

BSIDE 2 channel handheld oscilloscope

BSIDE 2-Channel Handheld Oscilloscope Multimeter Signal Generator User Manual

Model: 2 channel handheld oscilloscope

1. INTRODUCTION

This manual provides detailed instructions for the BSIDE 2-Channel Handheld Oscilloscope Multimeter Signal Generator. This versatile 4-in-1 device integrates a dual-channel oscilloscope, a 6000-count multimeter, a signal generator, and supports a flexible current clamp for comprehensive electrical testing and analysis. It is designed for both professional and educational applications, offering portability and a wide range of measurement capabilities.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent personal injury and damage to the instrument:

- Do not use the device if it appears damaged or is operating abnormally.
- Ensure all probes and test leads are properly connected and in good condition before use.
- Do not exceed the maximum input voltage ratings specified in the technical specifications.
- Avoid contact with live circuits when connecting or disconnecting probes.
- Use caution when working with high voltages or currents.
- Do not operate the device in wet or explosive environments.
- Refer to the manual for proper fuse replacement if necessary.

3. PACKAGE CONTENTS

Verify that all items listed below are present in your package:

- BSIDE 2-Channel 25MHz Oscilloscope Multimeter
- Oscilloscope Probe (Quantity: 2)
- Red and Black Crocodile Clip Probe
- Multimeter Test Leads (Pen type)
- Protective Cap (Quantity: 2)
- Color Ring (Quantity: 8)

- Regulating Rod (Quantity: 1)
- High-end EVA Storage Bag
- Instruction Manual
- USB Charging Cable



Image 3.1: The BSIDE 4-in-1 handheld device shown with its complete set of accessories, including oscilloscope probes, multimeter leads, crocodile clips, charging cable, and the protective EVA storage bag.

4. PRODUCT OVERVIEW

4.1 Device Features

The BSIDE handheld device combines four essential functions into one compact unit:

- **Oscilloscope:** Dual-channel, 25MHz bandwidth for waveform analysis.
- **Multimeter:** 6000-count for various electrical measurements.
- **Signal Generator:** Produces 7 types of waveforms for testing.
- **Flexible Current Clamp Support:** Allows measurement of high AC currents up to 6000A.



Image 4.1: A visual representation highlighting the integrated functions of the device: signal generation, multimeter measurements, and oscilloscope waveform display.

4.2 Controls and Display

The device features a 3.98-inch TFT full-view color screen (480*320 IPS) for clear data visualization. Navigation and function selection are performed using the front panel buttons.

- **Display Screen:** Shows waveforms, measurement readings, and menu options.
- **CH1/CH2 Inputs:** Connect oscilloscope probes for dual-channel input.
- **OSC Port (OUT/PUT):** Signal generator output.
- **Input/COM Terminals:** Connect multimeter test leads.
- **Power Button:** Turns the device on/off.
- **MENU Button:** Accesses system settings and options.
- **MODE Button:** Switches between Oscilloscope, Multimeter, and Signal Generator modes.
- **F1-F4 Function Buttons:** Context-sensitive buttons for specific operations within each mode.
- **Navigation Buttons:** Up, Down, Left, Right for menu navigation and parameter adjustment.
- **AUTO PEAK Button:** Automatic waveform acquisition and scaling in oscilloscope mode.

- **SAVE Button:** Saves current data or waveform.
- **x1/x10 Button:** Adjusts probe attenuation setting.
- **AC/DC Button:** Selects AC or DC coupling.

5. SETUP

5.1 Charging the Battery

The device is equipped with a 5000mA rechargeable lithium battery. Before first use, fully charge the device using the provided USB charging cable and a compatible USB power adapter (not included).

1. Connect the small end of the USB charging cable to the charging port on the side of the device.
2. Connect the standard USB end to a USB power source.
3. The charging indicator on the screen will show the charging status.



Image 5.1: The device being charged via its USB port, illustrating the battery icon on the display indicating charging status. A full charge provides approximately 10 hours in oscilloscope mode or 20 hours in multimeter mode.

5.2 Initial Power On

Press and hold the Power button until the screen illuminates. The device will boot into its last used mode or a default mode.

5.3 Connecting Probes and Leads

Always ensure the device is off or in a safe mode before connecting or disconnecting probes and leads.

