

Features:

- * 10 MHz to 20GHz measurement range
- * 0.1dB resolution
- * Digital Display on backlit LCD with bargraph
- * RS 232 interface
- * Wide range from +20dBm(100mW) to -30dBm(1uW)
- * dB relative mode
- * Measurement in dBm, mW, dBr, dBW, dBuW
- * Shock/Drop resistant Thermistor Sensor
- * In built X band source for scalar network analysis
- * Measure Gunn and Klystron Source outputs without PIN modulator.
- * Can be used for swept measurement with CRO interface capability.
- * The high dynamic range is useful for experimentation in microwave test benches.
- * It can effectively replace the SWR meter for most experiments and allow measurements with unprecedented accuracy.

Amitec MPM20 Technical Specifications

POWER METER

Frequency range	: 10MHz to 20 Ghz
Display	: 16X2 Backlit LCD
Power range	: -30dBm to +20dBm
Measurement	: dBm, dBr, mW, dBW, dBuW with Digital Display
Resolution	: 0.1, 0.5 and 1dB
Ranging	: Auto-ranging
Sampling	: 1, 10, 100 readings per sec.
Relative Offset	: +20.0 to -30.0dBm for relative measurement
User setting	: +3.0dB to -3.0dB in 0.1dB step
Level Indicator	: Bar Graph
Recorder output	: For CRO interface
PC interface	: RS232 serial port
Power	: 100-240VAC, 47-63 Hz



POWER SENSOR

RF Connector	: N (M)
Impedance	: 50 ohms
Frequency range	: 10MHz to 20GHz
Maximum input	: +20dBm
Return Loss	: 20dB upto 12.4GHz
	: 15dB upto 20GHz
Compensation	: Temperature compensated thermistor
Cable	: Sensor/meter cable 3m
Adapter	: N(M) -N(M), N-SMA, N-BNC, X-band waveguide to coax adapter



MICROWAVE SOURCE

Frequency	: 10.3 Ghz typical
Power level	: 1mW typical

E-Manual: Installation Video for ease of Learning

List of Experiments

1. To learn different ways of measuring power.
2. To evaluate the accuracy of the power measurements.
3. To plot the power output of Gunn/Klystron Oscillator with supply voltage.
4. To plot the power output of a Gunn/Klystron Oscillator with frequency.
5. Study of square law modulation and square law characteristics of a crystal detector.
6. To measure PIN modulator insertion loss & modulation depth.
7. To measure the accuracy of SWR meter reading.
8. To calculate the relationship between Q and bandwidth of resonance cavity.
9. To measure the insertion loss of the waveguide.
10. To measure the insertion loss in the main line of a directional coupler.
11. To measure the coupling factor of a directional coupler.
12. To measure the isolation & directivity of a directional coupler.
13. To measure the return loss of a unknown load.
14. To measure the decoupling between H and E arms of magic Tee.
15. To measure the insertion loss of the hybrid Tee.
16. To measure the return loss of H arm in a magic Tee.
17. To measure and plot the attenuation characteristics of variable attenuator.
18. To measure the attenuation of a fixed attenuator.
19. To measure the input SWR of attenuator.
20. To measure the gain of a pyramidal horn.
21. To plot the E and H Plane polar pattern of a antenna and compute the beamwidth.
22. To measure the coupling coefficient of a waveguide E & H Plane Tee.
23. To measure the isolation of a waveguide E & H plane Tee.
24. To measure the input VSWR of a E & H plane Tee.
25. To study the operation of ferrite circulator and measure its insertion loss.
26. To measure isolation of a ferrite circulator.
27. To measure the cross coupling of a circulator.
28. To study the variation of characteristics of ferrite circulator with frequency.

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