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WARNING

THIS TESTER HAS BEEN DESIGNED WITH YOU SAFETY IN MIND. HOWEVER, NO DESIGN CAN COMPLETELY PROTECT AGAINST INCORRECT USE. ELECTRICAL CIRCUIT CAN BE DANGEROUS AND LETHAL WHEN LACK OF CAUTION OR POOR SAFETY PRACTICES ARE USED.

1 DESCRIPTION

This sensitive multi-tester is designed to measure AC and DC voltage, DC current, Resistance, Battery condition, Temperature(Using the optional temperature probe) and Transistor good/no good testing with accuracy and ease.
The single knob function control is easy to use and read. Ideal for use where measurements must not load the circuit being tested, this meter features suitable sensitivities for this purpose. An "OFF" position is provided for meter protection during transit.

2 SAFETY

This meter has been designed for safe operation, but the operator must use caution in its use. The maximum input limit for voltage and current measurement between ⊕ V, Ω, A and ⊖ COM is 1000V AC, 1000V DC and 300mA DC. Use extreme caution when working with high voltages. Never connect the meter to a test point that has voltage on it when the meter is in the current or resistance function.
Always turn off power and disconnect the test leads before opening the back to replace the fuse or battery. When replacing fuses, use only specified type fuse and insert in correct fuse holder.

3 SPECIFICATIONS

FUNCTIONS		RANGES	ACCURACY	SENSITIVITY
OFF		Meter movement	Short Circuited	
DC Volts (DC V)		0.6/3/12/60/300/1000V	±3% of full Scale	30KΩ/V
AC Volts (AC V)		12/30/120/300/1000V	±4% of full Scale	10KΩ/V
DC Current (DC A)		120μ/3m/30m/300mA 10A(on Seperate Jack)	±3% of full Scale	
Maximum Resistance (OHMS)		5K/500K/5M/50M	3° arc	
Decibels (dB)		10 to +62 on all AC V ranges.		
Battery test (BAT)		1.5V AA : 27mA internal loading current 9V : 27mA internal loading current		
Temperature	Low	60°F to +150°F (−50°C to +65°C)		Using optional Probe
	High	+150°F to +500°F (+65°C to +260°C)		

- Meter movement : 5"(130mm), 3 colors, mirrored scale, 25μA movement.
- Operating Temperature : 18 to 25°C for rated accuracy
- Batteries : ② 1.5V "AA" and ① 9V BATTERY
- Fuse : 0.5A, 250V (5φ × 20mm)
- Weight : 0.93 lb
- Size : 6 9/10" × 4 4/5" × 1 9/10"

• Accessories : Instruction Manual,
Test Leads(one pair banana plug type & alligator clip), spare fuse(internal).
• Option item : Carrying case, Temperature Probe.

4 PREPARING FOR OPERATION

1) Installing the Battery

WARNING

TO AVOID ELECTRIC SHOCK, DISCONNECT THE TEST LEADS FROM ANY SOURCE OF VOLTAGE BEFORE REMOVING THE BACK OF THE METER. AND DO NOT OPERATE YOUR METER UNTIL THE COVER IS IN PLACE AND FASTENED DOWN.

① Disconnect the test leads.
② Open the back of the cabinet by loosening the screws.
③ Insert the battery into the compartment, observing correct polarity.

2) Preliminary Adjustments Controls and Jacks (FIG. 1.)
Insert the black test leads banana plug into the −Jack, and the red test leads banana plug into the + Jack. If the dial pointer does not normally rest exactly over the "∞" at the left side of the scale, adjust the plastic screw in the lower center of the meter face to bring the pointer to "∞". When you can't adjust the pointer to "0" on OHMS range, it's time for new batteries. Please replace the batteries with new one. Never leave a weak or dead batteries in your meter. It may leak a damaging chemical (even "leak-proof" type). Also, if you're not going to use your unit for a week or more, remove batteries.