- **Oscilloscope Probes:** Connect to the CH1 and CH2 BNC inputs. Ensure the probe attenuation setting (x1 or x10) on the probe matches the setting on the device.
- **Multimeter Test Leads:** Insert the red lead into the 'Input' terminal and the black lead into the 'COM' terminal for voltage, resistance, capacitance, and diode measurements. For current measurements, refer to the specific current input terminals.
- **Flexible Current Clamp:** Connect the flexible current clamp to the appropriate input terminals as indicated for high current measurements.

6. OPERATING MODES

Use the **MODE** button to switch between the primary operating modes: Oscilloscope, Multimeter, and Signal Generator.

6.1 Oscilloscope Mode

This mode allows for real-time visualization and analysis of electrical waveforms.

1. Press **MODE** to select Oscilloscope mode.
2. Connect oscilloscope probes to CH1 and/or CH2 inputs.
3. Adjust the probe attenuation (x1/x10) on both the probe and the device to match.
4. Use the navigation buttons to adjust vertical sensitivity (V/div) and horizontal time base (s/div).
5. Press **AUTO PEAK** for automatic waveform scaling and triggering.
6. The display shows waveform parameters such as V_{pp} , V_{max} , V_{min} , duty cycle, and frequency.

Dual channel display 25MHz bandwidth

One click automatic waveform capture



Image 6.1: The oscilloscope displaying dual-channel waveforms (CH1 and CH2) with various measurement parameters such as peak-to-peak voltage, maximum voltage, minimum voltage, duty cycle, and frequency.

6.2 Multimeter Mode

The multimeter function provides precise measurements of various electrical quantities.

1. Press **MODE** to select Multimeter mode.
2. Connect the multimeter test leads to the appropriate input terminals.
3. Use the F1-F4 buttons or navigation to select the desired measurement function (e.g., DC Voltage, AC Voltage, Resistance, Capacitance, Current, Diode, Continuity, Temperature).
4. For AC current measurements up to 6000A, connect the flexible current clamp.

5000 mAh Li-ion battery

Long-range battery life



Image 6.2: A user performing an AC voltage measurement within an electrical panel using the multimeter function of the BSIDE device. The display shows a reading of 235.6V AC.

6.3 Signal Generator Mode

The signal generator can output various waveforms for testing electronic circuits.

1. Press **MODE** to select Signal Generator mode.
2. Connect a test lead from the OSC Port (OUT/PUT) to the circuit under test.
3. Use the F1-F4 buttons or navigation to select the desired waveform type (sine, square, triangle, half, full, sawtooth, DC).
4. Adjust the output amplitude (0.1V-3.0V) and frequency (0Hz-2MHz) using the navigation buttons.
5. For square waves, the duty cycle can be adjusted from 1% to 99%.

6.4 Data Management

The device supports data storage, preview, and export functions.

1. Press the **SAVE** button to store current waveform data or measurement readings.
2. Navigate through saved data for preview.

3. Connect the device to a computer via the USB port for high-speed data transmission and export of stored data.



Image 6.3: The BSIDE device connected to a laptop, demonstrating its high-speed data transmission capability. Waveform data saved on the device can be exported and viewed on a computer for further analysis.

7. MAINTENANCE

7.1 Cleaning

To clean the device, use a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure the device is powered off and disconnected from any power source before cleaning.

7.2 Battery Care

The integrated 5000mA Li-ion battery provides extended operation. To maximize battery life:

- Recharge the battery when the low battery indicator appears.
- Avoid fully discharging the battery frequently.

- If storing the device for an extended period, charge it to approximately 50% and store in a cool, dry place.

7.3 Storage

When not in use, store the device in its provided high-end EVA storage bag to protect it from dust, moisture, and physical impact. Store in a dry environment away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

If you encounter issues with your BSIDE device, refer to the following common problems and solutions:

- **Device does not power on:** Ensure the battery is charged. Connect the charging cable and try again.
- **No display or dim display:** Check battery level. Adjust backlight settings in the menu.
- **Incorrect readings in Multimeter mode:** Verify test lead connections. Ensure the correct measurement function is selected. Check for damaged leads.
- **No waveform in Oscilloscope mode:** Check probe connections to both the device and the circuit. Ensure probe attenuation matches the device setting. Use **AUTO PEAK** to automatically adjust settings. Verify the circuit under test is active.
- **Signal Generator output not working:** Ensure the device is in Signal Generator mode and the output is enabled. Check connections from the OSC Port.
- **Data transfer issues:** Ensure the USB cable is securely connected to both the device and the computer. Check computer's device manager for proper driver installation.

