

GL450 Quick Start Guide

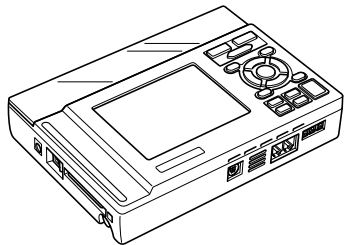
JUL 19, 2005 1st edition

GL450-UM-851

This Quick Start Guide is an easy operation guide that provides explanations on preparations prior to measurement, basic measurement procedures, and menu operations, for people who want to start measurement operations right away. Please refer to the User's Manual for more detailed explanations.

Checking the Outer Casing

After unpacking, check the GL450's outer casing before use to make sure that there are no surface scratches or other flaws such as stains or dirt.



Checking the Accessories

- Quick Start Guide: 1
- LCD protector: 1
- Screwdriver for input terminal unit: 1
- CD-ROM: 1
- AC cable/AC adapter: 1 set
- 10-channel input terminal unit: 1

Checking the AC Line Frequency

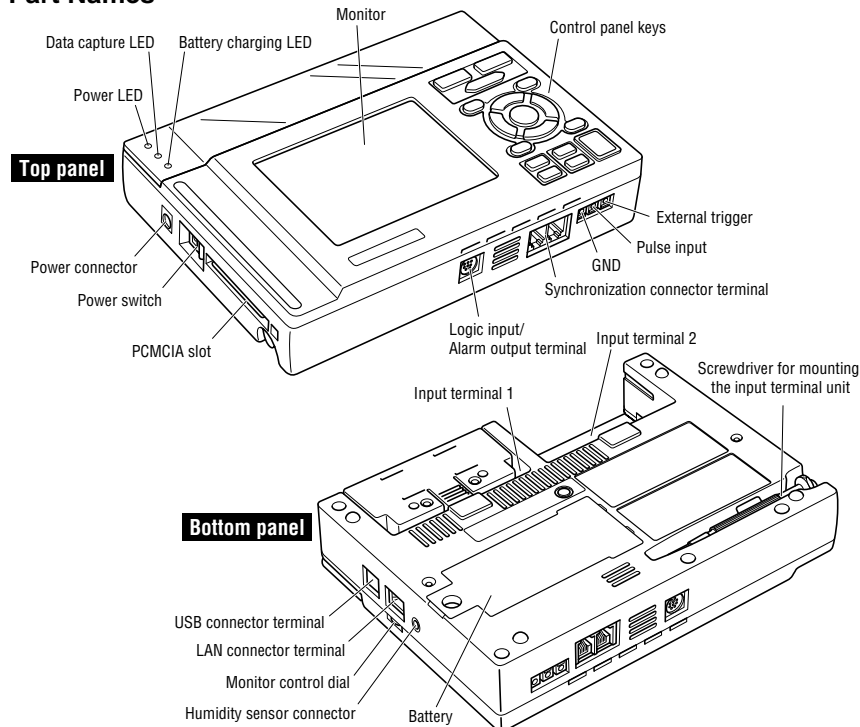
Set the AC line frequency (50 Hz or 60 Hz) in the "OTHR" menu. Using the appropriate setting is effective in eliminating line noise.

Connecting to a PC (the PC is not supplied by Graphtec)

- OS: Windows 2000/XP
- CPU: Pentium 4, 1.7 GHz or higher
- Memory: At least 256 MB

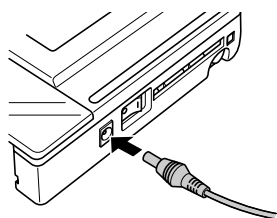
GL450 Main Unit

Part Names



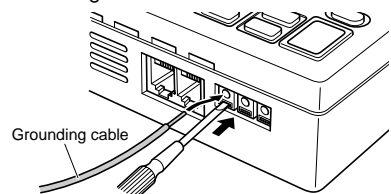
Connecting to an AC Power Supply

Connect the output side of the AC adapter to the connector on the GL450.



Connecting the Grounding Cable

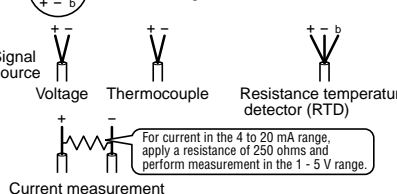
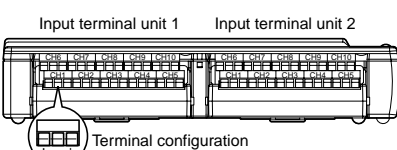
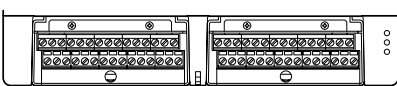
Using the screwdriver provided as a standard accessory, press against the button underneath the ground terminal while connecting the grounding cable to the GL450. Connect the other end of the cable to ground.



