

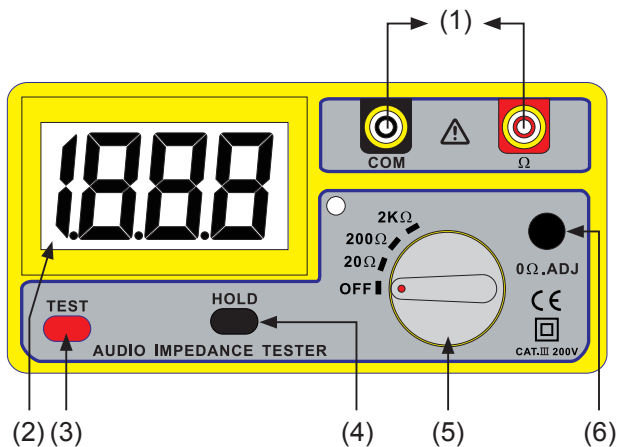
AUDIO IMPEDANCE TESTER



INSTRUCTION MANUAL

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1. Instrument Layout



- (1) Jacks For Test Leads Connection
- (2) LCD
- (3) TEST ON/OFF button
- (4) DATA HOLD button
- (5) Rotary switch for function selection
- (6) 0Ω adjustment.

2. Introduction

This Audio Impedance Tester has been designed and tested according to CE safety requirements for electronic measuring apparatus, IEC/EN 61010-1 EN 61326-1 and other safety standards. Follow all warnings to ensure safe operation.

3. 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 :
 - (1) Indoor use.
 - (2) Installation CAT. III 200V.
 - (3) Pollution Degree 2.
 - (4) Altitude up to 2000 Meter.
 - (5) Relative Humidity 80% Max.
 - (6) 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.

Note !  Do not use on Live system.

4. Features


- True measurement of speaker systems actual impedance at 1kHz.
- Three test ranges(20Ω/200Ω/2kΩ) allow testing of home theater and commercial sound systems.
- Convenient portable battery operation.
- Low battery indication.
- Data hold function.
- 0Ω adjustment.
- Safety standard: IEC/EN 61010-1 CAT. III 200V
EN 61326-1

5. Specifications

- Measurement Range : 20Ω/200Ω/2kΩ
- Test frequency : 1kHz
- Accuracy :
20Ω : $\pm 2\% \text{rdg} \pm 2 \text{dgt}$ or $\pm 0.1\Omega$, which is greater.
200Ω/2kΩ : $\pm 2\% \text{rdg} \pm 2 \text{dgt}$
- Power Requirements :
12VDC(8 x 1.5V "AA" batteries)
- Dimensions : 175(L) x 85(W) x 75(D)mm
- Included Accessories :
Test leads, instruction manual, carry case
- Low battery indication :
"  " symbol appears on the display
- Data hold indication :
"  " symbol appears on the display
- Display : LCD 3½ digit(2000 counts)
- Weight : Approx. 620g(battery included)

6. Measuring Methods

BEFORE PROCEEDING MEASUREMENT, READ SAFETY NOTES ON PAGE 2.

- (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) Short the tips of the leads. Adjust the 0Ω.ADJ control to set the reading of zero.
- (4) Rotary the function switch to suitable range then press the pushbutton to test and take the reading.
- (5) A drawing of the system should be made before testing so the measurement can be attributed to network.
- (6) Measure system power-an 10W up.

$$P=ZI^2$$

$$P=V^2 / Z$$

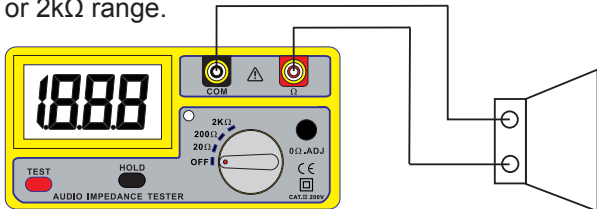
For example on a 100V system:

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

- a. The tester can measure load down to 2kΩ.(10W at 100V line).
- b. The tester can't measure 100V system with power lower than 10W.

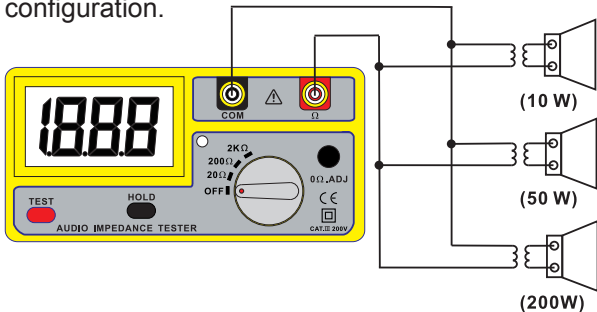
(7) Checking a speaker :

Speakers are general from 2Ω to 16Ω , use 20Ω range or for higher impedance speaker, use 200Ω or $2k\Omega$ range.



(8) Checking a PA system :

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



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

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

7. Maintenance

- Battery Replacement :

When the symbol "  " appears on the display, replace with new batteries as follows :

- (1) Disconnect the test leads from the instrument and turn off the power.
- (2) Use a screwdriver to unscrew the screws on back cover then slide the cover, take out the batteries and replace with new batteries type "AA".
- (3) Place back cover and secure bay 2 screws.

- Cleaning And Storage :

 **WARNING**

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

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 periods of longer than 60 days, remove the batteries and store them separately.

Due to our policy of constant improvement and development, we reserve the right to change specifications without notice.