

**FOCT-03
LASER FIBER OPTIC TRAINER**



FOCT-03 is a single board Laser Fiber Optic Trainer Kit to study the characteristics of Laser Fiber using Digital and Analog techniques. This kit also facilitates with PC to PC communication using RS-232C.

Features

- ◊ 660nm Laser Diode Transmitter.
- ◊ One No. Of Photo Detector.
- ◊ On-board Sine & Square wave generator.
- ◊ On-board Power Meter.
- ◊ On-board 4th Order Low Pass Filter.
- ◊ On-board PC to PC Communication.
- ◊ In-Built Power Supply.

Specifications

- One Transmitter Laser Diode having peak wave length of emission 660nm.
- One Receiver Photo Detector.
- On-board Analog & Digital Drivers
- On-board AC Amplifiers.
- 4th order Butter worth 3.4KHz Low Pass Filter.
- Functional Generator 1Hz. To 10 KHz sine wave (amplitude adjustable), square wave (TTL)
- PC to PC Serial link 9 Pin D-type RS232C.
- PMMA Plastic Fiber & GI/MM Glass Fiber

- Fiber Length 2 m.
- Accessories Included Numerical Aperture Measurement Jig, Mandrel Manual & Set of patch cords.
- In-Built Power Supply +5V/1.5A, ±12V/250mA.
- Interconnections 2 mm Banana Sockets
- Attractive Wooden / ABS Plastic enclosures.
- User's Manual with set of Patch Chords.

List of Experiments:

1. Characterization of a Laser Diode
 - a. Characterization of a Laser Diode (LD)
 - b. Optical Power Output vs. LD Forward Current (Threshold Current)
 - c. Monitor Photodiode Current vs. Optical Power Output
2. Study of ACC Mode of Operation
3. Study of APC Mode of Operation
4. Design and Evaluation of an LD Analog Intensity Modulation (IM) system
 - a. V_o vs. V_{in} at Specified Optical Carrier Power Levels, P_o
 - b. Determination of V_{in} (max) at Specified P_o for Distortion free V_o
 - c. Comparison of Automatic Current Control (ACC) and Automatic Power Control (APC) IM Systems
5. Design and Evaluation of an LD Digital Transmission System
6. Transmission of Laser through an Optical Fiber
 - a. Study with Step-Index Multimode Plastic Fiber Patch cord
 - b. Study with Graded -Index, Multimode Glass Fiber Patch cord
 - c. Study with a Mechanical Splice Connecting the Above Two Patch cords
7. FO Numerical Aperture Measurement
 - a. NA of PMMA Fiber
 - b. NA of Glass Fiber
8. Setting up Fiber Optic Digital Link.
9. Forming PC to PC Communication Link using Optical PMMA & RS-232 Interface. IASH Card

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