

## OPTIONAL KIT

## FOR MULTI PROTOCOL ANALYZER LE-8200A/LE-8200

## PC Link Software

# LE-PC800G

## Instruction Manual

The CD-ROM attached contains the English and Japanese instruction manuals in PDF format. The actual display or manner of operation may differ from that of the instruction manual because of the improvement of the product and so on. Please refer to the online help also for the use of the software.

The 11th Edition

## Contents

Chapter 1 Before Using the Product	1
Chapter 2 Introduction	
General Description	
Unpacking	
Chapter 3 Before Start-up	
USB Driver Installation	
Installation Guide	
Uninstallation Guide	
AUX port	
Chapter 4 Data Window	
Data Window of PC link software	
Chapter 5 Environment Setting	8
Remote Setting	
Chapter 6 Remote Monitor	
Connection	
- Analyzer Setting	
Simulation Data Setting	
Max speed when remote monitoring	
Start Measurement	
Stop Measurement	
Remote Monitor Screen	
Read the Measurement Data	
Search Data	
Chapter 7 Bit Error Rate Test (BERT)	
Start Measurement	19
Chapter 8 Key Emulation	20
Run Key Emulation	
Capture the Screen Image	
Chapter 9 Text Conversion	
Text Conversion Function Setting	
Start Text Conversion	
Chapter 10 Waveform Monitor Data	
Chapter 11 Connecting Multiple Analyzers	
Add the Remote Setting	
Open the Data Window	
Delete the Remote Setting	
Operate Setting When Starting	
Startup Options	
Chapter 12 Specification	

Copyright 2008-2020 by LINEEYE CO., LTD. All rights reserved.

#### Software License Agreement

LINEEYE CO., LTD (LINEEYE) grants you to use the software program and the documents under the terms of this license. And you are consenting to be bound by and are becoming a party to this agreement.

To use the software, you need to agree to this license agreement.

1. Copyright

LINEEYE holds the copyright on this software.

2. Grant of License

LINEEYE grants for you to use this software on only one computer by agreeing this license agreement. Therefore, you shall not rent, lease and loan to a third party.

3. Copy, Analysis, Modification

This software must not be reproduced, analyzed or modified in any form unless prescribed in the manual.

4. Upgrade

This software may be upgraded without any advance notice because of technical progress of hardware or software. LINEEYE provides the upgraded software with the upgrade fee. For upgrade, only licensed user can have upgrades.

5. Limitation of Liability

In no event shall LINEEYE or its licensors be liable for any loss of business or profits, or for any direct, indirect, incidental or consequential damages arising from products of this software or the related software. Besides LINEEYE shall not be liable damages arising from the equipment.

6. General

If any provision of the agreement is held invalid, such provision shall be removed from this license agreement.

7. Support

LINEEYE supports functions, operation and only the problem on this software.

8. Notice

Any matter not specified in this agreement will be governed by and constructed in accordance with copy right law and related laws.

## LINEEYE CO., LTD

## Chapter 2 Introduction

Thank you for your purchase of LINEEYE's PC link software.

- •To use it correctly, you are advised to read and understand this together with the instruction manual for analyzer thoroughly.
- •Keep this instruction manual.

#### General Description

LE-PC800G is software to remotely control the protocol analyzer from a PC and utilize the measurement data on the PC.

Applicable Analyzer LE-8200A,LE-8200

### Unpacking

When you unpack the product (the full edition), make sure that the followings are included. (The light edition of the software is included in the CD-ROM attached to the analyzer.)

1

1

1

- CD-ROM (software)
- Instruction Manual (This book)
- Customer Registration Card

Please contact your LINEEYE distributors if you find any damage to the product caused by transportation, or if there are accessories lacking.

## Chapter 3 Before Start-up

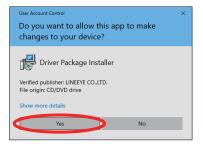
## USB Driver Installation

When using by USB connection, you need to install the USB driver on the PC.

- 1. Do not connect the analyzer to the USB port of PC before the driver installation.
- Download the USB driver compatible with the analyzer from the LINEEYE website, Unzip to a proper folder. (The driver is also included in the CD attached to the product.)

Supported OS are Windows 10/8.1/7

- 3. Execute setup.exe in the folder.
- "User Account Control" appear in the display of the PC. Then click "Yes".



- "LINEEYE driver package installer" appears. Then click "Yes".
- "Device Driver Installation Wizard" appears. Then click "Next".





7. Windows security window appears. Then click "Install".

E Windows Security	×
Would you like to install this device software?	
Name: LE-8000 シリーズ USBドライバー グア Publisher: LINEEYE CO.,LTD.	
Always trust software from "LINEEYE CO., LTD.".	
You should only install driver software from publishers you trust. <u>How can I decid</u> which device software is safe to install?	2

 If the window says "Completing the Device Driver Installation Wizard", click "Finish".

