LINEEYE

PC Link software
LE-PC7GX

Instruction Manual

The CD-ROM attached to the product contains the latest instruction manuals in PDF format. Please also refer to them.
You need the serial number when installing. You will find the serial number on the side of the box that contains LE-PC7GX(or on the card packed with LE-PC7GX).

The Second Edition

Contents

Chapter 1 Before Using the Product

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LINEEYE CO., LTD.

Chapter 2 Introduction

Thank you for your purchase of LINEEYE series PC-Link software, LE-PC7GX.

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

Outline

This software allows LE-2200/3200/7200/2500/3500 to capture the monitored data measured by OP-SB7F/7FX/7GX (optional expansion kits) into a PC through a USB port, an AUX port (serial), or a memory card.

Unpacking and Accessories

When you unpack the product, make sure of the following:

CD-ROM(Software)	: 1
Instruction Manual	: 1
Warranty	: 1

Please let us know if you find any damage to the product caused by transportation, or if there are accessories lacking.

Chapter 3 Before Start-Up

Installation Guide

  1. Insert the CD-ROM into the CD-ROM drive.
  2. From "Start" menu, select "Run".
  3. Input "D(specify the CD-ROM drive) : \setup" in the command line and click "OK".
  4. The installer program will start. To install, follow the set-up instruction.
  5. Click "Finish" after "Finish the installation" is indicated.

Uninstallation Guide

  1. From control panel, click "Add/Remove Programs".
 2. Select "LE-PC7GX" from the list, then click "Remove" buttom.

USB Driver Installation (LE-2500/3500 only)

   This PC link software can control the analyzer via USB. You need to install the USB driver to controll the analyzer via PC. USB driver is stored in the CD-ROM.

  1) Connect the USB port of analyzer and the PC.
  2) Turn on the power of the analyzer.
  3) "New Hardware Wizard" will start to install the USB driver.
     Select "No, not this time" for the question of "Can Windows connect to Windows Update to search for software?".
  4) Select "Install from a list or specific location " for the question of " What do you want the wizard to do?".
  5) Select "Search for the best driver in these locations" and mark on "include this location in the search". Select the folder that contains the USB driver file.
  6) Click "Continue Anyway" for the question of "has not passed Windows Logo testing
     to verify its compatibility with Windows XP".
  7) Click "Finish" when you find the message, "Completing the Found New Hardware".

1) Connect the analyzer to the target devices for measuring.

2) Serial connection: Connect the analyzer and a PC by the AUX cable (LE2-8V).
   USB connection: Use the USB cable.

USB cable

or

AUX cable (LE2-8V)

PC
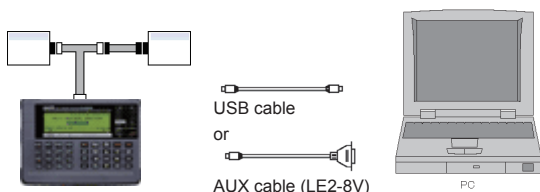
3) Set the AUX port of the analyzer as follows if using the serial connection.
   (Not neccessary to set the AUX port if using the USB connection.)
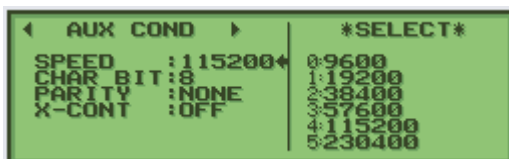
<Example of setting>
Speed : 115200bps
Data length : 8-bit
Parity : NONE (recommend)
X-CONT (flow control) : OFF

<Notice>

* Set the analyzer first, before using the LE-PC7GX.

* Do not turn off the analyzer when connecting to a PC.

* If using the AUX port for connection, do not put anything in the USB port.

* It may cause some data loss if using the AUX port for remote control compared to the USB port.

* When the PC goes into a power saving mode, LE-PC7GX will be disconnected. Set off the power saving mode.

Chapter 4 Data Window

From "Start" menu, click "Programs" or "All Programs" -> "LINEEYE" -> "LE-PC7GX" -> "LE-PC7GX". The following display will be appeared.
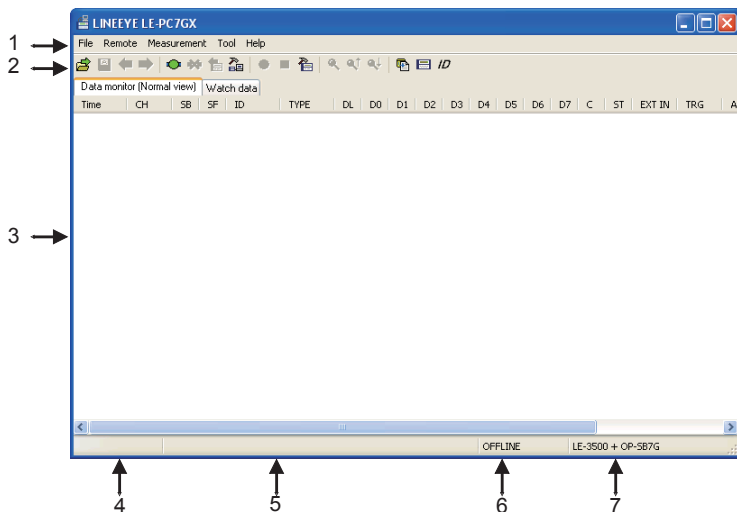
1.Menu

  Performs various operations.

2.Tool Bar

  Performs various operations.

3.Data Display

  Displays measured data.

4.Model Name of Expansion Kit

  Shows the model name of expansion kit.

5.Data Position Display

  Tells you where you are pointing, out of whole data in the Data Display.

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6.ON-LINE/OFF-LINE Display

  Tells you whether or not the analyzer is connected.

