# POWER METERS

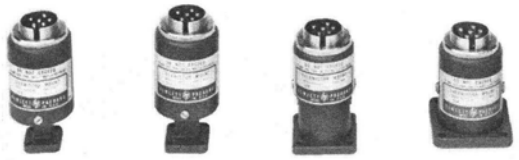
## Thermistor Mounts, Peak Power Sensor & Peak Power Meters

### Models 478A, 8478B, 486 Series, 8900C/D, 84811A

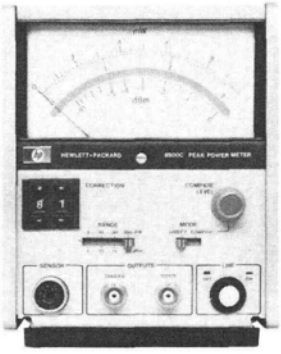
HP 84811A

HP 478A

HP 8478B



HP 486 Series



HP 8900C


HP 8900D

## Temperature Compensated Thermistor Mounts

High efficiency and good 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 | Operating Resistance (Ohms) | Price | |
|---|---|---|---|---|---|
| 478A | 10 MHz to 10 GHz | 1.75, 10 to 25 MHz<br>1.3, 25 MHz to 7 GHz<br>1.5, 7 to 10 GHz | 200 | $435 | ☎ |
| 8478B[1] | 10 MHz to 18 GHz | 1.75, 10 to 30 MHz<br>1.35, 30 to 100 MHz<br>1.1, 0.1 to 1 GHz<br>1.35, 1 to 12.4 GHz<br>1.6, 12.4 to 18 GHz | 200 | $600 | ☎ |
| X486A | 8.20 to 12.4 | 1.5 | 100 | $600 | |
| P486A | 12.4 to 18.0 | 1.5 | 100 | $800 | |
| K486A[2] | 18.0 to 26.5 | 2.0 | 200 | $800 | |
| R486A[2] | 26.5 to 40.0 | 2.0 | 200 | $850 | |
| [1]Option 011: furnished with APC-7 RF connector | | | | +$25 | |
| [2]Circular flange adapters: | | | | | |
| K-band (UG-425/U) HP 11515A | | | | $250 | |
| R-band (UG-381/U) HP 11516A | | | | $250 | |

## HP 84811A Peak Power Sensor

The HP 84811A Peak Power Sensor works with the HP 8900C/D Peak Power Meters to measure the peak power of RF pulses. It is supplied with a 4 foot flexible cable to easily reach the pulse source being measured. The HP 84811A also conveniently detaches from the meter for storage, recalibration or replacement.

## HP 8900C/D Peak Power Meters

The HP 8900C and 8900D Peak Power Meters directly display the peak power of RF pulses over a 100 MHz to 18 GHz frequency range. Measurements can be made on pulses with widths from 1 µs (100 ns in Compare mode) to CW, and repetition rates from 100 Hz (0 Hz in Compare mode) to 100 kHz.

The HP 8900C is an economical analog meter calibrated in watts and dBm. The analog display with its large, easy-to-read scale makes it simple to peak or null pulsed power systems. The HP 8900D has a high resolution 3½ digit digital display calibrated in watts. The direct reading display and range annunciators make the digital version a good choice for production and field applications where unambiguous or frequent readings are required.

### HP 8900C/D Peak Power Meters Specifications

**Frequency range:** 100 MHz to 18 GHz.
**Dynamic range:** 20 dB (0 to +20 dBm).
**HP 8900C:** 4 ranges of 3, 10, 30 and 100 mW full scale.
**HP 8900D:** 2 ranges of 10 and 100 mW full scale.
**Pulse Response:**
**Direct Mode**
**Pulse width: 1 µs** to CW.
**Repetition rate:** 100 Hz to 100 kHz.
**Compare Mode**
**Pulse width:** 100 ns (typical) limited by rise time specification.
**Repetition rate: 0 to** 100 kHz.
**Rise time:** 75 ns.
**Fall time:** 125 ns (as measured on video output).
**Power consumption:** 100 and 120 Vac +5, -10%, 48-66 Hz and 360-440 Hz; 220 and 240 Vac +5, -10%, 48-66 Hz.

| Meter Accuracy | CW | Pulse | Transfer Accuracy CW to Pulse |
|---|---|---|---|
| Direct | ±0.2 dB | ±0.35 dB | ±0.2 dB |
| Compare | ±0.2 dB | ±0.25 dB | ±0.1 dB |

### HP 84811A Peak Power Sensor Specifications

**Power range: 0 to** +20 dBm (1 mW to 100 mW).
**Frequency range:** 100 MHz to 18 GHz.
SWR: 100 MHz to 12 GHz < 1.5. 12 GHz to 18 GHz < 2.0.
**Maximum peak power:** +24 dBm (250 mW) for 5 minutes.
**Connector type:** N (male).
**Calibration:** every 2 GHz from 2 to 10 GHz. Every 1 GHz from 11 to 18 GHz.
**Operating temperature:** 0 to +55°C.
**Calibration accuracy:** (+10 to +40°C), ±0.7 dB 0.1 to 12 GHz. ±1.0 dB to 18 GHz. 0-10°C and 40-55°C: add ±0.2 dB.

| Ordering Information | Price |
|---|---|
| HP 8900C Analog peak power meter | $2450 |
| HP 8900D Digital peak power meter | $2900 |
| **Option W30:** Two additional years of return-to-HP warranty (for HP 8900C/D) | + $50 |
| **HP 84811A** Peak power sensor | $900 ☎ |

☎ Fast-Ship product—see page 734.