Device Driver Installation Wizar	ł	
	Completing the De Installation Wizard The drivers were successfully in You can now connect your dehi come with instructions, please re	d stalled on this computer. se to this computer.If your device
	Driver Name	Status Ready to use
	< <u>B</u> ack	Finish Cancel

- 9. Connect the analyzer device to the PC. The installation is completed.
  - Above is the installation for Windows 10. It will be almost same for other Windows OSs.

## Installation Guide

- 1. Execute "setup.exe" in the attached CD.
  - If the PC (to which you want to install the software) does not have a CD-ROM drive, copy it to a storage device such as USB flash using another PC which has a CD-ROM drive to bring it to the PC and execute it.
- 2. First, click "Yes" in the "User Account Control" display.
- 3. When the Windows firewall displays a message such as "Windows protected your PC", click "Detail"-"Run" to run the program.
- 4. Even if the virus security software displays a message that blocks this software, click the option to run the software such as "Run this program" to cancel the blocking.
- 5. When the installer starts up, proceed according to the instructions on the screen. You will be prompted for the serial number during installation. Please enter the serial number of this software written on the attached user registration card.

InstallShield Wizard Customer Information		×
Please enter your information.		
∐ser Name:		
User		
Company Name:		
Serial Number: (Please input "LITE" in	nto this field)	1
InstallShield		

- For the light version "LE-PC800G (LITE)" which you can download free of charge from the LINEEYE website, the serial number will be automatically entered as "LITE".
- 6. When the installation completion message is displayed, click "Finish".

### Uninstallation Guide

- Open "Uninstall or change a program" (or "Program and Features") from the control panel. (Or right-click on "LE-PC800G" in the start menu and select "uninstall".)
- 2. Select "LE-PC800G" from the list and execute "Uninstall and change".
- 3. First, click "Yes" in the "User Accounts" display.
- 4. Click "OK" at the deletion confirmation display.
  - When the light version "LE-PC800G (LITE)" is already installed in the PC, uninstall the light version before installing the full version.
  - When updating the product version (full edition), you can install the new version without uninstalling the old version. By doing so, the product serial number etc. will be carried over.

## AUX port

In addition to USB connection, the PC link software can be remotely controlled via RS-232C (AUX port). If you use the AUX port, you need to configure on the analyzer too.

(1) Connect the AUX port of your analyzer and the COM port of the PC using the AUX cable (LE2-8V).

(2) Set the communication conditions of the AUX port of your analyzer.

0		RS-232C 🛥 🛱 DTE 🍕 🗌
AUX(RS-232C)	condition	
Speed Data bit Parity X-control	:115200 :8 :None :Off	Select the speed of AUX port. Press the number key or ◀, ► key. (unit:bps) 0:9600 1:19200 2:38400 3:57600 4:115200 5:230400

<Example>

Normally set the communication speed to 115200bps. Set the data length to 8 bits. NONE is recommended for parity. Turn off X-CONT (flow control).

#### Attention

- \* Never turn off the power of your analyzer while connecting to the PC.
- Connection to the PC Link Software can be cut easily. Set the power saving mode OFF on the PC.

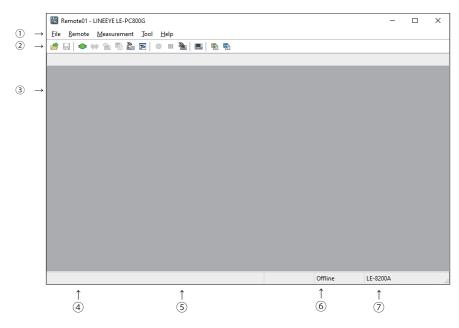
## Data Window of PC link software

■Starting the PC link software.

Start "LE-PC800G" from the "Start" of Windows.

Usually, the following display will appear.

Data Window



1)Menu

Can perform various operations.

2 Tool Bar

Can perform various operations.

③Data display part

Displays the measured data.

(4) Data position display part

Displays the data position in the Data display part. The number of data loss is displayed while remote monitoring.

- Svarious state display part Displays such as the measurement state.
- 6 Connection state display part

Displays the remote connection state between LE-PC800G and your analyzer.

⑦ Model name display part

Displays the model name of your analyzer being set at the time of offline, and one of your analyzer being connected at the time of online.

Refer to the "On-Line Help" for more details of operation.

### Remote Setting

Click The on the tool bar of the data window (or "Remote Setting" of "Remote" menu) to set the remote setting.

The remote setting consists of "Connection", "Model selection", "Key emulation" and "Miscellaneous".

#### Connection

Sets the remote connection

Remote settin	g					×
Setting name :	Remote01					
Connection	Model selection	Remote monitor	Key emulation	Miscellaneous		
	method : LE-800		~			
Serial number						
<u>s</u> enai numbe	55555	· · ·				
					ОК	Cancel

Connection Method

"LE-8000 series USB"

Connect via USB port.