7. Model Name of Analyzer

  Shows the model name of analyzer and expansion kit when ON-Line. Shows the model name of analyzer which is set by the software when OFF-Line.

Functions of Data Window

Menu	Tool Bar	Meaning
File		
Open data file…		Opens data files.(extension .DT) *1
Save data file…		Names and saves the data displayed on the Data Window.
		Opens the previous file. *2
		Opens the next file. *2
Exit application		Closes LE-PC7GX.
Remote		
Connect		Connects to the analyzer.
Disconnect		Disconnect to the analyzer.
Receive data		Receives the measured data from the connected anlyzer.
Remote setting…		Sets remote settings.
Measurement		
Start		Starts measuring by the remote control.
Stop		Stops measuring by the remote control.
Analyzer setting		Set the analyzer.
		Sets the data conditions and finds it.
		Finds the previous data.
		Finds the next data.
Tool		
Key emulation		Performes key emulation.
Text conversion		Performes text convertion.
Display the difference of time stamp		Displays the difference of time stamp (compares to the last timestamp)
Watch data		Sets the "ID" to watch data.
Help		
About…		Displays the version of the software.

*1: Cannot open the data which is not measured by OP-SB7F/7FX/7FGX.

*2: Cannot open the data which is named, or the name is not in succession.

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```
┌─────────────────────┐
│    Preparation      │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│     Connect         │◄───┐
└─────────────────────┘    │
          │                │
          ▼                │
┌─────────────────────┐    │
│  Analyzer Settings  │    │
└─────────────────────┘    │
          │                │
          ▼                │
┌─────────────────────┐    │
│  Start Measurement  │    │
└─────────────────────┘    │
          │                │
          ▼                │
┌─────────────────────┐    │
│  Stop Measurement   │    │
└─────────────────────┘    │
          │                │
          ▼                │
┌─────────────────────┐    │
│   Display results   │────┤
└─────────────────────┘    │
          │                │
          ▼                │
┌─────────────────────┐    │
│    Disconnect       │────┘
└─────────────────────┘
```
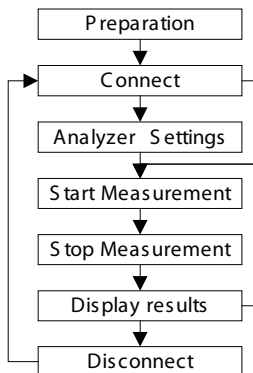
Step 1. Preparation

When using LE-PC7GX at the first time, press " 📇 " (or press [Remote] in the menu
bar.) Set the place for saving data and so on.
 * "Remote" setting is described at Chapter5.

Step 2. Connect

After setting "Remote", check the connection with the analyzer. Press " 🔵 " (or [Re-
mote] -> [connect])
It will ask to make a saving folder if it cannot find the place for saving data. Press "OK".
(If "Cancel", it cannot connect with the analyzer.)
*If it cannot find the place for saving data, it will make a saving folder such as below.
...\My Documents\LEPC7GX\Remote\Buffer
...\My Documents\LEPC7GX\Remote\Screen

<u>Step 3. Analyzer Settings</u>

Before starting measurement, it is necessary to set the communication conditions.
Press " " to set by the remote control. (or [measure] -> [analyzer settings])

  * It is not necessary if settings are set by the analyzer.
  * Analyzer settings are automatically reflected in the software. ("Setting synchroniza-
    tion" is set as the default.

<u>Step 4. Start Measurement</u>

Start measurements if analyzer settings are all done.
Press " " to start measurement. (or [measurement] -> [start measurement])

<u>Stet 5. Stop Measurement</u>

Click " ■ " to stop measurement. (or [measurement] -> [stop measurement])

*it will stop mesurement when block size set in the "remote monitor" of "remote
settings" becomes the maximum size.

<u>Step 6. Display Results</u>

After the measurement, the last data file will be loaded in the screen. To display the
previous file, press " ". To display the next data, press " ". Name the data file if
