

<b>Product Name :</b> Advanced Antenna Trainer with variable frequency (550 MHz - 850 MHz) and 22 Antennas	<b>Product Code :</b> NLAB-ELECTRONICSAB200011
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**Description :**

Advanced Antenna Trainer with variable frequency (550 MHz - 850 MHz) and 22 Antennas

**Technical Specification :**

Antenna platform is a student friendly trainer kit for studying characteristics of different antennas. Order Code-10012 is designed so that students can take the readings and plot the polar plots themselves, thus understanding the subject thoroughly. They can even stop & repeat the readings in between if needed.

All the antennas are made by high conducting rods with chrome finish for long durability and mounted on the glass epoxy PCB for easy mounting and dismounting Areas of

Experimentation and Study

Polar plot & Polarization of various antennas.

Wave modulation and Demodulation

Antenna Gain

Antenna Beam Width.

Element Current study.

Front Back Ratio study.

Antenna matching.

SWR measurement.

Antenna radiation with distance.

Antenna bandwidth measurement

### Features

Self contained, simple and student friendly trainer

Hands on set-up for measuring and plotting radiation patterns of different Antennas

Built in RF & Modulation generators

Built in frequency display

Antenna Matching Stub

Characteristics and SWR measurement

Transmitting and Receiving levels observed on meters

Built in DC power supply

Fully documented, Operating manual and polar charts (2 types) with each trainer

"Antenna kit" for fabricating special antenna

Compact design

Light weight

### Scope of Learning

Study of Simple Dipole  $\lambda/2$  Antenna

Performing Polarisation Test and Modulation Test

Study of Reciprocity Theorem

Study of variations in the radiation strength at a given distance from the antenna

Antenna Current Sensor and SWR Measurement

Study of Rhombus Antenna, Ground Plane Antenna, Slot

Antenna, Helix Antenna and antenna bandwidth

#### Technical Specifications

RF generator : 550 to 850 MHz approximately(with level adjust)

Modulation Generator : 1 KHz approximately (300 mV)

Directional Coupler : Forward & Reverse (On board selectable)

Matching Stub : Slide Stub

Antenna Rotation : 0- 360 Degree, Resolution 1 Degree Transmitting & Receiver masts provided

Receiving antenna : Folded Dipole with reflector

Detector Display : Adjustable meter

Interconnections : BNC

Power Supply : 230 V  $\pm 10\%$ , 50/60 Hz

Power Consumption : 3VA (approximately)

Weight : 3 kgs. Approximately

Dimensions (MainUnit-mm) : W 285 x H 75 x D 385

#### List of Accessories (10 Antenna)

I. Antennas : 11 nos.

1. Simple Dipole  $l/2$  : 1 no.
2. Yagi-UDA Folded Dipole (3E) : 1 no.
3. Yagi-UDA Folded Dipole (5E) : 1 no.
4. Yagi-UDA Simple Dipole (5E) : 1 no.
5. Yagi-UDA Simple Dipole (7E) : 1 no.
6. Hertz Antenna : 1 no.
7. Loop Antenna : 1 no.
8. Log Periodic Antenna : 1 no.

9. I/2 Phase Array : 1 no.

10. Detector Antenna : 1 no.

11. Helix Antenna : 1 no.

II. Current Probe : 1 no.

III. Transmitting Mast : 1 no.

IV. RF Detector : 1 no.

V. Receiving Mast : 1 no.

VI. Accessories Kit :

1. BNC –Tee : 1 no.

2. BNC - BNC Adapter (M) : 1 no.

3. BNC - BNC Adapter (F) : 1 no.

4. BNC (M) - BNC (F)

Adapter (L-type) : 1 no

5. BNC – BNC Cable 25" : 2 nos.

6. BNC – BNC Cable 18" : 1 no.

VII. Polar Graphs (dBmA : 25 nos.

VIII. Polar Graphs

(for normalised reading) : 25 nos.

IX. Antenna Fabrication Kit

1. Two PCB's : 1 no.

2. 14 SWG wire roll 20"

X. Mains Cord : 1 no.

XI. +7.5 - 9V DC Adaptor(500mA) : 1 no.

XII VIP Suitcase : 1 no.

XIII Rods for Ground Plane Antenna

1. 6.9cm : 1 no.

2.8.5cm : 1 no.

3.20.5cm : 1 no.

## Naugralabequipments

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