

Product Name :
Antenna Trainer

Product Code :
NLAB-ELECTRONICSAB200018



Description :

Antenna Trainer

Technical Specification :

Antenna Trainer Features:

PLL receiver 86 - 860 MHz; 50KHz step Size in Rx

Crystal Locked transmitter 100-1000MHz;50MHz step size

RF Power measurement in 0.1 dB resolution

110 dB dynamic range.

Directional Coupler for VSWR/ Return Loss.

RS232 interface with polar/cartesian plotting software

1000 location Frequency and level storage in receiver

Technical Specifications:

Frequency range : 86 - 860 Mhz PLL for Rx

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

Accuracy : 0.01%

Display : 16X2 Backlit LCD

Controls : Menu, Enter, Escape, Up & Down

Memory : 1000 frequency store/recall

Modulation FM : Internal 1KHz

Frequency range : 100 - 1000 MHz crystal locked for Tx

Step size : 50 MHz

RF Level : 90 dBuV typical

Attenuator : 20dB internal switchable

Measurements : RF level in pW, dBm, dBuV, dBr

Resolution : 0.1dB

Dynamic range : 110 dB (70dB log +40dB attenuator)

Speaker : Inbuilt for Audio output

PC interface : RS 232 connectivity to PC for antenna plotting using supplied software

Auto mode : Data logging for polar/cartesian plots.

Areas of experimentation and scope of study

Inverse square law of propagation.

Radiation pattern of an Omni and directional antenna.

Vertical, Horizontal polarized antennas.

Polarization discrimination linear antennas

Resonant and non-resonant antenna.

Reciprocity of antenna.

Current distribution of an antenna.

Antenna parameters:

Radiation pattern E & H Plane - Polar & Cartesian Plots

Directive gain, beam width (Half Power/10dB), front to back ratio, plane of polarization, side lobe level & angle.

Antenna resonance, VSWR and bandwidth using Directional coupler and adjust the antenna.

Comparative study of antennas.

Significance of parasitic element dimensions.

Construct antenna using antenna kit

Tone communication link using antennas.

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