

Eujgoov Eujgoovsw9aeqv6

DSO3D12 3-in-1 Digital Oscilloscope User Manual

Model: Eujgoovsw9aeqv6

1. INTRODUCTION

The Eujgoov DSO3D12 is a highly integrated and versatile 3-in-1 device, combining the functionalities of a digital oscilloscope, a high-precision multimeter, and a signal generator. Designed for electronics enthusiasts, engineers, and students, this compact instrument offers powerful measurement and analysis capabilities. Its intuitive interface and comprehensive features make it an essential tool for various electrical testing and development tasks.

Smart desktop oscilloscope

High bandwidth/multimeter/dual channel/
full-featured/signal generator



Figure 1.1: The DSO3D12 Smart Desktop Oscilloscope, showcasing its compact design and integrated display.

2. SAFETY INFORMATION

Please read all safety warnings and operating instructions carefully before using this product. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Do not exceed the maximum input voltage ratings specified in the technical specifications.
- Ensure proper grounding when connecting to circuits.
- Do not operate the device in wet or damp conditions.
- Do not attempt to disassemble or modify the device. Refer all servicing to qualified personnel.
- Use only the specified power adapter and accessories.
- Always disconnect test leads from the circuit before changing functions or ranges.

3. PRODUCT OVERVIEW

3.1. Key Features

- **3-in-1 Functionality:** Digital Oscilloscope, Multimeter, and Signal Generator.
- **Oscilloscope:** Dual channel, 120MHz bandwidth (60MHz dual channel), 250MSa/s real-time sampling rate.
- **Multimeter:** Measures AC/DC voltage, AC/DC current, resistance, capacitance, diode, and continuity.
- **Signal Generator:** Outputs sine, square, triangle, and other waveforms with adjustable frequency (0-2MHz) and duty cycle (1-99% for square wave).
- **Display:** 3.2-inch high-definition IPS display with full viewing angle.
- **Trigger Modes:** Auto, Normal, Single.
- **Measurement Functions:** 14 types of automatic measurements, cursor measurement (X and Y).
- **Waveform Storage:** One-click save and view of screen waveforms.

3.2. Device Layout



Figure 3.1: Front view of the DSO3D12, showing the display, control buttons, and input terminals.

1. **IPS Display:** 3.2-inch screen for waveform display and measurement readings.
2. **Control Buttons:** Navigation, function selection, and parameter adjustment.
3. **BNC Connectors (CH1, CH2):** Inputs for oscilloscope probes.
4. **Multimeter Input Terminals:**
 - **10A UNFUSED:** 10A current input (unfused).
 - **600mA FUSED:** 600mA current input (fused).
 - **COM:** Common terminal for multimeter measurements.

- **VΩ**: Voltage, Resistance, Diode, Capacitance, Continuity input.

5. **Signal Generator Output**: Output for waveform generation.

6. **USB Type-C Port**: For charging and data transfer.



Figure 3.2: Dimensions of the DSO3D12, illustrating its compact size for portability.

4. SPECIFICATIONS

Feature	Specification
Model	Eujgoovsw9aeqzvy6
Display	3.2-inch IPS Display
Oscilloscope Bandwidth	120MHz (Single Channel), 60MHz (Dual Channel)
Sampling Rate	250MSa/s
Input Impedance	1 MΩ
Time Base Range	5 ns - 10 s
Vertical Sensitivity	10 mV/div - 10 V/div

Feature	Specification
Max Input Voltage	$\pm 40\text{V}$ (x1), $\pm 400\text{V}$ (x10)
Trigger Modes	Auto, Normal, Single
Trigger Types	Rising Edge, Falling Edge
Coupling	AC, DC
Multimeter DC Voltage	600mV, 6.00V, 60.0V, 600V, 750V ($\pm 0.5\%+3$)
Multimeter AC Voltage	600mV, 6.00V, 60.0V, 600V ($\pm 1\%+3$)
Multimeter DC Current	600mA, 10A ($\pm 2\%+5$)
Multimeter AC Current	600mA, 10A ($\pm 3\%+5$)
Multimeter Resistance	600 Ω to 60M Ω (various accuracies)
Multimeter Capacitance	60.00nF to 600.0 μF (various accuracies)
Signal Generator Output Voltage	2.5V ± 0.05
Signal Generator Frequency	0-2MHz (Sine), 0-1MHz (Others)
Battery Type	2500mAh Rechargeable Lithium Battery (Built-in)
Charging Port	Type-C 5V
Dimensions	22.6 x 15.4 x 7.3 cm
Weight	600 grams

5. SETUP

5.1. Unpacking and Inspection

Upon receiving your DSO3D12, carefully unpack all components and inspect for any signs of damage.