CAUTION

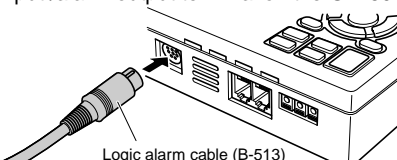
Always connect the GND terminal and refer to the safety precautions. The GL450 must be grounded even when connected to other devices and sharing a common ground level.

Amp Input Terminal Layout

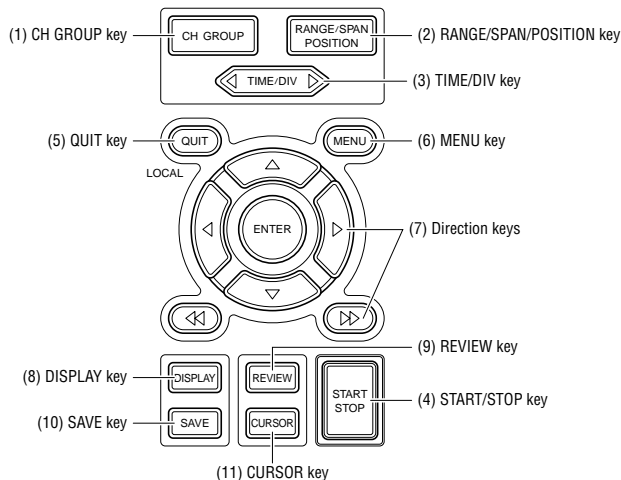


Connecting the Logic Alarm Cable

Connect the round connector of the logic alarm cable (B-513, option) to the logic input /alarm output terminal on the GL450.



Control Panel Keys

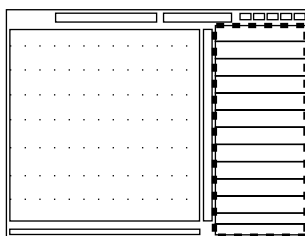


(1) CH GROUP key

The [CH GROUP] key selects the channels in 10-channel groups. Press the key to move to the next group of 10 channels. The number of channels varies according to the type of input terminal unit installed.

(2) RANGE/SPAN/POSITION key

These settings can be made or changed for each channel individually, even while the GL450 is in the 'free running' status (not capturing data) or performing measurement.



- Use the [Δ] keys to select the channel.
 - Use the [\triangle] keys to change the setting.
- MONITOR: Displays digital values
 INPUT: Changes the input type: voltage, temperature or humidity
 RANGE: Changes the voltage and temperature ranges
 SPAN: Changes the waveform display range
 POSITION: Changes the waveform display position

(3) TIME/DIV key

Press the [TIME/DIV] key to switch through the waveform display speeds.

(4) START/STOP key

Press the [START/STOP] key to select the START status (awaiting trigger). Press it once again to select the STOP status (free running).

(5) QUIT (LOCAL) key

Press this key to return the display to its former settings. It is also used to display operations within a setting menu. (If the GL450 is in Remote status, press this key to cancel the key lock status.)

(6) MENU key

Press the [MENU] key to switch through the detailed setting menus.

AMP (Amplifier settings): This menu is used to make the Input, Range, Filter settings, etc.

ANNO (Annotation settings): This menu is used to set and display comments for each channel.

DATA (Data settings): This menu is used to make the sampling interval and calculation settings.

ALM (Alarm settings): This menu is used to make the alarm and trigger settings.

FILE (File settings): This menu is used for PCMCIA card operations.

I/F (Interface settings): This menu is used to make the USB and TCP-IP settings.

OTHR (Other settings): This menu is used to make other settings such as the date/time and display language settings.

INFO (Information): Device information is displayed on this screen.

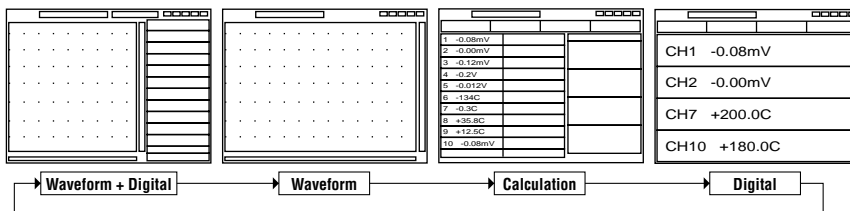
(7) Direction keys

Direction keys (\triangleleft \triangleright)
 These keys move the cursor on the screen in the direction of the arrow.