(Select the serial number of analyzer which you wish to connect.)

LE-8000 series USB	~
LE-8000 series USB	
Serial port direct	
Via SI-60	

"Serial port direct"

Connect via serial port of the PC or use the USB-Serial converter (LE-US232B).

#### "Via SI-60"

Connect via SI-60\*1

\*1 Use SI-60 or SI-60F. To use SI-60, AUX Cable for DSUB 25pin "LE2-8C" is required. To learn more about the converter setting, read the instructions manual included in the converter. The required setting depends on the connection methods. "Serial Port" ("Serial port direct") Selects the serial port of the PC connected.

- "Speed" ("Serial port direct", "Via SI-60") Sets according to the speed of the AUX port of your analyzer. Can be input "COM XX" directly("XX" is the numbers).
- "Data bit" ("Serial port direct", "Via SI-60") Fixed number of data bit is 8 and you cannot change it. Make sure that the AUX port setting of your analyzer is 8bit as well.
- "Parity" ("Serial port direct", "Via SI-60") Sets the communication data parity between your analyzer and the PC. Sets "None"for normal use.
- "X-Control" ("Serial port direct", "Via SI-60") Sets whether to perform the flow control of X-Control between your analyzer and the PC. Sets "None" for normal use.

#### "Host name" ("Via SI-60")

Set the host name or IP address of the LAN-Serial converter (LE-US232B).

#### "Data port" ("Via SI-60")

Sets the port number for sending and receiving the serial data. If you leave it blank, it is automatically set, so usually keep it blank. If the router or the firewall causes the port number to be changed, you need to set it.

#### "Control port" ("Via SI-60")

Sets the port number of SI-60. Usually, keep the port number blank. If the router or the firewall causes the port number to be changed, you need to set it.

Remote setting					×
Setting name : Rem	te01				
Connection Model se	ection Remote	monitor	Key emulation	Miscellaneous	
Connection method :	Via SI-60		~		
Host name :					
Data <u>p</u> ort :		(1	fblank, it is auto	detection)	
Control port :		(1	f blank, it is "307	18")	
Speed :	115200	$\sim$			
Data bit :	8	$\sim$			
Parity :	None	$\sim$			
X-Control :	Disable	$\sim$			
			OK		Cancel



Disable	~
Disable	
Enable	

#### ■Model selection

Sets your analyzer settings. Mainly, it is used at the time of offline. However in the case of that there is information which is not received by remote communication at the time of online, it is used as it is set. In addition. if the information is received by remote communication, these settings are automatically changed.

Remote setting								$\times$
Setting name :	Remo	ote01						
Connection	Model se	lection	Remote monitor	Key emulation	Miscellaneous			
Analyzer mod	del :	LE-820	00A	~				
Expansion bo	oard :	Standa	ard	$\sim$				
Eirmware :		Norma	I	$\sim$				
inform	mation wi	th remo	te communications			r which cannot acq		
			on is acquired with connected analyze		ications, the se	ttings will be updat	ed in	
						ОК	Cancel	

"Analyzer model"

Selects the model name of the target analyzer.

It is the expansion for future use. Not available now.

#### "Expansion board"

Selects the expansion board which is equipped with a target analyzer.



Sets when you use optional firmware on the target analyzer.

LE-8200A	~
LE-8200	
LE-8200A	

Standard	~
Standard	
OP-SB85	

Normal	~
Normal	
OP-FW12G	
OP-FW12GA	

#### Remote monitor

Sets the remote monitor

Remote setting						Х
Remote setting Setting name : Remote01 Connection Model selection R A folder to save the remote m C:\UsersUsers	onitor data ents¥LEPC800G¥	Eull stop Measure block coi Append Without starts, a	ment will stop if ant. mode removing the e: newly-created file by elapsed t n another file w	the stored files rea visiting data files who file is saved in order sime hen the specified tin the the specified tin	en measurement after them. ne has passed.	
		Warning	display be warned if the	ere is a data file on s		
				OK	Cancel	

A folder to save the remote monitor data

This folder is to save data received by your analyzer for the remote monitor function.

To change the setting, click "Change" button. Then the window to select a folder appears. Select the proper folder and click "OK" button. The file name of saving data is started from "00000000. DT" in numerical order.

- ※ Recommends to specify an exclusive folder.
- ※ Specify a drive which has enough capacity.

(When it does not have enough capacity, the PC may not operate correctly.)

#### "Block size"

Sets the data capacity per file. You can select from "1M Byte",

"2M Byte", "4M Byte", "8M Byte", "16M Byte", "32M Byte", "64M Byte", or "128M Byte".