necessary.

*Details of the data display is described at Chapter7.

<u>Step 7. Disconnection</u>

When finishing the application, press " ". (or [remote] -> [disconnection] in the
menu bar.)

Chapter 5 Environment Setting
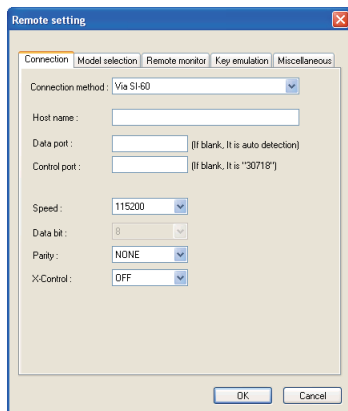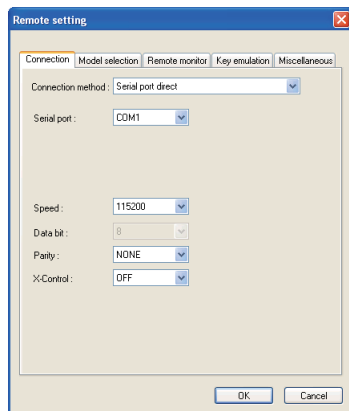
Remote Setting

Click " " on the Tool Bar (or [Remoto] -> [Remote Setting] in the menu bar) to set remote settings. In the "Remote Setting", there are "Connection", "Model selection", "Remote monitor", "Key emulation" and "Miscellaneous" page. Press "OK" when finishing the settings.

■ "Connection" Page

   Set conditions for remote connection.

● [Connection method]
   Select a connection method to connect with the analyzer.

 "Serial port direct"
  Select when connecting by using a serial port on the PC or using a Serial-USB
  converter (LE-US232B etc.)

 "USB"
   Select when connecting via USB. (LE-3500/2500 only)

 "Via SI-60"
  Select when connecting via LAN-Serial converter (SI-60/60F).
  (To learn more about settings of the converter, read the instruction manual of
  converter. To control via SI-60, you need to have LE2-8C, or LE2-8V and a
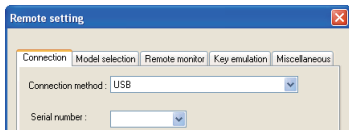 Dsub25 (male) -9 (female) converter.)

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<Serial port direct>

● [Serial port]

Select the serial port (COM1-COM9) on the PC or input the COM port number.

<USB>

● [Serial number]

Sets the serial number of the analyzer. If the analyzer is connected, select from the drop down list.

<Via SI-60>

● [Data port]

Set the port number for transmitting and receiving serial data. Normally, do not put any number. If blank, it is auto detection. If the port number is changed by router or firewall etc., it needs to be set.

● [Control port]

Set the control port number of SI-60. Normally, do not put any number. If blank, it is auto detection. If the port number is changed by router or firewall etc., it needs to be set.

<Serial port direct / Via SI-60>

● [Speed]

Set the same speed as the AUX port setting on the analyzer.

● [Data bit]

Data bit is fixed to be 8 bit. Also the AUX port setting on the analyzer must be 8 bit.

● [Parity]

Set the same data parity as the AUX port setting on the analyzer. Normally, put "None".

● [X-Contro]

Set whether or not to use the flow control of X-Control for the communications between software and analyzer. Normally put "None".

■"Model selection" Page
 Sets the analyzer settings. Mainly, it is used at the time of Off-line. However, it is used at the time of On-line, in the case of that some information cannot be received by the remote communication. If the information is received by the remote communication, these settings are automatically changed.
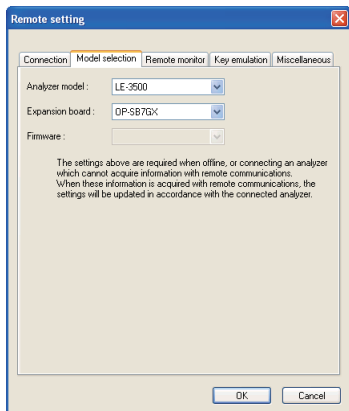
● [Analyzer model]
 Selects the model name of the analyzer.
 If "Connection" is set as "USB", only "LE-2500/LE-3500" is displayed.

● [Expansion board]
 Selects the expansion board which is equipped with the analyzer.
 Select OP-SB7F, OP-SB7FX if using LE-2200/3200/7200.
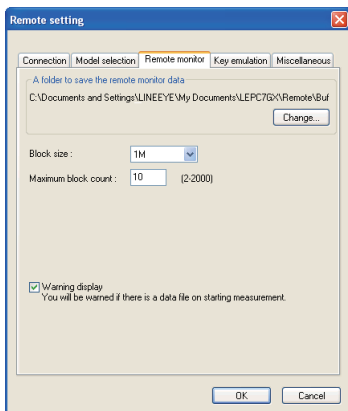 Select OP-SB7GX if using LE-2500/3500.

● [Firmware]
 Sets if using the optional firmware on the analyzer.
 This is the expansion for future use. Not available now.

■ "Remote monitor" Page
  Sets the remote monitoring function.

● [A folder to save the remote monitor data]
  This folder saves data received by the analyzer using the remote monitor
  function. To change the settings, 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 original folder.
          Specify a drive which has enough capacity.
      (If it does not have enough capacity, the PC may not operate correctly.)

● [Block size]
 Set the data capacity per a file. Select from "1MB","2MB", "4M", or "8MB".

● [Maximum block count]
