

## LINE EYE LE-2500-E

# LINE EYE LE-2500-E Multi Protocol Analyzer

## User Instruction Manual

### 1. INTRODUCTION

The LINE EYE LE-2500-E is a compact and portable multi-protocol analyzer designed for comprehensive data communication analysis. It supports a wide range of protocols and offers advanced features for development, service, and troubleshooting of communication systems.

#### Key Features:

- **Mega Speed Measurement:** Capable of high-speed communication measurements up to 1,000Mbps (half duplex and full duplex) with high precision DPLL technology for open baud rate support.
- **Multi-Protocol Support:** Standard support for RS-232C (V.24) and RS-422/485 (RS-530). Optional cables extend support to X.25, RS-449, and V.35.
- **Expansion Kits:** Supports TTL, I2C, IrDA, CAN, and LIN protocols through interchangeable measurement boards.
- **Auto Save & Long Recording:** Continuous data saving up to 8GB on a Compact Flash (CF) card, with ring recording for extended monitoring.
- **Logic Analyzer & Signal Voltage Measurement:** Analyzes communication line timing with up to 50ns resolution and measures RS-232C signal voltages.

### 2. SAFETY INFORMATION

**Please read and understand all warnings and cautions in this manual before operating the LE-2500-E Multi Protocol Analyzer. Failure to follow safety instructions may result in injury or damage to the device.**

- Do not expose the device to extreme temperatures, humidity, or direct sunlight.
- Avoid dropping or subjecting the device to strong impacts.
- Use only the specified power adapter and accessories.
- Do not attempt to open or repair the device yourself. Refer all servicing to qualified personnel.
- Ensure proper ventilation during operation.

### 3. PRODUCT OVERVIEW

The LE-2500-E features a clear display, an intuitive keypad for navigation and data entry, and various ports for connectivity and expansion.



Figure 3.1: Front view of the LE-2500-E Multi Protocol Analyzer, showing the display screen, keypad, and interface indicators.

The front panel includes a backlit LCD display, a numeric and function keypad, and status indicators for various communication lines (DTE, DCE, RS(3)RD, RS(4)CS, ER(20)CD, ST1(24)CI, ST2(15)CTS, RT(17)RTS, SIM\_DTE, SIM\_DCE, MONITOR, RUN, BT).

### 4. SETUP

#### 4.1 Powering On/Off

Locate the power switch on the side of the unit. Toggle the switch to the 'ON' position to power on the device. Toggle to 'OFF' to power off.



**Figure 4.1:** Side view of the LE-2500-E, highlighting the ON/OFF power switch and the contrast adjustment knob.

## 4.2 Connecting Communication Cables

The LE-2500-E provides standard ports for RS-232C and RS-422/485 (RS-530) on its rear panel. Connect your communication cables to the appropriate ports.



**Figure 4.2:** Rear view of the LE-2500-E, showing the RS-232C and RS-422/485 (RS-530) communication ports. Note the TRIGGER input for external synchronization.

## 4.3 Inserting a Compact Flash (CF) Card

For data logging and saving, insert a compatible Compact Flash (CF) card into the designated slot on the side of the unit. Ensure the card is inserted correctly to avoid damage.



**Figure 4.3:** Side view of the LE-2500-E, illustrating the CF card slot, USB 2.0 port, and AUX (RS-232C) port.

## 4.4 USB and AUX Connections

The USB 2.0 port allows connection to a computer for data transfer or firmware updates. The AUX (RS-232C) port provides an additional serial interface.

# 5. OPERATING INSTRUCTIONS

## 5.1 Basic Operation

1. **Power On:** Switch the unit ON. The device will perform a self-check and display the current firmware version.

2. **Menu Navigation:** Use the directional keys (up, down, left, right) and the **MENU** button to navigate through the device's settings and functions.
3. **Parameter Setting:** Select desired parameters (e.g., baud rate, protocol type) using the keypad and confirm with **ENTER**.
4. **Start Analysis:** Press the **RUN** button to begin data capture and analysis. The **RUN** indicator will illuminate.
5. **Stop Analysis:** Press the **STOP** button to halt data capture.
6. **Save Data:** Use the **LOAD/SAVE** function to store captured data onto the CF card.

## 5.2 Display Modes

The **DISPLAY MODE** button cycles through various display options, including real-time data, decoded protocol frames, and logic analyzer views. Adjust the display contrast using the knob on the side of the unit for optimal visibility.

## 5.3 Auto Save Function

To enable continuous recording, configure the auto-save function via the menu. This allows the device to automatically save captured data to the CF card, preventing data loss during long monitoring sessions. The ring recording feature ensures that the latest data is always preserved within the card's capacity.

## 5.4 Logic Analyzer Analysis

Access the logic analyzer function through the menu to visualize communication line timing. This feature is crucial for diagnosing timing-related issues in complex communication systems.

# 6. MAINTENANCE

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## 6.1 Cleaning

Wipe the exterior of the device with a soft, dry cloth. For stubborn dirt, use a slightly damp cloth with a mild cleaning solution, then dry thoroughly. Do not use abrasive cleaners or solvents.

## 6.2 CF Card Management

Regularly back up data from the CF card to a computer. Format the CF card periodically to maintain optimal performance. Always safely eject the CF card from the device before removal.

## 6.3 Firmware Updates

Check the LINE EYE official website for available firmware updates. Follow the instructions provided with the update package carefully to ensure proper installation.

# 7. TROUBLESHOOTING

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## 7.1 Device Does Not Power On

- Ensure the power adapter is securely connected to both the device and a working power outlet.
- Verify the power switch is in the 'ON' position.
- If using battery power (if applicable), ensure batteries are charged or replaced.

## 7.2 No Data Captured

- Check that communication cables are correctly connected to the appropriate ports.
- Verify that the protocol settings (e.g., baud rate, data bits, parity) on the LE-2500-E match the communication being analyzed.
- Ensure the **RUN** button has been pressed to start data capture.
- Confirm that the connected device is actively transmitting data.

## 7.3 Display Issues

- Adjust the contrast knob on the side of the unit.
- If the display remains blank or distorted, power cycle the device.

## 8. SPECIFICATIONS

| Feature                        | Detail                                       |
|--------------------------------|----------------------------------------------|
| Manufacturer                   | LINE EYE                                     |
| Model Number                   | LE-2500-E                                    |
| Product Dimensions             | 15.4 x 21 x 3.8 cm                           |
| Item Weight                    | 760 g                                        |
| Supported Protocols (Standard) | RS-232C (V.24), RS-422/485 (RS-530)          |
| Supported Protocols (Optional) | X.25, RS-449, V.35, TTL, I2C, IrDA, CAN, LIN |
| Max Measurement Speed          | 1,000Mbps (half duplex and full duplex)      |
| Recording Capacity             | Up to 8GB (via Compact Flash card)           |
| Logic Analyzer Resolution      | Max. 50ns                                    |
| Connectivity                   | USB 2.0, AUX (RS-232C)                       |

## 9. WARRANTY AND SUPPORT

### 9.1 Warranty Information

For detailed warranty terms and conditions, please refer to the official LINE EYE website or the warranty card included with your product at the time of purchase. Warranty coverage typically includes defects in materials and workmanship under normal use.

### 9.2 Technical Support

If you encounter issues not covered in this manual or require further assistance, please contact LINE EYE technical support. Visit the official LINE EYE website for contact information, FAQs, and additional resources.  
**LINE EYE Official Website:** [www.lineeye.co.jp](http://www.lineeye.co.jp)

## ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

### Name

Anonymous

### Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

### Question

Example: How do I reset this device or fix this error?

### Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question