

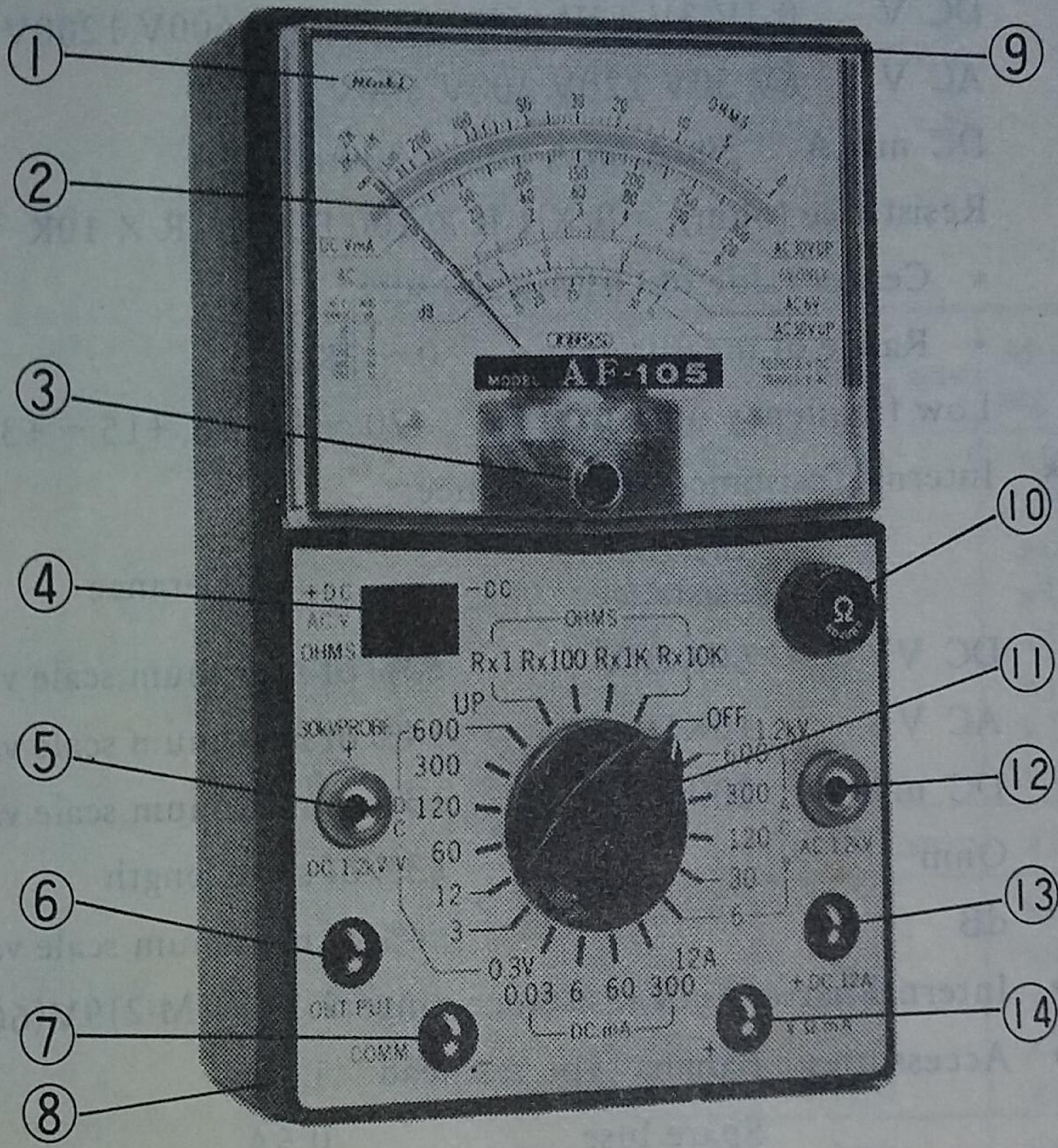
HIOKI ELECTRIC WORKS, LTD.