"Maximum block count"

Sets the maximum block count of a file to save. You can set from 2 to 2048. When the number of							
the data file is over this setting, the data	Maximum block count :	2 (2-2048)					
file with a small number file is deleted.		,					

"Full stop"

If the stored files reach to the maximum block count, measurement will automatically stop. When unchecked, a ring buffer of the size obtained by multiplying the block size by the maximum number of blocks is configured and continuous measurement is performed. "Append mode"

When measurement starts, a newly-created file is saved in the order after the existing files. If the numbers of the whole data files are over the maximum block count setting, a data file with a small number file (includes data files which were saved on the former measurement) is deleted even in the append mode.

#### "Change file by elapsed time"

Create a new data file when the specified time has been elapsed, even if the size of the former data file has not reached the specified Block size. However, if the data file under recording has not recorded any data, the new data file will not be created.

#### "Warning display"

You will be warned if there is a data file in the files to save when starting measurement.

#### ■"Key emulation"

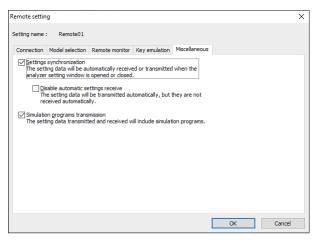
Sets the key emulation.

R	emote settin	g						Х
:	Setting name :	: Remote01						
	Connection	Model selection	Remote monitor	Key emulation	Miscellaneous			
	A folder to	o save the screen	capture data					
	C:¥Users¥	flineeyeKH1¥Docu	ments¥LEPC800G	Remote01¥Scre	en			
							Change	
						OK	Cancel	

#### A folder to save the screen capture data

A folder to save a screen image when you save it on the key emulation screen. Click "Change" button and the folder selecting window appears. Select the folder and click "OK".

#### "Miscellaneous"



Settings synchronization

Transmits and receives the setting automatically a the time of the opening and closing the analyzer setting window.

If you mark on "no automatic receiving", you only transmit and do not receive.

#### Simulation programs transmission

The setting data to be sent to or be received from the analyzer contains simulation programs data when this term is marked.

This function allows to start measurement of your analyzer and to record measurement data in the HDD/ SSD of the PC, displaying the data in real time.

### Connection

After finishing the remote setting, click 🐢 on the tool bar of the window (or click "Connect" of the

remote menu) to connect with you analyzer.

At the time of completing the connection with your analyzer, the connection state display part of the data window displays "Stopping", and the model display part displays the model name of the analyzer connected.

## Analyzer Setting

Click Not tool bar of the data window to set you analyzer (or click "Analyzer setting" of the mea-

surement menu.)

Analyzer setting				×
Model : LE-8200A				🎓 🔒 🕋 😭
Function     Interface     Monitor buffer     ⊡ Data monitor     Configuration     Record and Display control     ⊡ Trigger	Monitor ONLINE AI&DELAY TREND	Delay time : Repeat Idle time :	0 ms	(0-99999)
☐ Inger 0 — Trigger 0 — Trigger 1 — Trigger 2 — Trigger 3 — Trigger 3 — Trigger 5 — Trigger 7 — Trigger 7 — Timer/Counter @ Simulation data table — Oigital wave monitor — Auto run/stop — Print out — Date and Time — Others	BERT BERT Simulation MANUAL BUFFER FLOW ECHO POLLING PROGRAM PULI SGEN			
Setting synchronization				Close

On the analyzer setting window, every time you change the setting on a tree (on the left side of the window), the contents of the setting (on the right) are changed. Set the necessary settings. Click **a** to send the setting contents to your analyzer. On the other hand, click **a** to receive

the setting contents of you analyzer.

- \*When you continuously measure for long hours using remote monitoring,do not set "Record control" to "Full stop: On", or "Trigger" to "Action: Stop".
- \*The light edition limits its monitoring time to 10 minutes.

Click 隆 on the toolbar of the data window to select the simulation data table you would like to set (or

click "Analyzer setting" of the measurement menu.)

Analyzer	setting			×
Model :	LE-8200A			🖻 🖬 🛍 🛍
	··· Trigger 2 ··· Trigger 3 ··· Trigger 4	^	16 🗛   🔏 🖻 🛍 🖪 🛠   兆 Position: 2	Remain : 16344
	Trigger 5		E <sub>X</sub> 1 2 3 4 5 C5 8F	^
	Trigger 6			
	Trigger 7	- 11		
	Timer/Counter			
	ulation data table			
	Group 0			
	···· Table 00			
	···· Table 01			
	···· Table 02			
	···· Table 03			
	···· Table 04			
	···· Table 05			
	···· Table 06			
	···· Table 07			
	···· Table 08			
	···· Table 09			
	···· Table 0A			
	Table 0B			
	Table 0C			
	Table 0D			v .
	Table 0E	~		
🗹 Settir	ng synchronization			Close

16	Change the data to hexadecimal or character code.
<b>A</b> :	Change the input method to hexadecimal or character code.
PE MP	The character which is focused is set to the parity error (or the multi-processor bit)
G	Input BCC (or FCS).
S	Input the data from "Begin data" to "End data" for the number of times set in "Data size". "Begin data"< "End data" : Inputs the number of times set in "Data size" while performing "+1"from "Begin data". "Begin data"> "End data" : Inputs the number of times set in "Data size" while performing "-1" from "Begin data".
28 :	Delete all data in the table.
Χ:	Cut selected data.
<b>P</b> :	Copy selected data into clipboard.
<b>1</b>	Paste data from clipboard.