- DSO3D12 Main Unit
- Oscilloscope Probes (x2)
- Multimeter Test Leads
- USB Type-C Charging Cable
- User Manual (this document)



Figure 5.1: The DSO3D12 unit along with its standard accessories, including probes and test leads.

5.2. Charging the Device

The DSO3D12 comes with a built-in rechargeable lithium battery. Before first use, it is recommended to fully charge the device.

1. Connect the provided USB Type-C cable to the device's charging port.
2. Connect the other end of the USB cable to a 5V USB power adapter (not included) or a computer USB port.
3. The charging indicator on the device will show the charging status.
4. Once fully charged, disconnect the charging cable.

5.3. Powering On/Off

To power on the device, press and hold the power button until the screen illuminates. To power off, press and hold the power button again until the screen turns off.

6. OPERATING INSTRUCTIONS

6.1. Oscilloscope Mode

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

1. Connect the oscilloscope probes to the BNC connectors (CH1 or CH2) on the device.
2. Attach the probe to the circuit point you wish to measure. Ensure the probe's ground clip is connected to the circuit's ground.
3. Press the **AC/DC** button to select AC or DC coupling.
4. Use the **mV** and **V** buttons to adjust the vertical sensitivity (Volts/division).
5. Use the **s** and **ns** buttons to adjust the time base (Seconds/division).
6. Press **Auto** for automatic signal detection and range adjustment.
7. Use the navigation buttons to manually adjust waveform position and zoom.

HD IPS display

3.2-inch high-definition IPS display, clear and delicate display of full viewing angle

Channel 2 waveforms can be set to green/cyan/purple.