Direction keys (\triangleleft \triangleright)
 Press these keys to move the waveform displayed during a data replay operation. (If both keys are held down simultaneously for three seconds or longer, the GL450 will enter key lock status. To cancel the key lock status, hold down both keys for a further three seconds or longer.)

(8) DISPLAY key

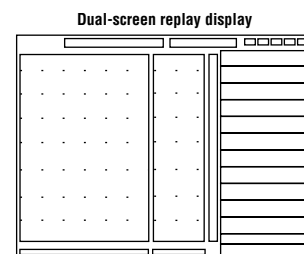
Press the [DISPLAY] key to switch through the measurement modes.



(9) REVIEW key

If the [REVIEW] key is pressed during the Free Running status (when data is not being captured), the captured data is replayed.

If the [REVIEW] key is pressed during measurement, past data is displayed together with the data currently being measured in a dual-screen format.



(10) SAVE key

Press the [SAVE] key to save data, to make a copy of the screen, and to save the data between cursors (only during a data replay operation).

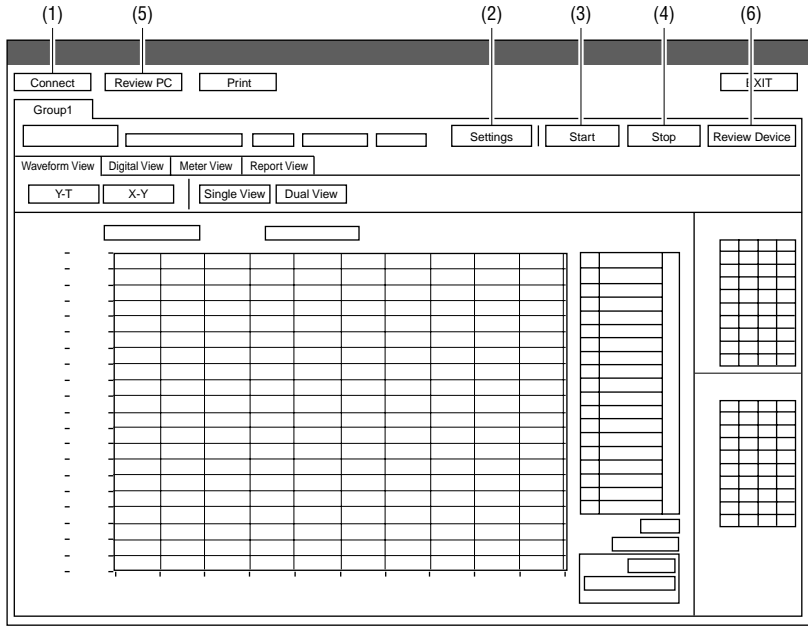
(11) CURSOR key

When data is being replayed, press the [CURSOR] key to switch between Cursor A and Cursor B.

OPS022 Software

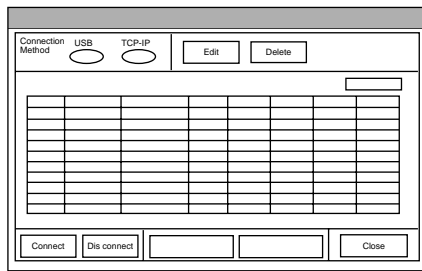
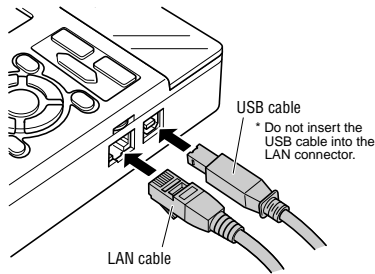
Starting the Software

Click "Start" → "Programs" → "OPS022" to launch OPS022. Once started, the following window is displayed.



Connecting to a PC

The GL450 can be connected to a PC via a LAN cable or a USB cable. Click the (1) "Connect" button on the main screen to display the connection screen. Select "USB" or "TCP-IP (LAN)" to suit your requirements.

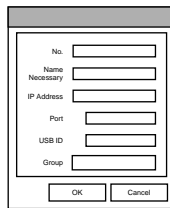


Note: When using a USB cable, a USB driver must be installed in the PC. Please see your user's manual for the installation procedure.

