

### Features:

- \* Low Cost for educational use with microwave bench
- \* 8.2 to 12.4GHz X band measurement range
- \* 0.1dB resolution
- \* Digital Display on backlit LCD with bargraph
- \* Wide range from +20dBm(100mW) to -30dBm(1uW)
- \* dB relative mode
- \* Measurement in dBm, mW, dB, dBW, dBuW
- \* Shock/Drop resistant Thermistor Sensor
- \* In built X band source for scalar network analysis

### Amitec XPM10 Technical Specifications

#### POWER METER

Frequency range	:	8.2GHz to 12.4 GHz
Display	:	16X2 Backlit Large LCD
Power	:	+20dBm to -30dBm
Measurement	:	dBm, dBr, mW, dBW, dBuW With Digital Display
Resolution	:	0.1, 0.5 and 1dB
Offset	:	For relative measurement
Level Indicator	:	Digital display and Bar Graph
RS232	:	Serial Interface
Auto Zero	:	Initialization after 1 minute warmup
Power	:	100-240VAC, 47-63 Hz



#### POWER SENSOR

Frequency Range	:	8.2GHz to 12.4 GHz
Power range	:	+20dBm to -30dBm
Compensation	:	Temperature compensated thermistor
Cable	:	Sensor/meter cable 3m



#### MICROWAVE SOURCE

Frequency	:	10.5 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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