  Set the number of maximum saving file. Set from 2 to 20000. When the number of
  the data file exceeds this setting, the measurement stops automatically.

● [Warrning display]
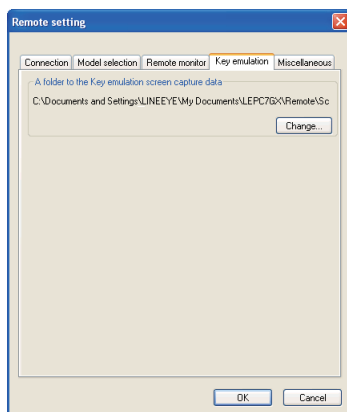 If there is an existing data file where data is going to be saved, warrning
  message will appear when starting the measurement.
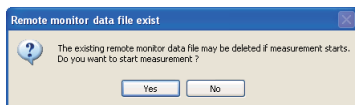
■ "Key emulation" Page
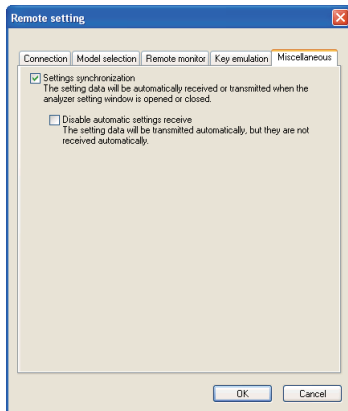 Set conditions for Key emulation.

● [A folder to the Key emulation screen capture data]
  This is the folder to save a screen image on the key emulation screen. Click
  [Change] and the folder selecting window appears. Select the folder and click [OK].

■ "Miscellaneous" Page

● [Settings synchronization]

At the time of ON-Line, when opening the analyzer setting window, it automati
cally reflects the settings of analyzer. When closing the window, it automatically
sends the settings to the analyzer.

However, at the time of OFF-Line, and settings changed while measurering,
settings are not sent to the analyzer automatically.

● [Disable automatic settings receive]

It automatically sends the settings to the analyzer. But it will not receive the
settings from the analyzer automatically.

Chapter 6 Remote Monitor

Measures by the analyzer and records data in the HDD of a PC.

Connection

After setting the "remote setting", click " " to connect with the analyzer.
(or [remote] -> [connection] in the menu bar.) When it completes the connection, it displays "On-Line" and "anayzer model" in the data window. While using the remote monitor, you cannot operate by the analyzer.

Analyzer Setting

Clicks " " in the data window and sets the analyzer settings. (or [measurement] -> [analyzer setting] in the menu bar)
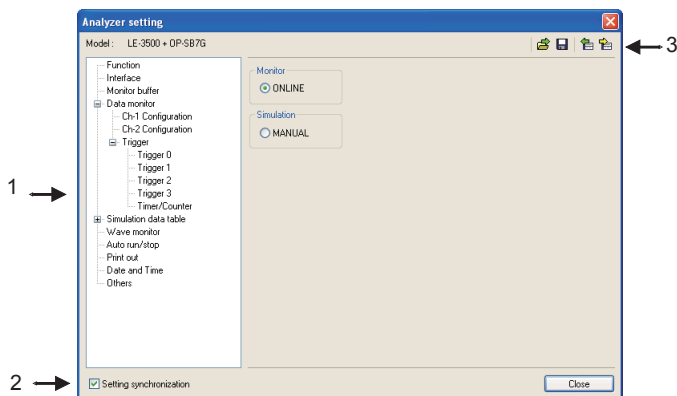
1. Analyzer setting window
   When clicking a different setting in the bar, the settings in the right gray zone become different.

*To monitor long hours by the remote monitor, do not set the analyzer settings such as "recording: full stop on" and "trigger action: stop". It automatically stops the menasurement.

2. Setting Synchronization

 Setting information in the analyzer can be synchronized with the settings in the software. If changing this setting, it reflects the setting in the [remote setting] -> [miscellaneous].

3. Tool Bar

Tool Bar	Meaning
	Capture settings from a file(.SU format).
	Name and save the setting(.SU format).
	Transmit settings to the analyzer.
	Receive setting from the analyzer.

Start Measurement

 Click " " in the data window and starts measurement. (or [measurement] -> [start measurement].) When starting the measurement, "watch data" window will appear and "data monitor" window will be cleared. "watch data" window displays the received frames, numbers of data loss, and number of files in the data position display (bottom).

Stop Measurement

 Click " " in the data window and stops measurement. (or [measurment] -> [stop measurement].) When the block size set in the [remote setting] -> [remote monitor] reaches the maximum block number, it stops the measurement.
Data will be saved in the specified folder automatically. After stopping the measurement, the last data file will be loaded in the data monitor screen automatically.

Max speed of recording without any data loss depends on the connection to the PC. Refere to the following standard.

When monitoring CAN standard data frames (8byte) with 1ms intervel.

        USB connection   : Max. 1Mbps

        Serial port direct (115.2Kbps connection)   : Max. 17.86Kbps *1

        Via SI-60 (230.4Kbps connection)   : Max. 40Kbps *1

*1: This is the max speed of actual communications. Even the speed of the target device is 1Mbps, it can measure data without any loss, if it has 10ms interval and communications are sent intermittently.

