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Proster ET828

Proster ET828 Oscilloscope Multimeter User Manual

Model: ET828 | Brand: Proster

1. INTRODUCTION

The Proster ET828 is a versatile 2-in-1 device combining the functionalities of an oscilloscope and a digital multimeter. It is designed for electrical testing, measurement, and inspection, offering features such as high-speed sampling, auto-ranging, and waveform display. This manual provides detailed instructions for the safe and effective use of the device.

2. SAFETY INFORMATION

Always adhere to the following safety precautions to prevent electric shock, injury, or damage to the device:

- Ensure the device is turned off before connecting or disconnecting test leads.
- Do not use the device if it appears damaged or if the test leads are compromised.
- Verify the correct function and range settings before making any measurements.
- Avoid contact with live circuits when replacing batteries or fuses.
- Do not exceed the maximum input values specified for each function.
- Use appropriate personal protective equipment (PPE) when working with electrical circuits.

3. PRODUCT OVERVIEW

3.1 Components

The Proster ET828 Oscilloscope Multimeter features a clear LCD display, function buttons, a rotary dial for mode selection, and input terminals for test leads. Refer to the image below for a visual guide to the main components.

F1~F4 The actual function varies with the measuring range and work mode.
The option menu displayed on the LCD serve as the prompt for action.



Figure 3.1: Front view of the Proster ET828 Oscilloscope Multimeter, highlighting the LCD display, function buttons (F1-F4), rotary dial, and input terminals (10A, mA mF, VΩCap, COM).

3.2 Key Features

- **Fast Sampling Speed:** A/D sample at 2.5M kspS with a built-in 4000 count Double A/D combination.
- **Comprehensive Measurement Functions:** DC voltage 1000V, AC voltage 750V, DC/AC current 40A, resistance 40MΩ, capacity 10mF, frequency 10MHz, diode/continuity test.
- **High Performance:** Accurate display of DC-AD waveforms, automatic waveform capture, display hold, save/read up to 10 waveforms and 100 sets of readings.
- **DSO Trigger Modes:** Auto/Normal for oscilloscope functions, allowing waveform locking and saving for non-periodic signals.
- **Automatic Shut-off & LED Backlight:** Automatic shutdown after 15 minutes of inactivity (customizable) and a color screen with backlight for clear data readability in various environments.

4. SETUP

4.1 Unboxing and Contents

Upon opening the package, verify that all components are present and undamaged. The standard package includes the Proster ET828 unit, a pair of test probes, a set of 5-color alligator clip test leads, batteries, a storage bag, and this user manual.



Figure 4.1: The Proster ET828 Oscilloscope Multimeter and its included accessories, such as test leads, alligator clips, batteries, and a storage pouch.

Video 4.1: An overview of the Proster Oscilloscope Multimeter and its accessories, demonstrating the unboxing process.

4.2 Battery Installation

The ET828 requires 2 AA batteries for operation. To install the batteries:

1. Locate the battery compartment cover on the back of the device.
2. Open the cover by sliding it or lifting the latch.
3. Insert the 2 AA batteries, ensuring correct polarity (+ and -).
4. Close the battery compartment cover securely.

4.3 Connecting Test Leads

Connect the test leads to the appropriate input terminals based on the measurement type. The common (COM) terminal is typically used for the black lead, while the red lead connects to the VΩCap, mA mF, or 10A terminal depending on the desired measurement.



Figure 4.3: The Proster ET828 Multimeter showing test leads connected to the input terminals for a typical measurement setup.

5. OPERATING MODES

The Proster ET828 offers both multimeter and oscilloscope functionalities, selectable via the central rotary dial.

5.1 Multimeter Functions

Rotate the dial to the desired measurement function. The display will show the current reading and unit.

- **Voltage Measurement (V):** Select DC V or AC V. Connect leads in parallel with the circuit.