Max speed which analyzer can measure is depending on the connection to the PC. Refer to the following standard speed.

LE-8000 series USB	: Max. 2Mbps
Serial port direct (115.2Kbps connection)	: Max. 24Kbps <sup>*1</sup>
Via SI-60 (230.4Kbps connection)	: Max. 40Kbps <sup>*1</sup>

\*1 This is the max speed of actual communications. For example, the speed of your target device is 1Mbps, and it communicates 2Kbyte/s. The actual communication speed of this target device is 20Kbps.

> It will cause the data loss if the actual communication speed is more than the max. speed. And PC will stop the action until the analyzer process all measured data to the PC.

When the measured data is lacked, 📙 will displayed on the window.

Key emulation mode will decrease the max. speed.

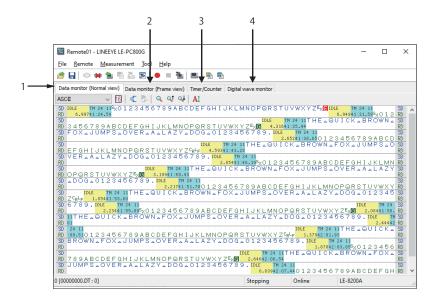
## Start Measurement

Click on the toolbar of the data window (or click "Run measurement" of the measurement menu) to measure. After measurement starts, "Measuring" is displayed on the state display part, and data received from your analyzer is displayed. You can change the character size (click 1), the character code, the display in hexadecimal (click 1), and the pause while measuring (click 11).

## Stop Measurement

To stop measurement, click 🔲 on the toolbar of the data window (or click "Stop measurement" of the measurement menu.) After stopping measurement, you can scroll data. Data is automatically saved in the folder you specified on the remote setting. To save with another name, click 🛄 (or click "Save data file" of the file menu.).

At the time of stopping measurement, the last file is displayed. To display all files, click 📂 (or click "Open data file" of the file menu) and select the file to display.



There are following methods to switch the screen display.

-Change display code	Select a character code from the drop down list (marked above 1)					
	which displays the character code.					
-Hexadecimal display	Click 16 .					
	(Displays in hexadecimal including the special characters.)					
-Control line informa-	Click 🗧 .					
tion display	Click 🎦 to open the control line information setting window.					
-Translated view	To switch the screen into the translated view screen, click the data					
	monitor (translated view) tab (marked above 2). Click 🥩 to switch					
	the screen into the packet translated view if the packet translation					
	is possible. Click the data monitor (normal view) tab to switch the					
	screen into the original display screen.					
-Timer / Counter	To switch the screen into the timer / counter display screen, click the					
	timer / counter display tab (marked above 3).					
-Wave monitor display	To switch the screen into the wave monitor display screen, click the					
	wave monitor display tab (marked above 4).					

Chapter 10 Waveform Monitor Data

Click 📂 on the toolbar of the data window (or click "File" -> "Open data file") to select a file of the

measurement data. When two or more files are opened, they are displayed as continuous data.

Click "File" -> "Show data property" to check the configuration, date of measurement and so on.

Data property			×
Model: LE-8200A Extension: Stand Version: 1.21.02 Serial number: 99 Start time: 2020/ Stop time: 2020/	ard 9999999 08/21 11:39:58		^
Function: ONLIN Protocol: ASYNC SD speed: 96001 RD speed: 96001 Data code: ASCI Data bit: A bits Parity: None Stop bit: 1 bit BCC: LRC-Odd	ops		,
		(	Ж

## Search Data

Click  $\mathbf{Q}$  to set the search conditions on the data search window.

-Search conditions	
"Trigger"	Data which meets the trigger conditions.
"Error"	Parity error/Framing error/BCC error/FCS error/Break/Abort/Short frame error (Data which meets what was marked).
"Character (Hex)"	The data length of a maximum of eight characters. (Can specify don't care and bit mask.)
"Character (String)"	The string length of a maximum of sixteen characters. (Can specify the
	characters in alphabet, number or symbol (in ASCII)) Data search is made
	according to the display data code.
"Idle time"	Idle time more than the appointed time.
"Time stamp"	The designated time stamp. (Can specify don't care.)
-Search operation	
"Display"	Display the matched data on the top.
"Calculation"	Display the number of data matched.
To learn more deta	ails of the search condition, read the instruction manual of your analyzer.

Click of (search the forward data) or of (search the backward data) to search and calculate data.

Bit error rate test (BERT) can monitor the quality of communication lines in the long distance.

