

**Antenna Trainer (Motorized with Plotting Software)**

**ETD750B**



ETD750B trainer with computer interface and software introduces students to the fundamental principles of Antenna through a wide range of practical activities. A large variety of Antennas are included to familiarize the students with different types of Antennas. The most important topic covers in the experiment is to study of waveguides using S-Band and X-Band frequencies. The Antenna trainer consists of different components and peripherals equipment required to perform the experiments.

**Features**

- Industrial Grade Equipment
- Stable Source
- Modular Structure
- Real Time Plotting Software

**Technical Features**

S-Band Source  
VCO 2.2-2.72GHz (Tunable) VCO  
2.4GHz (Fixed)

**Tuning Voltage:** 1.2-16V DC

**Display:** V Tune, F.P. & R.P.

**Modulation:** 1KHz ASK

**Output Power:**  
+5dBm typical  
X-Band Source  
VCO 9.6-10.8GHz (Tunable) CO  
10GHz (Fixed)

**Tuning Voltage:** 2-13V DC

**Display:** V Tune, F.P. & R.P.

**Modulation:** 1KHz ASK

**Output Power:** +8dBm typical Power Detector

**Frequency:** 40MHz to 10GHz

**Sensitivity:**  
+5 ~ -50dBm, Comparator  
List of Antennas  
S-Band Antennas

**Dipole Antennas:**

1. Simple Dipole ( $\lambda/2$ ) Antenna

**Multi-Beam Array Antennas**

2. YAGI Antennas
3. 7 Elements YAGI Folded Dipole Antenna
4.  $\lambda/2$  Phase Array (End Fire Antenna)
5. Broad Side Array
6. Combined Co-Linear Array

**Log Periodic Antennas**

7. 7 elements Log Periodic Antenna

**Patch Antenna**

8. Rectangular Patch Antenna
9. Circular Patch Antenna
10. Rectangular Patch Array Antenna
11. Slot Antenna
12. Fractal Patch Antenna
13.  $\lambda/2$  BOW-TIE Patch Antenna
14.  $\lambda/4$  Tapered Monopole Patch Antenna
15.  $\lambda/2$  Sierpinsky Triangle Bow-Tie Antenna

**Monopole Antennas**

16. Monopole Antenna

**Helical Antennas**

17. RHCP Helical Antenna

**X-Band Antennas**

18. Rectangular Patch Antenna
19. Rectangular Patch Array 2x2
20. Rectangular Patch Array 4x4
21. Slot Feed Antenna
22. Log Periodic Antenna Patch
23. ViValdi Antenna
24. Helical Antenna
25. Horn Antenna (2)
26. Rectangular patch array 8x8

**Accessories:**

Power Cord, 2mm patch cord, Experiment Manual, SMA male –male cable, 50 ohm Terminator, Matching stub.

## Experiments

**S-Band Experiments**

- Study of Antenna Polarization, Axial Ratio and Tilt Angle of a Circularly Polarized Antenna.
- Study of Dipole Antenna and Its Radiation Pattern.
- Study of Rectangular Patch Antenna.
- Study of Circular Patch Antenna.
- Study of 4 Elements Rectangular Patch Antenna Array.
- To Study the Behavior of Loop Antenna.
- Study of 7-Element Yagi-Uda Antenna.
- Study of 7-Element Log Periodic Antenna.
- Study of Monopole Antenna.
- Study of Half Wavelength Monopole Antenna.
- To Study Phase Array End Fire Antenna.

- To Study Quarter Wavelength Phase.
- Array End Fire Antenna.
- To Study Combined Co-Linear Array.
- To Study Broad Side Array.

**X-Band Antennas**

- Study of 10 GHz Rectangular Patch Antenna.
- Study of 10 GHz Rectangular Patch Array Antenna.
- Study of 10 GHz Slot Feed Antenna.
- Study of 10 GHz Log Periodic Antenna.
- Study of 10 GHz Vivaldi Antenna.
- Study of 10 GHz Helical Antenna.
- Study of 10 GHz Horn Antenna.