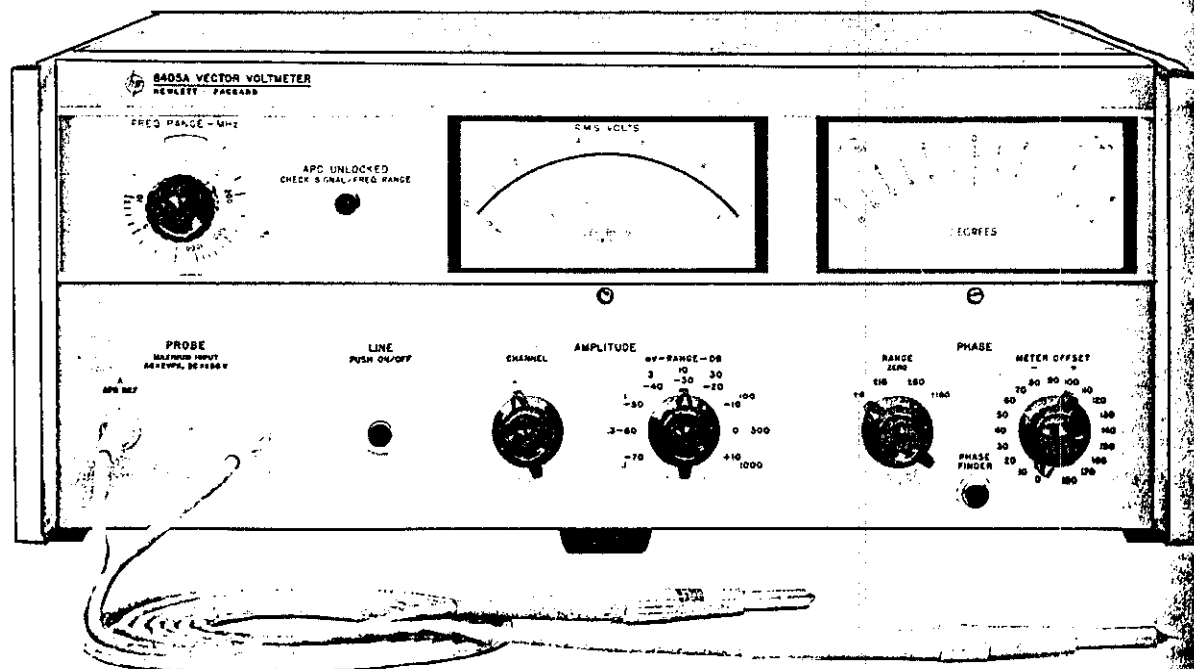


Hewlett Packard

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hp
Vector Voltmeter
Model 8405A

- Accurate voltage and phase measurement
- 1 to 1000 MHz



The 8405A Vector Voltmeter measures voltage vectors described by both magnitude and phase. This capability makes the 8405A a unique instrument for about any design and test application in the frequency range 1 to 1000 MHz.

In addition to absolute voltage measurements, capabilities include insertion loss and computed group delay of bandpass filters and other transmission devices, gain and phase margin of amplifiers, complex impedance of mixers, antennas, matching the electrical lengths of cables, s-parameters of transistors, amplitude modulation index, RF distortion measurements and in-circuit probing.

The 8405A achieves this measurement versatility through its two-channel capability enabling voltage magnitude measurements in either channel, thus allowing ratio measurements, and phase difference measurements between the two channels. Gain or loss in excess of 90 dB and phase measurements with 0.1° resolution over a 360° phase range are possible.

Accuracy is achieved through the 1 kHz bandwidth entailing response only to the fundamental frequency of the input signal. Also, phase-locked coherent sampling to translate 1 to 1000 MHz RF signals to 20 kHz IF signals enables accurate detection of voltage magnitude and phase. Automatic phase-locked tuning makes it possible to select the one of 21 overlapping octave ranges which contains the input signal frequency by simply rotating a switch.

Specifications

Frequency range: 1 MHz to 1 GHz in 21 overlapping octave bands; tuning automatic within each band.

Isolation between channels: 1 to 300 MHz, >100 dB; 300 to 1,000 MHz >80 dB.

Maximum input: ac, 2 V peak; dc, ±50 V.

Input impedance (nominal): 0.1 MΩ shunted by 2.5 pF; 1 MΩ shunted by 2 pF when 11576A 10:1 Divider is used; 0.1 MΩ shunted by 5 pF when 10216A Isolator is used. AC coupled.

Voltage Range (rms)

Channel	1 - 10 MHz	10 - 500 MHz	500 - 1000 MHz
A	1.5 mV - 1.0 V	300 μV - 1.0 V	500 μV - 1.0 V
B	<20 μV - 1.0 V	<20 μV - 1.0 V	<20 μV - 1.0 V

Voltmeter ranges: 100 μV to 1 V rms full scale in 10 dB steps.
Voltage ratio accuracy: 1-200 MHz, 0.2 dB for -60 to 0 dB ranges and 0.5 dB for -70 dB to +10 dB ranges; 200-1000 MHz, 0.2 dB for -60 to -10 dB ranges, 0.5 dB for -70 dB to 0 dB ranges and 1.5 dB for +10 dB range.

Phase range: 360° indicated on zero-center meter with end-of-range ranges of ±180°, ±60°, ±18°, and ±6°.

Phase resolution: 0.1° at any phase angle.

Phase meter offset: ±180° in 10° steps.

Phase accuracy: ±1.5° (equal voltage Channel A and B).

Accessories furnished: two 11576A 10:1 Dividers, two 10216A Isolators, two 10218A BNC Adapters, six ground clips for 11576A, 10216A; six replacement probe tips.

Bandwidth: 1 kHz.

Power: 115 or 230 V ±10%, 50 to 60 Hz, 35 W.

Weight: net, 13.9 kg (31 lb). Shipping, 16.3 kg (36 lb).

Size: 177 H x 425 W x 467 mm D (7.0" x 16.75" x 18.38").

11570A Accessory Kit

50 Ω Tee: 11536A: for monitoring signals on 50 Ω transmission lines without terminating line. Kit contains two with type N RF fittings.

50 Ω Power Splitter: 11549A: all connectors Type N female.

50 Ω Termination: 908A: for terminating 50 Ω coaxial systems to their characteristic impedance.

Shorting plug: 11512A: Shorting Plug, Type N male.

Ordering Information

8405A Vector Voltmeter

Opt 002: linear dB scale

11570A Accessory Kit (measurement in 50 Ω systems only)

Price
\$3,200
\$400

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