#### Start Measurement

Click on the toolbar of the data window (or click "Run measurement" of the measurement menu). After measurement starts, the following screen appears.

Remote01 - LINEEYE LE	E-PC800G					-	×
<u>File R</u> emote <u>M</u> easurer	ment <u>T</u> ool	<u>H</u> elp					
📸 🖬 🔍 🗰	i 🕹 💌 🛛	) = 🏊   🔳   🦷	n 🖷				
Bit error rate test Digital w	ave monitor						
Savail :	18	Sync. loss :	0				
Receive bit :	141360	Receive block :	2243				
Error bit :	0	Error block :	0				
Bit error rate : 0	0.00e+0	Block error rate :	0.00e+0				
Error second :	0	%E.F.S. :	100.000				
				Stopping	Online	LE-8200A	

- 🍍 : Start BERT.
- : Stop BERT. (The test pattern is still output.)
- **1**→ : Output error of 1 bit.
- 5+ : Output continuous error of 5 bits.
- **II** : Pause on updating display.
- In the case of the repeat mode BERT, multiple results can be received and converted into CSV when measurement stops. Converted results are saved as BERTDATA.csv.
- Convert the BERT results of the repeat mode saved on the analyzer (saved on the CF card.) into CSV.
- : Save BERT results. In the repeat mode, press "Text conversion" to save the history as the CSV file, because only the latest result is saved.

## Chapter 8 Key Emulation

This function allows to control the analyzer from a far place. (remote control)

## Run Key Emulation

Click **[**] on the toolbar of the data window (or click "Key emulation" of the tool menu.).



- 1. Displays the screen of your analyzer being connected.
- 2. Emulate the key of your analyzer.

## Capture the Screen Image

You can save the screen image of the connected analyzer in a bitmap (BMP) file format.

- : Copy the present screen to the clipboard.
  - : Create a bitmap file in a color mode.



- I : Create a bitmap file in a gray scale mode (inverted.)
- [D]: Go back to the previous data window.

This function allows to convert the data which is measured on the remote monitor, and which is saved on such as a memory card and HDD/SSD into a text file.

## Text Conversion Function Setting

Click not the toolbar of the data window (or click "Text conversion" of the menu.).

The following text conversion window opens.

😨 Text conversion - LINEEYE LE-PC800G 🛛 🚽 🛛 🗙					×	
Eolder : C:¥Users¥lineeyeKH1¥Documents¥LEPC800G¥Remote01¥Buffer						
File type : Data files(*.dt) ~	Conversion options Output format :			Line state	:	
Monitor data files :	Normal		$\sim$	RS Up		
Refresh #0000017.DT	Select data line :	SD and RD	~	✓ CS ✓ DR Down		
00000000.DT 00000015.DT	Data format :	Char./Hex.	$\sim$	⊻ CD ⊻ ER		
1.DT 115200.DT 2.DT	Line width :	80	$\sim$	✓ sq ✓ ci		
57600.DT 9600.DT 96CFAB7.DT	No guide			⊡ EX		
BELFAST2.DT BERT.DT	Exclude time stamp					
BSC.DT BSC01.DT CCLINK.DT	Exclude idle time					
E113.DT FAB7.DT	HDLC translation :	Packet	$\sim$			
FE113.DT	PPP translation :	PPP	$\sim$			
Select all No select				<u>C</u> onve	ert	

-Folder

Specify a folder which has the data you wish to convert into text.

-The kind of file

Selects from "Data files" and "Analyzer's auto save files."

-Refresh

Refresh the file information in the specified folder.

-Monitor data file

Selects a file you wish to convert from the list display. It is selected by clicking the file. To cancel the selection, click the file again. (You can select two or more files and cancel them all.)

The light edition limits the number of files of text conversion (at the same time) up to 3.

-Output format

Selects a format you wish to convert from the following.

"Normal print" (Print format of your analyzer)

"Normal print with line state" (Print format of your analyzer which includes control line information)

"Translated print (designated at the time of measurement)" (Translated print format of your analyzer)

"CSV format processing unit: Data (normal)" (Every data divided.)

"CSV format processing unit: Frame" (Every frame divided.)

-The number of characters per line

Selects the number of characters displayed per line from "40", "80", "136" and "MAX".

-Data format

Selects the data format to convert from the following.

"Char. / Hex." (Displays the character code and the hexadecimal number.)

"Char. Only" (Only characters are displayed.)

"Hexadecimal" (Only the hexadecimal number is displayed.)

-No guide

If "No guide" is checked, converts such as the communication condition without guide. (data only)

-Exclude time stamp

If "Exclude time stamp" is checked, delete the time stamp to convert.

-Exclude idle time

If "Exclude idle time" is checked, delete the idle time to convert.

-Select data line

Selects the data to convert from "SD and RD," "SD only" and "RD only."

