

**MICROWAVE TEST BENCH
GUNN BASED TRAINER
SET-UP NO. 6
OMEGA TYPE ES-506**



OMEGA TYPE ES-506 Microwave Trainer Set-up No. 6 OMEGA TYPE ES-329 is combined trainer for all the following experiments covered under microwave trainer set-ups no. 1, 2, 3, 4, 5 OMEGA TYPE ES-324, ES-325, ES-326, ES-327, ES-328 respectively.

OBJECTS:

- 01 To determine the frequency & wavelength in a rectangular waveguide working on TE₁₀ mode
- 02 To study the following characteristics of Gunn Diode
 - Output power and frequency as a function of Bias Voltage
 - Square wave modulation through PIN diode
- 03 To determine the Standing Wave-Ratio and Reflection Coefficient
- 04 To measure an unknown Impedance with Smith chart
- 05 To study V-I characteristics of Gunn Diode
- 06 To measure the gain of a waveguide horn antenna
- 07 Study the function of multi-hole directional coupler by measuring the following parameters :
 - To Measure main-line and auxiliary-line VSWR
 - To Measure the coupling factor and directivity and isolation.
- 08 Study of Magic Tee
- 09 To study the square law behaviour of a microwave crystal detector
- 10 The Q and bandwidth measurement in cavity resonator
- 11 To Study the Attenuators (Fixed and Variable type)
- 12 To study the voice communication by using microwave test bench

COMPONENTS:

The complete Experimental Set-up consists of the following items :

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|--|---|----------|
| 01 Co-axial to Wave Guide Adaptor | 1 | ES-555 |
| 02 Cooling Fan | 1 | ES-580 |
| 03 Detector Mount Wave Guide | 1 | ES-539 |
| 05 Ferrite Isolator | 1 | ES-534 |
| 06 Fixed Attenuator 3db | 1 | ES-547 |
| 07 Fixed Attenuator 6db | 1 | ES-548 |
| 08 Fixed Attenuator 10db | 1 | ES-549 |
| 09 Frequency Meter Direct Reading | 1 | ES-535 |
| 10 Gunn Oscillator 10mW | 1 | ES-531 |
| 11 Gunn Power Supply | 1 | GPS-795 |
| 12 H-Plane Tee | 1 | ES-552 |
| 13 Magic Tee | 1 | ES-553 |
| 14 Matched Termination | 1 | ES-542 |
| 15 Movable Short | 1 | ES-540 |
| 16 Multi Hole Directional Coupler 10db | 1 | ES-558 |
| 17 Multi Hole Directional Coupler 3db | 1 | ES-556 |
| 18 Pin Modulator | 1 | ES-532 |
| 19 Pyramidal Horn | 1 | ES-576 |
| 20 Slide Screw Tuner (S.S. Tuner) | 1 | ES-550 |
| 21 Slotted Section with probe carriage | 1 | ES-537 |
| 22 Standard Gain Horn Antenna | 1 | ES-569 |
| 23 Tunable Probe | 1 | ES-538 |
| 24 Variable Attenuator 20db | 1 | ES-536 |
| 25 VSWR Meter | 1 | VSWR-796 |
| 26 Wave Guide Stand | 4 | ES-543 |
| 27 Waveguide Cavity X Band | 1 | ES-564 |
| 28 BNC to BNC Cable | 2 | |
| 29 Smith Chart (Pad of 100Pcs) | 1 | |
| 30 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References. | | |

OTHER APPARATUS REQUIRED :

- 01 Cathode Ray Oscilloscope 20MHz.

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

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