



MT 800

OWNER'S MANUAL

INTRODUCTION

Your new multimeter is designed to measure AC and DC voltage, DC current, and resistance with accuracy and ease. It can also be used as a battery tester. One AA cell (1.5V) provides power for resistance measurement.

The meter circuit incorporates a fuse to protect the delicate meter movement and other internal parts in case of inadvertent overload or improper function selection.

26" (65cm) well insulated test leads with plugs result in firm, safe connections.

SPECIFICATIONS

Ranges:

DC Voltage (2000 ohms/v)	2.5v, 10v, 50v, 250v, 500v
AC Voltage (2000 ohms/v)	10v, 50v, 250v, 500v
DC Current	500uA, 10mA, 250mA
Resistance	2k ohms, 200k ohms (center scale 3.6)

Battery Test

Accuracy	1.5v, 9v ±5% of full scale value on DC ranges ±5% of full scale value on AC ranges ±5% of full scale-length on ohms
----------	--

Sensitivity

AC/DC voltage 2,000 ohms/volt

Battery

Size

Weight

Accessory

one 1.5v AA cell
10x6.4x3.5cm (HWD)
125g
Tip jack style leads
(red/black)

-1-

CONTROLS AND FUNCTIONS

- 1) OHMS scale
- 2) AC-V/DC-V/DC mA scale
- 3) AC 10v scale
- 4) Battery test scale
- 5) OHMS ADJUST
- 6) Refer to instructions
- 7) 500 AC/DC 250mA MAX
(for red lead)
- 8) Range switch
- 9) Black test lead

WARNING: USE EXTREME CAUTION IN THE USE OF THIS ADVICE. FOLLOW ALL SAFEGUARDS SUGGESTED IN THE OWNER'S MANUAL IN ADDITION TO NORMAL SAFETY PRECAUTIONS IN DEALING THIS DEVICE IF YOU ARE UNFAMILIAR WITH ELECTRICAL CIRCUITS. DO NOT USE THIS DEVICE IF YOU ARE UNFAMILIAR WITH ELECTRICAL CIRCUITS AND TESTING PROCEDURES.

TIPS FOR USING YOUR MULTITESTER

Your Multimeter is designed with a precision meter. when using this tester, pay particular attention to polarities and check positive and negative points. The red lead connects to positive points and the black lead to negative.

If you are checking unknown voltage and currents, use highest range first then next lower range, and so on until readings can be obtained. For most accurate readings, keep the meter lying flat.

Also, use a range setting that results in a reading in the upper third of the meter scale.

For most accurate readings, keep the meter lying flat.

Also, use a range setting that results in a reading in the upper third of the meter scale.

-2-

For exact readings, look at the scale from the point where the pointer and its reflection on the mirror come together; otherwise a reading error may result due to parallax.

TEST LEADS

Use only the same type test leads as are supplied with your unit. These test leads are rated for 1,000 volts.

BATTERY INSTALLATION

A battery is required for resistance measurements. To install, use a phillips screwdriver to remove eye screw on the back cabinet. Pull apart the front and back cabinets. Insert one AA battery (not supplied) in the battery compartment observing correct polarity. Never leave a weak or dead battery in your unit. Even, leak-proof, types may lead damaging chemicals. Remove the battery when you don't intend to use your unit for more than a week.

TO AVOID ELECTRIC SHOCK, DISCONNECT MEASURING TERMINALS BEFORE INSTALLING OR REMOVING BATTERY. OPEN CABINET ONLY WHEN REPLACING BATTERY, DO NOT TOUCH ANY INSIDE AREA OTHER THAN THE BATTERY.

OPERATION

CAUTION: THE MAXIMUM INPUT LIMIT FOR VOLTAGE AND CURRENT MEASUREMENTS BETWEEN '+' AND '-' IS 500V AC, 500V DC AND 250 mA DC.

DC/AC VOLTAGE MEASUREMENTS

WARNING: USE EXTREME CARE WHEN MAKING MEASUREMENTS FOR HIGH VOLTAGE; DO NOT TOUCH TERMINALS OR PROBE ENDS.

1. Plug the test leads into the correct jacks. (black into '-' and red into '+')
2. Set range switch to one of the DCV/ACV positions; it is best to start at the top and work down, if you are not certain about the voltage level, start with 500V range.
3. Touch the test probe tips to the circuit under test; be sure to observe correct polarity.
4. Read the voltage on the black DC/AC scales. For AC 10V, read the red AC 10V scale.

