00	00	00	00	00
			B7				B0	
esult		D0	0 0	0 0	0	0 0	0	
	DLC D B Checksu Transmit Label	DLC Data 00 00 0 Checksu Data bit se Transmi Label Data	DLC Data 8 00 00 00 Checksu Data bit setting Transmit Label Data 00 00	DLC Data 8 00 00 00 00 Checksu Data bit setting Transmi Data 00 00 00 Label Data 00 00 00 B7 D0 0 0 0	DLC Data 8 00 00 00 00 00 Checksu Data bit setting Transmi Data 00 00 00 00 Label Data 00 00 00 00 B7 D0 0 0 0 0	DLC Data Right 8 00 00 00 00 00 00 Checksu Data bit setting Image: Checksu Data bit setting Image: Checksu Data bit setting Image: Label Data 00 00 00 00 00 B7 D0 0 0 0 0 0	Image: DLC Data Right click 8 00 00 00 00 00 Checksu Data bit setting Image: Data bit setting Image: Data bit setting Image: Label Data 00 00 00 00 00 B7 D0 0 0 0 0 0 0	Image: DLC Image: Data Right click this a 8 00 00 00 00 00 Image: Checksu Data bit setting Image: Data Image: Data Image: Data Image: Data Image: Label Data 00 00 00 00 00 00 B7 B0 D0 0 0 0 0 0

Checksum (LIN)

Select the type of checksum. (Classic or Enhanced)



Transmit Wait (Common between CAN and LIN)

If Direction is Tx, you can specify the wait time before sending the data in milliseconds. (In the picture below, the wait time is 123msec.)

6 2 00	68 00 00 88 88	88 80
📝 Transmit Wait	123	msec
🔽 Label		n i i

Label (Common between CAN and LIN)

Specify the label to search for.

🔽 Transmit Wai	it 123	msec
🔽 Label	NewProject	

4-4-5 Replace Function in Log Simulation

This function searches and replaces the log simulation data.

Click this icon to open the dialog for replacing. (Stop the simulation before operating this function.)

Log Simulati	ion							- ×
🖻 🗑 🖓 • 🗖	📑 🖷	🏗 🚯 🔴 🤻	b - 🛅 💾	۵ 🎝		1 #	₿ a	
No. B L	E Dir	Ch Type	ID	DLC	Data			CS Wait
1	🔽 Rx	CAN1 Data	555	8	00 00 00	Up 0 00 0	0 01	
2	🗸 Tx	CAN1 Data	7FF	8	00 00 00	00 00 00 0	0 02	0
3	🔽 Tx	CAN1 Data	7FF	8	00 00 00	00 00 00 0	0 03	100
	-			-				

1. Replace Dialog

In the replace dialog, set the conditions for searching the simulation data, specify the replace data, and click one of the execution buttons.

•You can use checkboxes to enable or disable searching options. (Required items are always checked.)

- •Some setting items are different between CAN and LIN.
- •For details about the setting items, see " 4-4-1 Items in Log Simulation Area ".

d conditions 1: Enter search conditions…	Replase data 2: Enter data to replace…
e enter the find conditions of the frame data. Direction & Channel & Frame Type is a mandatory entry.)	Please enter the frame data after the replacement. (The Direction & Channel & Frame Type is a mandatory entry.
Enabled Simulation Data False	Enabled Simulation Data False
Direction Tx •	Direction Rx 💌
CAN1	CAN1 V
Trame Type Data	✓ Frame Type Data
☑ ID EID (29bit) 1FFFFFF	☐ ID
DLC Data	DLC Data
8 😧 00 00 00 00 00 00 00 00	8 🗘 00 00 00 00 00 00 00 00
Transmit Wait 123 msec	I Transmit Wait 0 msec
Label NewProject	Tabel
	3: Execute replaci
	Find Next Replace

1.1. Entering Search Conditions

Enabled Simulation Data (Common between CAN and LIN)

Specify the search condition of the E column (simulation target).

