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HTC DSO-1008S Smart Oscilloscope Graph Multimeter Instruction Manual

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HTC DSO-1008S Smart Oscilloscope Graph Multimeter

V Alert

Oscilloscope
Graph Multimeter

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SAVE

⚠ 10A FUSED MAX

⚠ OSC Mode
⚠ MAX 300V
10MHz Bandwidth

10A COM INPUT

≂ V Ω •))
⊣⊢ ⇥
OSC

⚠ CAT III 600V
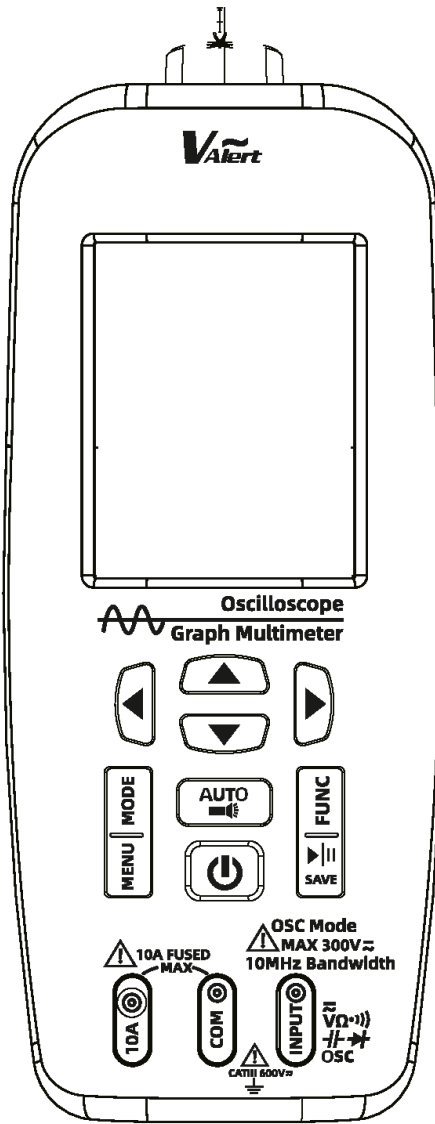
INSTRUCTION MANUAL

MODEL: DSO-1008S

1. Security Information

Warning

People who use this meter should pay special attention to it , because the improper use might cause electric shock or damage to the meter. Please follow the actual safety rules and safety measures as specified in the manual.
To fully use the function of this meter and ensure its safety operation,please read and follow its usage methods in the specification carefully.
This meter matched the technical requirement of digital multimeter GBfT13978-2008 and the safety requirement of electronic measuring meter GB 4793.5-2008(IEC 61010 -031 :2002). It belongs to secondary pollution and Its over-voltage standard Is CAT Ill 600V.

Please follow the safe operation guide and ensure safe use for this meter.
Proper use and maintenance for meter will give you a satisfied service.

1. Users must follow the standard safety rules when using it

– Need some universal protection to avoid electric shock.

– – To avoid misuse the meter.

2. Check if there is any damage on this meter or not in the process of transportation when received it
3. Check if there is any damage on this meter or not when preserved,loaded and delivered it in poor condition.
4. The test lead must be in a good condition.Check whether there is any damage on its insulation or not and if meter' s metal wire is exposed or not before using it
5. The correct function and measuring range must be guaranteed when using it.
6. Don' t overtake the indicating value of protection extent of everymeasuring range when testing.
7. Don' t touch the top of test lead (the metal part) when linked meter with measuring circuit
8. When testing, if the voltage tested is over 60V DC or 30V AC (RMS),please keep your fingers behind the test lead protector.
9. When the measuring terminal voltage is over 600V DC or 600V AC, please stop testing voltage.
10. The oscilloscope mode only supports a maximum voltage of± 300V, please do not Input a higher voltage.
11. Before turning the switch to change the testing function, the test lead removed from the measuring circuit
12. When using oscilloscope mode, the maximum input voltage cannot exceed 300V DC or AC.
13. Do not measure resistance, capacitance, diodes and lines when the line is energized.
14. When use current,resistance,capacitor,diode and circuit breaker,user should avoid to link meter with voltage source.
15. Don't test capacitance before the capacitor is fully discharged.
16. Don't use the meter under the explosive gas, steam or dust environment.
17. If there is any abnonnality or malfunction in the meter, user should stop using it.
18. Multimeter should not be used unless the meter bottom shell and the battery cover are completely clasped in place.

