

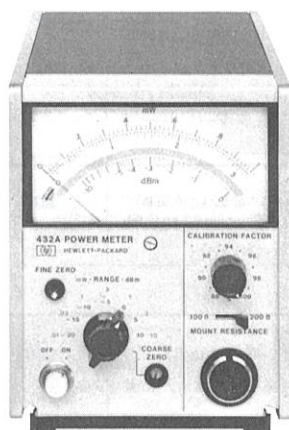
POWER METERS

Thermistor Power Meters & Power Meter Calibrator

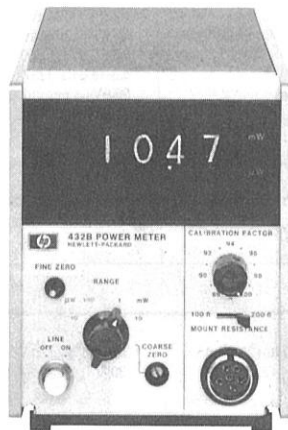
Models 432A/B, 8477A

- Automatic zero
- High accuracy

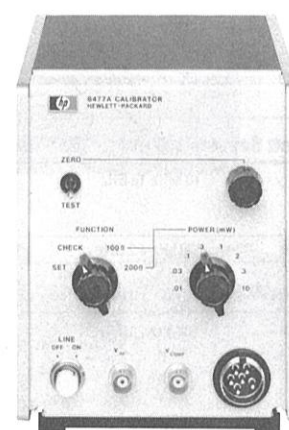
- Recorder outputs, analog & digital
- Long cable options



HP 432A



HP 432B



HP 8477A

HP 432A/B Power Meters

High accuracy—no thermoelectric error: high accuracy over a wide temperature range is featured on the HP 432 Power Meters. By measuring the output voltage of the thermistor bridges, and computing the corresponding power, even higher accuracy of $\pm 0.2\% \pm 0.5 \mu\text{W}$ 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 contains a calibration factor control, calibrated in 1% steps from 88% to 100%, 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.

*"Calibration Factor" and "Effective Efficiency" are figures of merit expressing the ratio of the substituted signal measured by the power meter to the microwave power incident on and absorbed by the sensor.

Specifications (partial)

Power Range

HP 432A: seven 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.

HP 432B: four ranges with full-scale readings of 10 and 100 μW , and 1 and 10 mW.

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

HP 432A: taut-band suspension, individually calibrated, mirror-backed scales. Milliwatt scale more than 108 mm (4.25 in.) long.

HP 432B: three digits with one digit overrange. 20% overrange capability on all ranges.

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 page 207.

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. "Print" and "Inhibit" lines available. (HP 432B only.)

Power Consumption

HP 432A: 115 or 230 Vac $\pm 10\%$, 50 to 400 Hz, 1.5 watts.

HP 432B: 115 or 230 Vac $\pm 10\%$, 50 to 400 Hz, 10 watts.

Weight

HP 432A: net, 2.3 kg (5.5 lb). Shipping, 4.6 kg (10 lb).

HP 432B: net, 3 kg (6.5 lb). Shipping, 4.8 kg (10.5 lb).

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

HP 8477A Power Meter Calibrator

The HP 8477A 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.

Ordering Information

HP 432A Power meter

HP 432B Power meter

HP 432A/B Options

001: rechargeable battery installed, provides up to 20 hours continuous operation (HP 432A only)

002: input connector placed on rear panel in parallel with front

003: input connector on rear panel only

009: 3.1 m (10 ft) cable for 110- Ω or 200- Ω sensor

010: 6.1 m (20 ft) cable for 100- Ω or 200- Ω sensor

011: 15.2 m (50 ft) cable for 100- Ω or 200- Ω sensor

012: 30.5 m (100 ft) cable for 100- Ω or 200- Ω sensor

013: 61 m (200 ft) cable for 100- Ω or 200- Ω sensor

100: 100 Vac operation, 48-66 Hz

910: extra operating and service manual

W30: Two additional years of return-to-HP warranty

HP 8477A Power Meter Calibrator

Opt W30 Two additional years of return-to-HP warranty

Price

HP 432A Power meter

HP 432B Power meter

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012: 30.5 m (100 ft) cable for 100- Ω or 200- Ω sensor

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