■It will cause the data loss if the actual communication speed exceeds the above speed. And PC will stop the action until the analyzer process all measured data to the PC.

■Key emulation mode will decrease the maximum speed.
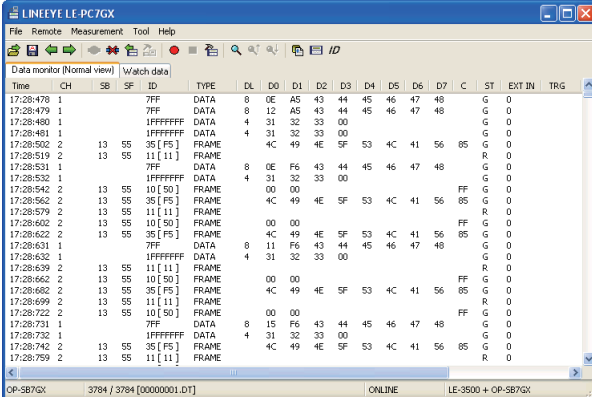
Chapter 7 Data Display on the Data Window

Data Monitor Display

After measuring, it displays CAN/LIN frame data monitored by the analyzer. (cannot display data at real time.)

To display data from a memory card or a PC, click " " (or [File] -> [Open data file] from menu bar) and then select the data file (extension .DT) and click "OK". To display sequential named data file, press " "(previous) or " "(next).

If controlling via USB or AUX port, click " " on the Tool Bar (or [Remote] -> [Connect] from menu bar) to make it ON-Line and then click " " (or [Remote] -> [Receive Data] from menu bar).

*When controlling via AUX port on the analyzer, it may take some time to receive data from the analyzer if there is a large amount of data. Also, it cannot receive data while the analyzer is measuring.

*If there is a data loss, it displays "LOSTDATA" at "CH" and "00:00:000" at "Time" in the data monitor display.

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Meaning of the Displays on the Data Window

Item	Meaning
Time	Displays the time (time stamp) when the frame is received. (unit: 1ms)
deltaT	Displays the difference of time stamp. (compares to last time stamp)
CH	Displays the received channel. (1: CH1, 2: CH2)
SB	Displays the number of bit of LIN Synch Break width.(In CAN, it is not displayed)
SF	Dispays LIN Synch Field.(In CAN, it is not displayed)
ID	In CAN, displays the ID of received frame in HEX. In LIN, displays an Identifier without parity and an Identifier with parity in HEX in [ ]. Example: 11110101= 35 [F5]
TYPE	Displays the types of received frame. DATA: Data frame of CAN (Data transmission) REMOTE: Remote frame of CAN (Request for data) FRAME: Frame of LIN (Standard frame) ILLEGAL: Illegal frame of LIN.
DL	"In CAN, displays the contents of data length cord(number of data byte) in decimal. In LIN, displays the data length which is set on the CONFIG screen of the analyzer in decimal. (It can not be displayed when ""FRAME END"" is ""TIME"".)"
D0 to D7	Displays the contents of data field in HEX.
C	Displays the contents of checksum in HEX. (LIN only)
ST	Displays whether or not the frame is normal. (Refer to "ST Display")
EXT IN	Displays the state of external input.(0=Low, 1=High) (*1)(*3)
TRG	Displays the frame of which trigger is generated.
AI1 to 4	Displays the analog value in IN1 to IN4.(*1)(*2)
DI	Displays the digital value in IN1 to IN4. (0=Low, 1=High) (*1)(2)

*1: Cannot display by OP-SB7F.   *2:Cannot display by OP-SB7FX.

*3: It displays IN1 value by using OP-SB7GX.

◆ST Display

ST	Meaning
G	Normal frame
B	SynchBreak error of LIN. (Dominant is 10 bit)
S	SynchField error of LIN.(other than 55h)
P	Parity error of LIN.
L	Data length error of LIN. (When "FRAME END" setting is "ID")
R	When there is no data in the response field of LIN.
C	Checksum error of LIN.

◆Miscellaneous

Display	Meaning
( )	Framing error (when the stop bit is dominant) Example: (01)

Watch Data Display

   Displays the latest ID frame data by using "watch data setting". It updates the data every second and displays only the latest data. When stopping the mesurement, it cannot update data.
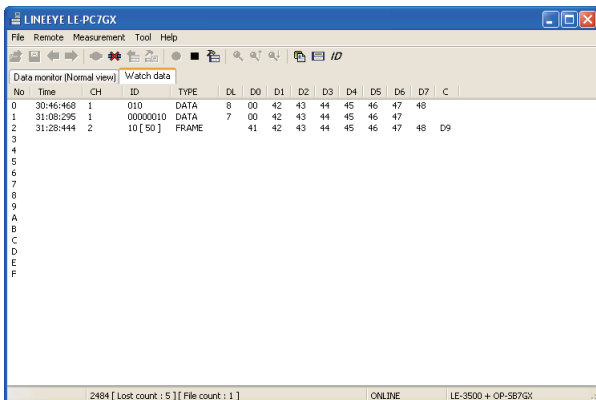
Watch Data Settings

   Click " ID " (or [Tool] -> [watch data setting]) and set the frame ID to watch. It is possilbe to change this setting while measuring.
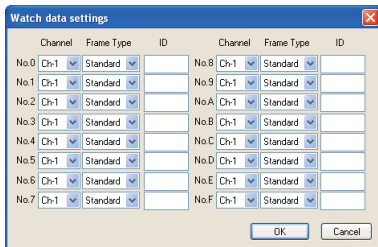
● Channel

   Ch-1: CAN1/ LIN1 frame

   Ch-2: CAN2/ LIN2 frame

● Frame Type

   Standard: CAN/LIN standard format

   Extended: CAN extension format

● ID

   Set the ID to watch in HEX. If nothing is input, it cannot watch data.

   CAN standard format: specify in the range of 0-7FFh