Edit screen

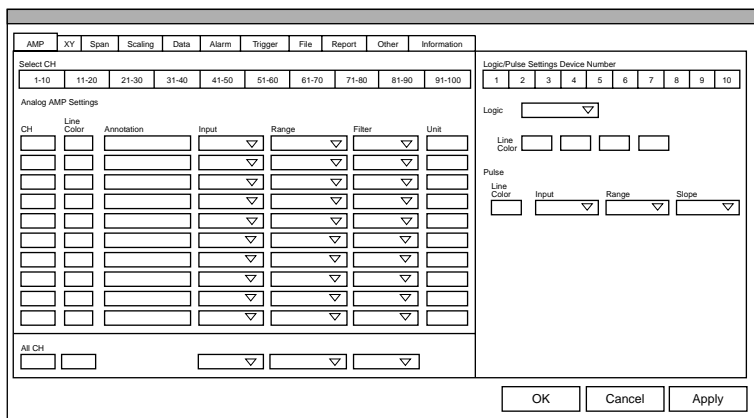
The Edit screen is used to make the settings required for connection to your computer. For USB connection, specify the USB ID number. For TCP-IP connection, specify the IP address and port number. If multiple GL450 devices are connected, assign a group number to the respective devices.

Note: The device name must be entered.



Settings

Click the (2) "Settings" button to display the measurement parameter settings screen for the GL450. Make the appropriate settings on each tab, and then click "Settings" or "OK" to complete the setting operation.



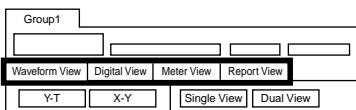
- AMP:** Used to specify analog, logic, and pulse input, and the input ranges
- XY:** Used to make the XY waveform settings
- Span:** Used to specify the display range for analog waveforms
- Scaling:** Used to make the unit conversion settings
- Data:** Used to make the sampling interval and capture destination file settings
- Alarm:** Used to make the alarm output settings
- Trigger:** Used to make the trigger settings
- File:** Used for the GL450 PCMCIA card operations
- Report:** Used for the report file capture settings
- Other:** Used for other settings such as setting the time and E-mail sending functions
- Information:** Displays OPS022 and GL450 device information

Starting Data Capture

When all the measurement conditions have been specified, the GL450 is ready to start capturing data.

Click the (3) "Start" button to start data capture.

Either "Armed" or "Recording" is displayed at the upper left of the Group tab.



The View mode can be changed during data capture (and also when measurement is stopped).

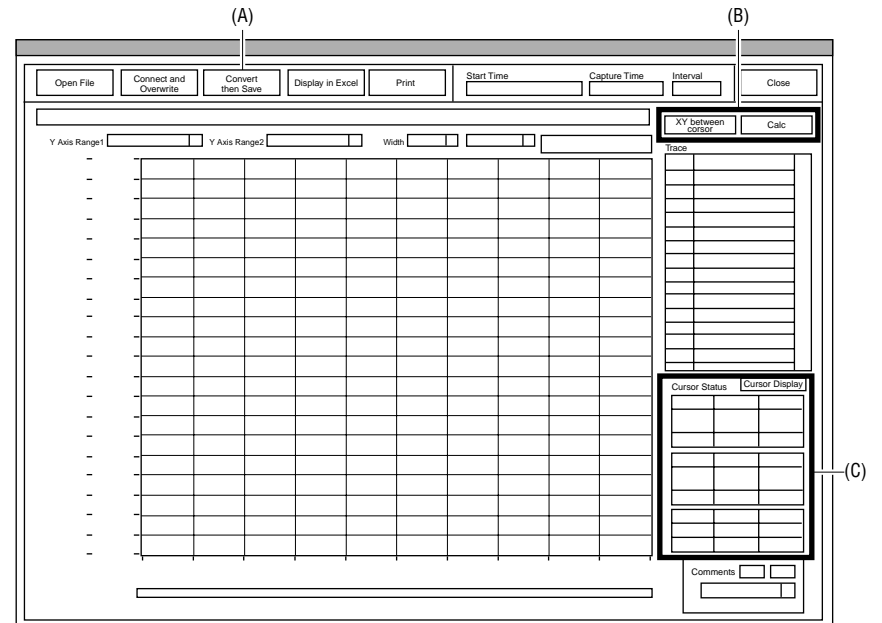
- **Digital View:** Large-size digital values are displayed.
- **Meter View:** Use this view to check the alarm range and so forth.
- **Report View:** Report data is displayed in spreadsheet format.

