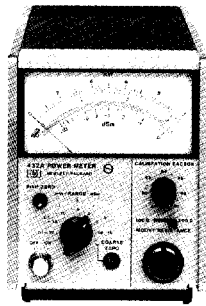
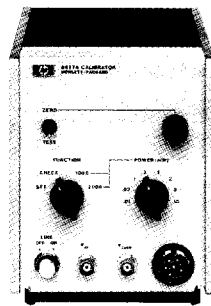


Thermistor Power Meters, Power Meter Calibrator, and Thermistor Mounts

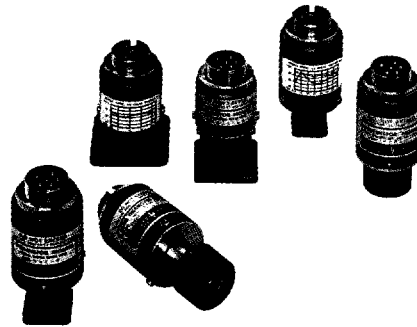
HP 432A/B, 8477A, 478A, 8478B, 486 Series



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 432 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 432 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/B. For microwave sensors HP 478B, 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, Opt 002 (BCD) digital recorder.

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

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

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

HP 8477A Power Meter Calibrator

The HP 8477A power meter calibrator is specifically designed for use with the HP 432 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 432 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 486, 478, 8478B Specifications

HP model	Frequency range, GHz	Maximum SWR	Price
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	\$775
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	\$975
X486A	8.20 to 12.4	1.5	\$1,600
P486A	12.4 to 18.0	1.5	\$1,600
K486A ²	18.0 to 26.5	2.0	\$1,600
R486A ²	26.5 to 40.0	2.0	\$1,600
¹ Opt 011: Furnished with APC-7 RF connector			+ \$25
² Circular flange adapters:			
K-band (UG-425/U) HP 11515A			\$495
R-band (UG-381/U) HP 11516A			\$495

Ordering Information

HP 432A Power Meter	Price
HP 432A Power Meter	\$3,365
Opt 001 Rechargeable battery installed, provides up to 20 hours of continuous operation (HP 432A only).	+ \$305
Opt 002 Input connector placed on rear panel in parallel with front	+ \$26
Opt 003 Input connector on rear panel only	+ \$26
Opt 009 3.1-m (10-ft) Cable for 110- Ω or 200- Ω Sensor	+ \$66
Opt 010 6.1-m (20-ft) Cable for 100- Ω or 200- Ω Sensor	+ \$102
Opt 011 15.2-m (50-ft) Cable for 100- Ω or 200- Ω Sensor	+ \$143
Opt 012 30.5-m (100-ft) Cable for 100- Ω or 200- Ω Sensor	+ \$214
Opt 013 61-m (200-ft) Cable for 100- Ω or 200- Ω Sensor	+ \$355
Opt 100 100 Vac Operation, 48 to 66 Hz	\$102
Opt 910 Extra Operating and Service Manual (HP432A: p/n 00432-90009; HP432B: p/n 00432-90053)	+ \$5
Opt W30 Extended Repair Service (see page 663)	+ \$50
Opt W32 Calibration Service (see page 663)	\$865
HP 8477A Power Meter Calibrator	\$3,060
Opt W30 Extended Repair Service (see page 663)	+ \$50
Opt W32 Calibration Service (see page 663)	\$405

☎ For off-the-shelf shipment, call 800-452-4844.