   LIN standard format : specify in the range of 0-3Fh

   CAN extended format: specify in the range of 0-1FFFFFFFh

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●Example Watch Data Display

Set CAN1 standard format ID as "10h" in the No.0.

Set LIN1 extension format ID as "10h" in the No.1.

Set LIN2 ID as "10h" in the No.2.

Watch data settings

	Channel	Frame Type	ID		Channel	Frame Type	ID
No.0	Ch-1	Standard	10	No.8	Ch-1	Standard	
No.1	Ch-1	Extended	10	No.9	Ch-1	Standard	
No.2	Ch-2	Standard	10	No.A	Ch-1	Standard	
No.3	Ch-1	Standard		No.B	Ch-1	Standard	
No.4	Ch-1	Standard		No.C	Ch-1	Standard	
No.5	Ch-1	Standard		No.D	Ch-1	Standard	
No.6	Ch-1	Standard		No.E	Ch-1	Standard	
No.7	Ch-1	Standard		No.F	Ch-1	Standard	

OK   Cancel

LINEEYE LE-PC7GX

File Remote Measurement Tool Help

Data monitor (Normal view) | Watch data

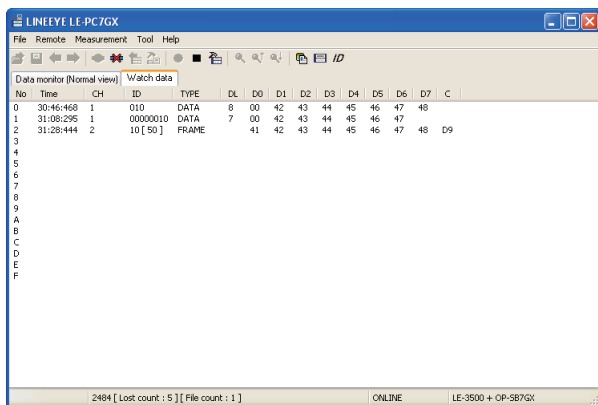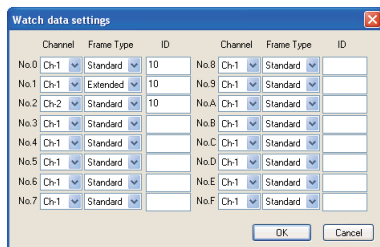| No	Time	CH	ID	TYPE	DL	D0	D1	D2	D3	D4	D5	D6	D7	C
0	30:46:468	1	010	DATA	8	00	42	43	44	45	46	47	48	
1	31:08:295	1	00000010	DATA	7	00	42	43	44	45	46	47		
2	31:28:444	2	10 [50]	FRAME		41	42	43	44	45	46	47	48	D9
3														
4														
5														
6														
7														
8														
9														
A														
B														
C														
D														
E														
F														

2484 [Lost count : 5] [File count : 1]   ONLINE   LE-3500 + OP-SB7GX

*Cannot edit or print the watch data display.

*When starting the measurement, only the latest data will be displayed.

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Display the Difference of Time Stamp

Click [Tool] -> [Difference timestamp] from menu bar. It displays the difference of time stamp compared to the previous time stamp. (CH1/CH2 does not matter) It will go back to the normal mode when clicking [Difference timestamp] one more time.

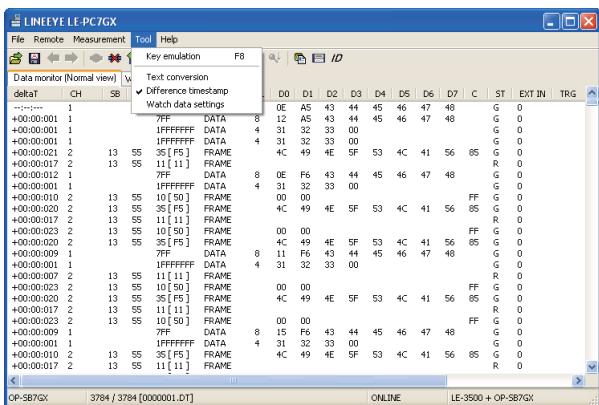*It changes the title of "Time" to be "deltaT".

*When having nothing in the previous time stamp, there will be "- - : - - : - - - ".

*Cannot retrieve the difference of time stamp.

<Dispay the normal time stamp>

<Display the difference of time stamp>

22
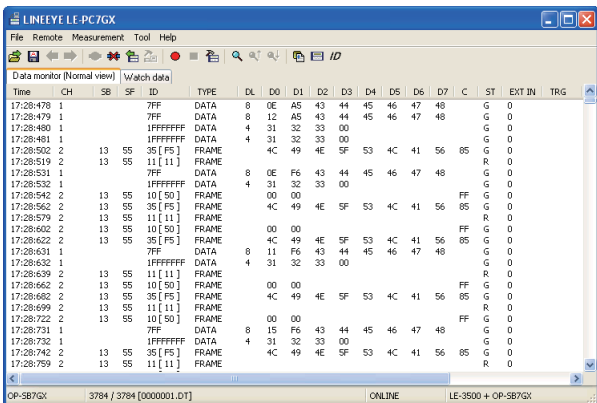
Chapter 8 Data Search

   To search data, click " " on the Tool Bar in the Data Window. Set some factors on the data search window.
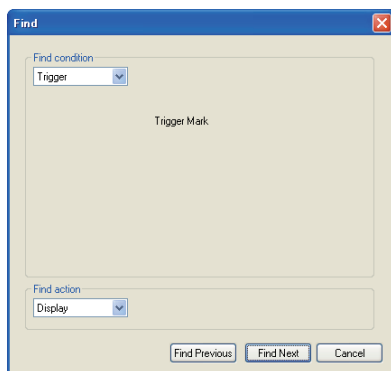
(It cannot search data unless displaying data on the screen.)

FACTOR

   There are five factors(Trigger, Error ,Data, ,Remote,Time stamp, EXT IN) to search.
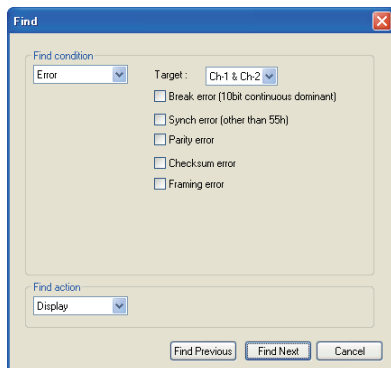
◆ Trigger

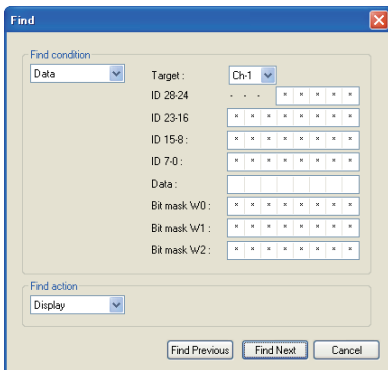   Search the frames of which trigger is generated.

◆ Error

   Search the errors (BREAK, SYNC, PARITY, CHECKSUM, FRAMING) of LIN.
   Select the types of errors to search.

◆ Data

Search the specific data frame of CAN(DATA) or the frame of LIN(FRAME) conditions set in Target, ID and DATA.

⬧ "Target"

Select a receiving channel to search, either from Ch-1 or Ch-2.

⬧ "ID28-0"

Set the ID from ID28 to ID0 in bit (0, 1, or don't care(*)).

[CAN]:

Extension format - set the ID from ID28 to ID0.

Standard format - set the ID from ID28 to ID18.(Make sure to set "don't care(*)" from ID17 to ID0)

[LIN]:

Set the ID from ID26 to ID21.(Make sure to set "don't care(*)" from ID20 to ID0)

(It is possilbe to set the PARITY Bit in ID28(P1) and ID27(P0))

Examples of the ID setting

ID00000023 (CAN extension format)

ID 28-24	- - -		0	0	0	0	0
ID 23-16	0	0	0	0	0	0	0	0
ID 15-8 :	0	0	0	0	0	0	0	0
ID 7-0 :	0	0	1	0	0	0	1	1

ID023 (CAN standard format)

ID 28-24	- - -		0	0	0	0	0
ID 23-16	1	0	0	0	1	1	×	×
ID 15-8 :	×	×	×	×	×	×	×	×
ID 7-0 :	×	×	×	×	×	×	×	×

ID23 (LIN)

ID 28-24	- - -		×	×	1	0	0
ID 23-16	0	1	1	×	×	×	×	×
ID 15-8 :	×	×	×	×	×	×	×	×
ID 7-0 :	×	×	×	×	×	×	×	×

♦ "Data"

Input the data to search in the data line (D0 to D7) in HEX.