To search for only the data with the column E checked, select "True"; to search only for the data unchecked, select "False".

Log Simulation Replace
Find conditions
Please enter the find conditions of the frame data. (The Direction & Channel & Frame Type is a mandatory entry.)
Enabled Simulation Data False
False
Direction Tx True

Direction (Common between CAN and LIN)

Select the direction of communication.

Direction	Tx ·
Channel	Rx Tx

Channel (Common between CAN and LIN) Select an item from CAN 1, 2, LIN 1 and 2.



Frame Type (CAN)

Select Data or Remote.

😨 Channel	CAN1 🔹	
Frame Ty	pe Data	
☑ ID	SID (1 Remote	

Frame Type (LIN)

If Direction is Rx, select Slave or Slave (receive response).

If Direction is Tx, select Master or Master (send response).

📝 Chann	el	LIN1 -	
V Frame	Туре	Slave	•
🔽 ID	LIN H	Slave Slave (receive response)	

$\mathbf{ID}\ (\ \mathsf{CAN}\)$

Select the number of bits in an ID, and enter the value.

📝 Frame	Туре	Data	•
ID ID	SID	(11bit) •	555
	SID EID	(11bit) (29bit)	

$\mathbf{ID}\;(\;\mathsf{LIN}\;)$

Enter an ID value.

	17.5	39	 	
🗸 ID	LIN II	5	3F	

DLC and Data (Common between CAN and LIN)

Specify the byte count of Data Length Code, and the value of Data.

If you right click the input area while entering Data, the BIT-entry mode dialog will open. (If you enter "*", you can set a specific data bit as " don ' t care ".)

DLC	🗸 Data							1
8 🤤	00 0	0 00	00	00	00	00	00	
		Righ	nt click t	his are	a to o	pen		
Ch Da	ta bit se	tung B	IT-entry	mode	dialog	J.		x
🗖 Tra								_
🔽 Lal	Data	00 0	00 00	00	00	00	00	00
		D0 0	7 0 0 (0 0	0	0 0	B0 0	

Checksum (LIN)

Select the type of checksum. (Classic or Enhanced)

0	00	00	0.0	00	0.0	0.0	0.0	0.0
00	00		00	00	00	00	00	00
Checksu	m	C	assic		+			
					-	_	3	

Transmit Wait (Common between CAN and LIN)

Specify the wait time before sending the data. (This item can be set only if Direction is Tx.)

🗸 Transmit Wait	100	msec
🗹 Transmit Wait	100	mse

Label (Common between CAN and LIN)

Specify the label.

📝 Transmit Wait	100	msec
🔽 Label	LabelSeath	

1. 2. Entering the Replace Data

See "1.1.Search Conditions " for details.

1.3. Execution Buttons



[Find Next (F)] Searches and moves the current row.

[Replace (R)] Executes the replace.

[Replace All (A)] Replaces all the data which match the search condition.

[Close (C)] Closes the replace dialog.

Chapter5 Monitor Mode

In Monitor Mode, logged frames are displayed using the whole window area. (For displayed items and operations, see "4-3 Log Monitor".)

•Because this mode is for monitoring only, all of the frames are shown as Rx frames.

•You can choose to enable or disable ACK response. (See "6-1-4 Settings Menu, 1. Device Settings" for details.)

VicsiM -	defaul	ltmpj [N	Monitor I	/lode]						_ 0 ×
File Mo	de	View S	iettings	Help						
🚳 🍋 🍓										
Log Mo	nitor									• ×
> 🛛 🗖			5	E 🥑	. 🕒 🤌	🖋 • 🖻	188			
	Time	Ch	Dir	Туре	ID	DLC	Data	CS	Status	
0. 15.	0000 0852	[Start [Stop]	3							

Chapter6 Menus and Projects

6-1 Menus

This section describes the menus available in the ViCSiM application software.

6-1-1 File Menu



1. New Project

Creates a new project. (For details about projects, see "6-2 Projects".)

