

ZOYI ZT-703S

ZOYI ZT-703S 3-in-1 Digital Multimeter Oscilloscope & Signal Generator

USER MANUAL

1. Introduction

The ZOYI ZT-703S is a versatile 3-in-1 device integrating a dual-channel oscilloscope, a digital multimeter, and a signal generator. Designed for both electronics enthusiasts and professionals, it offers comprehensive testing capabilities for various applications. This manual provides detailed instructions for the proper setup, operation, maintenance, and troubleshooting of your ZT-703S device.

Key features include:

- Dual-channel 50MHz bandwidth oscilloscope with up to 280MSa/s sampling rate.
- High-precision digital multimeter with 19999 counts for accurate measurements of voltage, current, resistance, capacitance, and more.
- Professional signal generator capable of outputting various waveforms (sine, square, triangle, etc.).
- 3.5-inch TFT HD color screen for clear readings and waveform display.
- Waveform and screenshot saving functions.
- Long-lasting 3400mAh rechargeable lithium battery with Type-C charging.
- Advanced safety features including dual ceramic fuses and high-voltage overload protection.

2. Setup

2.1 Unboxing and Initial Inspection

Carefully unpack all components from the packaging. Verify that all items listed below are present and in good condition. If any items are missing or damaged, please contact customer support.

- ZOYI ZT-703S Main Unit

- Multimeter Test Leads (Red and Black)
- Oscilloscope Probes (x2)
- Type-C USB Cable
- User Manual (this document)
- Carrying Pouch



Figure 2.1: ZOYI ZT-703S device with all standard accessories, including test leads, oscilloscope probes, and USB cable.

2.2 Battery Charging

Before first use, ensure the device is fully charged. The ZT-703S is equipped with a 3400mAh rechargeable lithium battery. Use the provided Type-C USB cable to connect the device to a standard USB power adapter (not included) or a computer USB port.

- Connect the Type-C end of the cable to the port on the side of the ZT-703S.
- Connect the USB-A end to a power source.
- The battery indicator on the screen will show charging status.

Charging/Data Transfer

Type-C charging port

Super Long Battery Life

Rechargeable 3400mAh Battery



Figure 2.2: The ZT-703S charging via its Type-C port, indicating long battery life and convenient recharging.

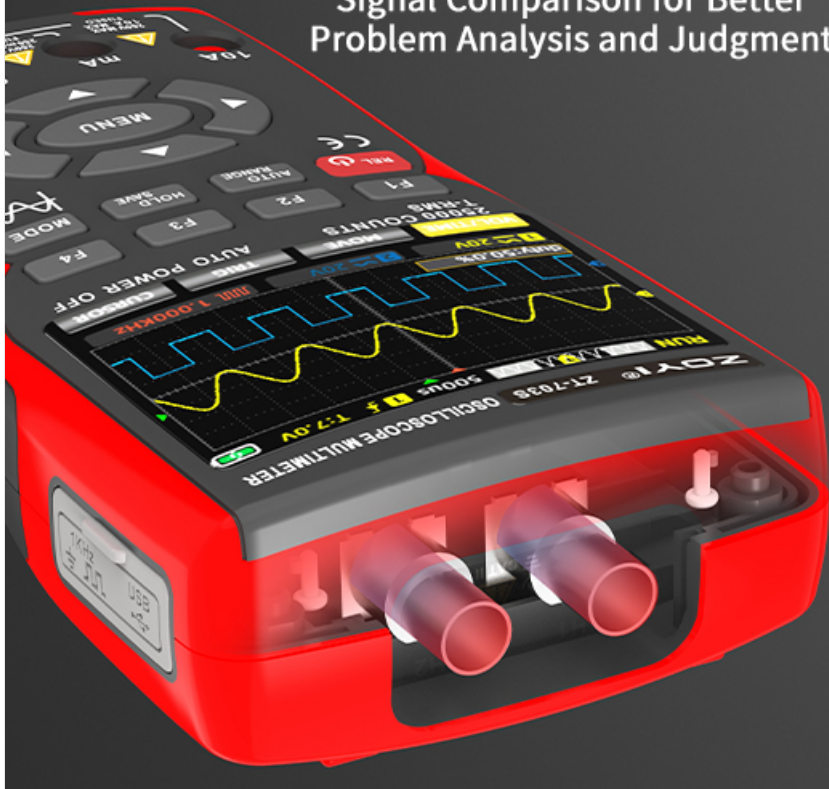
2.3 Probe Connection

Properly connecting the test probes is crucial for accurate and safe measurements.

