

# Analog Multimeters

Some applications still require a good old analog meter for instant measurement.



117B

## Model 117B Pocket-Sized Multimeter

- Compact size
- Measures DC voltage
- Measures AC voltage
- Measures DC current
- Measures resistance
- Measures decibels
- 9V & 1.5V battery test



114A

## Model 114A 20,000 Ohms/Volt Multimeter

- 20,000 ohms/volt DC
- 28 ranges
- 3 1/2" mirrored scale
- Tests batteries under load
- Tests Transistors
- Includes batteries and test leads

## Specifications

	114A	models 117B
<b>DC VOLTS</b>		
Ranges	0-300mV, 3V, 12V, 30V, 120V, 300V, 1200V	0-10V, 50V, 250V, 500V
Accuracy	±(3%rdg), full scale	±(5%rdg), full scale
Sensitivity	20000Ω/V	2000Ω/V
<b>AC VOLTS</b>		
Ranges	0-6V, 30V, 120V, 300V, 1200V	0-10V, 50V, 250V, 500V
Sensitivity	8000Ω/V	2000Ω/V
Accuracy	±(4%rdg), full scale @50/60Hz	±(5%rdg), full scale
Frequency response	(+1dB): 6 V range: 40 Hz to 100 kHz. 30 V range: 40 Hz to 50 kHz 120 V range: 40 Hz to 10 kHz. 300 V range: 40 Hz to 5 kHz 1200 V range: 40 Hz to 1 kHz	
<b>DC CURRENT</b>		
Ranges	0.6μA, 3mA, 30mA, 300mA, 12A	0-0.5mA, 50mA, 250mA
Accuracy	±(3%rdg), full scale	±(4%rdg), full scale
Burden Voltage	Less than 500mV	
<b>RESISTANCE</b>		
Ranges	R X 10, 0 to 20 kΩ, mid scale 200Ω R X 1k, 0 to 2 MΩ, mid scale 20 kΩ R X 10k, 0 to 20 MΩ, mid scale 200 kΩ	0-10kΩ/1MΩ
Resolutions		
Maximum Open		
Circuit Voltage	R X 1, X 10, X 1k ranges: 3V, R X 10k range: 12 V	
Maximum Short		
Circuit Current	R X 1 range: 150 mA R X 10 range: 15 mA, R X 1k range: 200 μA, R X 10K range: 100 μA	
Accuracy	±3% of scale arc	±5% arc of scale length
Open circuit voltage	approx. 0.3VDC	approx. 0.3VDC
Overload protection	500V DC + AC Peak	500V DC + AC Peak
<b>dB Measurement</b>	(dB scale)	
Range	-10 dB to +17 dB on 6 V AC range +4 dB to +31 dB on 30 V AC range +16 dB to 43 dB on 120 V AC range +24 dB to 51 dB on 300 V AC range +36 dB on +63 dB on 1200 V AC range	4 dB to +56 dB on ACV range
0 dB Reference	1 mW across 600Ω	1 mW across 600Ω
<b>Battery Test</b>	good-bad scale	good-bad scale
Range	1.5 V range for battery test only	1.5V and 9V
Load	7.5 ohms	
Battery Drain	200 mA	1.5V: 100mA, 9V:20mA
<b>TRANSISTOR LEAKAGE TEST</b>		
Ranges	0 to 150 μA on RX 1k range 0 to 15 mA on RX 10 range, 0 to 150 mA on RX 1 range	
Accuracy	±5% of scale arc	
Maximum Applied Voltage	3 V, voltage measured on LV scale	
<b>TRANSISTOR GAIN MEASUREMENT</b>		
Range	0 to 1,000 measured on hFE scale with range switch set to R X 10	
Accuracy	+3% of scale arc	
Display	Jeweled pivots movement, 60 μA full scale	3 color mirror scale, 180μA
Polarity	+ or -, polarity reversal switch	
Operating Temperature	32° to 104°F (0 to 40°C)	
Storage Temperature	-4° to 140°F (-20° to + 60°C), <70% R.H, battery removed	
Power	Batteries: One 9 V	Two 1.5 V AA
Battery Life	200 hours typical (alkaline)	
Dimensions (HxWxD)	5.79 x 3.9 x 1.38" (147 x 99 x 35 mm)	3.5 x 2.38 x 1.19" (89 x 60 x 30mm)
Weight	11 oz. (308 g) with batteries	11 oz.(300 g)

## Accessories

**One Year Warranty**

SUPPLIED: Batteries, Test leads, 1 red and 1 black, Transistor test leads, Instruction manual (Model 114A)  
1.5V AA Batteries, Test leads, Instruction manual (Model 117B)