



**OMEGA TYPE FO-003** Fibre-Optic Analogue Transceiver Trainer has been designed specifically for the study of a typical linear intensity modulation system for analogue signal transmission. Practical experience on this Trainer carries great educative value for Science & Engineering Students.

#### OBJECT

- 01 To determine the Numerical Aperature of optical fibre.
- 02 Losses in Optical Fibres at 660nm and 850nm and other cables.
- 03 Study of E/O Characteristic of Fibre Optic 660nm and 850nm.
- 04 Study of O/E Characteristic of Fibre Optic photo transistor.
- 05 Design and study of a linear Fibre Optic Intensity Modulation system for analog transmission :
  - 5.1 Gain characteristics of a Fibre Optic Linear Intensity Modulation System.
  - 5.2 Frequency Response of a Fibre Optic Linear Intensity Modulation System.
  - 5.3 Waveform distortion in a Fibre Optic Linear Intensity Modulation System.
  - 5.4 Gain-Band width product of a fibrae optic linear intensity Modulation System.

#### FEATURES

The trainer consists of the following built-in parts:

- 01 IC regulated D.C. power supply.
- 02 Fibre-Optic Analogue Transmitter @ 660nm
- 03 Fibre-Optic Analogue Transmitter @ 850nm
- 04 Fibre-Optic Receiver.
- 05 One-metre PMMA Fibre patch cord.
- 06 Five-metre PMMA Fibre patch cord.

- 07 In-line SMA adaptor.
  - 08 Two potentiometer to vary forward current of LED in Transmitter & current of photo transistor in receiver.
  - 09 SPDT switch for selecting wavelengths 660nm and 850nm.
  - 10 NA JIG with scale marked on it to measure length.
  - 11 Mandrel.
  - 12 NA measuring Scale to measure width of Fibre Optic's LED.
  - 13 Adequate no of other electronic componets.
  - 14 Mains ON/OFF switch, Fuse and Jewel light.
  - 15 The unit is operative on 230V  $\pm 10\%$  at 50Hz A.C. Mains.
  - 16 Adequate no. of patch cords stackable 4mm spring loaded plug length 50cm.
  - 17 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections / observation of waveforms.
  - 18 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.
  - 19 Weight : 3 Kg. (Approx)
  - 20 Dimension : W 340 x H 125 x D 210
- OTHER APPARATUS REQUIRED:**
- 01 AF/RF Generator 10Hz to 1MHz OMEGA TYPE AO-309.
  - 02 Digital Fibre-Optic Power meter OMEGA TYPE DFPM-021.
  - 03 Digital Multimeter OMEGA TYPE DMM-201.
  - 04 Cathode Ray Oscilloscope 20MHz.

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

## OMEGA ELECTRONICS

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