If the problem persists, contact customer support for further assistance.

9. SPECIFICATIONS

Feature	Specification
Display	3.98-inch TFT Color Screen, 480*320 IPS, 6000 words
Sampling Rate	3 times / second (Multimeter)
Bandwidth	25MHz (Dual-channel)
Real-time Sampling Rate	208MSa/s
Number of Channels	2 channels
Input Impedance	1M Ω , @16pF
Probe Attenuation	$\times 1$, $\times 10$
Maximum Input Voltage	$\times 1$ range <150V, $\times 10$ range <300V (DC + AC peak)
Horizontal Sampling Rate Range	1.5Sa/s - 208MSa/s
Vertical Sensitivity	20mV/div - 10V/div
Display Mode	XT, XY, Scroll
Afterglow Time	Min, 500ms, 1s, 10s, Unlimited
DC Voltage (V)	0.001V - 1000V (0.8%+3)

Feature	Specification
AC Voltage (V)	0.001V - 750V (1.0%+3)
DC Current (mA)	0.01mA - 600.0mA (1.0%+3)
AC Current (mA)	0.01mA - 600.0mA (1.2%+5)
Flexible Current Clamp AC Current	0.1A - 6000A (1.0%+5)
Resistance	0.1Ω - 60.00MΩ (1.0%+3)
Capacitance	0.1nF - 99.99mF (4.5%+5)
Temperature	(-20 - 1000)°C / (-4 - 1832)°F (2.5%+5)
Signal Generator Waveform Types	Sine, Square, Triangle, Half, Full, Sawtooth, DC
Signal Generator Frequency Range	0Hz - 2MHz
Signal Generator Output Amplitude	0.1V - 3.0V
Signal Generator Square Wave Duty Cycle	1% - 99%
Battery	5000mA Li-ion (2 Lithium Ion batteries included)
Dimensions	216.6 x 84.5 x 36.0 mm (8.5 x 3.31 x 1.42 inches)
Weight	384g (13.55 ounces)

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation included with your purchase or contact BSIDE customer service through their official website or the retailer where the product was purchased. Please have your model number (2 channel handheld oscilloscope) and purchase details ready when contacting support.

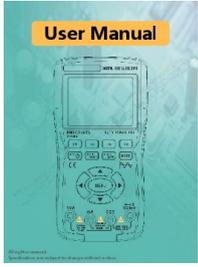
11. VIDEO INFORMATION

No official product videos from the seller were available for embedding in this manual.

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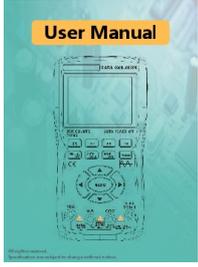
Related Documents - 2 channel handheld oscilloscope

	<p>BSIDE O1 Handheld Oscilloscope Multimeter User Manual Comprehensive user manual for the BSIDE O1 handheld digital oscilloscope multimeter, detailing its features, specifications, operating instructions, safety precautions, and maintenance.</p>
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[Bside ZT702S Digital Oscilloscope Multimeter User Manual](#)

Comprehensive user manual for the Bside ZT702S digital oscilloscope multimeter, covering operation, safety instructions, maintenance, and detailed technical specifications for both oscilloscope and multimeter functions.



[BSIDE ZT702S Digital Oscilloscope Multimeter User Manual](#)

Comprehensive user manual for the BSIDE ZT702S handheld digital oscilloscope multimeter, covering its features, operation, safety instructions, and technical specifications.



[BSIDE O1X Smart Oscilloscope Graph Multimeter User Manual](#)

Explore the features and operation of the BSIDE O1X, a versatile 3-in-1 oscilloscope, graph multimeter, and electric pen. This manual provides essential information for accurate measurements and device usage.



[BSIDE S10/S11 Digital Multimeter User Manual and Specifications](#)

Comprehensive user manual and technical specifications for the BSIDE S10 and BSIDE S11 digital multimeters, covering operation, safety, features, and warranty. Includes detailed instructions and product information.



[BSIDE S10/S11 Smart Digital Multimeter User Manual](#)

Comprehensive guide for the BSIDE S10/S11 Smart Digital Multimeter, covering safety warnings, product structure, button descriptions, technical specifications, operating instructions, and maintenance. Learn how to measure DC/AC voltage, resistance, capacitance, continuity, frequency, duty cycle, and perform NCV and LIVE wire detection.