2. Open Project

Opens a project previously saved.

3. Save Project

Saves the current project.

4. Save Project As

Saves the current project in a different name.

6-1-2 Mode Menu

ViCSiM -	default.spj [Simulation Mode]
File Mo	de View Settings Help
🍝 🍋 🖌	Simulation
Loe	Monitor - ×
🖻 🖷 🐴	- 🗖 🛱 🖷 🖺 👄 🦬 - 🎦 🏝 🖕 🔒 📳 🚽
No. B	L E Dir Ch Type ID DLC Data
1	D D. CANI D-+- 555 9 00 00 00

1. Simulation

Runs the application in Simulation Mode. (See " Chapter 4 Simulation Mode " for details.)

2. Monitor

Runs the application in Monitor Mode. (See " Chapter5 Monitor Mode " and " 4-3 Log Monitor " for details.)

6-1-3 View Menu



1. Log Simulation

Opens Log Simulation area. (See " 4-4 Log Simulation " for details.)

2. Frame Simulation

Opens Frame Simulation area. (See "4-2 Frame Simulation" for details.)

3. Log Monitor

Opens Log Monitor area. (See " 4-3 Log Monitor " for details.)

6-1-4 Settings Menu

ViCS	iM - defa	ult.spj (Simulation	Mode]			
File	Mode	View	Settings	Help	_		
S 6	(i)		Devi	ice Setting			
Log	Simula	tion				•	x
6	🔁 🗕 📃	🖫	🖷 🖪	, 🔴 🙌 - 🛅 .	9 🍌 🖻 🛙		Ŧ
No.	BL	E)ir Ch	Type ID	DLC	Data	
1		D R	CAN1	Data 555	8	00 00	00

1. Device Settings

Use this menu item to make settings for the ViCSiM device.

•Settings need to be made for each channel of CAN and LIN.

1. 1. Device Settings Dialog (CAN Tab)

Baud rate

Set the communication baud rate of the channel.

Select an item from 5K to 1M BPS.



Termination resistor

Enables or disables the termination resistor.



Automatic recovery from bus-off

Enables or disables the automatic recovery from bus-off.

✓ Enabled Terminator (120 Ohm)
👿 Enabled Bus-off auto recovery

ACK response

Enables or disables ACK response.

This item is always enabled in Simulation Mode. (Only switchable in Monitor Mode.)

Enabled Terminator (120 Ohm)
Enabled Bus-off auto recovery
I Enabled Ack response

ID-passing filter

Enables (turns ON) or disables (turns OFF) the ID-passing filter.



1. 2. Device Settings Dialog (LIN Tab)

Baud rate

Set the communication baud rate of the channel.

Select an item from 240 to 19200 BPS.

Device Setting	×
CAN1 CAN	2 LIN1 LIN2
- Communicati	on setting
Baud rate	10400bps 👻
✓ Enabled	2400bps p9600bps 10400bps 19200bps

Pull-up resistor

Enables or disables the pull-up resistor.

Baud rate	10400bps	•	
👿 Enabled I	Pull-up Resistor	(1K Ohm)	

ID-passing filter

Enables (turns ON) or disables (turns OFF) the ID-passing filter.



6-1-5 Help Menu

V ViCS	iM - defa	ult.spj	[Simulation	Mode]	000	2.00	-	
File	Mode	View	Settings	Help		_		
S 6	(a)			١	/ersion			
Log	Simulat	ion					-	×
🖻 🗒	🔁 - 🚞	🖫	🖷 🖪	🔴 🎙	🍋 🕘 🔚	% 🖻 🛙		Ŧ
No.	BL	E	Dir Ch	Туре	ID	DLC	Data	
1		🔽 R	x CAN1	Data	555	8	00 00	00

1. Version Information

Shows the versions of ViCSiM software and firmware.

ersion Information			Nicsin
	Vehicle Communic	ation Simulator and M	onitor
	Interface E/W	01 20	
	DLL :	01.10	
Copyri	ght(c) 2014 P&A Tec	hnologies Inc. All Righ	t Reserved.
		ОК	

6-2 Projects

6-2-1 About ViCSiM Projects

ViCSiM has three window areas (Log Simulation, Log Monitor and Frame Simulation), and each area has functions to save and read data and codes. Additionally, ViCSiM has the project files, to save and load the entire operation status of the application.