- **Multimeter Test Leads:** Insert the red test lead into the "VΩHz+" jack and the black test lead into the "COM" jack for voltage, resistance, capacitance, and diode measurements. For current measurements, insert the red lead into the "10A" or "mA" jack depending on the expected current range.
- **Oscilloscope Probes:** Connect the oscilloscope probes to the BNC connectors located at the top of the device. Ensure a secure connection.

Dual Channel Input

Dual Channel 2x50MHz Bandwidth
Signal Comparison for Better
Problem Analysis and Judgment



Single Channel
Lacks Comparison, Requires
Repeated Measurements
for Problem Assessment

VS

Dual Channel
Signal Comparison for Better
Problem Analysis and Judgment

Figure 2.3: Proper connection of multimeter test leads and oscilloscope probes to the ZT-703S for various measurement modes.

3. Operating Instructions

3.1 General Operation

- **Power On/Off:** Long press the **REL** button (red power icon) to turn the device on or off.
- **Mode Switching:** Press the **MODE** button to cycle through the different functions: Multimeter, Oscilloscope, and Signal Generator.
- **Navigation:** Use the arrow keys (up, down, left, right) to navigate menus and adjust parameters. The **MENU** button accesses main settings.
- **Auto Range:** Press **AUTO RANGE** for automatic scaling in multimeter mode.
- **Hold/Save:** Press **HOLD SAVE** to freeze the current reading or save data/screenshots.

3.2 Multimeter Function

The ZT-703S functions as a high-precision digital multimeter with 25000 counts. To use the multimeter:

1. Ensure the device is in Multimeter mode (indicated by the multimeter icon on the screen).
2. Select the desired measurement type (Voltage, Current, Resistance, Capacitance, Diode, Continuity) using the appropriate function buttons or menu options.
3. Connect the test leads to the circuit or component under test.
4. Read the measurement on the 3.5-inch TFT HD color screen.

Dual channel 50M oscilloscope multimeter



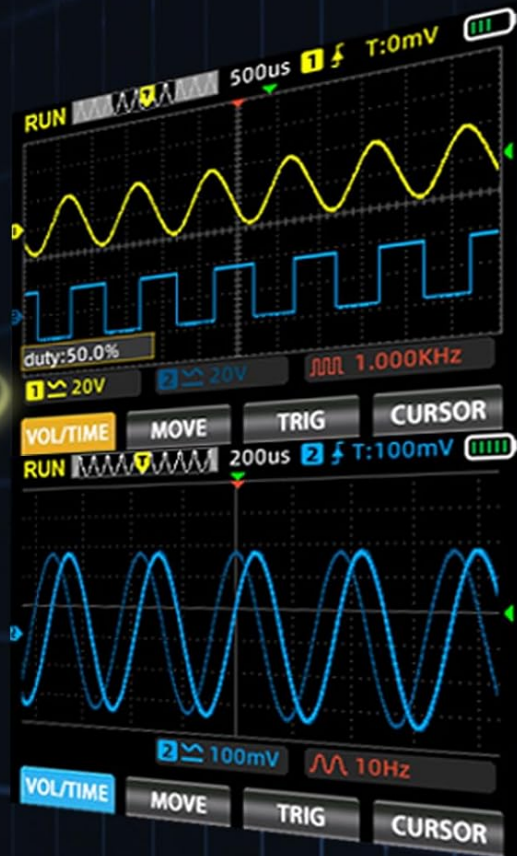
Figure 3.1: The ZT-703S in multimeter mode, capable of measuring T-RMS, resistance, capacitance, and AC/DC voltage with intelligent overheat protection.

3.3 Oscilloscope Function

The dual-channel oscilloscope features a 50MHz bandwidth and 280MSa/s sampling rate for detailed waveform analysis.

1. Switch to Oscilloscope mode using the **MODE** button.
2. Connect the oscilloscope probes to the signal source.
3. Adjust the vertical sensitivity (VOL/TIME), horizontal time base (MOVE), and trigger settings (TRIG) using the corresponding buttons and arrow keys to capture and stabilize the waveform.
4. Utilize the CURSOR function for precise measurements of waveform parameters.

50M Dual Channel for Clearer Contrast



50MHz Bandwidth
280MS/s Sampling Rate
Single/Dual Channel Switchable
for Clearer Data Comparison

Figure 3.2: The oscilloscope displaying two channels simultaneously, allowing for clearer data comparison and analysis of complex waveforms.

