

Product Name :
Physics of Fiber Optics Trainer

Product Code :
NLAB-ELECTRONICSAB240005



Description :

Physics of Fiber Optics Trainer

Technical Specification :

PHYSICS OF FIBER OPTICS TRAINER is designed to learn basic physics of fiber optics including fiber end preparation. Students can also study the construction of transmitter & receiver to form analog & digital link. Ample number of experiments can be performed with this kit by referring to the exhaustive manuals provided with the kit.

List of Experiments:

Light traveling around corners in an Optical Fiber

Coloured light traveling down an Optical Fiber

Photo detector detecting light

LED output as a function of a current

LED shining light into

Transmission of light between two fibers

Transmission through a gap between fibers

Fiber Optic transmission sensor

Fiber Optic reflection sensor

Measuring Losses in the fiber

Measurement of propagation loss in the Fiber

Measurement of connector loss

Fiber bending loss

Measurement of Numerical Aperture of Optical Fiber

Setting up of Fiber Optic Analog Link

Setting up of Fiber Optic Digital Link

Setting of Fiber Optic Voice Link.

Switch Faults Study

Effect of switch fault 1 in function generator section

Effect of switch fault 2 in audio pre amplifier section

Effect of switch fault 3 in signal strength section

15.4 Effect of switch fault 4 in audio amplifier section

Features:

On-board Function Generator.

Transmitter : 1 No.

Receiver : 2 Nos

Fiber Optic Analog Link.

Fiber Optic Digital Link.

Signal strength indicator.

Technical Specifications:

Transmitter	: 1 No. LED. Peak wavelength of emission 635 nm Red visible.
Receiver	: 2 Nos. silicon photo detectors
Modulation	: Intensity modulation.
Driver Circuit	: Analog and digital configuration for 635 nm LED
Analog Bandwidth	: 35KHz.
Digital Bandwidth	: 50KHz.
On-Board Function Generator	:
Sine Wave &TTL Square Wave	:
Frequency Range	: 1Hz to 10Hz, 10Hz to 100Hz, 100Hz to 1 K H z , 1 K H z t o 10KHz
Amplitude	: 0 to 4Vpp. (Except Square)
Voice Communication	: Fiber Optic voice link using dynamic MIC &SPEAKER
Signal strength indicator	: 8 LED's provided to m e a s u r e o p t i c a l power.
Fiber Optic Cable	:
Type	: 1000 micron Step Index, Multimode Plastic Fiber
Fiber Lengths	: 1&5 Meter.
Power Supply	: GND, +5V, +12V, -12V at100mAINT.

Accessories:

Red Short Links : 10 Nos.

Crocodile Links : 02 Nos.

Plastic Fiber 1 Meter (with connector) : 01 No.

Plastic Fiber 5 Meter (with connector) : 01 No.

N.A. Jig&N. A Scale : 01 No. Each

Connection Sleeves (Splicing unit) : 01 No.

Microphone : 01 No.

Speaker : 01 No.

Experimental Manual : 01 No.

Mandrel : 01 No.

Other Apparatus Required:

Cathode Ray Oscilloscope 20MHz

Naugralabequipments

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