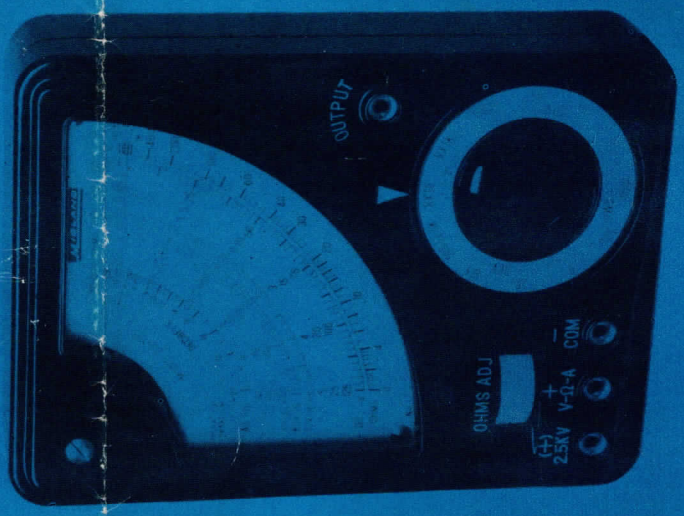
MIDLAND

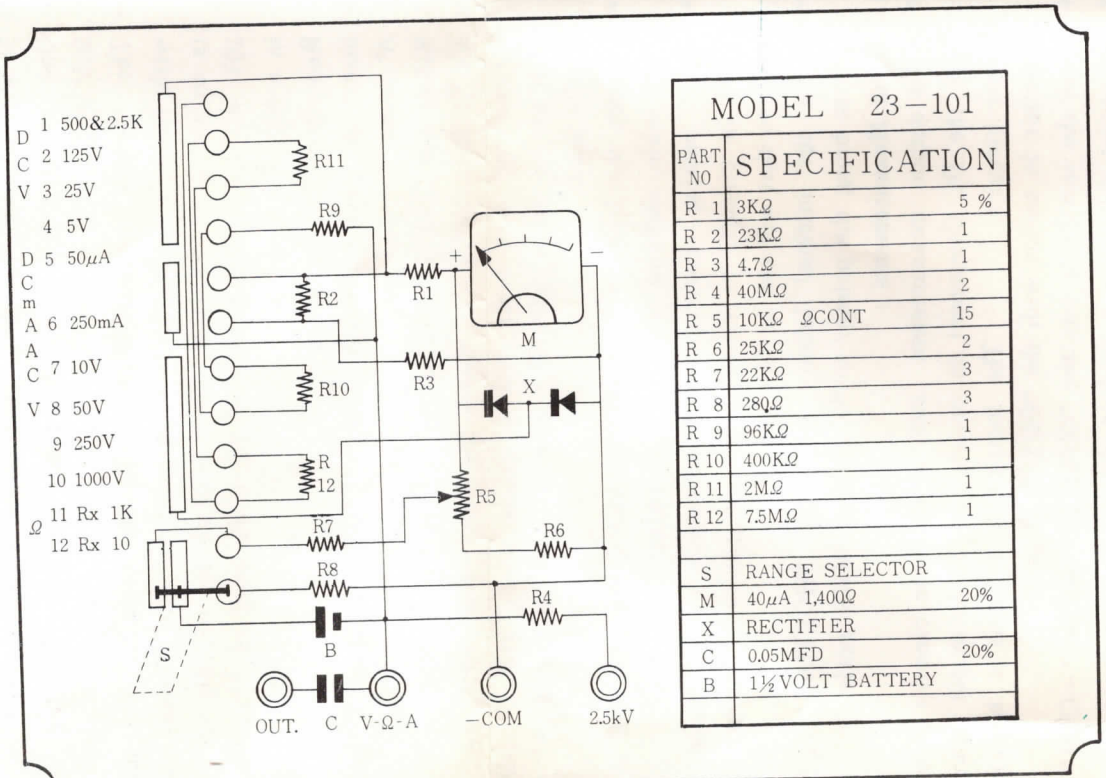
MODEL 23-101

VOLT-OHM-MILLIAMMETER



OPERATING INSTRUCTIONS

AC
1



MODEL 23−101		
PART NO	SPECIFICATION	
R 1	3KΩ	5 %
R 2	23KΩ	1
R 3	4.7Ω	1
R 4	40MΩ	2
R 5	10KΩ ΩCONT	15
R 6	25KΩ	2
R 7	22KΩ	3
R 8	28Ω	3
R 9	96KΩ	1
R 10	400KΩ	1
R 11	2MΩ	1
R 12	7.5MΩ	1
S	RANGE SELECTOR	
M	40μA 1,400Ω	20%
X	RECTIFIER	
C	0.05MFD	20%
B	1½ VOLT BATTERY	

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AA 1.5 VOLT BATTERY DURACELL

Ranges : DC Voltage : 5-25 125 500 and 2.5K (20,000 Ohms per Volt)
AC Voltage : 10 50 250 1000 Volts (10,000 Ohms per Volt)
DC Current : 0-50μA 0-250MA
Resistance : 0-60K, 0-6Mg
Decibels : −20 to +22 DB

How to use the instrument

1. **DC Voltage and Current :**

* Insert the BLACK test lead into the "−COM" jack and the RED test lead into the "V-OHM-A" jack.
* Select the range by turning the knob.
* For VOLTAGE measurements, the test leads are connected across the load under test. Current measurements, DC ONLY, are made with the test leads connected in series with the circuit under test. Observe the proper polarities of the test leads.
* If the voltage or the current of the circuit under test is not known, the selector knob should be set at a high range and lowered to obtain satisfactory readings. To measure, DC voltage in the 2500v range, insert the black lead in the "−COM" jack and the red lead in the "2.5KV" jack.
* TAKE EXTREME CARE WHEN MAKING MEASUREMENTS OF VOLTAGES AND CURRENTS IN HIGH TENSION CIRCUITS!

2. **AC Voltage and Decibels :**

* Insert the BLACK test lead into the "−COM" jack and the RED test lead into the "V-OHM-A" jack.
* Select the range by turning the knob to the "AC V" section.
* It will be noted that there are two AC voltage scales. One is used for the 10 AC range, and the other for over 50V AC.
* The Decibel measurements for audio circuits are made with the test leads in the same position. The Decibel scale is on the inner, graduated from −20 db to +22 db, for the 10V AC range, and calibrated for 0 db level of 1 milliwatt in a 600 ohm line.

3. **Resistance Measurements :**

* Insert the test leads into the "−COM" and the "V-OHM-A" jacks.
* Select the range by turning the knob to X10 or X1K.
* SHORTING TEST. Check the ZERO ohm setting by shorting the test leads and adjusting the "OHMS ADJ" knob at the lower left. The pointer is set to on the "0" on OHMS scale.
* Connect the leads across the resistor under test and read outer scale, applying the proper multiplier.
* When making resistance measurements of components wired in circuit, be certain that the power is turned off, and also that one end is free.
* Renew the internal battery when the SHORTING TEST fails to bring the pointer to "0" on the OHMS scale.

4. **Output Measurements :**

* Audio output measurement can be made on circuits where there the DC Component is present, as in the output transformer circuits. The instrument contains a blocking capacitor in series with the "OUTPUT" jack.
* Insert the test leads into the "OUTPUT" and the "−COM"
* The output voltages are read on the AC voltage ranges.