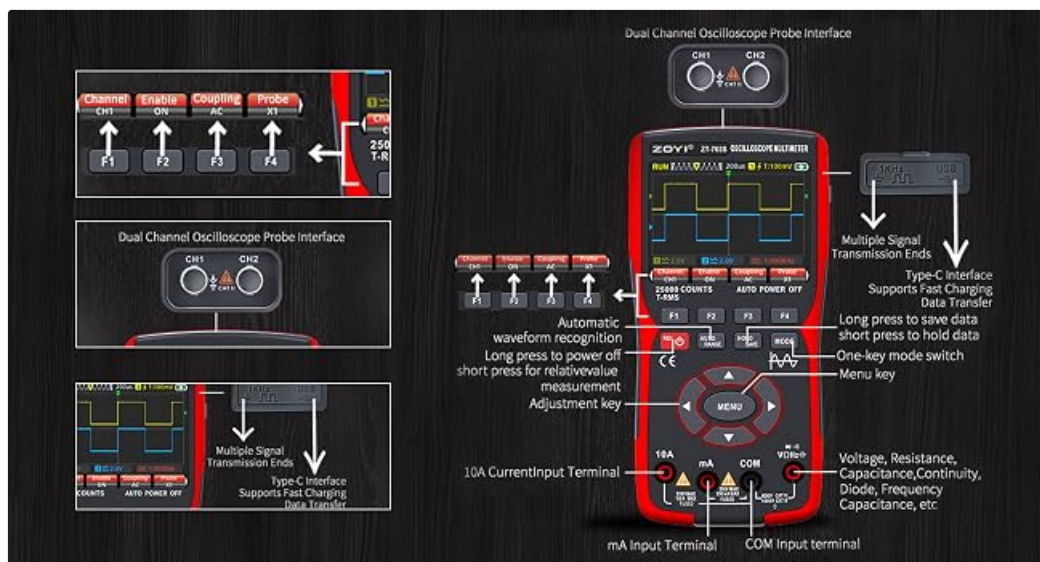


Figure 3.3: Illustrates the advantage of dual-channel input for signal comparison, aiding in better problem analysis and judgment compared to single-channel measurements.

3.4 Signal Generator Function

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

1. Switch to Signal Generator mode using the **MODE** button.
2. Select the desired waveform type (sine, square, triangle, half, full, sawtooth) from the menu.
3. Adjust parameters such as frequency and amplitude as needed. The waveform will be displayed on the screen.



Figure 3.4: The ZT-703S highlighting its three core functions: oscilloscope, signal generator, and multimeter, making it a comprehensive testing tool.

3.5 Data Saving and Transfer

The ZT-703S allows for saving waveforms and screenshots, and transferring data to a computer.

- To save a waveform or screenshot, press the **HOLD SAVE** button. Follow on-screen prompts to confirm saving.

- Connect the device to a computer using the Type-C USB cable for data transfer. The device will appear as a removable storage device, allowing you to access saved files.



Figure 3.5: The ZT-703S connected to a laptop, demonstrating its capability for charging and data transfer via the Type-C port.

4. Maintenance

4.1 Cleaning

To maintain the device's performance and appearance:

- Wipe the exterior with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the device is powered off and disconnected from all power sources and test circuits before cleaning.

4.2 Battery Care

To maximize the lifespan of the 3400mAh lithium battery:

- Avoid fully discharging the battery frequently.
- Store the device in a cool, dry place if not used for extended periods, with the battery charged to approximately 50%.
- Use only the provided Type-C cable for charging.

4.3 Fuse Replacement

The ZT-703S is equipped with dual ceramic fuses for protection. If the device fails to measure current or shows an error related to current measurement, a fuse may need replacement. Refer to the device's internal diagram or contact support for specific fuse ratings and replacement procedures.



Figure 4.1: Illustration of the dual ceramic fuses within the ZT-703S, providing essential high-voltage overload protection for user safety and device longevity.

5. Troubleshooting

This section addresses common issues you might encounter with your ZOYI ZT-703S. For problems not listed here, please refer to the support section.

Problem	Possible Cause	Solution
Device does not power on.	Low battery or power button not pressed correctly.	Charge the battery fully. Ensure the power button is long-pressed.
No reading in Multimeter mode.	Incorrect probe connection, wrong mode selected, or blown fuse (for current).	Verify probe connections. Ensure correct measurement mode is selected. Check and replace fuses if necessary.
Oscilloscope waveform is unstable or flat.	Incorrect trigger settings, probe attenuation, or signal input.	Adjust trigger level and mode. Check probe attenuation settings (X1/X10). Ensure a valid signal is connected.
Screen is unresponsive or frozen.	Software glitch.	Perform a soft reset by long-pressing the power button until the device shuts down, then restart.