Marks

▣ Double insulation protection. (D level)

CAT III In accordance with the IEC-61010-1 standard over-voltage(InstallaUon)
level 111, pollution level 2, CATHI means the level ofpulse withstand
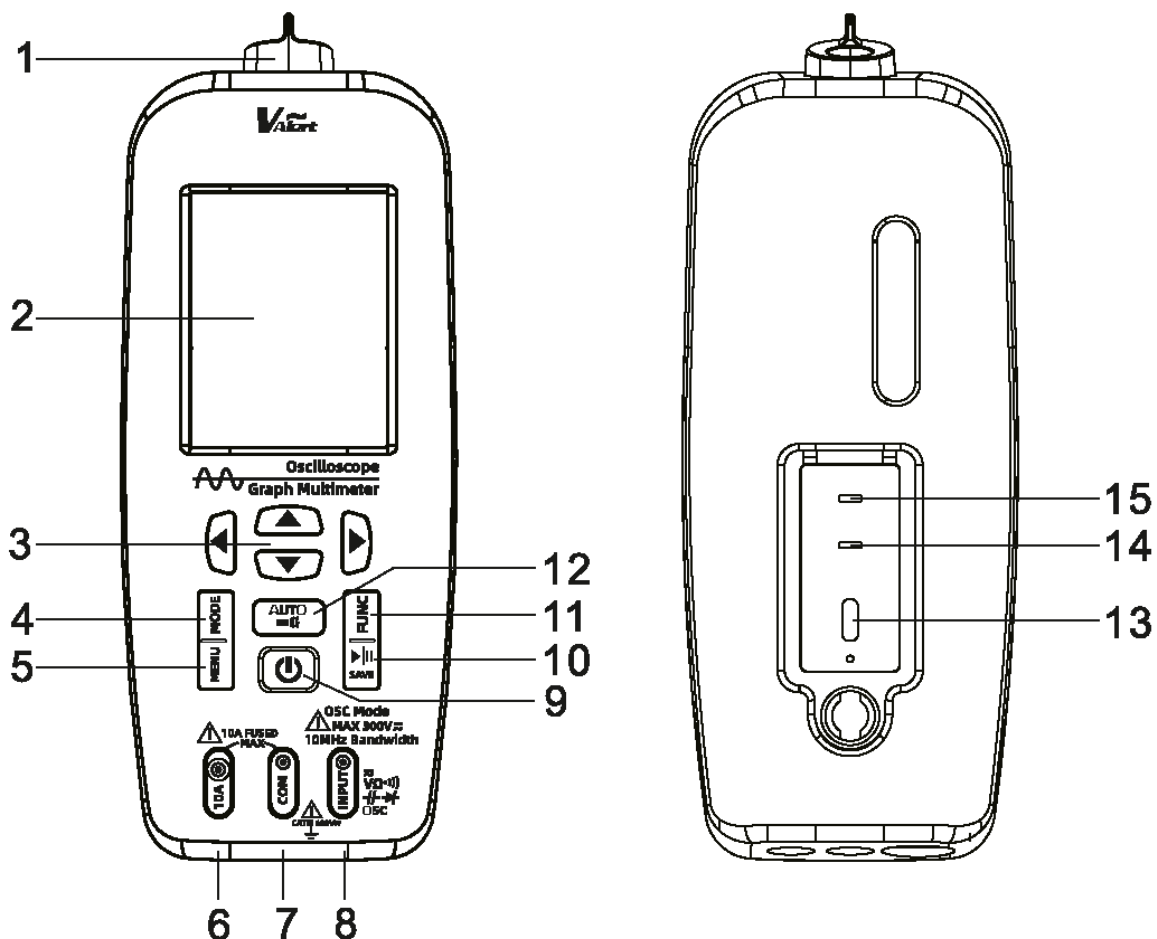voltage protection provided.

