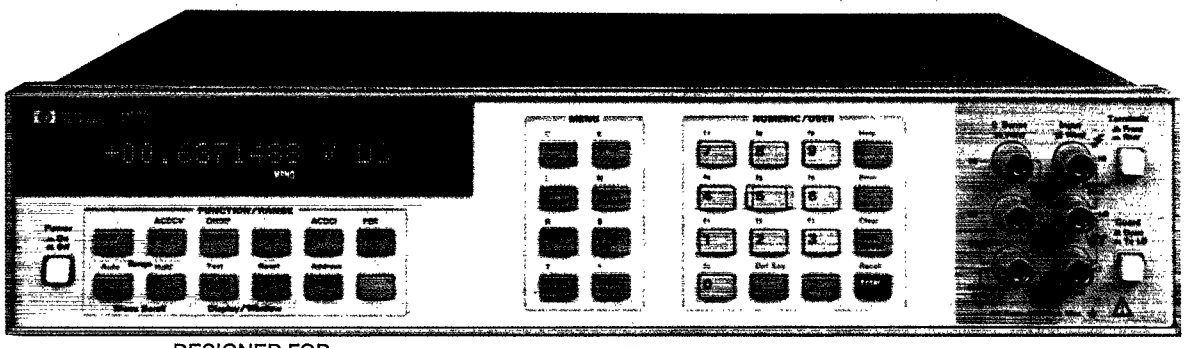
DIGITAL MULTIMETERS

A System Multimeter with Both High Speed and High Accuracy

HP 3458A



HP 3458A

DESIGNED FOR MATE SYSTEMS

DESIGNED FOR HP-IB SYSTEMS

The HP 3458A multimeter shatters longstanding performance barriers of speed and accuracy on the production test floor, in research and development, and in the calibration lab. The HP 3458A is the fastest, most flexible, and most accurate multimeter offered by Hewlett-Packard. In your system or on the bench, the HP 3458A saves you time and money with unprecedented test system throughput and accuracy, seven-function measurement flexibility, and low cost of ownership.

Select a rate of 100,000 readings per second for maximal test throughput. Or achieve highest levels of precision with up to 8½ digits of measurement resolution and 0.1 part per million transfer accuracy. Add to this programming compatibility through the Hewlett-Packard Multimeter Language (HPML) and the HP 3458A's simplicity of operation, and you have the ideal multimeter for your most demanding applications.

High-Test System Throughput

Faster Testing
- Up to 100,000 readings/s
- Internal test setups > 340/s
- Programmable integration times from 500 ns to 1 s

Greater Test Yield
- More accuracy for tighter test margins
- Up to 8½ digits resolution

Longer Uptime
- Two-source (10 V, 100 k Ω) calibration, including ac
- Self-adjusting, self-verifying autocalibration for all functions and ranges, including ac

High-Resolution Digitizing

Greater Waveform Resolution and Accuracy
- 16 to 24 bits resolution
- 100,000 to 0.2 samples/sec
- 12 MHz bandwidth
- Timing resolution to 10 ns
- Less than 100 ps time jitter
- Over 75,000 reading internal memory

Flexible Digitizing Software
- Powerful, easy-to-use analysis software for HP 9000 Series 200/300 computers or HP Vectra with measurement coprocessor
- Subprograms for waveform acquisition, data transfer, FFT, IFT, and data presentation

Calibration Lab Precision

Superb Transfer Measurements
- 8½ digits resolution
- 0.1 ppm dc volts linearity
- 0.1 ppm dc volts transfer capability
- 0.01 ppm rms internal noise

Extraordinary Accuracy
- 0.6 ppm for 24 hours in dc volts
- 2.2 ppm for 24 hours in ohms
- 100 ppm mid-band ac volts
- 8 ppm (4 ppm optional) per year voltage reference stability

HP 3458A Multimeter Performance Features

dc Volts
- 5 ranges: 0.1 V to 1000 V
- 8½ to 4½ digits resolution
- Up to 100,000 readings/s (4½ digits)
- Maximum sensitivity: 10 nV
- 0.6 ppm 24-hour accuracy
- 8 ppm (4 ppm optional)/year voltage reference stability

Ω
- 9 ranges: 10 Ω to 1 G Ω
- 2-wire and 4-wire Ω with offset compensation
- Up to 50,000 readings/s (5½ digits)
- Maximum sensitivity: 10 μΩ
- 2.2 ppm 24-hour accuracy

ac Volts
- 6 ranges: 10 mV to 1000 V
- 1 Hz to 10 MHz bandwidth
- Up to 50 readings/s with all readings to specified accuracy
- Choice of sampling or analog true rms techniques
- 100 ppm best accuracy

dc Current
- 8 ranges: 100 nA to 1 A
- Up to 1,350 readings/s (5½ digits)
- Maximum sensitivity: 1 pA
- 14 ppm 24-hour accuracy

ac Current
- 5 ranges: 100 μA to 1 A
- 10 Hz to 100 kHz bandwidth
- Up to 50 readings/s
- 500 ppm 24-hour accuracy

Frequency and Period
- Voltage or current ranges
- Frequency: 1 Hz to 10 MHz
- Period: 100 ns to 1 s
- 0.01 % accuracy
- ac or dc coupled