

## ACT-12 BASIC FIBER OPTIC TRAINER



**ACT-12** is a single board Fiber Optic Trainer Kit to study the characteristics of Fiber using Digital and Analog techniques. This kit also facilitates with digital and analog Modulation & Demodulation communication techniques.

### Features

- ❖ 660nm Transmitter.
- ❖ One no. of Photo Detector.
- ❖ On-board Sine & Square wave generator.
- ❖ On-board 4th Order Low Pass Filter.
- ❖ On-board Fault Switch.
- ❖ In-Built Power Supply.

### Specifications

- One Transmitter Fiber Optics LED having peak wavelength of emission 660nm.
- One Receiver Fiber Optic photodetector
- On-board Analog & Digital Drivers.
- On-board AC Amplifiers.
- Analog Band Width 350 KHz.
- Digital Band Width 2.5 MHz.
- 4<sup>th</sup> order Butter worth 3.4KHz Low Pass Filter.
- On-board 1Hz to 10 KHz sine wave (amplitude adjustable), Square wave (NRZ-TTL 8 Bit)
- FO voice link using microphone & speaker
- RS-232C PC to PC Serial link using 9 Pin D-type.
- Four Switched Faults for transmitter & receiver.
- Fiber Optics Cable Connector type Standard SMA.

- Duly polished fiber at both end for Numerical Aperture Measurement.
- Step indexed multimode PMMA plastic cable.
- Core Refractive Index 1.492.
- Clad Refractive Index 1.406.
- Numerical aperture Better than 0.5.
- Acceptance Angle Better than 60°
- Fiber Diameter 1000 microns.
- Outer Diameter 2.2mm.
- Fiber Length 1m.
- In-Built Power Supply +5V/1.5A, ±12V/250mA.
- Interconnections 2 mm Banana Sockets
- Attractive ABS plastic enclosures.
- User's Manual with set of Patch Chords.

### LIST OF EXPERIMENTS

- Setting up Fiber Optic Analog Link
- Setting up Fiber Optic Digital Link
- Study of Intensity Modulation Technique using Analog Input Signal
- Study of Intensity Modulation Technique using Digital Input Signal
- Setting up of Propagation Loss in Fiber Optic
- Study of Bending Loss.
- Measurement of Optical Power using Optical Power Meter
- Measurement of Propagation loss using Optical Power Meter
- Measurement of Numerical Aperture
- Characteristics of F-O Converter using OPM
- Characteristics of Fiber Optic communication Link
- Setting up of Fiber Voice Link using Intensity Mode
- Study of PC to PC Communication using Fiber Optics Digital Link

Note : Specifications can be altered without notice in our constant efforts for improvement.