LINEEYE

Communication Protocol Analyzer

LE-150P

Installation Manual

The CD-ROM attached to LE-150P contains the latest installation manual in a pdf format.

The 4th Edition

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INTRODUCTION

Thank you for your purchase of LINE EYE's protocol analyzer. To use it correctly, you are advised to read and understand this instruction manual thoroughly. Keep this together with the warranty. If you encounter any problems, you will find helpful information in this manual.

NOTICE

■ It is prohibited to reprint or duplicate any part or the whole of this instruction manual without prior permission from LINEEYE.

■ The contents of this instruction manual and specifications of the products are subject to change without notice.

■ This instruction manual has been designed and edited with great care to give you all necessary information. If you have any questions, feel free to direct your inquiries to LINEEYE CO., LTD.

■ LINEEYE assumes no responsibility whatsoever for any damages resulting from the use of this product. Furthermore, LINEEYE makes no guarantee of data etc. when data disappears, or even when the recorded data has broken while using this product.

USE LIMITATION

This product has been developed for the purpose of using as an analyzer only, and has not been developed for the use that needs exclusively high reliability and safety; aerospace apparatus, trunk communication apparatus, nuclear control apparatus, medical apparatus related with life maintenance and etc. Also, this product does not warrant the use for those purposes. If you use for those purposes, please consider the safety measures against fail-safe etc. on your responsibility.

Safety Information

Read this first ! !

This Safety Information includes the important information in order to not only have you learn the right way to use the analyzer, but also prevent you from causing damage to people and property. Before using, please read the main contents after you understand the following contents (symbols and marks).

[Explanation of the symbols (The degree of the hazard factor)]

⚠**WARNING** The symbol denotes that improper handling poses a risk of causing death or serious injury.

⚠**CAUTION** The symbol denotes that improper handling poses a risk of causing injury*1 or damage to the product and property*2.

*1: "Injury" indicates injury, burn, an electric shock, or the like which does not require hospitalization or the extend over a long period of hospital visit.

*2: "Damage to the product and property" indicates damage expansion related to a house, a building, furniture, apparatus, livestock or a pet.

⚠**WARNING**

■Do not disassemble or modify.
This may result in fire, an electric shock and/or unit malfunction.

■Stop using the analyzer immediately when smells emanate from itself.
Continuous use may result in an electric shock, a burn and/or fire.

■Keep the products away from water.
Failure to do so may result in the heat generation, an electric shock and/or unit malfunction.

■Do not short-circuit the connector pins.
This may result in the heat generation, an electric shock, unit malfunction and/or injury.

■Do not use deteriorated cables (damage etc.).
This may result in the heat generation and fire.

■Do not use in the place which generates inflammable gas etc.
This may result fire.

⚠CAUTION

■Do not use and keep this product in the following places:

- The places exposed to the direct rays of the sun.
- The places with the humidity and temperature exceeding the tolerance level, and with a rapid temperature change.
- The places with much dust and moisture.
- The places near the objects which generate heat (the heater etc.).

Using in these places may result unit malfunction and /or injury.

Software License Agreement

LINEEYE CO., LTD (LINEEYE) grants you to use the software program and accompanying documents under 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 getting the software and 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 advance notice because of technical progress of hardware or software. LINEEYE provides software upgraded by payment specially. For upgrade, only licensed user can have upgrades.

5. Limitation of Liability
   In no event shall LINEEYE or its licensors be liable for 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 or the medium.

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.

Warranty

For a period of 12 months from date of shipment, LINEEYE warrants that the products (excepting consumable parts like the batteries and software) are free from defects in material and workmanship when properly operated in accordance with procedures described in documentation supplied by LINEEYE. If a defect exists during the Warranty period, please send it back to LINEEYE distributors or LINEEYE office. LINEEYE will repair or exchange it at no charge. In this case, the shipping charge is at your own expense.

■ The foregoing warranties are the sole warranties given by LINEEYE. The warranties set forth above shall not apply to my products which has been modified, repaired or altered, except by a LINEEYE employee and which has been subjected to unusual physical or electrical stress, misuses, abuse, negligence or accidents. LINEEYE disclaims all other warranties including the warranties of merchantability, fitness for a particular purpose and noninfringement of third party right. LINEEYE does not promise that the software is error-free or will operate without interruption.
If an error exists on software, the content and modified program will be shown on our web page (http://www.lineeye.com). So, Please download it from there.

