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› **JOY-IT JT-OMS01 Portable 3-in-1 Oscilloscope, Multimeter, and Signal Generator User Manual**

Joy-it JT-OMS01

JOY-IT JT-OMS01 Portable 3-in-1 Oscilloscope, Multimeter, and Signal Generator User Manual

Model: JT-OMS01

1. INTRODUCTION

The JOY-IT JT-OMS01 is a versatile 3-in-1 portable device combining a dual-channel oscilloscope, a precise multimeter, and a versatile signal generator. Designed for flexibility in measurement and signal generation, it is suitable for both desktop use and on-the-go applications. Its robust casing and integrated stand ensure stability. The bright 7.11 cm (2.8") display provides clear measurement waveforms, which can be saved as screenshots.
Key features include:

- Compact 3-in-1 device: Oscilloscope, Multimeter, Signal Generator.
- Bright 7.11 cm (2.8") display for clear measurement waveforms.
- Dual-channel oscilloscope with 50 MHz bandwidth.
- Rechargeable lithium battery via USB-C.
- Robust casing with integrated stand.

2. PRODUCT OVERVIEW

The JT-OMS01 integrates multiple functionalities into a single portable unit. Below is an image illustrating the device's front panel and key components.

Figure 2.1: Front view of the JOY-IT JT-OMS01. This image displays the device's screen showing oscilloscope waveforms, control buttons for navigation and function selection (e.g., MOVE, CURSOR, TRIGGER, PRM, CH1, CH2, AUTO, SAVE, MENU), the power button, and input jacks for 10A, mA, COM, and VΩ-Hz measurements. The device also features an integrated stand visible from the side.

2.1. Controls and Connectors

- **Display:** 7.11 cm (2.8") screen for waveform display and measurement readings.
- **Navigation Buttons:** Up, Down, Left, Right, and Center (Play/Pause) buttons for menu navigation and parameter adjustment.
- **Function Buttons:** CH1, CH2, AUTO, SAVE, MENU, MOVE, CURSOR, TRIGGER, PRM.
- **Power Button:** Located on the lower left, used to turn the device on/off.

- **Input Jacks:**
  - **10A:** Input for high current measurements (max 10A, fused 250V MAX).
  - **mA:** Input for milliampere measurements (max 1A, fused 250V MAX).
  - **COM:** Common ground input for all measurements.
  - **VΩ-Hz:** Input for voltage, resistance, frequency, diode, and continuity measurements (600V CAT IV, 1000V CAT III).
- **USB-C Port:** For charging the internal lithium battery and data transfer (located on the side, not visible in this image).

3. SETUP

1. **Unpacking:** Carefully remove the device and all accessories from the packaging. Verify that all components listed in the packing list are present.
2. **Initial Charge:** Before first use, fully charge the device's internal lithium battery using the provided USB-C cable and a compatible 5V/1A or 5V/2A USB power adapter. The charging indicator will show the charging status.
3. **Power On/Off:** Press and hold the red power button ( ) located on the front panel to turn the device on or off.
4. **Language Selection (if applicable):** Upon first power-on, you may be prompted to select a language. Use the navigation buttons to select English and confirm.
5. **Self-Test:** The device may perform a brief self-test upon startup. Wait for it to complete before proceeding.

4. OPERATING INSTRUCTIONS

4.1. Oscilloscope Mode

The oscilloscope function allows for the visualization and analysis of electrical signals over time.

1. **Entering Oscilloscope Mode:** The device typically defaults to oscilloscope mode upon startup. If not, navigate to it via the MENU button.
2. **Connecting Probes:** Connect the oscilloscope probes to the CH1 and/or CH2 BNC connectors. Connect the ground clip of the probe to the circuit's ground.
3. **Adjusting Vertical Scale (Volts/Div):** Use the navigation buttons to adjust the vertical sensitivity (V/div) for each channel (CH1, CH2) to fit the signal on the screen.
4. **Adjusting Horizontal Scale (Time/Div):** Adjust the horizontal time base (s/div) to view the desired number of signal cycles.
5. **Triggering:**
   - Press the **TRIGGER** button to access trigger settings.
   - Select trigger mode (Auto, Normal, Single) and trigger type (rising edge, falling edge).
   - Adjust the trigger level to stabilize the waveform.
6. **Auto-Set:** Press the **AUTO** button for automatic scaling and triggering of the input signal.
7. **Measurements:** Use the **PRM** (Parameter) button to display automatic measurements (e.g., Vpp, Vrms, Frequency).
8. **Saving Waveforms:** Press the **SAVE** button to capture the current waveform as a screenshot.

4.2. Multimeter Mode

The multimeter function allows for precise measurement of various electrical parameters.

1. **Entering Multimeter Mode:** Navigate to multimeter mode via the MENU button.
2. **Connecting Test Leads:**

   - For voltage, resistance, frequency, diode, and continuity: Connect the red lead to the**VΩ-Hz** jack and the black lead to the **COM** jack.
   - For current (mA): Connect the red lead to the**mA** jack and the black lead to the**COM** jack.
   - For high current (10A): Connect the red lead to the**10A** jack and the black lead to the**COM** jack.

3. **Selecting Measurement Function:** Use the navigation buttons to select the desired measurement function (e.g., DC Voltage, AC Voltage, Resistance, Capacitance, Diode Test, Continuity Test, Temperature).
4. **Taking Measurements:** Apply the test leads to the circuit or component under test. The measurement will be displayed on the screen.