Stopping Data Capture

Click the (4) "Stop" button to stop the data capture operation. When data capture has stopped, "Stopped" is displayed at the upper left of the Group tab, and the waveform changes to the free running status.

PC Review

When data capture has been completed, clicking the (5) "PC Review" button enables the data captured to the computer to be replayed.



- (A) **Open File:** Selects a data capture file stored in the computer.
- Superimpose/Link:** Displays multiple superimposed or linked files. The first file that was replayed becomes the base.
- Convert Then Save:** Converts the data between cursors or all the data to binary data or a CSV file and then saves the data.
- Display in Excel:** Launches Excel and displays the data between cursors or all the data in a spreadsheet format (see Note).
- Print:** Prints the waveform.
Note: Microsoft Excel 2000 or later is required.
- (B) **XY Between Cursors:** Displays the data in the range between the cursors as an XY waveform.
- Calculation:** Displays the data in the range between the cursors as Maximum, Minimum, Average, and P-P values for each channel.
- (C) **Cursor Information:** Displays information for the A and B cursors, and time and level information for the Y axis ranges 1 and 2. Clicking the "Display Cursors" button enables the A and B cursors to be moved to the screen that is currently being viewed.

Device Review

Clicking the (6) "Device Review" button enables the data files captured to the GL450 and the data captured to the PCMCIA card inserted in the GL450's card slot to be replayed. If data was captured via the OPS022 software, the same data is created both at the computer and at the GL450. Use the data created at the GL450 as backup data.

GL450 Standard Specifications

Number of analog input terminal units mountable	2
Analog input terminal unit input method	Scanning, all channels isolated
Number of analog input terminal channels	10 channels/unit, 20 channels/unit, 50 channels/unit
Analog voltage input	20, 50, 100, 200, 500 mV; 1, 2, 5, 10, 20, 50 V; 1-5 V/f.s.
Temperature input	Thermocouples: K, J, E, T, R, S, B, N, W (WRε5-26) Resistance temperature detector: Pt100, JPt100
Humidity	Voltage: 1 V, Scaling conversion: 0V → 0%, 1V → 100%
Filter	On, Off (software filter)
A/D converter	16 bits
Sampling cycle	100, 200, 500 ms; 1, 2, 5, 10, 20, 30 s; 1, 2, 5, 10, 20, 30 min; 1 h
Trigger functions	Types: Start: Data capture starts when a trigger is generated. Stop: Data capture stops when a trigger is generated. Conditions: Start: Off, Level, Alarm, External, Specified Time Stop: Off, Level, Alarm, External, Specified Time, Time
Alarm functions	Types: Analog, Logic, Pulse; AND or OR logic Conditions: Analog: H, L, Window In, Window Out Logic: 4-ch pattern Pulse: H, L, Window In, Window Out
Pulse input*1	Number of channels: 1 ch Ranges: Revol. mode: 500 rpm, 5, 50, 500 krpm/f.s. (max. 50k/s) Counts mode: 50, 500 kC, 5, 50, 500 MC/f.s. (max. 50k/sampling cycle) Inst. mode: 50, 500 kC, 5, 50MC/f.s. (max. 50k/sampling cycle)
External trigger input*1	1 ch
Logic input*1	4 ch
Alarm output	Number of channels: 4 ch Output format: Open collector output (100 kΩ pull-up resistance) Output conditions: Level judgment, window judgment, logic pattern judgment, pulse judgment
Internal memory	Memory capacity: 4 MB (2 Mwords)
Memory device	PCMCIA card slot: Type 2
PC interfaces	USB (Ver. 2.0), Ethernet (10 Base-T, 100 Base-TX)
Monitor	Size: 4.7-inch STN color LCD Displayed items: Waveforms + digital values, waveforms only, digital values only, digital values + calculated values Functions: Waveform expansion/compression, Scaling, Calculation, Search
Operating environment	Temperature: 0 to 40 C Humidity: 30 to 80% RH (non-condensing)
Power supply	AC adapter (100 to 240 VAC, 50/60 Hz) Options: DC drive (12 VDC, 24 VDC), Battery pack
External dimensions (approx.)	212 (W) x 152 (D) x 45 (H) mm
Weight (approx.)	770 g*2

*1: Max. input voltage: +24 V, Input threshold voltage: approx. +2.5V, Hysteresis: approx. 1V (+2 to +3V)
*2: Excluding the battery and AC adapter; including one 10-channel input terminal unit