MODEL **AF-105**

NEW MULTITESTER

**OPERATOR'S
MANUAL**

2. IDENTIFICATION OF PARTS



- | | |
|----------------------------------|----------------------------|
| 1. Scale plate | 8. Case |
| 2. Indicating needle | 9. Meter cover |
| 3. Zero adjustor | 10. Zero ohm adjustor |
| 4. Polarity switch | 11. Range switch knob |
| 5. DC 1.2KV & 30KV plus terminal | 12. AC 1.2KV plus terminal |
| 6. Output terminal | 13. DC 12A plus terminal |
| 7. Minus Com. terminal | 14. Plus terminal |

★ Range of measurement:

DC V 0.3V 3V 12V 60V 120V 300V 600V 1200V

AC V 6V 30V 120V 300V 600V 1200V

DC mA, A 30 μ A 6mA 60mA 300mA 12A

Resistance (ohm) R X 1 R X 100 R X 1K R X 10K

* Center value of OHM scale: 30 Ω

* Range of measurement: 0 ~ 3K Ω

Low frequency output (dB) -20 ~ +17dB, +15 ~ +31dB

★ Internal resistance and tolerance:

	Internal resistance	Tolerance
DC V	50K Ω /V	$\pm 3\%$ of maximum scale value
AC V	10K Ω /V	$\pm 4\%$ of maximum scale value
DC mA	200mV	$\pm 3\%$ of maximum scale value
Ohm		$\pm 3\%$ of scale length
dB		$\pm 4\%$ of maximum scale value

★ Internal batteries of resistance range: 1.5V (UM-2) 9V (600P)