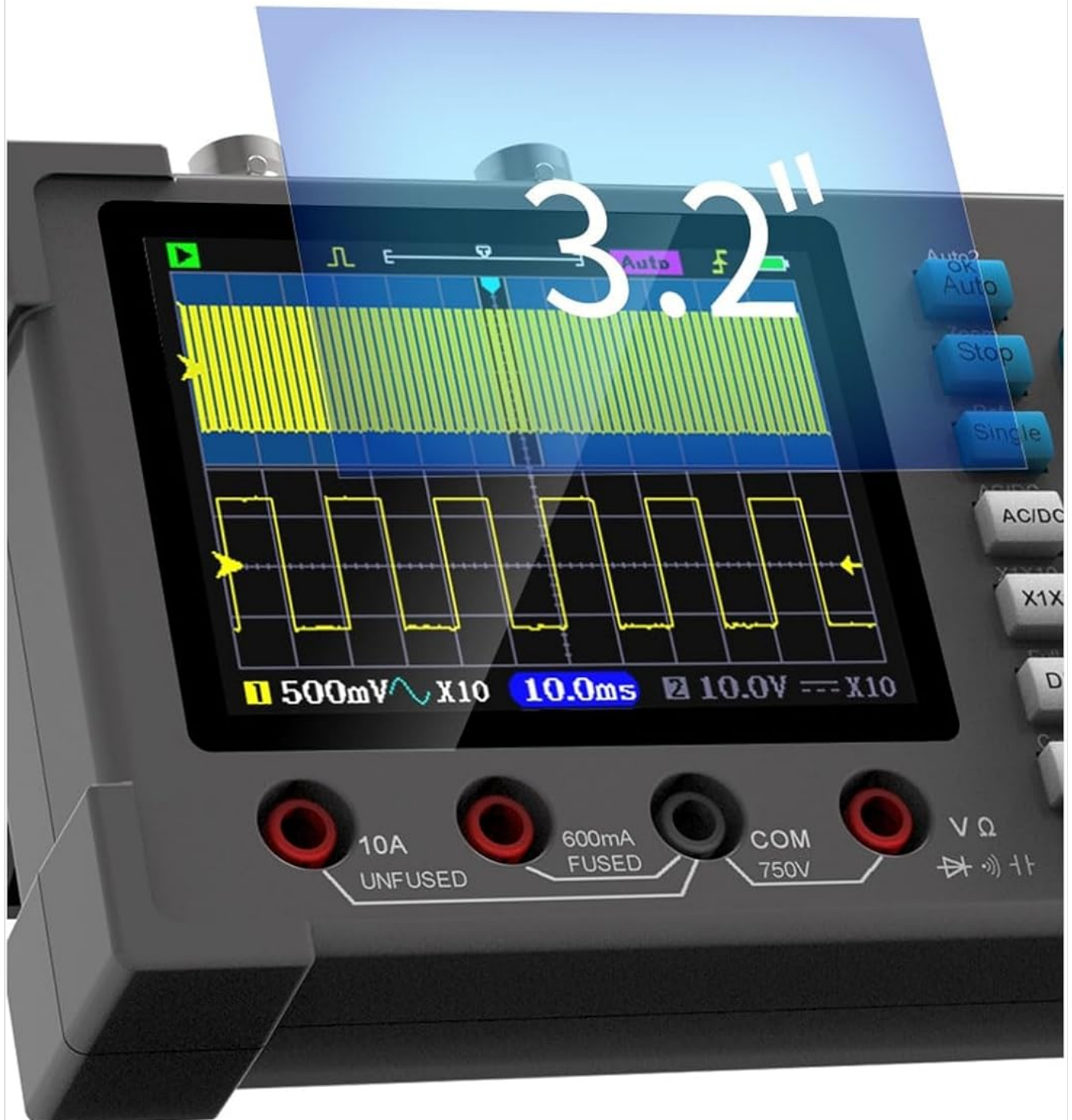


Figure 6.1: The clear 3.2-inch HD IPS display, showing a typical oscilloscope waveform with measurement parameters.

6.1.1. Trigger Settings

Triggering stabilizes repetitive waveforms.

- **Auto:** Automatically triggers on a stable signal.
- **Normal:** Triggers only when the signal meets the set conditions. If no trigger condition is met, the display will not update.
- **Single:** Captures a single waveform when the trigger condition is met, then stops.
- Use the **TgEdge** button to select rising or falling edge trigger.

6.1.2. Cursor Measurement

Cursor measurement allows for precise measurement of waveform parameters.

Cursor measurement

Supports X cursor and Y cursor measurement. The horizontal cursor can be used, for example, to measure the interval time between two pulses. The vertical cursor can be used to measure the voltage and the voltage difference at any two locations.



Figure 6.2: Demonstrating the cursor measurement feature, allowing users to precisely measure points on the waveform.

- Press the **CurX** button to activate horizontal (time) cursors.
- Press the **CurY** button to activate vertical (voltage) cursors.

- Use the navigation buttons to move the cursors and read the corresponding values displayed on the screen.

6.1.3. XY Mode

XY mode displays the relationship between two input signals, often used for Lissajous figures to determine phase differences or frequency ratios.

XY Mode

XY mode is an image formed by combining the waveforms of two channels, which can be used to observe Lissajous figures, etc.