4.3. Signal Generator Mode

The signal generator function allows for the output of various waveforms for testing purposes.

1. **Entering Signal Generator Mode:** Navigate to signal generator mode via the MENU button.
2. **Connecting Output:** Connect a test lead from the signal generator output (often shared with a multimeter input, refer to specific port markings on the device) to the circuit requiring the signal.
3. **Selecting Waveform:** Choose the desired waveform type (e.g., Sine, Square, Triangle, Pulse, Arbitrary) using the navigation buttons.
4. **Adjusting Parameters:** Set the frequency, amplitude, and offset of the generated signal as required.
5. **Outputting Signal:** Activate the signal output.

5. MAINTENANCE

- **Cleaning:** Clean the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** To prolong battery life, avoid fully discharging the battery frequently. Recharge it regularly, especially if storing for extended periods.
- **Probe Care:** Inspect probes and test leads regularly for damage. Replace if insulation is cracked or wires are exposed.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Battery is discharged.	Connect the device to a USB-C charger and allow it to charge for at least 30 minutes before attempting to power on again.
No waveform displayed in oscilloscope mode.	Probe not connected correctly; signal too small or too large; incorrect trigger settings.	Ensure probes are securely connected. Use the AUTO button. Adjust V/div and Time/div settings. Check trigger level and mode.

Problem	Possible Cause	Solution
Multimeter readings are inaccurate.	Incorrect function selected; poor test lead connection; discharged battery.	Verify the correct measurement function is selected. Ensure test leads are firmly connected. Recharge the battery.
Device freezes or becomes unresponsive.	Temporary software glitch.	Perform a soft reset by holding the power button until the device turns off, then power on again. If persistent, contact support.

7. SPECIFICATIONS

Feature	Detail
Display	7.11 cm (2.8"), 320 x 240 pixels
Connection	USB-C
Power Supply	Lithium battery, 3000 mAh (rechargeable via USB-C, 5V / 1A)
Weight	349 g
Dimensions (L x W x H)	167 x 89 x 35 mm
Oscilloscope Specifications:	
Channels	2
Sample Rate	250 MSa/s
Bandwidth	50 MHz (both channels)
Impedance	1 MΩ
Storage Depth	1 k
Vertical Sensitivity (Y-Divider)	10 mV/div - 10 V/div (X1)
Horizontal Scale (X-Divider)	10 ns - 20 s
Max. Input Voltage	400 V
Input Coupling	DC, AC
Trigger Modes	Automatic, Normal, Single
Trigger Types	Rising edge, Falling edge
Mathematical Functions	8 basic operations, FFT
Multimeter Specifications:	
Measurement Range	(Details from description: DC/AC measurements, resistance, capacitance, temperature detection, diode measurement, continuity test)
Signal Generator Specifications:	

Feature	Detail
Waveforms	Almost all common waveforms (Sine, Square, Triangle, Pulse, Arbitrary)

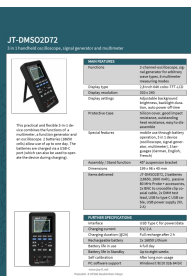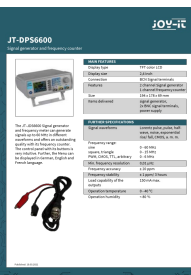## 8. WARRANTY AND SUPPORT

8.1. Warranty Information

Information regarding the specific warranty period and terms for the JOY-IT JT-OMS01 is not provided in the product description. Please refer to the warranty card included with your product or contact JOY-IT customer service for detailed warranty information.

8.2. Customer Support

For technical assistance, troubleshooting, or service inquiries, please contact JOY-IT customer support. Contact details are typically available on the manufacturer's official website or in the product packaging.
Please have your model number (JT-OMS01) and purchase information ready when contacting support.

Related Documents - JT-OMS01

[Joy-IT JT-DMSO2D72: 3-in-1 Handheld Oscilloscope, Signal Generator, and Multimeter User Manual](#)
Comprehensive user manual for the Joy-IT JT-DMSO2D72, a versatile 3-in-1 handheld device combining an oscilloscope, signal generator, and multimeter. Features detailed specifications, operating instructions, safety guidelines, and troubleshooting tips.

[JT-JDS6600 Signal Generator and Frequency Counter User Manual](#)
User manual for the JT-JDS6600 Dual-Channel Signal Generator and Frequency Counter, detailing its features, specifications, operation, and PC software.

[JOY-IT DSO138-Mini: Digital Oscilloscope User Manual and Specifications](#)
Comprehensive guide to the JOY-IT DSO138-Mini digital oscilloscope, covering setup, configuration, operation, safety instructions, and technical specifications. Learn how to measure and evaluate time-dependent signals with this compact and versatile device.

[Joy-IT JDS6600 Dual-Channel Signal Generator User Manual](#)

User manual for the Joy-IT JDS6600 Dual-Channel Signal Generator, covering device overview, functions, software installation, and support.

[Joy-it JT-DMSO2D72 Flash Manual: Firmware Update Guide](#)

A comprehensive guide detailing the process of flashing firmware onto the Joy-it JT-DMSO2D72 handheld oscilloscope. This manual covers software installation, driver setup, and the step-by-step firmware update procedure.

[PSG9080 Gerador de Sinal Programável de 2 Canais - Especificações Técnicas Joy-IT](#)

Explore as características detalhadas e especificações técnicas do gerador de sinal programável Joy-IT PSG9080, incluindo gama de frequências, formas de onda, modulações e capacidades de medição.