

POWER & NOISE FIGURE METERS

Thermistor Power Meters & Power Meter Calibrator

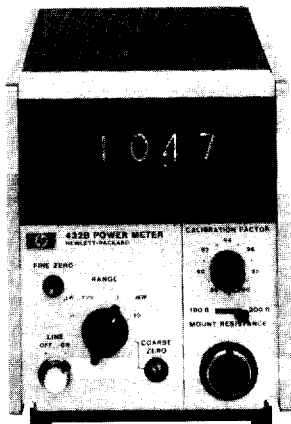
Models 432A/B/C, 8477A

- Automatic zero
- High accuracy

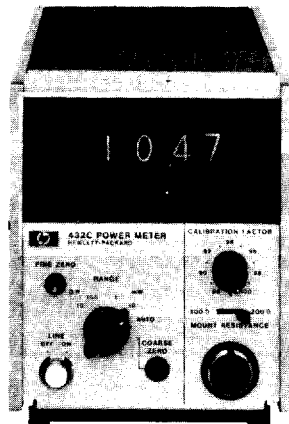
- Recorder outputs, analog & digital
- Long cable options



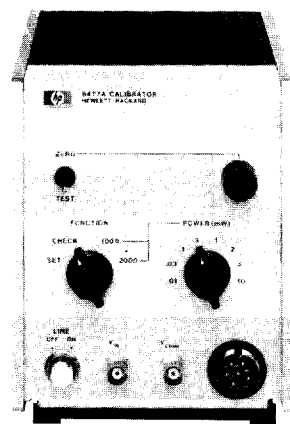
432A



432B



432C



8477A

432A/B/C Power Meters

High accuracy—no thermoelectric error: High accuracy over a wide temperature range is featured on the 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 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

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.

432B, 432C: 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. Remote fine zero may be accomplished with 432C.

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

Meter

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

432B, 432C: 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 432A/B/C. For microwave sensors HP 478B, 8478B and 486 series see page 403.

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 5055A Digital Recorder. "Print" and "Inhibit" lines available. (432B and 432C only.)

Model 432C control lines: Instrument is referenced to +5 V, "Logic 0" is equivalent to 0 V.

Power Consumption

432A: 115 or 230 V ac $\pm 10\%$, 50 to 400 Hz, 2.5 watts.

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

432C: 115 or 230 V ac $\pm 10\%$, 50 to 400 Hz, 16 watts.

Weight

432A: net, 2.3 kg (5.5 lb); shipping, 4.6 kg (10 lb).

432B: net, 3 kg (6.5 lb); shipping, 4.8 kg (10.5 lb).

432C: net, 3.2 kg (7.2 lb); shipping, 5 kg (11 lb).

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

8477A Power Meter Calibrator

The 8477A Calibrator is specifically designed for use with the 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.

Ordering Information

	Price
432A Power meter	\$1150
432B Power meter	\$1950
432C Power meter	\$3300

432A/B/C Options

001: rechargeable battery installed, provides up to 24 hours continuous operation (432A only)	add \$105
002: input connector placed on rear panel in parallel with front	add \$25
003: input connector on rear panel only	add \$10
009: 3.1 m (10 ft) cable for 110-ohm or 200-ohm sensor	add \$30
010: 6.1 m (20 ft) cable for 100-ohm or 200-ohm sensor	add \$55
011: 15.2 m (50 ft) cable for 100-ohm or 200-ohm sensor	add \$105
012: 30.5 m (100 ft) cable for 100-ohm or 200-ohm sensor	add \$155
013: 61 m (200 ft) cable for 100-ohm or 200-ohm sensor	add \$260
100: 100 Vac operation	no charge
910: extra operating and service manual	add \$5
8477A Power Meter Calibrator	\$775