With projects, you can save and load the information of the window areas altogether. Information of each window area can be saved and loaded apart from the project.

•You cannot load a project file while executing Log Monitor function (saving of the project is possible). **Stop** Log Monitor to load a project file.

ViCS	V ViCSiM - default.mpj [Monitor Mode]					
File	Mode	View	Settings	Help		
	(i)					
Log	Monitor	(Rung	Monitori	ng Stop	icon	
BR			6	E 🥑	💀 😨 🖉	· • • • • • • • •
	Time	Ch	Dir	Туре	ID	DLC Data
	0.0000	[Stai	rt]			

Use the icon to access project files. (You can also use the File menu to access the files.)

File	Mode	View	Settings	Help		
	6	圖十	Proje	ect icon		
Log	Simula	tion				* X
8 🗐	🖓 - 📃	1 3	🖷 🖪 🖷		• 🖹 🖺	<mark>‰ ि</mark> ि • ■ ;
No.	BL	E	Dir Ch	Type	ID	DLC Data
-		and the second second		and the second second		

Chapter7 Specifications

7-1 Hardware Specifications

7–1–1 Pin Assignment of the Connector (CAN/LIN Connector)

Pin Number	Signal	Description
1	VB	Power Input for LIN (+12V) *1
2	VB	Power Input for LIN (+12V) *1
3	(NC)	Unused *2
4	IN1	External Input 1 (5V TTL)
5	LIN2	LIN2
6	(NC)	Unused *2
7	CAN2 H	ch2 CANH
8	CAN1 H	ch1 CANH
9	GND	GND
10	GND GND	
11	IN2	External Input 2 (5V TTL)
12	(Reserve)	Unused (Reserved) *2
13	LIN1	LIN1
14	CAN2 L	ch2 CANL
15	15 CAN1 L ch1 CANL	

*1 Power input for LIN (+12V).

For safety, the device cannot supply (output) power to EUC or other connection destination of LIN communication.

*2 "(N.C)" and "(Reserve)" pins are unused, or reserved for the future use. **DO NOT CONNECT ANYTHING TO THESE PINS.**

Socket: Dsub15pin female connector (JAE DALC-J15SAF-20L6E, fixing metal #4-40) Plug : Dsub15pin male connector, fixing screw #4-40

7-1-2 Schematic of CAN



7-1-3 Schematic of LIN

When using LIN, please use the provided AC adapter (DC12V).

It will be the power supply for LIN. (See the pictures in "1. Introduction" also.)

If you want to use the device without the AC adapter, supply +12V (100mmA max) from the VB ports (1st and 2nd pin) of the CAN/LIN connector.

Please note that you cannot supply power from this connector to the connection destination of LIN communication.



* LIN communication will not work if power supply from the AC adapter or the connector is unavailable.

7-1-4 LED

The device shows the operation	on status with blinking and lighting of the blue LED.
Blinking (1 second interval)	··· In normal operation
Blinking (irregularly)	\cdots USB communication is in progress (LED blinks corresponding to the data
	transmission/reception through USB)
On->Off	··· Updating the program (On) -> Update completed (Off)