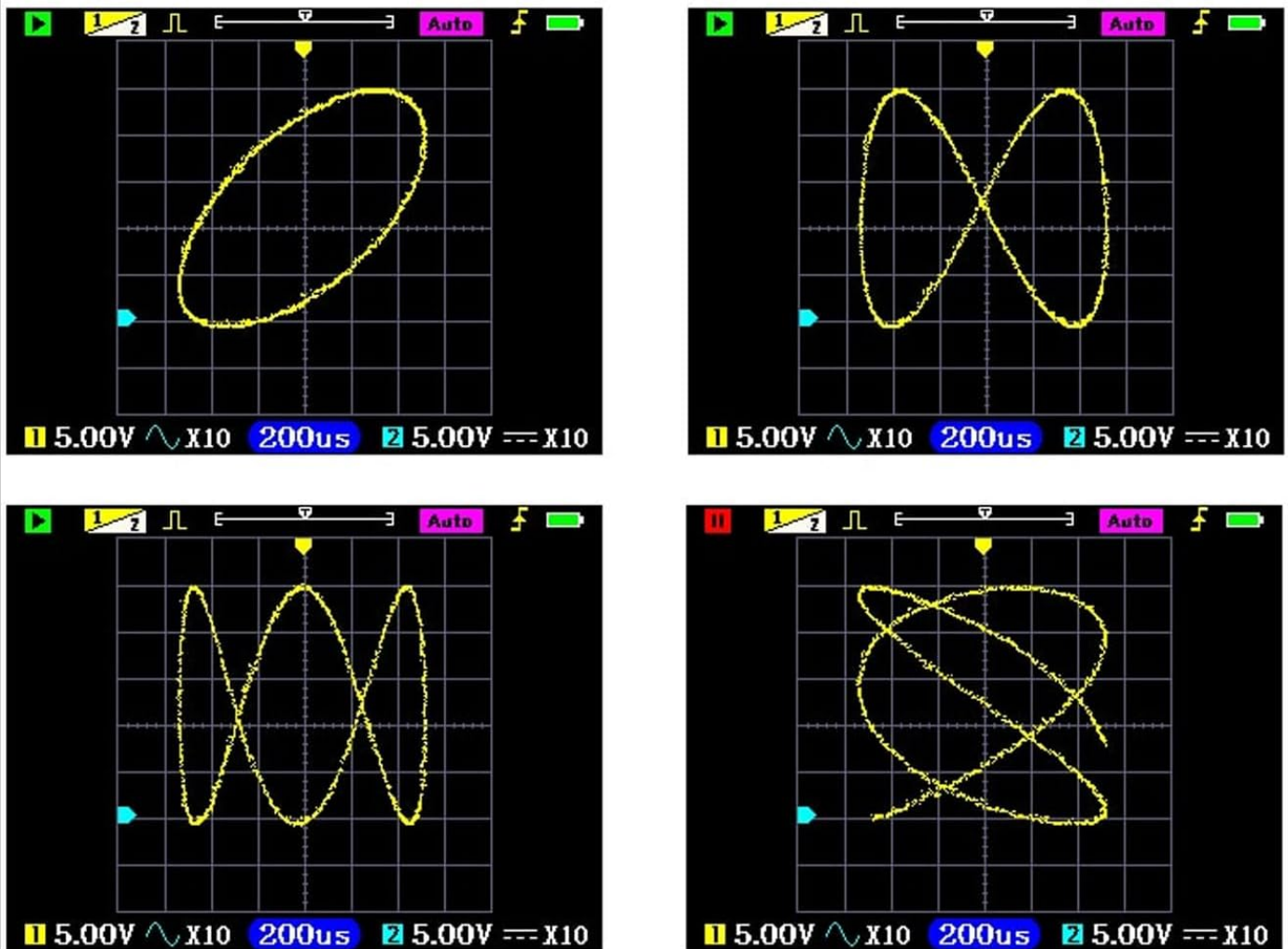


Figure 6.3: Examples of Lissajous figures displayed in XY mode, illustrating the relationship between two input signals.

- Connect signals to both CH1 and CH2.
- Press the **XY** button to switch to XY mode.

6.1.4. Waveform Save/View

The device allows you to save and review captured waveforms.

Waveform Save/View

Save the screen waveform with one click, enter the picture browsing page, you can click the thumbnail full-screen observation, and you can delete the unwanted waveform chart at will.

