

TYPICAL RESULTS FOR SINGLE FEED ANTENNA



KLYSTRON POWER SUPPLY



V.S.W.R. METER



E-PLANE TEE



E-H TEE OR MAGIC TEE



SLOTTED SECTION



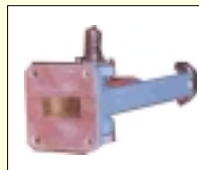
KLYSTRON MOUNT



SOLID DIELECTRIC CELL



MATCHED TERMINAL



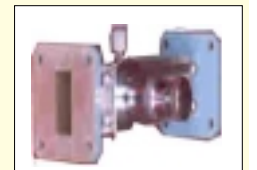
WAVEGUIDE MATCHED DETECTOR MOUNT



MOVABLE SHORT



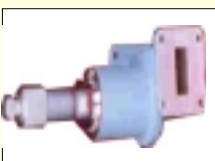
FIXED ATTENUATORS WAVEGUIDE



SLIDE SCREW TUNER



VARIABLE ATTENUATOR WAVE GUIDE



FREQUENCY METER



WAVEGUIDE ANTEENA



FIXED SHORT



REFLECTOR

MICROWAVE COMMUNICATION TRAINER

Microwaves today affect everyone. You may not realize it, but each day your life is made better by man's ability to utilize microwaves. When you make a telephone call across the country or watch television from your armchair, microwaves help you. Satellites circling the earth are exchanging information millions of times every day through microwave transmission. Communications, health care, national security, alarm systems, the police officer clocking the speed of your car - all require microwave technology. The phenomenon has created many new jobs and extensive need for technicians and engineers. You will learn some of the important principles and techniques of microwaves.

TOPICS AREAS

Introduction to microwaves
Reflection of Microwaves.
Standing wave measurement.
Wave guide experiment

Measuring the microwave signal and Klystron tube characteristics
Radio signal propagation
The advantages of using wave guide.
Microwave behavior in a dielectric.

Components Supplied with the trainer

- | | | |
|--------------------------------|----------------------------|-----------------------------------|
| 1. Klystron Power Supply | 2. Klystron Mount | 3. Klystron tube |
| 4. Isolator | 5. Variable attenuator | 6. Direct Reading Frequency Meter |
| 7. Slotted section with probe | 8. Turnable probe carriage | 9. Pyramidal Horn |
| 10. Wave guide Detector mount | 11. Matched Magnic Tee | 12. Cross Guide Coupler |
| 13. Matched Termination | 14. VSWR meter | 15. Screws & Nuts |
| 16. Universal wave guide stand | 17. Cable (BNC) | |

RADAR TRAINING SYSTEM

Radar Training kit is a comprehensive trainer & comes with all necessary microwave components. In this trainer, all importance has been given to understand the basic principles of radar operation. The detailed instruction manual will be supplied along with the trainer.

System consists of a Gunn oscillator and modulator followed by a variable attenuator and transmit antenna in form of horn.

Target is a metallic reflector, the receiver consists of horn antenna and detector pulse from modulator is applied to CRO, the returned reflected signal is also applied to CRO to measure time delay of returned signal.

SYSTEM COMPONENTS

Gunn Oscillator 50 mW
VAR. Attenuator 30 dB
Detector
Cables

PIN Modulator
Horn Antenna
Target Plate
CRO (Optional accessories)

TO STUDY ANTENNA SYSTEMS

To study the working of various type of antennas and their application. One can also study the gain characteristics of antenna with respect to direction etc.

SPECIFICATIONS

- | | |
|---|--------------------------------------|
| 1. Vertically polarized antenna. | 2. Horizontally polarized antenna |
| 3. Circularly polarized antenna | 4. Quarter wave antenna |
| 5. Grounded vertical antenna | 6. Vertical half-wave dipole antenna |
| 7. Horizontal half-wave dipole antenna | 8. Full-wave dipole antenna |
| 9. Yagi antenna | |
| 1. Folded dipole | |
| 2. Folded dipole with one radiator | |
| 3. Folded dipole with one reflector | |
| 4. Folded dipole with one radiator and one reflector | |
| 5. Folded dipole with two radiator and one reflector | |
| 6. Folded dipole with three radiator and one reflector | |
| 10. A Loop (frame) antenna | 11. Quad Antenna |
| 12. Circular antenna | 13. Ferrite Rod antenna |
| 14. Slot antenna | 15. Rhombic antenna |
| 16. Broadside antenna | 17. Endfire antenna |
| 18. Collinear antenna | 19. Log periodic antenna |
| 20. Top-loaded antenna | 21. Bioconical antenna |
| 22. Half wave dipole antenna, with corner reflector | 23. Turn style antenna |
| 24. Super turnstyle antenna (Batwing antenna) | 25. Discone antenna |
| 26. Slotted cylindrical antenna | 27. Flush disc antenna |
| 28. Cellular Antenna | 29. Pager antenna |
| 30. Transmission Lines (One pair of transmission lines of 12 feet length and a probe) | |

LIST OF EXPERIMENTS

- | | |
|---|--|
| * Measurement of frequency and wavelength. * | Measurement of voltage standing wave ratio. |
| * Measurement of attenuation/ insertion loss. * | Measurement of phase shift. |
| * Measurement of quality factor. | * Measurement of impedance. |
| * Measurement of power. | * Measurement of scattering parameters. |
| * Measurement of reflection coefficient. | * Measurement of the dielectric constant. |
| * Measurement of gain of an aerial horn. | * Measurement of E and H plane radiation patterns. |
| * Radiation pattern of various types of antennas. | * Pulse radar. |
| * Doppler radar. | |



TEST & MEASURING INSTRUMENTS
& LABORATORY EQUIPMENTS

Electronic & Scientific Devices

Regd. Office : 100 U.B. Jawahar Nagar, Delhi - 110 007

Works : A-54/1, G. T. Karnal Road, Industrial Area, Delhi - 110 033

Phone : 7221277, 7233252, 3911520

Tel / Fax : 011-7218630, 3968360

E-mail : skg@testronindia.com

Website : www.testronindia.com