- **Current Measurement (A/mA/ μ A):** Select DC A or AC A. Connect leads in series with the circuit. Ensure correct terminal usage (10A or mA mF).
- **Resistance Measurement (Ω):** Select the Ω range. Connect leads across the component.
- **Capacitance Measurement (mF):** Select the mF range. Connect leads across the capacitor.
- **Frequency Measurement (Hz):** Select the Hz range. Connect leads to the signal source.
- **Diode Test:** Select the diode symbol. Connect leads across the diode to measure forward voltage drop.
- **Continuity Test:** Select the continuity symbol. Connect leads across the circuit to check for continuity (a beep indicates continuity).

5.2 Oscilloscope Functions

To enter oscilloscope mode, typically press a dedicated button or rotate the dial to the oscilloscope symbol. The device will display waveforms and related parameters.

Display retention data and real-time data on the same screen



Displaying Historical Measurement

Figure 5.2: Examples of waveform displays on the Proster ET828 in oscilloscope mode, showing various signal types and measurement parameters.

- **Trigger Modes:** Select between Auto and Normal trigger modes using the function buttons (F1-F4). Auto mode attempts to

trigger on any signal, while Normal mode requires a stable signal to trigger.

- **Automatic Measurements:** The oscilloscope automatically displays parameters such as VPP (Peak-to-Peak Voltage), Vmax (Maximum Voltage), Vmin (Minimum Voltage), Vavg (Average Voltage), Vrms (Root Mean Square Voltage), and Frequency.
- **Waveform Capture and Saving:** Use the function buttons to capture and save waveforms for later review. The device can save up to 10 waveforms.

Video 5.2.1: A demonstration of the oscilloscope function, including waveform display and measurement capabilities.

Video 5.2.2: Further demonstration of the intelligent oscilloscope multimeter features, including high-speed sampling.

6. DATA MANAGEMENT

The ET828 allows for the retention and storage of measurement data and waveforms.

6.1 Display Retention and Historical Data

The device can display historical measurement data alongside real-time data on the same screen, facilitating comparison and analysis.



Figure 6.1: The ET828 display showing historical measurement data, allowing users to review past readings.

6.2 Saving and Recalling Data/Waveforms

The device supports saving up to 100 sets of readings and 10 waveforms. Use the designated function buttons (e.g., 'S' for Save, 'R' for Recall) to manage stored data.

7. MAINTENANCE

7.1 Cleaning

Wipe the device with a dry, soft cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off and disconnected from all circuits before cleaning.

7.2 Battery Replacement

When the low battery indicator appears on the display, replace the batteries as described in Section 4.2. Always use new AA batteries of the same type.

8. TROUBLESHOOTING

If the device is not functioning as expected, consider the following common issues:

- **No Display:** Check battery installation and charge level. Ensure the rotary dial is not in the 'OFF' position.
- **Incorrect Readings:** Verify test lead connections, selected function, and range. Ensure the probes are making good contact with the circuit.
- **Oscilloscope Waveform Issues:** Adjust trigger settings (Auto/Normal) and time base/range settings to properly capture the signal.
- **Device Shuts Off Unexpectedly:** The automatic shut-off feature activates after 15 minutes of inactivity. This is normal behavior.

For persistent issues, contact customer support.

9. SPECIFICATIONS

Feature	Specification
Brand	Proster
Model	ET828
Power Source	Battery Powered (2 AA batteries included)
Measurement Type	Multimeter, Oscilloscope
A/D Sample Rate	2.5M ksps
DC Voltage	Up to 1000V
AC Voltage	Up to 750V
DC/AC Current	Up to 40A
Resistance	Up to 40MΩ
Capacitance	Up to 10mF
Frequency	Up to 10MHz
Display	Color Screen with Backlight
Automatic Shut-off	15 minutes (adjustable)
Item Weight	15.8 ounces
Package Dimensions	7.56 x 6.42 x 1.73 inches

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the contact details provided with your product packaging or visit the official Proster website. Keep your purchase receipt as proof of purchase for warranty claims.