DC CURRENT MEASUREMENTS

WARNING: DO NOT APPLY VOLTAGE TO MEASURING TERMINALS WHILE RANGE SWITCH IS IN CURRENT POSITION.

1. Plug the test leads into the correct jacks.
2. If you are not certain about the current level, start with 250 mA range.
3. Open up the circuit in which you want to measure current and connect the black lead to the negative side and the red lead to the positive side of the circuit.
4. Apply power to the circuit under test and read the current on the black DC scale.

RESISTANCE MEASUREMENTS

Install one (AA) battery for resistance measurements

WARNING: DO NOT APPLY VOLTAGE TO MEASURING TERMINAL WHILE RANGE SWITCH IS IN OHMS POSITION.

1. Plug the test leads into the '-' and '+' jacks.
2. set range switch to the OHM position (Rx10 or Rx1k ohms) touch the test probe tips together and adjust the OHMS ADJHST control to bring the pointer to the '0' on the top (green) OHMS scale.
3. Now, touch the probe tips across the circuit or the part under test.
4. Read the resistance on the green OHMS scale.

NOTES when you are unable to adjust the pointer to '0' on the OHMS scale. the battery must be replaced.

NOTE FOR TESTING SEMICONDUCTOR JUNCTIONS:

When attempting to identify cathode and anode ends or the type of transistor (PNP) or (NPN). the actual polarity of tester's voltage is opposite of the lead colors. The red lead is the negative source. The black lead is positive.

CAUTION: ALWAYS DISCONNECT TEST LEADS BEFORE REPLACING BATTERY.

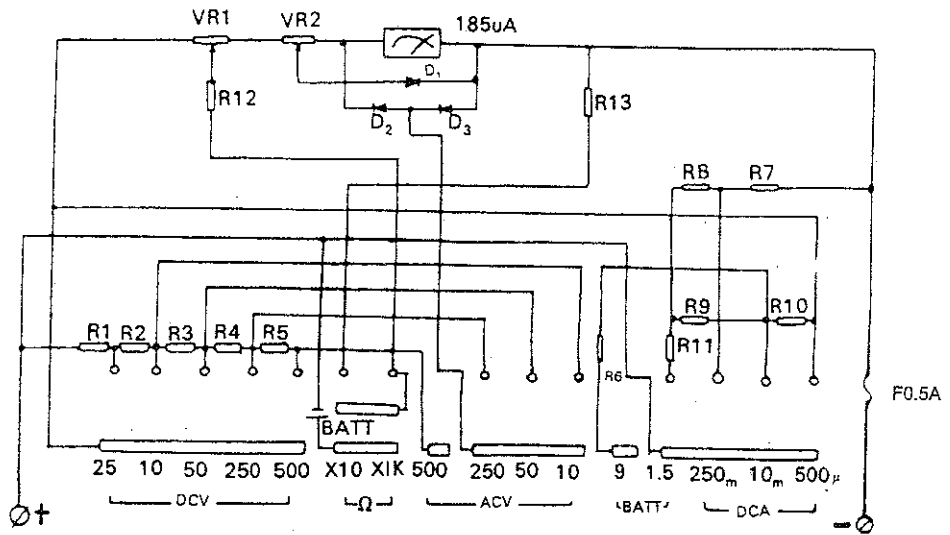
REPLACEMENT OF FUSE

WARNING: TO AVOID ELECTRIC SHOCK, DISCONNECT MEASURING TERMINALS BEFORE REMOVING FUSE. CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE, REPLACE ONLY WITH 0.3A, 250V FUSE.

1. Use a phillips screwdriver to remove the screw on the back cabinet. Pull apart the front and back cabinets.
2. Replace the fuse with a new fuse of the same type / rating (0.3A, 250V)
3. Do not touch any inside area other than the fuse.

TIPS FOR BEST HANDLING

1. Always observe correct polarity: red lead to positive and black lead to negative terminal.
2. When checking unknown voltages. use the highest range first and gradually decrease until readings are obtained.
3. For exact readings, look at the scale from the point where the pointer and its reflection in the mirror come together; otherwise a readinter error due to parallax will result.



- | | |
|-----------|----------------|
| R1. 4.4K | R9. 46 Ω |
| R2. 15K | R10. 950 Ω |
| R3. 80K | R11. 9 Ω |
| R4. 400K | R12. 3K |
| R5. 500K | R13. 36 Ω |
| R6. 1.14K | D1, D3. IN4148 |
| R7. 2 Ω | D2. IN60P |
| R8. 2 Ω | |