

Microwave Training System

PED023B



PED023B trainer introduces students to the fundamental principles of microwave communications through a wide range of practical activities. The Computer-Assisted Microwave Training System is a complete, state-of-the-art training program that includes data acquisition and instrumentation. It is designed for hands on training and demonstration of common waveguide configurations. This training system allows the user to investigate the principles of microwave transmission systems such as those used in radar and communications links. PED023B uses waveguide components to illustrate the essential elements within this field of study. The microwave devices and components are fabricated from silver plated brass to standard X-band waveguide dimensions.

Features

- Stand-alone, High-Quality Component system
- 11GHz Synthesized Source
- Computer Based control and monitoring
- Bench-top operation
- Wavelength & Phase Velocity Measurements
- Copper tube and Brass flange with silver plating
- Safe low power output
- USB computer Interface
- Comprehensive manuals with theory, step-by-step laboratory exercises

Technical Features

- Gunn Diode Oscillator 9-11GHz
- Gun Oscillator Power Supply
- Directional Coupler
- Slide Screw Tuner
- Matched Load
- Variable Attenuator
- Waveguide Twist
- Fix Attenuator 9dB
- Horn Antennas (2 pcs)
- Hybrid Tee
- E-Plane Tee
- H-Plane Tee
- PIN Diode
- Inductive/Capacitive Irises (2 pcs)
- Lens Antennas (3 pcs)
- Dielectric Loads
- Antenna Azimuth Indicator
- Waveguide Support
- Power and VSWR Meter
- Computer Interface unit
- Coaxial Cables with connectors
- Short

Experiments

- Introduction of a microwave waveguide bench and measurement of source frequency and wavelength
- Measurement of Voltage and Standing Wave Ratio (VSWR)
- Measurement of dielectric constant of solid Material using waveguide method
- Measurement of unknown impedance and impedance matching
- Horn Antenna Investigation
- Use of a directional coupler in forward and reflected power transmission measurements
- Series, Shunt and Hybrid T junctions
- Waveguide to coaxial transition
- Microwave Radio link Investigations