Repair

LINEEYE will repair the product at your own expense.
For malfunction, please contact the LINEEYE distributor you purchased at. Or, contact us directly.
If your product needs to be repaired, please read details about a repair on our web page and ask for a repair.

Communication protocol analyzer for asynchronous communication incorporating full-fledged analysis features such as patented arbitrary speed settings and the sequential trigger function, yet offering a low price by making the most of the big screen and the hard disk of the PC etc.

1 Composition

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

Protocol Analyzer	:	1	
Utility CD	:	1	
USB Cable	:	1	
RS-232C Monitor Cable (Model: LE-25M1)	:	1	
Instruction Manual	:	1	(This book)
Warranty	:	1	

- Please contact LINEEYE distributor or us if you find any damage to the product caused by transportation or any insufficient part.
- Please keep the box carefully to use it when sending the product back to us for repair etc.

■Utility CD

Contains the latest instruction manual etc. for analysis software, the driver, the analyzer and options.
You can download the update file of software for our products from http://www.lineeye.com.

2 Outline

■ Functions

1) On-line Monitoring

Monitors the transmission data on-line to check for existence of hindrance in the line or to analyze the communication.

2) Simulation

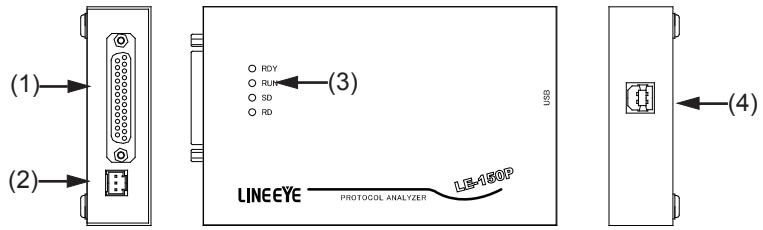
Executes operating transmission of data as communication partner for tested devices/equipment.

■ Features

- Supports arbitrary speed settings up to 250 kbps.
- Comes standard with RS-232C/422/485. Supports TTL-level communication by using with the option.
- Measures idle time, time stamps, and control line changes along with communications data.
- Continuously records measured data on the hard disk of the PC up to 8 Gbytes. Therefore, it is useful for identifying rare communication failures of unknown causes.
- Powerful trigger function and search function make it possible to catch target communication data exactly.
- Simulation function makes it possible to transmit preset transmission data with one click.
- Employs a compact and lightweight aluminum casing. Easy to carry with a laptop PC.
- Possible to connect and control multiple analyzers on a PC.

Please refer to the on-line help of the analysis software for more details.

LE-150P



(1)Measurement Interface

The measurement interface consists of a DSUB 25-pin connector connectable over RS-232C or RS-422/485 to measured devices.

(2)External Trigger I/O Terminal

This terminal is used for external I/O signals for the operation of the LE-150 unit in synchronization with external devices, such as measuring instruments. The LE-3LP Three-wire probe cable (option) is suitable to the terminal.

(3)LED (LE-150P)

- RDY : Indicates the LE-150P is ready to operate.
- RUN : Indicates the LE-150P is in measurement operation.
- SD/RD : Indicates in real time the logical status (voltage level) of signal line of the measurement port (see *1).

(4)USB Connector

Connect the USB connector to the host PC over the provided USB cable.