3) Function Switch Description : (Fig. 1.)
① 0Ω CAL. SWITCH : Used to set the dial pointer to "0" on the ohms scale when the switch is pushed for checking calibration.
② TRANSISTOR TESTING SOCKETS : Insert the transistor to be tested for transistor type and quality.
③ COM JACK(−) : Plug-in connection for the black(negative) test lead for all measurement.
④ MECHANICAL ADJUST : Used to set the dial pointer to "∞" on the left side of the scale when the meter is in the "OFF" mode.
⑤ OHMS ADJUST CONTROL : Use to set the dial pointer to "0" on the ohms scale when the two test leads are shorted together.
⑥ RANGE SELECT SWITCH : Used to select the type of measurement and the range.
⑦ DC 10A JACK(+) : Plug-in connection for the red(positive) test lead only for DC 10A measurement.
⑧ V, Ω, A JACK(+) : Plug-in connection for the red(positive) test lead for all measurements except DC 10A measurement.

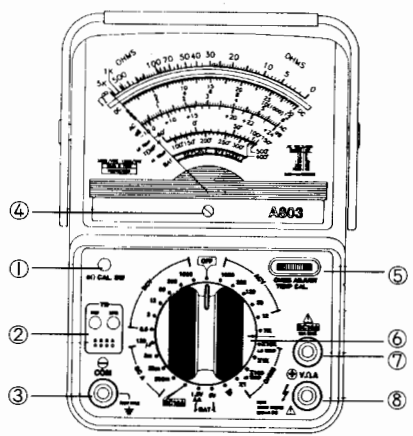


FIG. 1. FRONT PANEL IDENTIFICATION

4) General Operating Instructions
For most accurate readings, Keep the meter laying flat on a non-metallic surface. Also use a range selecting that results in a reading in the upper 1/3 of the meter scale. When you are not using the meter or are transporting it, place the function selector in the "OFF" position. This will protect the meter from accidental damage.
This meter features a mirror to help eliminate parallax errors from reading.

5 DC VOLTAGE MEASUREMENTS

WARNING

USE EXTREME CARE WHEN MAKING MEASUREMENTS FOR HIGH VOLTAGE, AND DO NOT TOUCH TERMINAL OR PROBE ENDS.

1. Plug the test leads into the correct jacks.(Black into ⊖COM and Red into ⊕V, Ω , A)
2. Set range switch to one of the DC V ranges. ; it is best to start at the highest range and work down.
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 scale.

6 AC VOLTAGE MEASUREMENTS

WARNING

USE EXTREME CARE WHEN MAKING MEASUREMENTS FOR HIGH VOLTAGE, AND DO NOT TOUCH TERMINAL OR PROBE ENDS.

(1) Plug the test leads into the correct jacks.(Black into ⊖COM and Red into ⊕V, Ω, A)
(2) Set range switch to one fo the AC V ranges.; it is best to start at the highest range and work down.
(3) Touch the test probe tips to the circuit under test.
(4) Read the voltage on the red AC scale.

7 RESISTANCE MEASUREMENTS

WARNING

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

Before taking any resistance measurements, please disconnect any power source from the circuit under test and discharge capacitors. It is best to remove batteries and unplug line cords.
(1) Plug the test leads into the ⊖COM and ⊕V, Ω, A jacks.
(2) Set range switch to one of the OHMS positions. ; Touch the test probe tips together or push the 0Ω CAL. SW and adjust the OHMS ADJUST CONTROL to bring the pointer "0" at OHMS scale(Green).

WARNING

TO AVOID ELECTRIC SHOCK, DISCONNECT MEASURING TERMINALS BEFORE REMOVING BATTERY. REPLACE ONLY WITH SAME TYPE BATTERY. OPEN CABINET ONLY WHEN REPLACING BATTERY DO NOT TOUCH ANY INSIDE AREA OTHER THAN BATTERIES.

③ Now, connect the probe tips across the circuit or part under test.
④ Read the resistance on the green OHMS scale.; Use the proper multiplier to obtain the correct value (R×1, 100, 1K or 10K depending on the position of the range switch).

