

TEST INSTRUMENT REPORT

Although designed for simplicity and portability, this instrument covers 27 ranges for ac and dc voltage, ac and dc current and resistance measurements

Hickok's 3300 Digital Multimeter

by Phillip Dahlen

■ With recent developments in electronics, many test instrument manufacturers are turning from galvanometer movements to digital meter design. These instruments first appeared in sophisticated laboratories, but units are now beginning to appear on the market that are in the price range of the average electronic technician. This instrument is priced at \$395.00.

This digital multimeter is designed to operate from either its internal, rechargeable battery pack or a 115/230v, 50 to 400Hz ac power source. Specifications indicate that when the batteries are charged the instrument can operate up to 24 hours, whether operated continuously or intermittently. The recharging time is said to be 16 hours or less, depending on the state of the batteries.

The front panel is color coded for ease of operation. The battery check is blue, the voltage settings are red, resistances are green and the current settings are yellow.

The probes are also color coded to eliminate the need to trace the leads to the front panel to distinguish them. The black alligator clip is the common lead, the red probe is for dc voltages, and the black probe is for all other measurements. High dc voltage measurements, over 1500v, must be made through the 10kv jack, and must be made with a special high-voltage probe. No measurements over 1000vac RMS may be taken.

Specifications indicate that ac measurements should be limited to those at frequencies between 22Hz and 100kHz. They also indicate that the instrument is designed to accept large ac voltages across its input terminals and still give an accurate

indication of dc voltages present—for example, a 60dB rejection of 60Hz interference.

Other manufacturer specifications are as follows:

AC and DC Volts:

Range	Reading	Resolution
100mv	0 to 199.9mv	100 μ v
1v	0 to 1.999v	1mv
10v	0 to 19.99v	10mv
100v	0 to 199.9v	100mv
1kv	0 to 1.500kv	1v
10kv dc probe	0 to 15.00kv	10v

AC and DC Current:

Range	Reading	Resolution
1ma	0 to 1.999ma	1 μ a
10ma	0 to 19.99ma	10 μ a
100ma	0 to 199.9ma	100 μ a
1a	0 to 1.999a	1ma

Resistance:

Range	Reading	Resolution	Polarity		Current
			Common	Probe	
100 Ω	0 to 110.0 Ω	0.1 Ω	—	+	250 μ a
1K	0 to 1.100K	1.0 Ω	—	+	25 μ a
10K	0 to 11.00K	10 Ω	—	+	2.5 μ a
100K	0 to 110.0K	100 Ω	—	+	0.25 μ a
1M	0 to 1.999M	1K	+	—	250 μ a
10M	0 to 19.99M	10K	+	—	25 μ a
100M	0 to 199.9M	100K	+	—	2.5 μ a

Maximum open circuit voltage: 2.5v.

Overload Protection:

AC Volts
250v on 100mv range
1000v on all other ranges

DC Volts
1000v on 100mv range
150v on all other ranges

Resistance
100v on 100mv range
250v on all other ranges

Current
10 times full scale on all ranges

Operating Temperature Range: 32° to 122°F

Input Impedance at Probe Tip

DC: 11M/5pf, including 1M isolation resistor

AC: Infinite/200pf

Dimensions: 8 in. by 5 $\frac{1}{2}$ in. by 4 in.

Weight: 6 lb. ■

Hickok's
Model 3300
Digital Multimeter.
For more details
circle 900 on
Reader's Service Card.