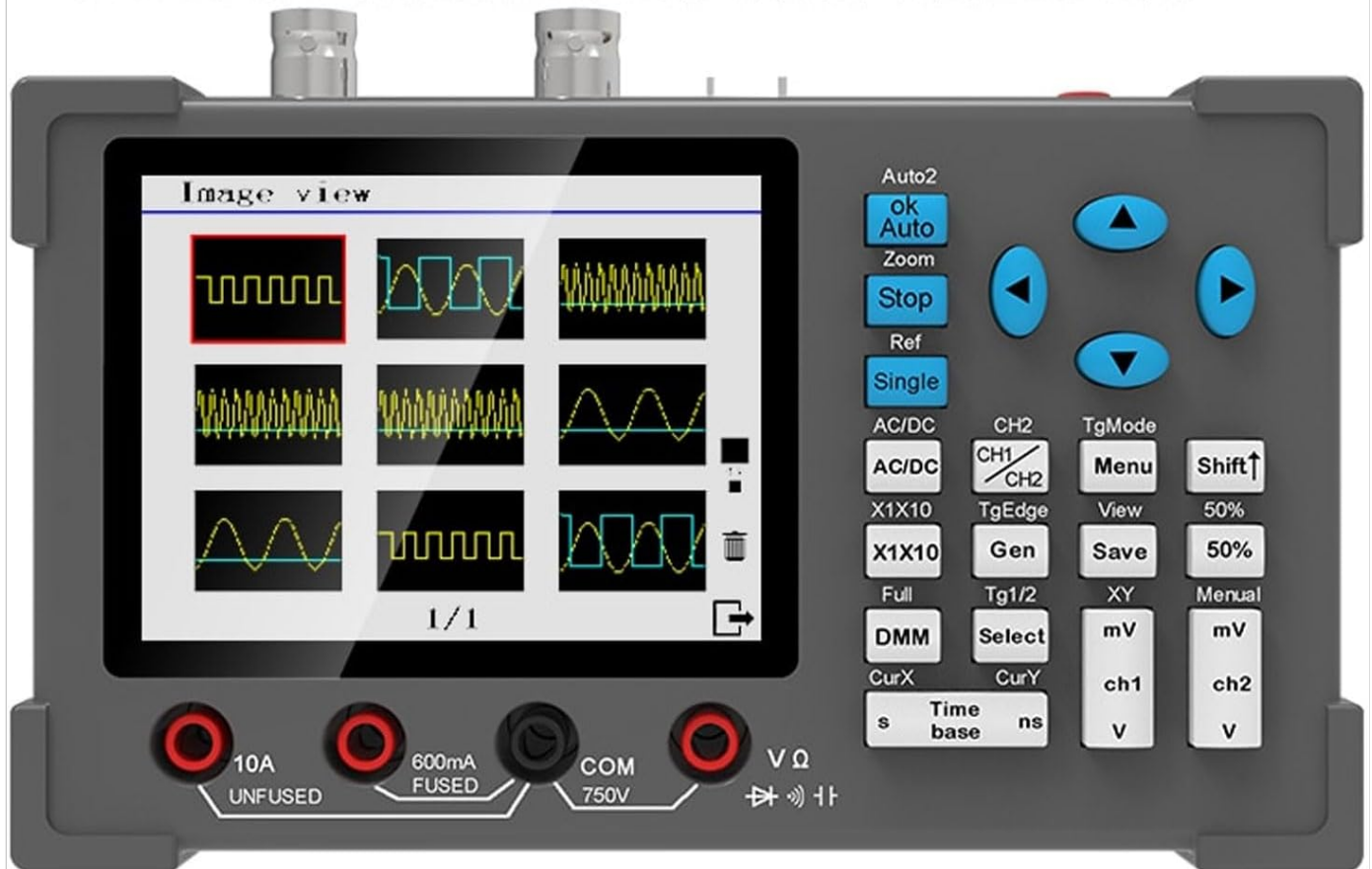


Figure 6.4: The waveform save and view interface, showing thumbnails of saved waveforms for easy browsing and management.

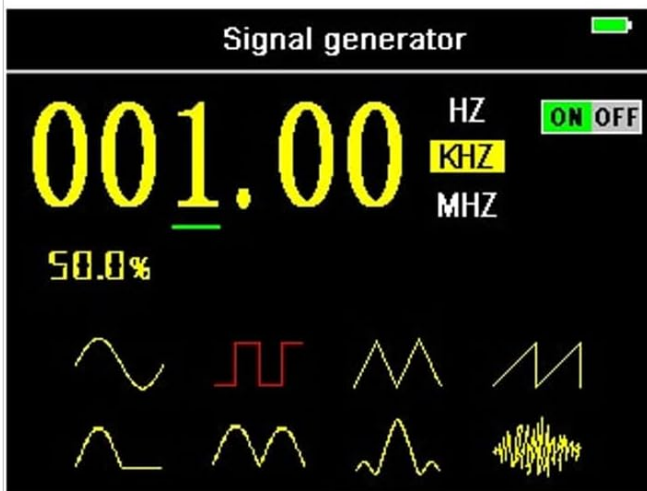
- Press the **Save** button to save the current waveform displayed on the screen.
- Press the **View** button to enter the waveform browsing page.
- Navigate through saved waveforms using the control buttons. You can view them in full screen or delete unwanted waveforms.

6.2. Multimeter Mode

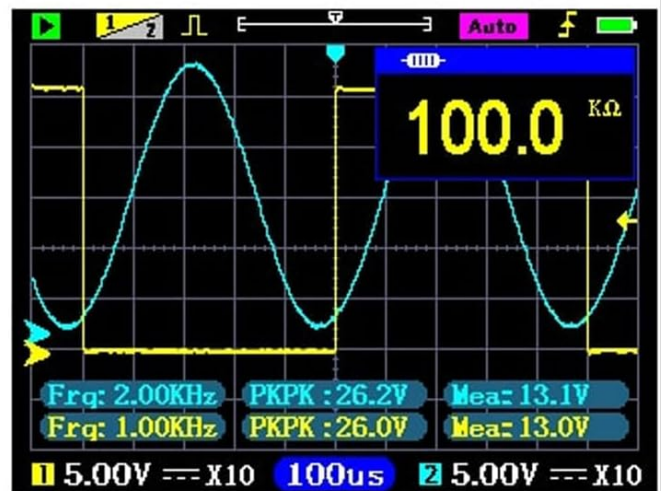
The integrated multimeter provides precise measurements of various electrical parameters.

