

Product Name :
PC Based Motorized Antenna Trainer

Product Code :
NLAB-ELECTRONICSAB200008



Description :

PC Based Motorized Antenna Trainer

Technical Specification :

PC Based Motorized Antenna Trainer has been designed to provide useful tools for hands on experimentation and teaching of various commonly used antennas in VHF-UHF-Microwave band in the laboratory for students of all levels. It can be used in stand-alone mode as well as be interfaced with a computer via USB interface. In this Receiving Antenna can be rotated from 0 to 360 Degrees automatically with the help of Stepper motor controller unit and accordingly Receiving Antennas Signal strength can be monitored. The system consists of a set of tripod for mounting the transmitting antenna and another stepper motor controlled antenna positioning pod for mounting the receiving antenna, 22 Antennas, RF Transmitter, RF Receiver, Stepper Controller Unit, Antenna Plotting Software and relevant accessories/ cables.

Network Analyser: RFTransmitter & Receiver:

Frequency : 86 - 860 MHz PLL synthesized

Step Size : 0.05, 0.1, 0.25, 0.5, 1, 10, 100 MHz

Accuracy : 0.01%

Display : 16X2 Backlit LCD

Functions : Menu, Enter, Escape, Up & Down

Memory Location : 1000 individual frequencies and level can be stored/recalled

Output Impedance : 50 Ohms

RF Level : 90 dBuVTypical

Measurement : RF level in dBuV with 0.1dB resolution

Dynamic Range : 60 dB Log

Manual/ Auto Mode : Data logging for antenna gain & polar/cartesian plot

USB interface : Easy connectivity to PC using polar pattern plotting software

Power Supply : 230V @ 50 Hz

Stepper Motor Controller Unit:

Rotation : 0-360 Degrees with 1 Deg resolution

Angular Steps : 1, 5, 10, 45 degrees

Display : 16X2 Backlit LCD

Functions : Menu, Enter, Escape, Up & Down

Memory : 1000 memories for storing angular positions for quick recall

Auto mode : Automatic Rotation with Interface to Receiver

Mode : Clockwise/Anti Clockwise Rotation, Fast /Slow Speed

Experiments:

Variation of field strength with distance

Plot radiation pattern of omni directional antenna

Plot radiation pattern of directional antenna

Polarization of vertical and horizontal antenna

Study resonant and non resonant antenna and estimate VSWR and impedance

Demonstrate reciprocity theorem of antennas

Study current distribution along the element of antenna

Study different antennas polar plots, radiation patterns, gain, beam width, front back ratio

Comparison of different antennas

Shipping List

01. Microstrip Rectangular Patch

02. Microstrip Circular patch

03. Microstrip Ring

04. Microstrip Triangular patch

05. Crossed Dipole RHCP

06. Microstrip Slot

07. Microstrip Colinear

08. Microstrip Semicircular patch

09. Log Periodic

10. Dipole $L/2$

11. Axial Mode Helix RHCP

12. Endfire Array $L/2$

13. Phase Array $L/4$

14. Broadside Array $L/2$

15. Dipole $L/4$

16. Yagi Uda (4E)

17. Yagi Uda (3E)

18. Folded Dipole

19. Monopole

20. Sleeve

21. Axial Mode Helix LHCP

22. Square Loop

Other Accessories

- a. RF Transmitter Tripod
- b. USB Connecting Lead
- c. Experimental Manual
- d. Antenna Plotting Software CD

Naugralabequipments

Website: www.naugralabequipments.com, **Email:** sales@naugralabequipments.com

Address: 6148/6, Guru Nanak Marg, Ambala Cantt, Haryana, India. **Phone:** +91-9896600003