

IMPEDANCE



VECTOR IMPEDANCE METER

Quickly, easily measure Z & θ , 5 Hz to 500 kHz
Model 4800A

Advantages:

- Reads impedance and phase angle directly
- Easy to operate, no balancing or nulling
- Versatile, plug-in measuring terminals
- Reliable, solid-state circuits

The HP 4800A Vector Impedance Meter will make fast measurements of impedance to 10 megohms and phase to $\pm 90^\circ$ of unknown two-terminal networks. Measurement can be made at a particular frequency or over a continuous range from 5 Hz to 500 kHz. The instrument may be mechanically swept to produce continuous measurements over its full frequency range. Analog outputs of frequency, impedance, and phase are available for X-Y recording. The instrument provides the design engineer with an easy-to-use, one-instrument method for checking components and circuits.

Specifications

Frequency characteristics

Range: 5 Hz to 500 kHz in five bands: 5 to 50 Hz, 50 to 500 Hz, 0.5 to 5 kHz, 5 to 50 kHz, 50 to 500 kHz.

Accuracy: $\pm 2\%$ from 50 Hz to 500 kHz, $\pm 4\%$ from 5 to 50 Hz, $\pm 1\%$ at 15.92 on frequency dial from 159.2 Hz to 159.2 kHz, $\pm 2\%$ at 15.92 Hz.

Monitor output: level: .2 volt rms minimum; source impedance: 600 ohms nominal in series with 50 μ F.

Impedance measurement characteristics

Range: 1 ohm to 10 megohms in seven ranges: 10 ohms, 100 ohms, 1000 ohms, 10 k ohms, 100 k ohms, 1 megohm, 10 megohms full scale.

Accuracy: $\pm 5\%$ of reading.

Phase angle measurement characteristics

Range: 0° to $\pm 90^\circ$; **Accuracy:** $\pm 6^\circ$; **Calibration:** increments of 5° .

Direct inductance measurement capabilities

Range: 1 μ H to 100,000 H, direct reading at decade multiples of 15.92 Hz.

Accuracy: $\pm 7\%$ of reading for Q greater than 10 from 159.2 Hz to 159.2 kHz; $\pm 8\%$ of reading for Q greater than 10 at 15.92 Hz.

Direct capacitance measurement capabilities

Range: 0.1 pF to 10,000 μ F, direct reading at decade multiples of 15.92 Hz.

Accuracy: $\pm 7\%$ of reading for D less than 0.1 from 159.2 Hz to 159.2 kHz, $\pm 8\%$ of reading for D less than 0.1 at 15.92 Hz.

Measuring Terminal Characteristics

Configuration: electrical: both terminals above ground, ground terminals provided for shielding convenience; mechanical: binding posts spaced $\frac{3}{4}$ " at centers.

Waveshape: sinusoidal.

External Oscillator Requirements: 0.9 V $\pm 20\%$ into 20 k ohms.

Recorder outputs:

Frequency: level, 0 to 1 volt nominal; source impedance, 0 to 1000 ohms nominal; proportional to frequency dial rotation.

Impedance: level, 0 to 1 volt nominal; source impedance, 1000 ohms nominal.

Phase angle: level, 0 to ± 9 volt nominal; source impedance, 1000 ohms nominal.

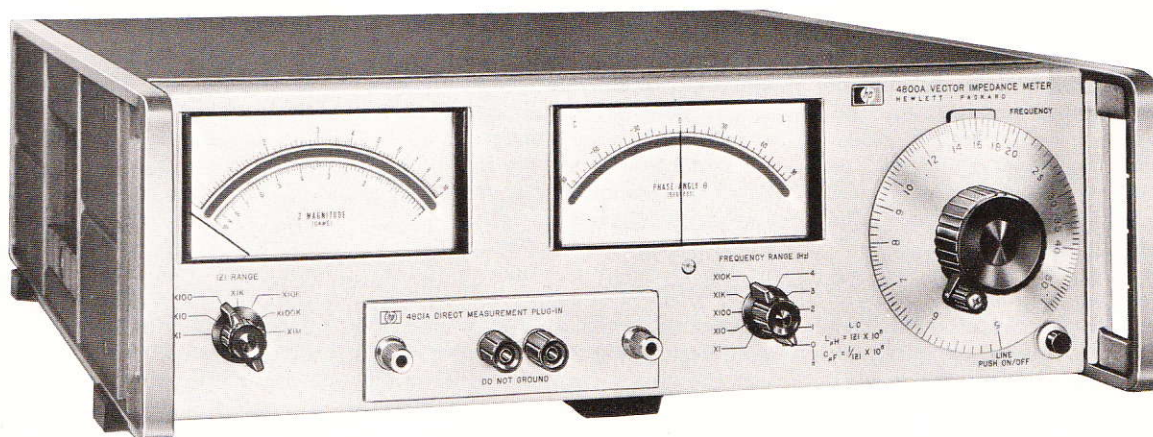
Accessories furnished: 13525A Calibration Resistor, 00610A Terminal Shield.

Dimensions: $16\frac{3}{4}$ " wide, $5\frac{1}{4}$ " high, $18\frac{3}{8}$ " deep (426 x 133 x 467 mm).

Weight: net 24 lbs (10.8 kg), shipping 30 lbs (13.5 kg).

Power: 105 to 125 V or 210 to 250 V, 50 to 400 Hz, 27 W.

Price: HP 4800A, \$1,650.



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