*1: SD/RD LED Indicators

Voltage level of signal line		LED
RS-232C	RS-422/485	
+3V <= VM	VA -VB > +0.2V	ON
-3V < VM< +3V	VA -VB < +0.2V	OFF
VM < +3V		OFF

VM: Voltage level on RS-232C
VA: Voltage on RS-422/485 line (A)
VB: Voltage on RS-422/485 line (B)

4 System Requirements

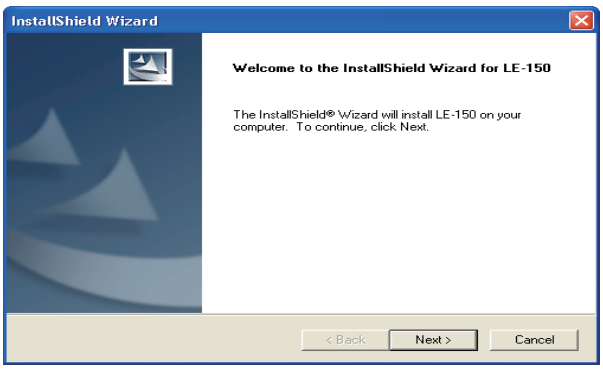
PC/AT compatible (DOS/V)

CPU : Pentium 3 1GHz min.
RAM : 256MB or more recommended
HDD : 5MB + capacity for communication log recording required
OS : Windows 98SE/Me/2000/XP/Vista/7
Port : USB port required

5 Installation of the Analysis Software

(1) Install

1. In the case of Windows 2000/XP/Vista/7, log on from "Administrator" authority.
2. Insert the included CD-ROM into the CD-ROM Drive of your PC.
   a) Select “Run...” from the start menu.
   b) Enter “<CD-ROM Drive name>\pcsoft\Setup.exe”.
   CD-ROM Drive name is different depending on the PC you use. (For example, if CD-ROM drive name is “D”, enter “D:\pcsoft\Setup.exe”.)
3. The setup dialog box appears. To start the setup wizard, click “Yes.”



4. To install, follow the setup wizard instructions.
5. For serial number, input Serial No. of your analyzer (see back side of your analyzer).
6. After setup has completed, click “Finish.”

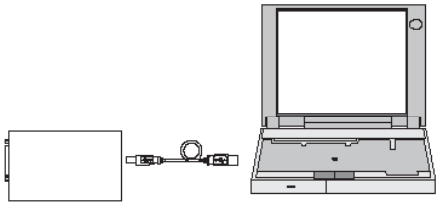
(2) Uninstall

1. Open “Add/Remove Application” in the “Control Panel.”
   (Depending on the OS you use, it might be “Add/Remove Programs.”)
2. Select “LE-150,” and execute “Remove.”

6 Installation of the USB Driver

Driver

When connecting LE-150P to the PC for the first time, installation of the driver is required.

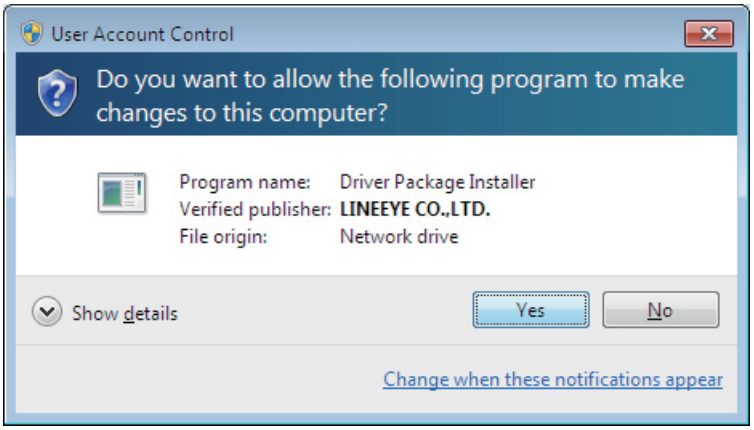


(1) Install

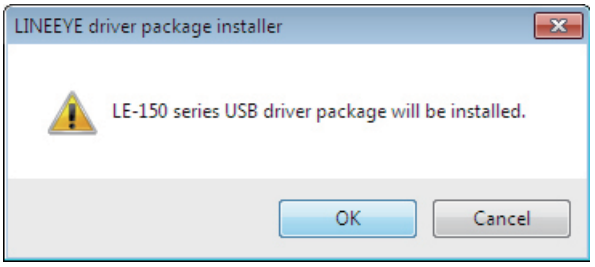
・In the case of Windows 7(32 bits and 64 bits)

