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## PASCO scientific PS-2002

# PASCO PS-2002 Xplorer GLX Graphing Logger User Manual

Model: PS-2002

## 1. INTRODUCTION

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This manual provides comprehensive instructions for the operation, maintenance, and troubleshooting of the PASCO PS-2002 Xplorer GLX Graphing Logger. The Xplorer GLX is a versatile data acquisition device designed for scientific experimentation and analysis, capable of functioning both as a standalone unit and as a computer interface.



**Figure 1:** Front view of the PASCO PS-2002 Xplorer GLX Graphing Logger. This device features a large LCD screen for data display, function buttons (F1-F4) for quick access, a central navigation pad, a numeric keypad for data entry, and a power button at the bottom. The casing is a translucent blue with green accents on the primary control buttons.

## 2. KEY FEATURES

The PASCO PS-2002 Xplorer GLX offers a range of features designed for robust data logging and analysis:

- **Integrated Sensors:** Includes 2 temperature sensors, a sound sensor, and a voltage sensor.
- **Universal Sensor Ports:** Four dedicated PASPORT sensor ports for compatibility with over 60 PASPORT sensors.
- **High Sampling Rate:** Capable of a maximum 50,000 Hz sampling rate for precise data capture.
- **Internal Storage:** Equipped with 12 MB of built-in flash memory for data storage.
- **Connectivity:** Two USB ports for connecting to computers, external storage, or peripherals like a mouse and keyboard.
- **Power:** Powered by a rechargeable 1700 mAH NiMH Battery.
- **Display:** Large backlit LCD for clear visibility in various lighting conditions.

- **Standalone Operation:** Functions independently for data collection, analysis, annotation, storage, and printing without a computer.
- **Computer Interface:** Can connect to a computer to utilize PASCO Capstone software for advanced analysis.

## 3. SETUP AND INITIAL USE

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### 3.1 Unpacking and Components

Upon unpacking, ensure all components are present:

- PASCO PS-2002 Xplorer GLX unit
- Rechargeable 1700 mAH NiMH Battery (pre-installed or separate)
- USB Cable (for charging and computer connection)
- Power Adapter (if included)

### 3.2 Charging the Battery

1. Connect the USB cable to the GLX unit's USB port.
2. Connect the other end of the USB cable to a power adapter or a computer's USB port.
3. Allow the unit to charge fully before first use. The charging indicator will provide status.

### 3.3 Powering On/Off

- To power on, press and hold the **Power** button (usually located at the bottom of the keypad) until the screen illuminates.
- To power off, press and hold the **Power** button until the shutdown prompt appears, then confirm.

### 3.4 Connecting Sensors

The GLX features four universal PASPORT sensor ports. To connect a sensor:

1. Align the sensor's connector with one of the PASPORT ports on the GLX.
2. Gently push the sensor into the port until it clicks into place.
3. The GLX should automatically detect the connected sensor.

## 4. OPERATING INSTRUCTIONS

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### 4.1 Navigation

The Xplorer GLX uses an icon-based operating system. Navigation is primarily done using the central directional pad and function buttons (F1-F4).

- **Directional Pad:** Use the up, down, left, and right arrows to move between menu items or data points. The center button typically acts as a selection or confirmation button.
- **Function Buttons (F1-F4):** These buttons correspond to on-screen labels and provide quick access to specific functions or menus.
- **ESC Button:** Used to go back to the previous screen or cancel an operation.
- **Numeric Keypad:** For entering numerical values or text (using multi-press for letters).

### 4.2 Data Collection

1. **Select Measurement:** From the main menu, navigate to the desired measurement setup (e.g., Graph, Digits, Table).

2. **Configure Settings:** Adjust sampling rate, duration, and trigger conditions as needed for your experiment.
3. **Start Collection:** Press the **Play** button (often a green triangle icon) to begin data collection.
4. **Stop Collection:** Press the **Stop** button (often a square icon) to end data collection.

### 4.3 Data Analysis and Review

The GLX allows for basic on-device data analysis:

- **Graph View:** Display collected data as a graph. Use navigation buttons to zoom or pan.
- **Statistics:** Access statistical tools (mean, min, max, standard deviation) for selected data ranges.
- **Linear Curve Fits:** Perform basic linear regression on graphical data.
- **Annotation:** Add text notes or recorded voice messages to data points or entire runs.

### 4.4 Connecting to a Computer

For advanced analysis and data management, connect the GLX to a computer:

1. Ensure PASCO Capstone software is installed on your computer.
2. Connect the GLX to your computer using a USB cable.
3. The GLX will be recognized as a device within Capstone, allowing data transfer and real-time monitoring.

## 5. MAINTENANCE

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### 5.1 Cleaning

To maintain the device's condition:

- Wipe the exterior of the unit with a soft, damp cloth.
- Do not use abrasive cleaners or solvents.
- Ensure no liquid enters the sensor ports or USB ports.

### 5.2 Battery Care

- Recharge the NiMH battery regularly to maintain its lifespan.
- Avoid fully discharging the battery frequently.
- If storing the unit for an extended period, ensure the battery is partially charged (around 50%).

### 5.3 Storage

Store the Xplorer GLX in a cool, dry place, away from direct sunlight and extreme temperatures.

## 6. TROUBLESHOOTING

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Problem	Possible Cause	Solution
Unit does not power on.	Battery is discharged.	Connect the unit to a power source using the USB cable and allow it to charge.
Sensor not detected.	Sensor not properly connected or faulty.	Ensure the sensor is firmly seated in the PASPORT port. Try a different port or sensor if available.
Screen is dim or unreadable.	Backlight setting is low or environmental lighting is poor.	Adjust the backlight settings in the system menu. Move to a better-lit environment if necessary.
Data collection stops unexpectedly.	Low battery or insufficient memory.	Charge the battery. Check available memory and delete old data if needed.

## 7. SPECIFICATIONS

Feature	Detail
Model Number	PS-2002
Brand	PASCO scientific
Dimensions (L x W x H)	9 x 3.8 x 1.9 inches
Weight	1.29 Pounds
Sensor Ports	4 PASPORT sensor ports
Built-in Sensors	2 Temperature, Sound, Voltage
Sampling Rate (Max)	50,000 Hz
Internal Memory	12 MB Flash Memory
Connectivity	2 USB ports
Power Source	Rechargeable 1700 mAH NiMH Battery
Display Type	Backlit LCD
Material	Plastic
Care Instructions	Wipe Clean

## 8. SUPPORT AND WARRANTY

For technical support, product inquiries, or warranty information, please contact PASCO scientific directly. Refer to the official PASCO scientific website for the most current contact details and warranty policies.

**Manufacturer:** PASCO

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