-HDLC translation

At the time of HDLC, selects the translation format to convert from "Frame" and "Packet."

-PPP translation

At the time of PPP, selects the translation format to convert from "PPP" and "DUMP."

-Line state

At the time of "Normal print and Line state," mark the control line to display with. You can change the order to display, by clicking "up" and "down" button. Text conversion - LINEEYE LE-PC800G × Folder : C:¥Users¥lineeyeKH1¥Documents¥LEPC800G¥Remote01¥Buffer File type : Conversion options Data files(\*.dt) Output format : CSV format (frame) Monitor data files : Refresh Select data line : SD and RD #0000017.DT 00000000.DT 00000015.DT Data format : Decimal 00000015DT 1.DT 2.DT 2.DT 9600DT 9607AB7.DT 9607AB7.DT BELFAST2.DT BESC01DT CCLINK.DT ESC01DT CCLINK.DT E113.DT FE113.DT Column : 50 ¢ Delimit char. : Select <u>a</u>ll No select Convert

If the CSV conversion is selected, the following window appears.

-Select data line

Selects from "SD and RD," "SD only" and "RD only."

-Data format

Selects from "Hexadecimal," "Decimal" and "Character."

-Column

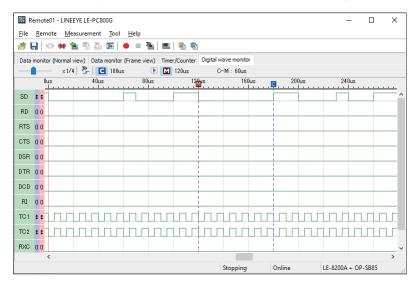
Sets the range between 1 and 65535.

-Delimit char.

Sets the delimit character such as ","

## Start Text Conversion

Click "Convert." A converted file is saved in the folder which contains its source file.



When the analyzer has logic analyzer data, the waveform monitor data is received and displayed.

-Scaling factor	Move the slider $x^{1/4}$ and select the scaling factor.
-Cursor display	Click <b>C</b> . Place the cursor near the center of the screen.
-Marker display	Click M. Place the marker near the center of the screen.
-Time measurement	Drag C and M on the screen of the wave monitor to the position you wish to measure. "C-M:**ms" shows the time between the cursor and the marker (e.g. The image above indicates C-M: 40us.).
-Signal display order setting	Click $\mathbf{P}$ to set the order to display on the signal standard setting.

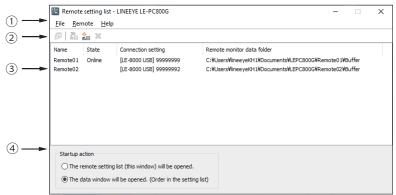
## Chapter 11 Connecting Multiple Analyzers

To connect multiple analyzers at the same time, add the necessary setting for the number of analyzers to connect.

Adds the remote setting on the remote setting list window.

To open the remote setting list window, click **p** from the toolbar of the window (or click "remote setting list" of the tool menu).

Remote Setting List Window



1. Menu

Performs each operation.

2. Toolbar

Performs each operation.

3. Remote Setting List

Displays the remote setting.

4. Option Setting Set the operation setting when starting.

### Add the Remote Setting

To add a new remote setting to the list, click 2 on the toolbar of the remote setting window (or, click "new setting" of the remote menu.). Sets the necessary items. (For more information about each item of the remote setting, read "Chapter 5 Environment setting.")

\*Chapter 5 Environment Setting

\* For multiple analyzers, make sure not to specify the same folder as location of saving the remote monitor data.

When opening this setting window from the remote setting list window, you can rename the setting name. Adds the remote setting for the number of analyzers you wish to connect. (It does not allow you to rename the setting name when the window opened from the data window.)

### Open the Data Window

To open the selected data window for remote setting, select the specific remote setting from the list of the remote setting list window (multiple selections possible), and click provide on the toolbar (or, click the "open data window" of the file menu.).

## Delete the Remote Setting

You can delete unnecessary remote setting.

At first, select the remote setting you wish to delete from the list of the remote setting list window (multiple selections possible) and click **\*** on the toolbar (or, click "delete setting" of the remote menu). Then, the deletion confirmation appears and the selected setting will be deleted by clicking the "OK" button. However, if the remote setting which is using in the data window, you cannot delete it. If you end the application with all the remote settings deleted, a new setting (default setting) will be automatically added when you start the application next.

## Operate Setting When Starting

You can select operation when LE-PC800G starts from the following:

"The remote setting list (this window) will be opened"

The remote setting list window will be opened. If the window has already opened, it will be displayed in front.

"The data window will be opened. (Order in the setting list)"

The data window will be opened in the order according to the remote setting list. If all data windows for the remote setting have already opened, the operation is the same with "The remote setting list (this window) will be opened."

## Startup Options

When starting the LE-PC800G, following options can be used.