1. Insert the included CD-ROM into your PC's CD-ROM Drive.

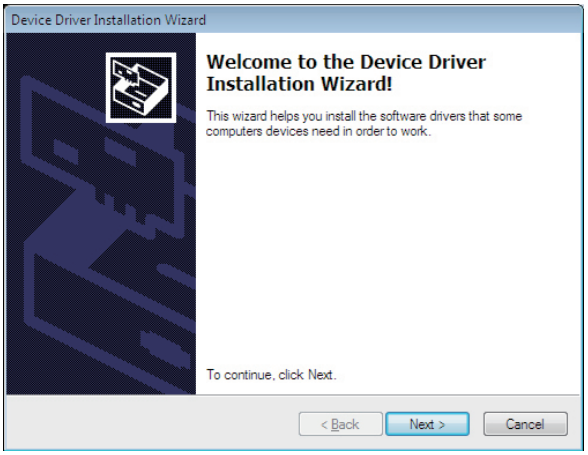
2. Click "setup.exe" in the folder "\LE150drivers\nt" of CD-ROM Drive.
   Click "Yes".



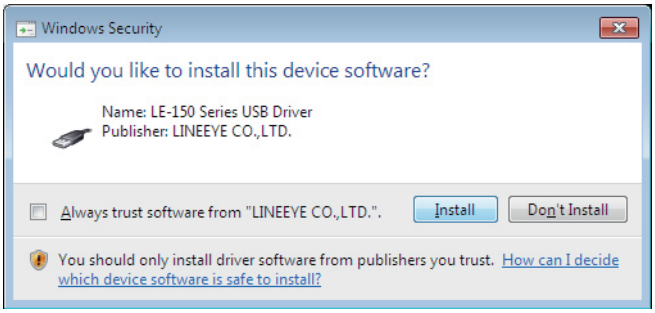
3. Click "OK" to start installation of LINEEYE driver package.



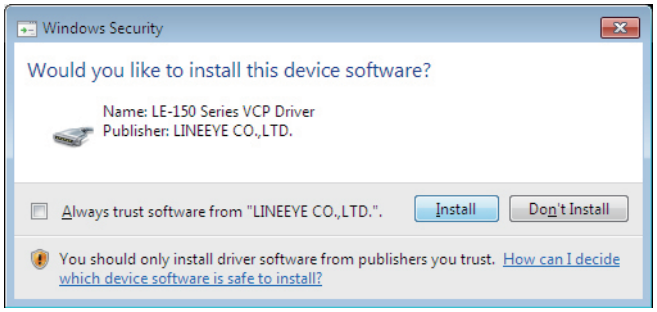
4. Click "Next" on Device Driver Installation Wizard.



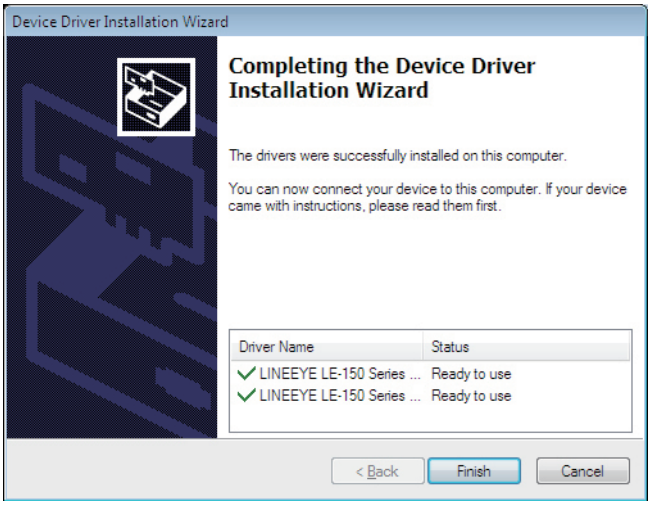
5. Click “Install” to start installation of LINEEYE driver package.



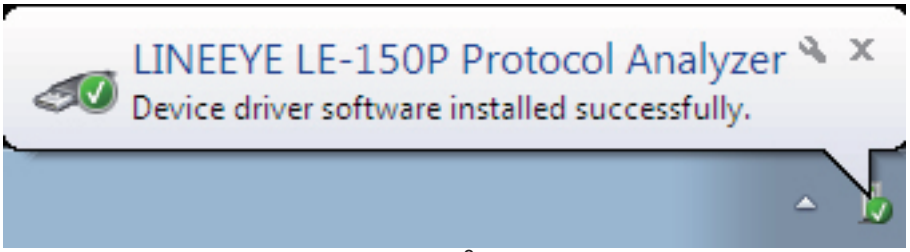
6. Click “Install” again to install the next driver.



