

MICROWAVE TEST EQUIPMENT



PEAK POWER CALIBRATOR

Power measurements, 50 to 2000 MHz, to ± 0.6 dB
Model 8900B

Features

- Measures true peak power ± 0.6 dB absolute
- Measurement completely independent of repetition rate and pulse width ($> 0.25 \mu\text{sec}$)
- Readily standardized against external bolometer or calorimeter
- Incorporates wide-band (7 MHz) detector output for pulse monitoring

The HP 8900B Peak Power Calibrator provides a convenient means for measuring the peak RF power of pulses in the range from 50 to 2000 MHz. The power level is read out directly on the panel meter and is completely independent of repetition rate and pulse width ($> 0.25 \mu\text{sec}$). The instrument consists basically of a precision terminated input circuit, diode detector, dc reference supply, meter and a chopped video output system.

In operation, the RF signal is applied to the input circuit, which, through a power splitter, feeds the diode detector. The demodulated diode output and the output of the dc reference supply are simultaneously fed to the video output through a mechanical chopper. In making a measurement, a suitable external oscilloscope is connected to the video output, and the dc reference voltage is adjusted so that it is exactly equal to the peak value of the demodulated pulse.

Panel meter readout

The level of the required dc reference voltage is then indicated on the panel meter, calibrated to read peak RF power. The diode is operated in a biased condition for maximum stability of calibration. Provision is made, how-

ever, for readily standardizing the instrument against an external bolometer or calorimeter by simply connecting to a rear-panel output in place of a standard termination.

Specifications

Radio frequency measurement characteristics

RF range: 50 to 2000 MHz.

RF power range: 200 mW peak full scale (may be readily increased through use of external attenuators or directional couplers).

RF power accuracy: ± 1.5 dB (± 0.6 dB with custom calibration curve furnished with instrument).

RF power precision: 0.1 dB.

RF pulse width: $> 0.25 \mu\text{s}$.

RF repetition rate: 1.5 MHz maximum.

RF impedance: 50 ohms.

RF vswr: < 1.25 .

Monitor output

Level: > 0.2 volt for 20 mW input (nominal).

Impedance: 150 ohms nominal.

Bandwidth: > 7 MHz.

Physical characteristics

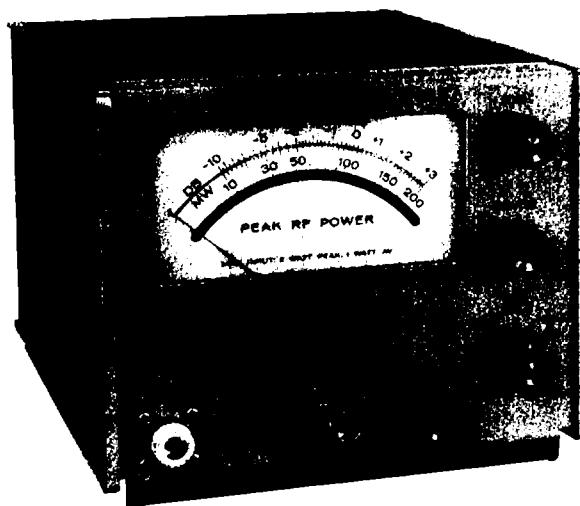
Dimensions: $7\frac{3}{4}$ " wide, $6\frac{1}{8}$ " high, 11" deep (197 x 156 x 279 mm).

Weight: net 10 lbs (4.5 kg); shipping 13 lbs (5.9 kg).

Power: 105 to 125 or 210 to 250 volts, 50 to 60 Hz.

Price: HP 8900B, \$625 (includes calibration curve).

Option 01: calibrated and offset for use with 8925A DME/ATC Test Set; no additional charge.



8900B