1. Connect the multimeter test leads to the appropriate input terminals (COM, V Ω , 600mA FUSED, 10A UNFUSED).
2. Press the **DMM** button to switch to multimeter mode.
3. Use the **Select** button to cycle through different measurement functions (DC Voltage, AC Voltage, DC Current, AC Current, Resistance, Capacitance, Diode, Continuity).
4. Connect the test leads to the circuit or component under test.
5. Read the measurement value displayed on the screen.

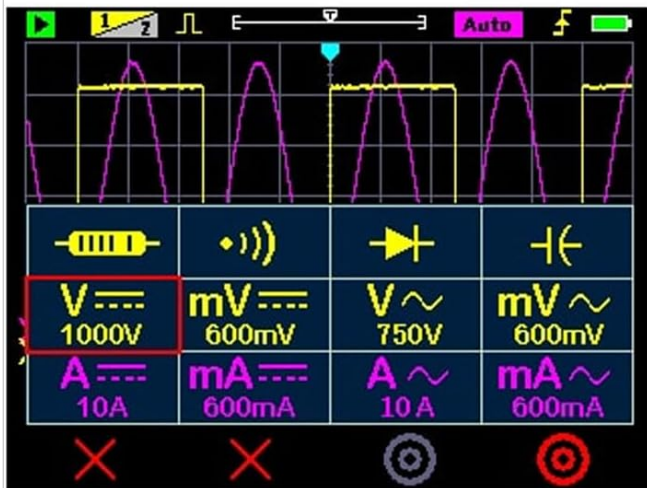
More Screenshots



Generator full screen



Multimeter small window



Multimeter function select



Multimeter full screen

Figure 6.5: Various multimeter display modes, including full-screen numerical readings and function selection interface.

Note: When measuring low voltage, resistance, or continuity, both oscilloscope and multimeter functions can be used simultaneously.

6.3. Signal Generator Mode

The built-in signal generator can output various waveforms for testing and calibration.

1. Connect a test lead from the signal generator output terminal to the circuit or device you wish to input the signal to.
2. Press the **Gen** button to enter signal generator mode.
3. Use the navigation buttons to select the desired waveform type (sine, square, triangle, etc.).
4. Adjust the frequency using the appropriate controls.
5. For square waves, adjust the duty cycle as needed.
6. The output voltage amplitude is fixed at 2.5V.

7. MAINTENANCE

7.1. Cleaning

To maintain the device's performance and appearance, clean it regularly.

- Wipe the exterior with a soft, damp cloth.
- Do not use abrasive cleaners or solvents.
- Ensure no liquid enters the device.

7.2. Battery Care

The built-in lithium battery requires proper care for longevity.

- Charge the device regularly, even if not in frequent use, to prevent deep discharge.
- Avoid exposing the device to extreme temperatures.
- If storing for an extended period, charge the battery to approximately 50% before storage.

7.3. Storage

Store the device in a cool, dry place, away from direct sunlight and corrosive gases.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Battery is depleted.	Charge the device using the USB Type-C cable.
No waveform displayed in oscilloscope mode.	<ul style="list-style-type: none">• Probe not connected correctly.• Incorrect vertical sensitivity or time base settings.• Trigger level not set correctly.• Signal too weak or outside range.	<ul style="list-style-type: none">• Ensure probes are securely connected and grounded.• Adjust mV/V and s/ns settings.• Use Auto trigger or adjust trigger level.• Check signal source and ensure it's within device's input range.
Multimeter readings are inaccurate.	<ul style="list-style-type: none">• Incorrect function selected.• Test leads not connected properly.• Battery low.	<ul style="list-style-type: none">• Verify the correct measurement function is selected (e.g., DCV for DC voltage).• Ensure test leads are firmly inserted into the correct terminals.• Charge the device.
Signal generator output is not as expected.	<ul style="list-style-type: none">• Incorrect waveform type selected.• Frequency or duty cycle settings are wrong.	<ul style="list-style-type: none">• Check the selected waveform type.• Adjust frequency and duty cycle parameters.

9. WARRANTY AND SUPPORT

This product is manufactured by Eujgoov. For warranty information and technical support, please refer to the purchase platform or contact the seller directly. Keep your purchase receipt as proof of purchase.

For common questions and troubleshooting, please refer to the relevant sections of this manual.