7. Click “Finish” to finish the installation.



8. Connect LE-150P device to the PC. If the PC can recognize the device,the message like below will be displayed. When you connect to the different USB port, same thing will happen again.

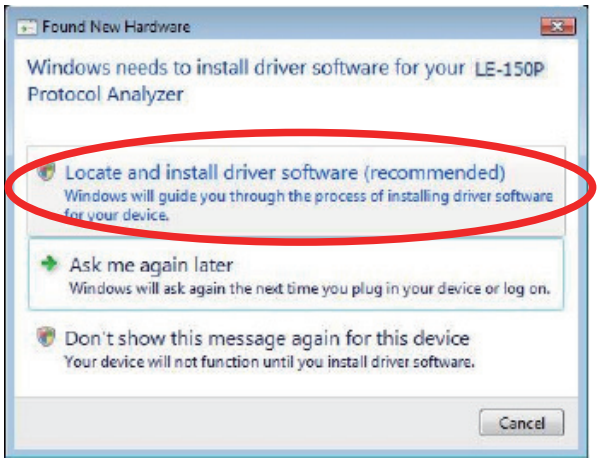


• In the case of Windows Vista(32 bits only)

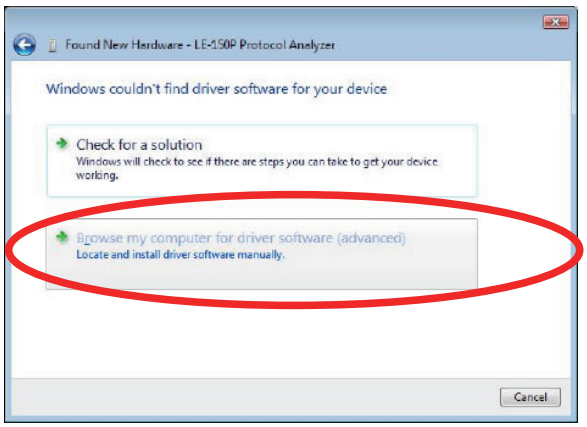
1. Insert the included CD-ROM into your PC's CD-ROM Drive.

2. Connect the analyzer to the USB port of your PC by using the included USB cable.
   Select "Locate and install driver software", when PC finds the new hard ware.

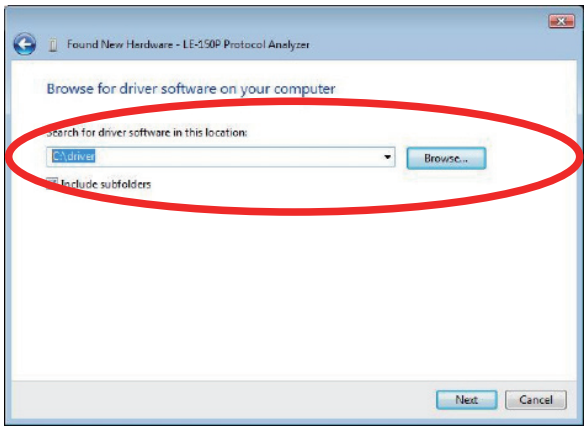
If User Account Control window appears,click "Continue".



3. Click "Brouse my computer for driver sofotware."



4. Click "Browse" after selecting of "\LE150drivers\nt" from CD-ROM.
   Click "Next".



5. Click “Install this driver software anyway.”

6. Installation starts.

7. Click “Close” when the installation has succeeded.

・In the case of Windows XP

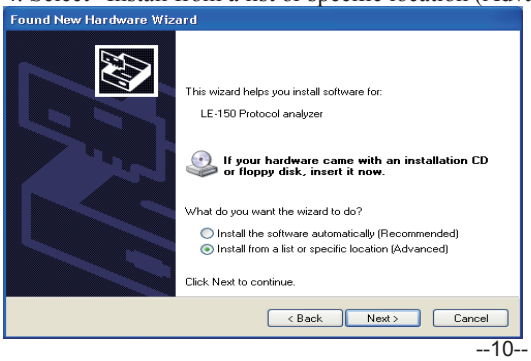
(The messages at Windows 2000 are different, but the basis is the same.)