★ Accessories: Banana type test lead 1 set

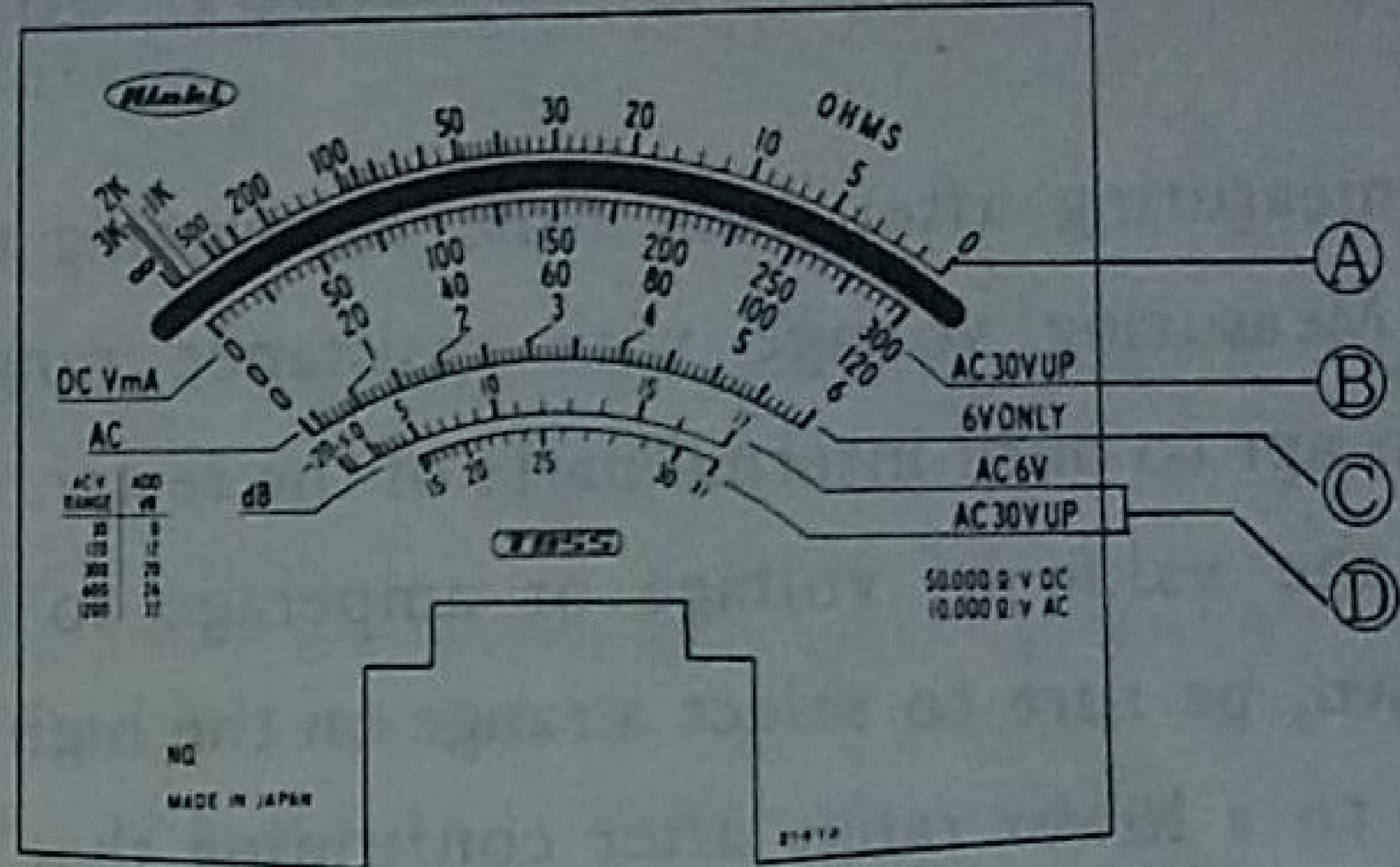
Spare fuse 0.5A

★ Others: * Meter protecting device using Fuse

* Polarity switch

★ Dimensions and weight:

163 (H) X 108 (W) X 67 (D) m/m · 480 g

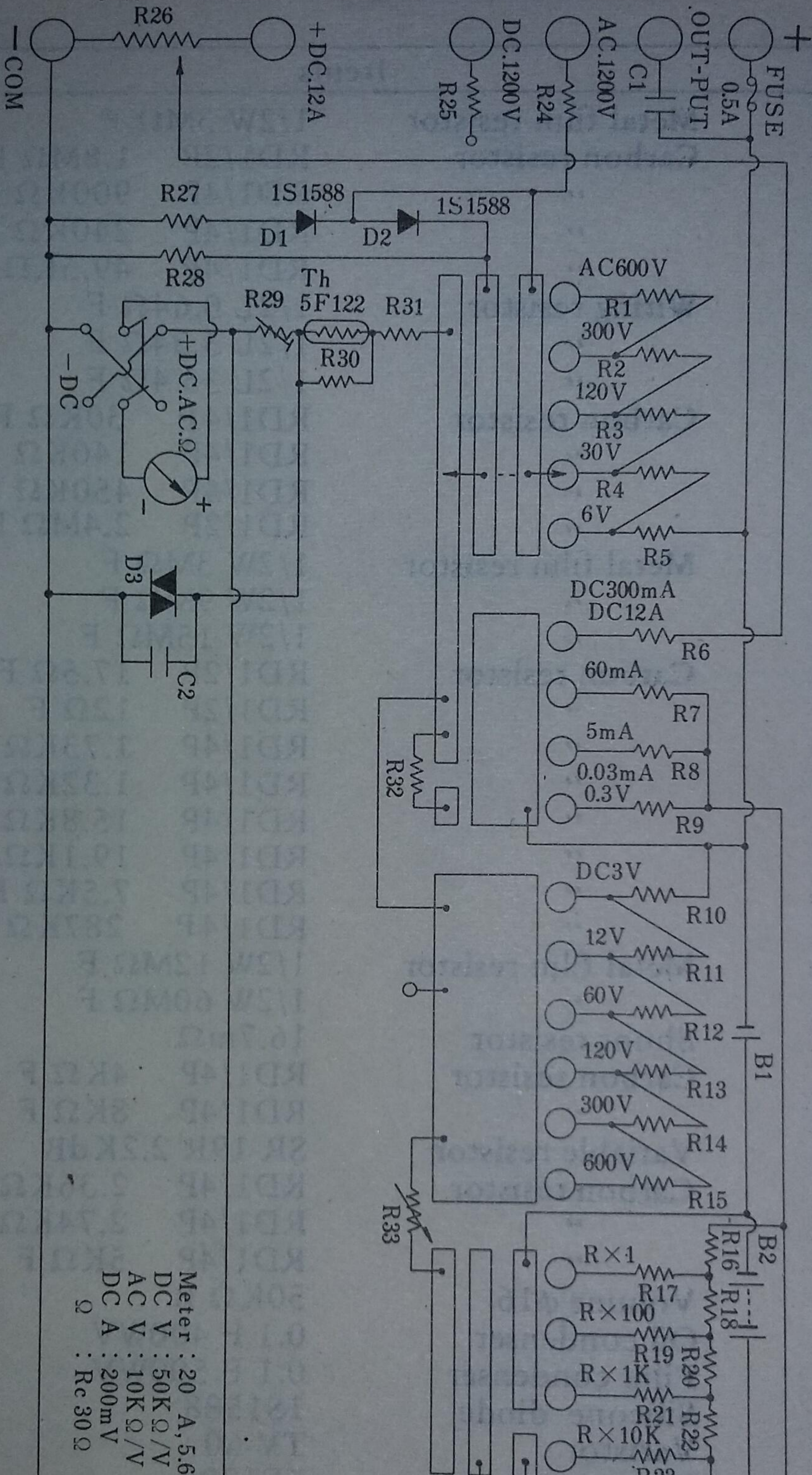


Scale section	Range to measure	Scale to use	Multiplying figure
B DC Voltage (DC V)	DC 0.3 [V]	300	x0.001
	3	300	x0.01
	12	120	x0.1
	60	6	x10
	120	120	x1
	300	300	x1
	600	6	x100
C AC Voltage (AC V)	AC 6 V	AC 6V only	x1
	AC 30 [V]	300	x0.1
	120	120	x1
	300	300	x1
	600	6	x100
B DC Amperage (DC μ A, mA, A)	1200	120	x10
	DC 30 μ A	300	x0.1
	6 mA	6	x1
	60 mA	6	x10
	300 mA	300	x1
A Resistance (OHMS)	12 A	120	x0.1
	R X $\frac{1}{5}$		x1
	R X 100		x100
	R X 1K		x1000
D Low frequency power (dB)	R X 10K		x10000
	AC 6 V	(+17)	x1
	30 V	(+31)	x1

AF-105 Multitester major parts list

Mark	Items	
R1	Metal film resistor	1/2W 3MΩ F
R2	Carbon resistor	RD1/2P 1.8MΩ F
R3	"	RD1/4P 900KΩ F
R4	"	RD1/4P 240KΩ F
R5	"	RD1/4P 49.5KΩ F
R6	Wiring resistor	1/2L 0.64Ω F
R7	"	1/2L 3.34Ω F
R8	"	1/2L 33.4Ω F
R9	Carbon resistor	RD1/4P 30KΩ F
R10	"	RD1/4P 140KΩ F
R11	"	RD1/4P 450KΩ F
R12	"	RD1/2P 2.4MΩ F
R13	Metal film resistor	1/2W 3MΩ F
R14	"	1/2W 9MΩ F
R15	"	1/2W 15MΩ F
R16	Carbon resistor	RD1/2P 17.5Ω F
R17	"	RD1/2P 12Ω F
R18	"	RD1/4P 1.73KΩ F
R19	"	RD1/4P 1.32KΩ F
R20	"	RD1/4P 15.8KΩ F
R21	"	RD1/4P 19.1KΩ F
R22	"	RD1/4P 7.5KΩ F
R23	"	RD1/4P 287KΩ F
R24	Metal film resistor	1/2W 12MΩ F
R25	"	1/2W 60MΩ F
R26	Shunt resistor	16.7mΩ
R27	Carbon resistor	RD1/4P 4KΩ F
R28	"	RD1/4P 8KΩ F
R29	Variable resistor	SR-19R 2.2K dB
R30	Carbon resistor	RD1/4P 2.36KΩ F
R31	"	RD1/4P 2.74KΩ F
R32	"	RD1/4P 5KΩ F
R33	Volume φ16	50KΩ B
C1	Oil condenser	0.1 F 400WV
C2	Film condenser	0.1 F 500WV
D1,2	Silicone diode	1S1588
D3	Varistor	TV-60
Th	Thermistor	5F122
F	Wire fuse	C-105 0.5A

AF-105 CIRCUIT DIAGRAM



Meter : 20 A, 5.6
 DC V : 50K Ω/V
 AC V : 10K Ω/V
 DC A : 200mV
 Ω : Rc 30 Ω