It is possible to set "don't care (*)" and Bit Mask of 1 byte data (W0, W1, W2).
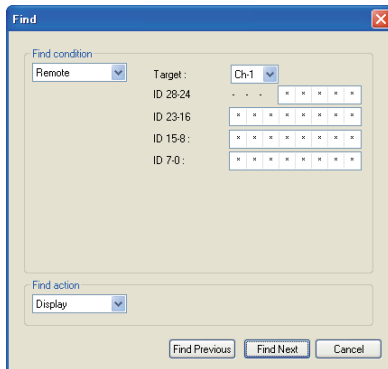
♦ "Bit mask W0 -W2"

Input 0, 1 or don't care(*) in the W0, W1, or W2 (7bit - 0bit from the left) to set the bit mask.

Data :	W0 42							
Bit mask W0 :	×	×	×	×	0	0	0	1
Bit mask W1 :	×	×	×	×	×	×	×	×
Bit mask W2 :	×	×	×	×	×	×	×	×

This example shows that Data D0 searches "01h to F1h", and D1 searches "42h".

◆ Remote

Search the specific CAN remote frames by setting the conditions in target and ID.

⬥ "Target"

Select the receiving channel (Ch-1 or Ch-2) to search.
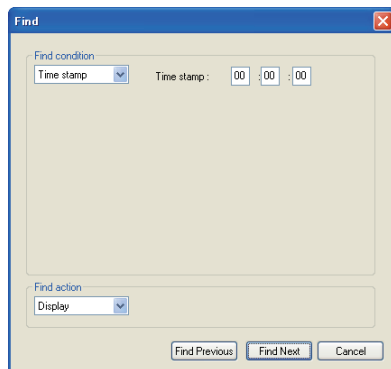
⬥ "ID28-0"

Set ID in bit (0, 1, don'tcare(*)) to search.

Set ID28 - ID0 in the case of CAN expansion format.

Set ID28 - ID18 (ID17 - ID0 must be don'tcare) in the case of CAN standard.

◆ Time stamp

If an upper digit is specified as "don't care(*)", lower digits are automatically set as "don't care(*)". (u sec can be set in the upper 2 digits only)
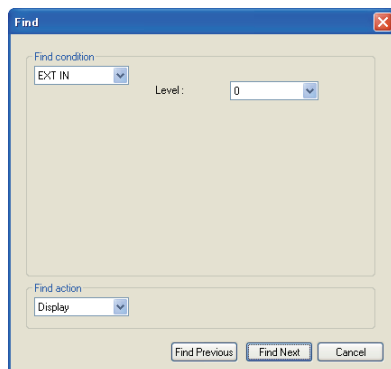

Example of the TIME Search

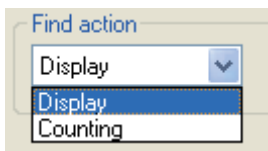| Time	Time Search
52:27:60	52:27:600 to 52:27:609
52:27:**	52:27:000 to 52:27:999
5*:27:60	50:00:000 to 59:99:999

◆ EXT IN

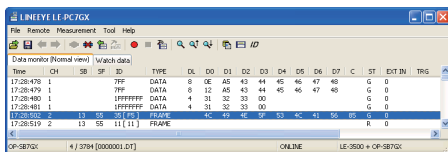Search the level in the external input. Select 0 or 1(0=Low, 1=High).

There are two action types, "Display" and "Counting" to display the result of search.
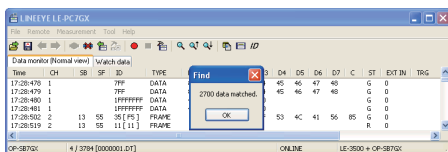

◆ Display

Display the data that matches the search conditions. When it finds the matched frames, the first frame will be highlighted.

◆ Counting

Display the number of data that matches the search conditions. When it finds the matched frames, the number of frames will be displayed.
(The data which is highlighted will not be included.)

Start Data Search

1. Select one factor from Trigger, Error, Data, Remote, Time stamp or EXT IN to search.
2. Set the search conditions.
3. Select the action either from "Display" or "Counting".
4. Click [Find Previous] or [Find Next].
5. To search continuously, click " $Q_↓$ "(Find next) or " $Q_↑$ "(Previous) on the Tool Bar.

Only one factor selected from Trigger, Error, Data, Remote, Time stamp or EXT IN will be searched. (Not AND conditions)
When finishing the application, the search conditions will be cleared.

Chapter 9 Key Emulation

It is possible to operate the analyzer by remote control from a far place from the analyzer.

Explanation of Key Emulation

 Click " " on the Tool Bar in the Data Window (or [Remote] -> [Connect] from menu bar) to make the analyzer On-Line. And then click " " (or [Tool] -> [Key emulation] from menu bar).
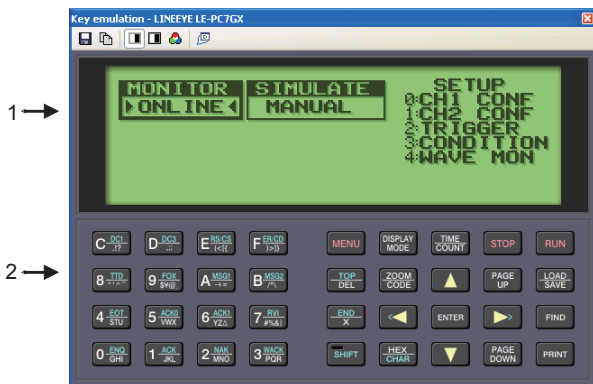
1. Display the screen of analyzer which is connecting.
2. Emulate keys of the analyzer.
 *The screen images of key emulation will be different in some models. It cannot
  operate "Key emulation" without connecting to the analyzer.

Save the Screen Image

 It is possible to save the screen image of analyzer in bitmap(BMP) file format.

Button	Meaning
	Saves the present screen display in bitmap file.
	Copies the present screen display on the Clipboard.
	Makes a bitmap file in monochrome without a frame.
	Makes a bitmap file in monochrome with a frame.
	Makes a bitmap file in color.
	Activates the main window .

The data saved on a memory card or HDD can be converted into text format.

<u>Explanation of Text Conversion</u>

Click " " on the Tool Bar in the Data Window (or [Tool] -> [Text conversion] from menu bar).

● "Folder"

Select a folder which has the data to convert into text format.

● "Conversion options"

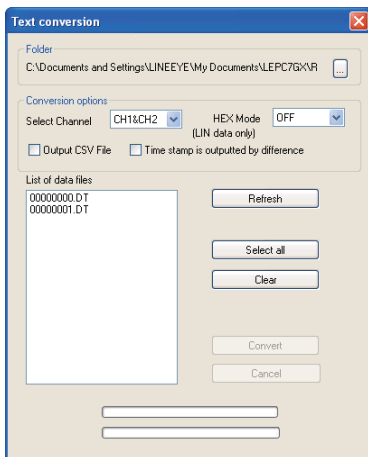Select options for text conversion.

⬩ Select Channel

Select a channel from CH1, CH2 or CH1&CH2.

⬩ HEX Mode

This is only for LIN data.

OFF: Does not include parity bit of ID.

    Display the framing error data as "##".