1. Insert the included CD-ROM into your PC’s CD-ROM Drive.

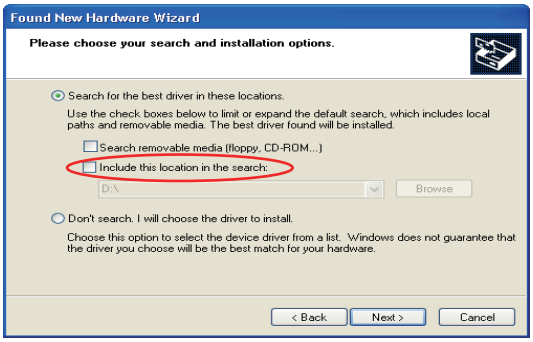
2. Connect the analyzer to the USB port of your PC by using the included USB cable.

3. After Windows detects LE-150P, a wizard screen is displayed. Select “No, not this time”, then click “Next.”

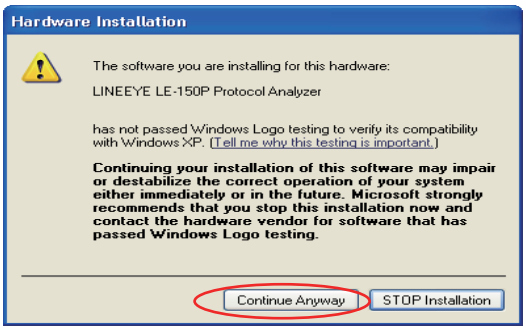
4. Select “Install from a list or specific location (Advanced)”, then click “Next.”



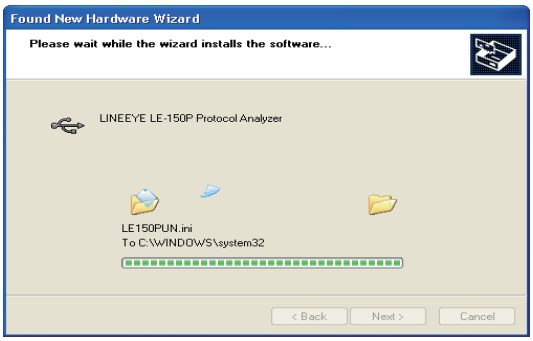
5. Select “Search for the best driver in these locations.” and check “Include this location in search.” Select “\LE150drivers\nt," then click “Next.”



6. When the following dialog box appears, click “Continue Anyway.”



7. Installation of the driver starts.



8. When installation of the driver finishes, the following screen appears. Click “Finish” button.

• In the case of Windows Me (The messages at Windows 98 are different, but the basis is the same.)

1. Insert the included CD-ROM into your PC's CD-ROM Drive.

2. Connect the analyzer to the USB port of your PC by using the included USB cable.

3. After Windows detects LE-150P, a wizard screen is displayed.

4. Select "Specify the location of the driver (Advanced)", then click "Next."

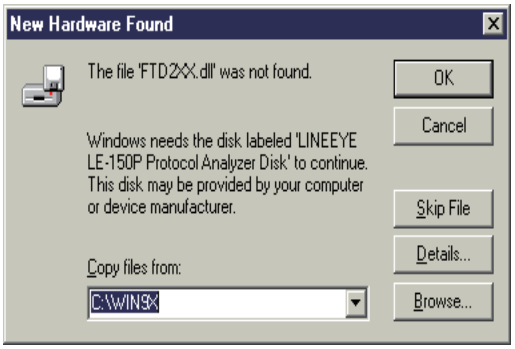
5. Select "Search for the best driver for your device. (Recommended)" and check "Specify a location." Then click "Next."

6. Click "Next" button.

7. The driver file is installed.

* A message may be displayed during the copy of the driver file.

At this time, the window appears. Click “Skip File” to continue installation.



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.

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