-r "<Setting name>"

Start measuring automatically by the specified Connection setting after starting LE-PC800G. To start measuring by the multiple settings, ex. specify as follows. -r "Remote01" -r "Remote02" When starting the measurement by using AUTO measurement function, the warning message of loosing the existing data file will not be displayed. Also, when starting the measurement by using APPEND mode and the selected configuration file automatically, the existing data file will be erased without the warning message when starting LE-PC800G.

-q

It saves measured data to the data file immediately, and try to keep the format of data file as normal. (LINEEYE does not warrant the condition is normal.)

Also, it will allow to read the measured file which is in the process of saving data, and able to copy the data file. However, the data file which is in the process of saving data can not be opened by the other window of LE-PC800G.

It is possible that this function will deteriorate the ability of PC or storage of saving data file. Therefore, LINEEYE does not recommend using this function.

## Chapter 12 Specification

LE-8200A, LE-8200 <sup>*1</sup>			
OP-SB85, OP-SB85L, OP-SB85C, OP-FW12G, OP-FW12GA			
Connection by USB, Serial, Ethernet (SI-60 or SI-60F is needed)			
Can connect with multiple analyzers and control them remotely (PC capabilit			
determines how much can be connected.)			
It emulates the display and control part of the analyzer on PC and you can control			
as if you are controlling it directly.			
The measurement conditions of the connected analyzer is automatically read and the settings can be changed. Start and stop of measurement, display of measured data on PC, and continuous recording <sup>*2</sup>			
Start and stop of measurement, display of measured data on PC, and continuous recording*2			
Recording mode	Fixed buffer mode (stops measurement at specified volume) or Ring buffer mode (continue recording leaving latest data not overwritten) can be selected.		
Recording capacity	Max.256Gbyte, 1/2/4/8/16/32/64/128Mbyte size file unit, up to 2048 files can be specified		
Raw data display, Frame/protocol translation display, Timer/counter display, and			
Logic analyzer waveform display.			
Raw data display	Display of communication data with idle time, time stamp, and line status. Character code (10 types) and character type (small, medium, and big) are switchable.		
Frame display	Line feed display for each communication frame of ASYNC, SYNC, SPI, and I2C		
Protocol translation display	Translation display of ASYNC-PPP, Modbus, PROFIBUS, SDLC, X.25, and LAPD protocols.		
Logic analyzer waveform display	Zoom in and out of waveform display, time measurement between the cursors, sorting of signals.		
Window size is changeable.			
ASCII, EBCDIK, JIS7, JIS8, EBCD, Transcode, IPARS, Baudot, HEX, HEX (HEX			
Cueing or count of the data which corresponds with the search condition			
Search condition	Specified character line (Max.8 characters, Don't care and bit mask are available), Idle time more than the specified value, Specified time stamp (Don't care is available), Error (Parity, Framing, BCC, Brake/Abort, Individual designation of Short frame is available), Data corresponds with the trigger		
Collective conversion of indicated number of measurement log files into text format or CSV format is available.			
The display of the analyzer by key emulation can be saved as bit map file.			
It can read the log file (which is captured by the analyzer) in in a storage device such as CF card and USB flash memory.			
PC OS	PC/AT compatible CPU: Pentium®3 1GHz or more RAM: 4Gbyte or more is recommended HDD: 10Mbyte + space for logging data Windows® 10/8.1/7 <sup>33</sup>		
	OP-SB85, OP-SB85L, Connection by USB, S Can connect with mu determines how much It emulates the display as if you are controllin The measurement cor the settings can be cha Start and stop of measur Recording capacity Raw data display, Fre Logic analyzer wavefor Raw data display Frame display Protocol translation display L o g i c an a l y z er waveform display Window size is changu ASCII, EBCDIK, JIS7 with error code) Cueing or count of the Search condition or CSV format is avail The display of the ana It can read the log fil such as CF card and U PC		

- \*1 Can be used when it is set to an applicable analyzer. It cannot be used together with the expansion options OP-SB84, OP-SB87, OP-SB87FD, OP-SB888, OP-SB89G, and OP-SB89E.
- \*2 See "Max speed when remote monitoring" on page 16 for the communication speed of the measurement target that can record the measurement data without fail on the remote monitor. The LE-PC800G (light version) included in the CD that comes with the analyzer automatically terminates the remote monitor in 10 minutes, so long-term continuous measurement cannot be used.

\*3 Use with Windows® 7 is not supported.

There is a registration page on our web site.

( https://www.lineeye.com )

Please register your product for further support.

We will provide you the software update

information and sales information etc.

# LINEEYE CO., LTD.

4F., Marufuku Bldg., 39-1, Karahashi Nishihiragaki-cho, Minami-ku, Kyoto, 601-8468, Japan

Phone : 81-75-693-0161 Fax : 81-75-693-0163 URL https://www.lineeye.com Email :info@lineeye.co.jp

Printed in Japan

M-B08GE/PC