NOTE

When you are unable to adjust the pointer to "0" on the OHMS scale in the R×1, R×100 or R×1K position, the 1.5V battery must be replaced. If you are unable to adjust the pointer to "0" on the OHMS scale in R×10K position, replace the 9-volt battery. When measuring resistance, it is best to disconnect one side of the part under testing(because the remainder of the circuit will not interfere with the readings)

8 DC CURRENT MEASUREMENTS

WARNING

DO NOT APPLY VOLTAGE TO THE MEASURING TERMINALS WHILE THE RANGE SWITCH IS IN CURRENT POSITION. DO NOT ATTEMPT TO MEASURE AC CURRENT.

① Plug the test leads into the correct jacks.
② Set the range switch to the DC 300mA position.
Always start at the highest range and work down. If you're uncertain about the level of the current, start with the 10A range as noted in step 5.
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 scales.
⑤ For current between 300mA and 10A, set range switch to 10A and plug the red test lead into the 10A jack.

9 DECIBEL MEASUREMENTS

① Plug the test leads into the correct jacks
② Set range switch to one of the ACV ranges.
③ For a range switch setting of 12 ACV, read dB directly on the dB scale.
For the other settings on the range switch, add the appropriate number of dB from the scale reading as noted on the chart at the lower right side on the meter face.
※ NOTE : For absolute dB measurements, circuit impedance must be 600 ohms.
0 dB = 1 milliwatt dissipated in a 600 ohm impedance(equivalent to 0.775 volt across 600 ohms)

10 TEMPERATURE MEASUREMENT(Please use option probe)

① Remove the standard leads from the meter.
② Set the range switch to the × 100(HI TEMP), or × 10K(LO TEMP)OHMS ranges.
③ Insert the banana plug of the black lead of the temperature test probe into the (−) jack. Touch the metal inside section of the(+) jack with the probe section and adjust the pointer "0" at OHMS scale(Green) using OHMS ADJUST(TEMP CAL SW).
④ Remove the probe section from the positive (+) jack and insert the banana plug from the red lead of the temperature test probe into the positive (+) jack.

⑤ Touch the tip of the temperature probe to the part whose temperature you wish to measure.
※ NOTE : Do not measure the temperature of metal parts when voltage is 30V AC/DC or higher. Do not measure temperatures over the maximum limit of 500° F
⑥ Keep the probe touching the part under test until the reading stabilizes.
⑦ Read the temperature on the TEMP scale.

11 BATTERY CHECK

① Set the range switch to the type of battery to be checked.
② Touch the red test probe tip to the + terminal of the battery and the black test probe tip to the - terminal of the battery.
③ Read the condition on the BAT scale. If the pointer is in the red "REPLACE" zone, the battery needs to be replaced. If the pointer is in the green "GOOD" zone, the battery is good. If the pointer is in the WHITE zone, the battery should be replaced soon, since very little power is remaining.

12 TRANSISTOR QUALITY & TYPE CHECK

① Set the range switch to the TR.
② Insert the transistor to be tested into the transistor's socket marked E, B, C.
③ Make sure the each leads of transistor are connected well with their respective socket positions.
④ Red LED flashed if the device is a good PNP type, Green LED flashes if the device is a good NPN type.
※ NOTE : If it is not a good transistor, both LEDS may or maynot flash.
If the transistor under test is open, both LEDS will flash.
Remove the transistor before using the meter for any other function

13 BUZZER OPERATION

WARNING

DISCONNECT POWER FROM ANY RESISTOR OR CIRCUIT TO BE MEASURED BEFORE MEASURING RESISTANCE AND OPERATING THE BUZZER.

The meter is provided with a self contained buzzer actuated by the internal battery. This function operates as a continuity open-short tester by means of audible signal. When the test leads are connected across any conductor or circuit which has resistance less than 100 ohms the buzzer generates audible signal, so you can make continuity check very easily and quickly without observing meter scale.
※ NOTE : Do not operate the buzzer continuously as this will wear out the battery.