6. Specifications

Detailed technical specifications for the ZOYI ZT-703S are provided below.

6.1 Multimeter Parameters

Multimeter parameters		
DC Voltage	1000.0V/250.00V/25.000V 2.5000V/250.00mV/25.000mV	±(0.05%+3)
AC Voltage	750.0V/250.00V/25.000V 2.5000V/250.00mV/25.000mV	±(0.5%+3)
DC Current	10.000A/2.5000A 250.00mA/25.000mA	±(0.5%+3)
AC Current	10.000A/2.5000A 250.00mA/25.000mA	±(0.8%+3)
Resistance	250.00Ω	±(0.5%+3)
	250.00KΩ/25.000KΩ/2.5000KΩ	±(0.2%+3)
	25.00MΩ/2.5000MΩ	±(1%+3)
	250.0MΩ	±(5.0%+5)
Capacitance	9.999nF	±(5.0%+20)
	999.9μF/99.99μF/9.999μF 999.9nF/99.99nF	±(2.0%+5)
	99.99mF/9.999mF	±(5.0%+5)

Frequency	999.9KHz/99.99KHz/9.999KHz 999.9Hz/99.99Hz	+(0.1%+2)
Diode	✓	
Continuity	✓	
Product Specification		
Display (IPS)	25000 counts	
Range	Automatic/Manual	
Charge	TYPE-C (5V/2A)	
battery capacity	3400mAh lithium battery	
Support functions	Multimeter, Oscilloscope Signal Generator	
Material	ABS+TPE	
Dimensions	177*89*40mm	
Weight	380g	

Figure 6.1: Comprehensive table detailing the measurement ranges and accuracies for DC Voltage, AC Voltage, DC Current, AC Current, Resistance, Capacitance, Frequency, Diode, and Continuity in Multimeter mode.

6.2 Oscilloscope Specifications

Oscilloscope Specifications		Sensitivity	20mV/div - 10V/div
Bandwidth	50MHZ dual channe	Offset Range	4 grids
Sampling Method	Real-time sampling	Analog Bandwidth	50MHZ
Sampling Rate	200M/280MSa/s	Low-Frequency	More than 10Hz
Input Coupling	DC, AC	Rise Time	Less than 10ns
Input Impedance	1MΩ, @16pf	DC Gain Accuracy	±3%
Attenuation	X1,X10	Auto Measurement	Period, frequency, peak-to-peak value, maximum value, minimum value, RMS, duty cycle, pulse count
Persistence Mode	Minimum, 500ms, 1S, 10S, Infinite	Trigger Modes	Auto, normal, single
Rate Range	1.5Sa/s-280MSa/s	Trigger Edges	Rising edge, falling edge
Interpolation	(sinx)x	Signal Generator Output	Sine wave, square wave, sawtooth wave, half wave, full wave
Sweep Range	10ns/div - 20s/div	Operating Modes	Normal mode 200MSa/s, High-speed mode 280MSa/s
Time Base	Accuracy 20ppm	Display Modes	YT, XY, Roll
Record Length	Up to 128Kbyte		

Figure 6.2: Detailed specifications for the oscilloscope function, including Bandwidth, Sampling Rate, Input Coupling, Impedance, Attenuation, Persistence Mode, Rate Range, Interpolation, Sweep Range, Time Base, Record Length, Sensitivity, Offset Range, Analog Bandwidth, Low-Frequency, Rise Time, DC Gain Accuracy, Auto Measurement, Trigger Modes, Trigger Edges, Signal Generator Output, Operating Modes, and Display Modes.

6.3 General Product Specifications

- **Display:** 3.5-inch TFT HD Color Screen (IPS)
- **Counts:** 25000
- **Range:** Automatic/Manual
- **Charge:** Type-C (5V/2A)
- **Battery Capacity:** 3400mAh Lithium Battery
- **Support Functions:** Multimeter, Oscilloscope, Signal Generator
- **Material:** ABS+TPE
- **Dimensions:** 177 x 89 x 40 mm
- **Weight:** 380 Grams (approx. 0.84 lbs)

7. Warranty and Support

For warranty information and technical support, please refer to the official ZOYI website or contact your point of purchase. Keep your purchase receipt as proof of purchase for any warranty claims. You can visit the official ZOYI Store for more information and support:[ZOYI Official Flagship Store](#)

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question