

MICROWAVE POWER METERS

INTRODUCTION

PEAK POWER METERS

Peak power meters are used to accurately measure pulsed signals where the microwave pulse profile must be characterized.

Wavetek's peak power meters and associated power sensors provide the best accuracy available using a unique power sweep calibration system and balanced diode power sensors.

No Duty Cycle Correction

No duty cycle measurements or calculations are required since peak power meters make an instantaneous measurement of power at a user selected point on the pulse waveform.

Power Sweep Calibration

Wavetek's power sweep calibration system is used to compensate for the nonlinearity of the diodes in the power sensor. The calibration process is initiated by the user from the front panel and is executed under microprocessor control in about one minute. This system provides the best linearity available ($\pm 3\%$) over the full dynamic range of the power meter (+20dBm to -20 dBm).

Convenient Operation

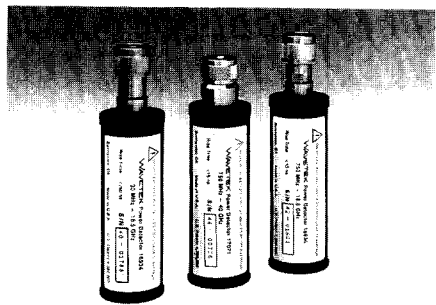
The 8500A can autoscale on a wide range of pulses, making it easy to measure the

peak power and see the pulse waveform. The operator has full control of the exact point on the pulse profile for making a peak power measurement.

The same peak power meter can be used to make precise timing measurements on the pulse envelope. Markers make the traditional risetime and pulse width measurements simply and accurately.

Power Sensors for Peak Power Meters

Peak power meter sensors can be subdivided into two categories: slow risetime (750 ns) and fast risetime (15 ns). The risetime selected also determines the lower frequency limit for the sensors.



Sensors for 8500A Series Peak Power Meters

Automatic Frequency Correction

Wavetek's power sensors include a PROM in the assembly. The PROM is programmed with NIST traceable frequency response data. The power meter reads the Cal Factor data from the power sensor and automatically displays frequency corrected power readings in the Peak Mode, CW Mode, or the Graph Mode.

Field Repairable

Another important consideration with diode power sensors is that they should be field repairable. All Wavetek's power sensors are field maintainable. Call Wavetek Microwave for additional details on Peak Power Sensor field supportability.

Low Measurement Uncertainty

Mismatch uncertainties are generally the biggest single uncertainty in a power measurement. Wavetek minimizes your measurement uncertainty with power sensors that have VSWR's equal to or better than any other comparable sensors.

POWER METER SELECTION GUIDE				
MODEL	POWER METERS			
	8541	8542	8501A	8502A
Frequency Range	10 MHz to 40 GHz	10 MHz to 40 GHz	30 MHz to 40 GHz	30 MHz to 40 GHz
Peak Power Range	-30 to +20 dBm	-30 to +20 dBm	-20 to +20 dBm	-20 to +20 dBm
CW Power Range	-70 to +30 dBm	-70 to +30 dBm	-40 to +20 dBm	-40 to +20 dBm
Accuracy (Linearity)	± 0.02 dB ($\pm 0.5\%$)	± 0.02 dB ($\pm 0.5\%$)	3.0%	3.0%
Number of Inputs	1	2	1	2
Power Sweep Calibrator	Yes	Yes	Yes	Yes
Auto Zero	Yes	Yes	Yes	Yes
Digital Readout	Yes	Yes	Yes	Yes
Automatic Cal Factor Correction	Yes	Yes	Yes	Yes
Digital Averaging	Yes	Yes	Yes	Yes
Display Pulse Profile	No	No	Yes	Yes
Offsets	Yes	Yes	Yes	Yes
Max. GPIB Reading Rate, per sec.	>1000	>1000	>100	>100
Use w/8003 Compatible Sensors	Yes	Yes	No	No
Internal Digital Plotter Driver	No	No	Yes	Yes
Balanced Diode Power Sensors	Yes	Yes	Yes	Yes
Hi Speed/Lo Speed Peak Sensors	Yes	Yes	Yes	Yes