14 MAINTENANCE

1) Care
A little precaution in handling and carring for your tester can pay big dividends in satisfaction. Treat your meter like you would a fine watch.
Avoid placing your meter on a bench where machine tools are used or severe vibration is encountered.
Do not place near the edge of a shelf or bench where it can easily be knocked off.
When possible, keep your tester in a place of moderate temperatures. Avoid places with extreme or severe temperature changes. When in use, don't take chances on overloading the meter. If in doubt as to the approximate reading, always start with the highest range.

Get in the habit of double checking the position of the switch before making a measurement. The meter can be burned out by applying voltage when the switch is set on the current or ohms range. If the meter has not been in use for a long period of time, rotating the switch in both direction several times will wipe the contacts for a good and clean connection. Turn the selector switch to "OFF" when the unit is to be carried. The meter is damped in this position to prevent wild swinging of the pointer.

2) Replacing the Battery

When the "0" cannot be set on the ohms scale, the battery should be replaced.
Follow the instructions for installing batteries. Dispose of the old battery properly.

3) Replacing the Fuse

WARNING

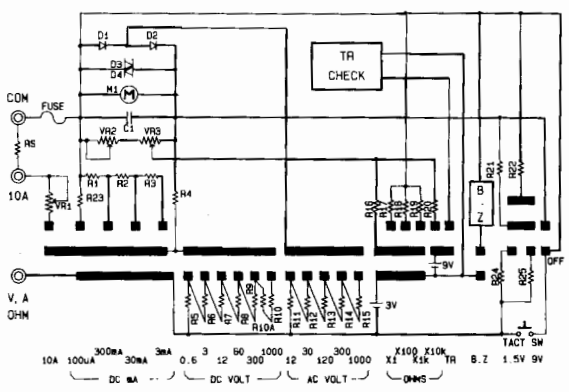
TO AVOID ELECTRIC SHOCK, DISCONNECT THE TEST LEADS FROM ANY SOURCE OF VOLTAGE BEFORE REMOVING THE BACK OF THE METER.

① Disconnect the test leads.
② Open the back of the cabinet by loosening the screw.
③ Remove the old fuse from its holder gently to prevent breaking it and install the new fuse into the holder.
※ NOTE : The fuse for your multi-tester is a 0.5A, 250V type, 5φ × 20mm.
A spare fuse is inside the case in a holder.
④ Replace the back cover and tighten the screw.

WARNING

DO NOT OPERATE YOUR METER UNTIL THE COVER IS IN PLACE AND FASTENED DOWN.

15 SCHEMATIC DIAGRAM



R1: 0.95
R2: 9
R3: 90
R4: 6.5K
R5: 10K
R6: 79K
R7: 295K
R8: 1.58M
R9: 7.8M
R10A: 14.5M
R10: 15M
R11: 167K
R12: 258K
R13: 1.28M
R14: 2.64M
R15: 13M
R16: 70.4K
R17: 29
R18: 3.1K
R19: 50K
R20: 295K
R21: 7K
R22: 10
R23: 3.3K
R24: 330
R25: 45
FUSE: 0.5A 250V

RS: 0.01
VR1: 5K
D1: 1N4148
D2: 1N60
D3: 1N4148
D4: 1N4148
M1: 4K 25uA
C1: 4.7nF
VR2: 30K
VR3: 10K
X100: HI TEMP
X10K: LO TEMP

MADE IN CHINA

MODEL
A803

INSTRUCTION MANUAL

30,000 OHMS/VOLT MULTITESTER
27 RANGES
BENCH TYPE

Electrocomponentes S.A.

B ORIGINAL

Factura Nº 0005-00039694

ELECTROCOMPONENTES S.A.
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Fecha y Hora: 22/06/06 - 14:27:50
C.U.I.T.: 30582605021
Ingresos Brutos: 901-916578-1
Inicio de Actividades: 07/03/00

A CONSUMIDOR FINAL

CANTIDAD	DESCRIPCION	PRECIO UNITARIO	ALICUOTA IVA	% BASE IVA	IMPORTE
1.0000	A803 MULTIMETRO DE AGUJA A803	72.0000	(10.50)		72.00

SON 1 HOJAS

HOJA Nº 1

TOTAL $ 72.00

Recibi(mos):

Cuenta Corriente $ 72.00

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