CE Matched EC(EU) standard.

⏚ Electrical grounding.

2. Product Description

1. PartN ame

1	Flashlight and voltage sensing area	9	Power button
2	LCD screen	10	Run,Stop/Save button
3	Up, down, left, and right buttons	11	Function switching button
4	Mode button	12	Flashlight/auto button
5	Menu button	13	USB terminal
6	Current input terminal	14	Signal output negative
7	COM terminal	15	Signal output positive
8	Positive input terminal		

2. Button Description

⏻ **Power button:**

Long press for 2 seconds: Power ON/OFF.

Flashlight/auto button

Short press: In oscilloscope mode, press this button to automatically adjust the measurement waveform display.
Long press for 2 seconds: Turn on or off the flashlight.

Mode button:

Short press: Switching between multimeter mode and oscilloscope.

Menu button:

Short press: Press this key in oscllloscope mode to enter menu settings.

Function switching button:

Short press: Press this button to switch between different measurement functions in the multimeter mode, including voltage, resistance, capacitance, millivolt voltage, current, and voltage sensing. Oscilloscope mode: Press this button to adjust and select the oscilloscope functions, Including voltage/time base, movement, triggering, and coupling (DC/AC)

► || Run.Stop/Save button:

Short press: The multimeter mode is the HOLD function; The oscilloscope mode is selected as RUN/STOP. Long press for 2 seconds: Save current screen as an image.

3. LCD full display symbol

	AC voltage and DC voltage mode
	Resistance, Continuity, Diode mode
	Capacitance mode
	AC millivolt and DC millivolt mode
	AC current and DC current mode
	Voltage sensing mode
	Terminal Prompt

4. Overview

1. Display: 2.8 inch TFT screen.
2. Support multimeter mode and oscilloscope mode.
3. Auto range.
4. True RMS display.
5. Support data hold.

6. Maximum display value of the multimeter: 6000 digits.
7. Polarity indication: Automatic indication, with'-' indicating negative polarity.
8. Over range display: 'Ol' or'- OL'.
9. Sampling rate: approximately 3 times per second.
10. Auto Power Off can be set to 10 minutes, 30 minutes, 60 minutes, and no powerdown.
11. Working temperature and humidity: 0- 40 ·c, 0- 80% RH.
12. Storage temperature and humidity: -10-60 ·c, 0-70% RH.
13. Power supply: Built in 2000mA lithium battery.
14. Working height up to 2000 meters.
15. Size: 187mm * 74mm * 40.5mm.
16. Weight: 269g.

5. Specifications

Technical index
Test conditions: environmental temperature 18 ·c to 28 ·c, relative humidity <80%RH.

1. Oscilloscope

Characteristics		Explanation
Bandwidth		10 MHZ
Sampling frequency		48MSa/s
Input	Coupling	DC, AC
	Impedance	1MΩ
	Ratio	x1, x10
	Max voltage	±300V
Horizontal	Sampling rate	1. 5Sa/s - 48MSa/s
	Sweep	100ns/div - 20s/div
	Time base accuracy	20ppm
	Sampling depth	64KB
Vertical	Sensitivity	20mV/div - 100V/div
	Low-frequency response	>10Hz
	Rise time	<10ns
	Gain accuracy	±3%
Measure	Automatic measurement	Frequency, period, peak to peak, maximum, minimum, rms value
Trigger	Trigger Mode	Automatic, normal, single shot
	Trigger Edge	Rising edge, falling edge