ON: Display ID including parity bit in HEX.

    Display the framing error data in HEX.

+ Output CSV file (*1)

Mark this box when outputing the file in CSV format.

+ Output the difference of time stamp

Mark this box when outputing the difference of time stamp. When outputing the file in CSV format, it will output the difference of time stamp everytime.

● "List of data files"
  Select a file to perform the text conversion. When clicking the file, it will be selected.
  When clicking the file one more time, the selection will be cleared.
  (It is possible to select the multiple files.)

● "Refresh"
  Update the list of data files.

● "Select all"
  Select all files displayed in the list of data files.

● "Clear"
  Clear all files selected in the list of data files.

● "Convert"
  Selected data files will be converted into text format.

● "Cancel"
  Cancel text conversion.

Start Text Conversion

   1. Select a folder which has data to convert into text format.
   2. Set the conversion options.
   3. Select a file to convert from the list of data files.
   4. Click "Convert".

 After the text conversion, data will be saved in the same file as before, and the file name will be the same name plus ".txt" at the end.

 If marking the "Output CSV file" box, the file name will be the same name plus ".csv" at the end.

Chapter 11　Specifications

Applicable Analyzer	LE-7200/3200/2200 (with OP-SB7F or OP-SB7FX) LE-3500/2500 with OP-SB7GX.		
Connection	Serial, LAN (LAN-serial converter(SI-60F/SI-60)), USB(*3)		
Number of analyzers	Connect only one analyzer and have remote control function.		
Measurement conditions	Measurement conditions (communication parameters, triggers and simulation data)		
Key Emulation	Displays the screen and keys of the analyzer on the PC.		
Remote monitor	Starts/stops the measurement. Displays the measurement data on the PC.		
	Recording mode	Fixed buffer mode: Measures data up to the specified size and stop automatically.	
	Recording capacity	Max. 16GB: Can be specified up to 2,000 files in the unit of 1/2/4/8 MB.	
Display	Standard display	Time stamp, (Difference of time stamp), CAN/LIN frame display (SynchBreak (*1), SynchField (*1), ID, TYPE, DLC, DATA0-7, Checksum (*1), STATUS), TRIGGER point, External in(Analog, Digital)(*2)	
	Watch data display	Time stamp, CAN/LIN frame display (SynchBreak(*1), SynchField(*1), ID, TYPE, DLC, DATA0-7, Checksum(*1))	
Search Function	Displays the data or number of data that matches the search		
	Searching Conditions	Trigger: Trigger matching frame Error: Break, Sync, Parity, Checksum, Framing Data: Channel(Ch-1 or Ch-2) 　　　　Specified ID (don't care(*) can be set) 　　　　Character string (up to 8 character, don't 　　　　care(*), bit mask can be set) Remote:Channel(Ch-1 or Ch-2) 　　　　　Specified ID (don't care(*) can be set) Time stamp: specific time stamp (don't care(*) 　　　　　　can be set) External level: Logical status of external signal	
Text Conversion	Converts the recorded files into text format or CSV format.		
Save the Screen Images	Saves the screen image of analyzer displaying by Key emulation function in bitmap file.		
System Requirements	PC	RAM: 512MB(1GB for Vista/7) or more (recommended) HDD: 3MB+free space for saving the measurement data.	
	OS	Windows 2000/XP/Vista/7	
Accessories	CD (software), Instruction manual, Warranty		

*1: Only LIN frame measured by OP-SB7FX/OP-SB7GX.

*2: OP-SB7F does not support. OP-SB7FX supports only digital value of EXT_IN. OP-SB7GX supports digital/ analog value of IN1-4.

*3: Only OP-SB7GX can support.

The card packed with the product is the user registration card for Japanese customers.

For overseas customers, there is a registration page on our web site.(www.lineeye.com)

LINEEYE CO., LTD.

This instruction manual is used recycled paper.

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