7-1-5 Specifications

(1) Communications

USB	ch	1ch
	Connector	ТуреВ
	Interface Standard	USB 2.0 High-Speed
CAN	Connector	Dsub15pin
	ch	2ch
	Interface Standard	ISO 11898 2.0B
		High-speed CAN (up to 1 Mbit/s)
	Mounted Device	TI SN65HVD231
	Terminator	Available, can be switched ON and OFF
LIN	Connector	Dsub15pin
	ch	2ch
	Interface Standard	LIN specification 2.2
	Mounted Device	NXP TLE6258-2
	Bit rates	20kbps max
	Pullup	Available, can be switched ON and OFF
	Power Supply for	Connector "Vsup" : Provided AC Adapter (DC12V)
	LIN (VB)	Connector "CAN/LIN"
		External Input (DC12V (8V to 18V), 100mA max)
		* For the information about how to provide power for
		LIN, see "7-1-3 Schematic of LIN"

(2) Power Supply

Power Supply	Power	Vbus(+5V DC) 490mA max
	Power for LIN	DC12V 100mA max
		Provide DC12V (8V to 18V) from the "Vsup" connector
		of the provided AC adapter, or from the "CAN/LIN"
		connector.

(3) Environment

Operating Temperature	0°	C to 50 $^{\circ}$	C (No dew condensation)
Storage Temperature	-20 °	C to 50 $^{\circ}$	C (No dew condensation)

(4) Dimensions

External Dimensions	120 (w) x 95 (d) x 40 (h) mm (Without cables and projections)
Weight	245g (Main body only)

7-2 Updating the Firmware

This section describes how to update the firmware of the ViCSiM device.

•Before the update operation, please exit the ViCSiM application software.

- 1. Start "ViCSiM Interface Updater". (Select Start menu > All Programs -> P&A Technologies Inc > ViCSiM > ViCSiM Interface Updater to start the updater.)
- 2. Select the newer version of the firmware (extension "*.mot "), and click Start button. (The firmware file is in " FW " folder of the support CD.)

ViCSiM Interface Update	r - Ver.1.10		diri tanu	X
Software Code:	0000			
F/W Version:	01.10	→	01.20	
Download File:	/**/***	Select the		
Completed F/W update	Confirm	the update	complete	
3. Start the ViCSiM application software, select Version Information from Help menu, and confirm that the firmware has been updated.

File Mode View Setting	s Help	0
🗟 🙆 🍓	Version	
Log Monitor		
> 🗟 🖸 🗖 🚺 🖪 🗟	6 🗉 🥑 🔳 🖳 🖋	峰 - 雨
Time Version Informatio	n	×
	Vehicle Communication Simula	ator and Monitor
	Version 1.20	Confirm that the firmware version is updated.
	Interface E/M : 01.20	
	DLL : 01.10	
ī Co	pyright(c) 2014 P&A Technologies In	ic. All Right Reserved.

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7-3 Maintenance of the Product

- ♦ For maintenance and repair of the hardware products, we, P&A Technologies, ask you to kindly send the products to us; we will maintenance or repair the products, and send them back to you.
- If the products are used under the conditions described in the warranty, and any failure occurs during the warranty period, the products will be repaired at no charge. Please note that repairing fee will be charged for the products repairable but with expired warranty period, or if the products have been damaged by the use out of the warranty conditions.
- For the repair and maintenance request, please pack the products as secure as (or more secure than) the original package, with the warranty card. Write "Precision Instruments Handle With Care" on the package, and send it to us. Before sending the package, please contact our reception staff so that the package will not be lost. We cannot be responsible for any accidents during the transportation of the package. Please use a safe transportation method.
- ◆ The above subjects are applied to the products used in Japan. For the maintenance and technical services when using our products outside of Japan, please contact us.

7-4 Product Inquiries

If you have following inquiries about this product , please contact your dealer or P&A Technologies.

- The product has initial defects or missing items
- Product repair
- Supplies and related products
- Consultation about developing custom products using this product

Technical Support

For technical support, please contact us by Fax, mail or E-mail. Please describe issues specifically.

P&A Technologies Inc. 2F Ogasawara Building 16-13-1 Nagai Morioka, Iwate 020-0834 Japan E-mail <u>support@pa-tec.com</u> Fax 019-637-8331

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For inquiries, please contact us at our webpage or Fax number given above.

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