2. DC voltage

Range	Resolution	Accuracy
60.00mV	0.01mV	±(1.0%+3counts)
600.0mV	0.1mV	±(0.8%+3counts)
6.000V	0.001V	±(0.8%+3counts)
60.00V	0.01V	±(0.8%+3counts)
600.0V	0.1V	±(1.0%+5counts)

Input impedance: 10MΩ
Maximum input voltage : 600V

3. AC voltage(True RMS)

Range	Resolution	Accuracy
60.00mV	0.01mV	±(1.2%+5counts)
600.0mV	0.1mV	±(1.0%+3counts)
6.000V	0.001V	±(1.0%+3counts)
60.00V	0.01V	±(1.0%+3counts)
600.0V	0.1V	±(1.2%+5counts)

Input impedance：10MΩ
Maximum input voltage：600V
Frequency range: 40~1000Hz

4. DC Current

Range	Resolution	Accuracy
6.000A	0.001A	± (1. 2%+3counts)
10.00A	0.01A	± (1. 2%+3counts)

5. AC Current(True RMS)

Range	Resolution	Accuracy
6.000A	0.001A	± (1. 2%+3counts)
10.00A	0.01A	± (1. 2%+3counts)

Frequency range: 40~1000Hz

6. Resistance

Range	Resolution	Accuracy
600.0Ω	0.1Ω	± (1. 2%+5counts)
6.000kΩ	0.001kΩ	± (1. 0%+3counts)
60.00kΩ	0.01kΩ	± (1. 0%+3counts)
600.0kΩ	0.1kΩ	± (1. 0%+3counts)
6.000MΩ	0.001MΩ	± (1. 2%+5counts)
60.00MΩ	0.01MΩ	± (1. 5%+5counts)

7. Capacitance

Range	Resolution	Accuracy
99.99nF	0.01nF	± (5.0%+20counts)
999.9nF	0.1nF	± (4.5%+5counts)
9.999μF	0.001μF	± (4.5%+5counts)
99.99μF	0.01μF	± (4.5%+5counts)
999.9μF	0.1μF	± (4.5%+5counts)
9.999mF	0.001mF	± (5.0%+10counts)
99.99mF	0.01mF	± (5.0%+10counts)

8. Other

Function	Explanation
Continuity	If the resistance <50Ω,the buzzer sounds.
V~ Alert Voltage sensing	Based on the sensed signal strength, the buzzer emits different frequency alarms, and icon changes color to green, yellow, and red, corresponding to low, medium, and high signal strength.
Diode	0. 000V~3. 000V
Auto power off	It can be set to 5 minutes, 30 minutes, 60 minutes or not to shut down in the menu.

6. Operation Instructions

Multimer Operation

1. AC and DC switching
2. Resistance, Continuity, Diode switching

Voltage, resistance, capacitance, Millivolt voltage, current Voltage sensing function switching

Short press: No function
Long press: Turn on and off the flashlight

Switch to oscilloscope mode

Clear the current maximum, minimum, and average values and recalculate

Short press: Hold reading
Long press: Save image

MENU | MODE

AUTO

FUNC

SAVE

△ 10A FUSED MAX

△ OSC Mode
△ MAX 300V≂
10MHz Bandwidth

10A

COM

INPUT

V Ω ·))
⊣⊢ ⇥⊩
OSC

△ CATIII 600V≂

When measuring AC voltage, DC voltage, resistance, connectivity, diode, capacitor, DC millivolt voltage, and AC millivolt voltage, insert the probes into these two terminals.

When measuring current, insert the probes into these two terminals.

Documents / Resources

HTC DSO-1008S Smart Oscilloscope Graph Multimeter [pdf] Instruction Manual
DSO-1008S Smart Oscilloscope Graph Multimeter, DSO-1008S, Smart Oscilloscope Graph Multimeter, Oscilloscope Graph Multimeter, Graph Multimeter, Multimeter

References

- **User Manual**