



AUDIO IMPEDANCE TESTER ZS-3

Instruction sheet



Warning

Do not use the tester on live system. Do not apply voltage to the tester's input terminals.

SAFETY NOTES

- Read the following safety information carefully before attempting to operate or service the meter.
- Use the meter only as specified in this manual, otherwise the protection provided by the meter may be impaired.
- Rated environmental conditions:
 - Indoor use
 - Pollution Degree 2.
 - Altitude up to 2000 Meter.
 - Relative Humidity 80% Max.
 - Ambient Temperature 0°C~40°C.
- Observe the international electrical symbols listed below:
 - Meter is protected throughout by double insulation or reinforced insulation.
 - Warning! Risk of electric shock.
 - Caution! Refer to this manual before using the meter.
- Before switching the unit on, completely connect the meter and the load to be measured with test leads.

- To avoid electric shock, do not touch any naked conductor with hand or skin.
- Do not operate this meter around explosive gas, vapor, or dust.
- Disconnect circuit power and discharge all high-voltage capacitors before connecting the test leads to the circuit to be measured. Make sure that the object to be measured has no charge before you apply test leads.

FEATURES

- True measurement of speaker systems actual impedance at 1 kHz
- Three test ranges (20Ω/200Ω/2000Ω) allow testing of home theater and commercial sound systems.
- Convenient portable battery operation.
- Low battery indication
- Data hold function.
- Timer function for easier operation. The timer can last about 30 seconds minutes after users press TEST button.
- Auto power off: after about 15 minutes of non-use

SPECIFICATIONS

Display: LCD 3 1/2 digits (2000 counts), with unit Data

Hold Indication: „H“ Symbol appears on the display

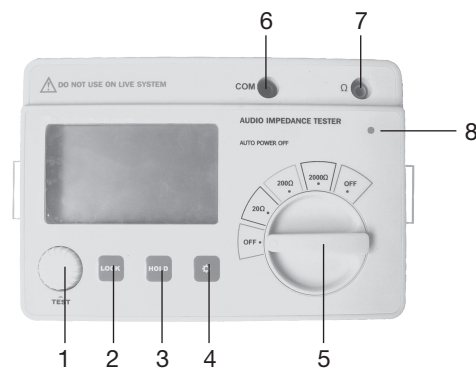
Power Supply: 9V DC (6x 1.5V „AA“ batteries)

Low Battery Indication: „LO“ appears on LCD

Dimensions (LxWxH): 168 x 110 x 62 mm

Weight: approx. 483g (including battery)

PANEL INSTRUCTION



1. TEST button

This button can be used to enable or disable test function after you switch on this unit.

After you press this button, the unit enter test mode, meanwhile LED lights. about 30 seconds later, the unit automatically exit test mode and LED turns off.

If you want to disable the test function ahead of time, just press this button again.

2. LOCK key (for continuous measurement)

After you press this key with the unit in test mode, „LOCK“ appears on the display, meanwhile the test mode is locked, it means that the unit stays in test mode unless you press TEST button again.

3. HOLD key

This key can be used to hold the present reading. To exit data-hold mode, press again.

4. BACKLIGHT key

This key can be used to enable or disable the backlight function.

5. RANGE /FUNCTION switch

This switch can be used to turn on/off the unit as well as to select desired range.

6. COM jack

Plug-in jack for black test lead.

7. Ω jack

Plug-in jack for red test lead.

8. LED

Indicator for test mode.

TECHNICAL SPECIFICATIONS

Accuracy is specified for a period of one year after calibration and at 18°C to 28°C, with relative humidity <75%.

Accuracy specifications take the form of:
± ([% of Reading] + [number of Least Significant Digits])

RANGE	RESOLUTION	ACCURACY	TEST FREQUENCY
20Ω	10mΩ	±(2% + 2) or (±0.1Ω)	1kHz
200Ω	100mΩ	±(2% + 2)	
2000Ω	1Ω		

MEASURING METHODS

BEFORE PROCEEDING MEASUREMENT, READ SAFETY NOTES.

1. Ensure the system under test is not live.
2. In proceeding with measurement, if „“ symbol appears on the display, replace with new batteries.
3. Connect test leads to the load or circuit to be measured.
Set the range/function switch to suitable range, then press TEST button to test and take the reading.
4. A drawing of the system should be made before testing so the measurement can be attributed to network.
5. Measure system power-an 10W up

$$P=ZI^2$$

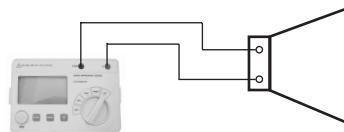
$$P=V^2/ Z$$

For example on a 100V system:

If $P=50W$, $Z=V^2/ P=100^2/ 50=200\Omega$

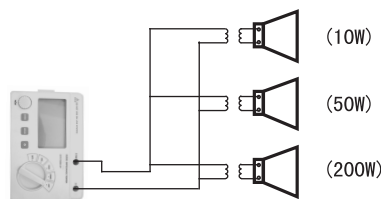
- a. The tester can measure impedance up to $2k\Omega$ (10W at 100V line).
 - b. The tester can't measure 100V system with power lower than 10W.
6. Checking a speaker:

Speakers are general from 20Ω to 160Ω , use 20Ω range or for higher impedance speaker, use 200Ω or 2000Ω range.



7. Checking a PA system:

For example on a PA system, using a 100V configuration.



$$Z=V^2/ P=100^2/ P=10000/(10+50+200)=38.46\Omega$$

- a. If Z measured is lower, check for short-circuited wires or faulty speakers or transformers.
- b. If Z measured is higher, check for wiring or components (Speakers, transformers or connections).

MAINTENANCE

1. Battery Replacement:

When the symbol „“ appears on the display, replace with new batteries of the same type(1.5V „AA“ battery, 6 units).

- a. Turn off the power and disconnect the test leads from the instrument.
- b. Use a screwdriver to unscrew the screws on the battery cover, take out the cover, take out the exhausted batteries and replace with new batteries.
- c. Place back cover and install the screws.

2. Cleaning and storage:

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.

If the meter is not to be used for a period of longer than 30 days, remove the batteries and store them separately.

Note:

To avoid electrical shock or damage to the meter, do not get water inside the case.

NOTE

1. This Instruction Sheet is subject to change without notice.

2. Our company will not take the other responsibilities for any loss.
3. The contents of this Instruction Sheet can not be used as the reason to use the tester for any special application.

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DISPOSAL OF THIS ARTICLE

Dear Customer,
If you at some point intend to dispose of this article, then please keep in mind that many of its components consist of valuable materials, which can be recycled.

Please do not discharge it in the garbage bin, but check with your local council for recycling facilities in your area.

