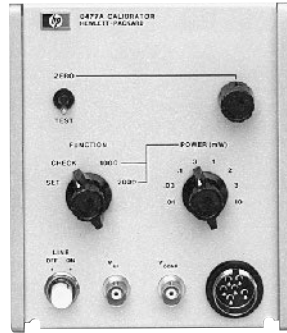


HP 432A
HP 8477A
HP 478A
HP 8478B
HP 486A
Series



HP 432A



HP 8477A



HP Thermistor Mounts

HP 432A Power Meter

- High accuracy—no thermoelectric error: High accuracy over a wide temperature range is featured on the HP 432A power meter. By measuring the output voltage of the thermistor bridges and computing the corresponding power, even higher accuracy of ± 0.2 percent $\pm 0.5 \mu\text{W}$ can be obtained. Accuracy can be maintained on even the most sensitive range because the error due to thermoelectric effect is reduced to a negligible level.
- Calibrated mounts: Each thermistor mount is furnished with data stating the calibration factor and effective efficiency at various frequencies across the operating range. For easy and accurate power measurements, the front panel of the HP 432A has a calibration-factor control, calibrated in one-percent steps from 88 percent to 100 percent, that compensates for losses in the mount and eliminates the need for calculation.
- Instrument type: Automatic, self-balancing power meter for use with temperature-compensated thermistor sensor.

Specifications (Partial)

Power Range: 7 ranges with full-scale readings of 10, 30, 100, and 300 μW , 1, 3, and 10 mW; also calibrated in dBm from -20 dBm to $+10$ dBm full scale in 5 dB steps

Noise: Less than 0.25% of full scale peak (typical)

Response Time: At recorder output, 35 ms time constant (typical)

Fine Zero: Automatic, operated by front-panel switch

Zero Carryover: Less than 0.50% of full scale when zeroed on most sensitive range

Meter: Taut-band suspension, individually calibrated, mirror-backed scales. Milliwatt scale more than 108 mm (4.25 in) long

Calibration Factor Control: 13-position switch normalizes meter reading to account for thermistor sensor calibration factor. Range 100% to 88% in 1% steps.

Thermistor Sensor: Thermistor sensors are required for operation of the HP 432A. For microwave sensors HP 478A, 8478B, and 486 series, see next column.

Recorder Output: Proportional to indicated power with 1 volt corresponding to full scale. 1 k Ω output impedance.

BCD Output: 8, 4, 2, 1 code: "1" positive. TTL compatible logic. Operates with HP 5150A, Option 002 (BCD) digital recorder.

Power Consumption: 115 or 230 Vac $\pm 10\%$, 50 to 400 Hz, 1.5 watts

Size: 130 mm W x 155 mm H x 279 mm D (5.2 in x 6.1 in x 11.0 in)

Weight: Net, 2.3 kg (5.5 lb); shipping, 4.6 kg (10 lb)

HP 8477A Power Meter Calibrator

The HP 8477A power meter calibrator is specifically designed for use with the HP 432A power meter. It allows you to verify full-scale meter readings on all ranges, and meter tracking. Simply connect three cables between the power meter and calibrator; no charts or additional instruments are required.

Power: 115 or 230 Vac $\pm 10\%$, 50 to 400 Hz, 3 watts

Temperature-Compensated Thermistor Mounts

High efficiency and good radio frequency (RF) match are characteristic of the HP 478A and 8478B coaxial and 486A series waveguide thermistor mounts. Used in conjunction with the HP 432A power meter, they provide high accuracy even in routine power measurements. These thermistor mounts are temperature compensated for low drift, even in the presence of thermal shocks, permitting measurement of microwave power as low as one microwatt. Each mount contains data showing calibration factor and effective efficiency at six frequencies, directly traceable to the U.S. National Institute Standards and Technology at those frequencies where NIST provides calibration service.

HP 486A, 478A, 8478B Specifications

HP model	Frequency range, GHz	Maximum SWR
478A	10 MHz to 10 GHz	1.75, 10 to 25 MHz 1.3, 25 MHz to 7 GHz 1.5, 7 to 10 GHz
8478B ¹	10 MHz to 18 GHz	1.75, 10 to 30 MHz 1.35, 30 to 100 MHz 1.1, 0.1 to 1 GHz 1.35, 1 to 12.4 GHz 1.6, 12.4 to 18 GHz
X486A	8.20 to 12.4	1.5
P486A	12.4 to 18.0	1.5
K486A	18.0 to 26.5	2.0
R486A	26.5 to 40.0	2.0

¹Option 011: Furnished with APC-7 RF connector

Ordering Information

HP 432A Power Meter

Opt 001 Rechargeable battery installed, provides up to 20 hours of continuous operation (HP 432A only)

Opt 002 Input connector placed on rear panel in parallel with front

Opt 003 Input connector on rear panel only

Opt 009 3.1 m (10 ft) Cable for 100 Ω or 200 Ω Sensor

Opt 010 6.1 m (20 ft) Cable for 100 Ω or 200 Ω Sensor

Opt 011 15.2 m (50 ft) Cable for 100 Ω or 200 Ω Sensor

Opt 012 30.5 m (100 ft) Cable for 100 Ω or 200 Ω Sensor

Opt 013 61 m (200 ft) Cable for 100 Ω or 200 Ω Sensor

Opt 100 100 Vac Operation, 48 to 66 Hz

Opt 910 Extra Operating and Service Manual

(HP432A: p/n 00432-90009)

Opt W30 Extended Repair Service (see page 71)

Opt W32 Calibration Service (see page 71)

HP 8477A Power Meter Calibrator

Opt W30 Extended Repair Service (see page 71)

Opt W32 Calibration Service (see page 71)

Indicates QuickShip availability.