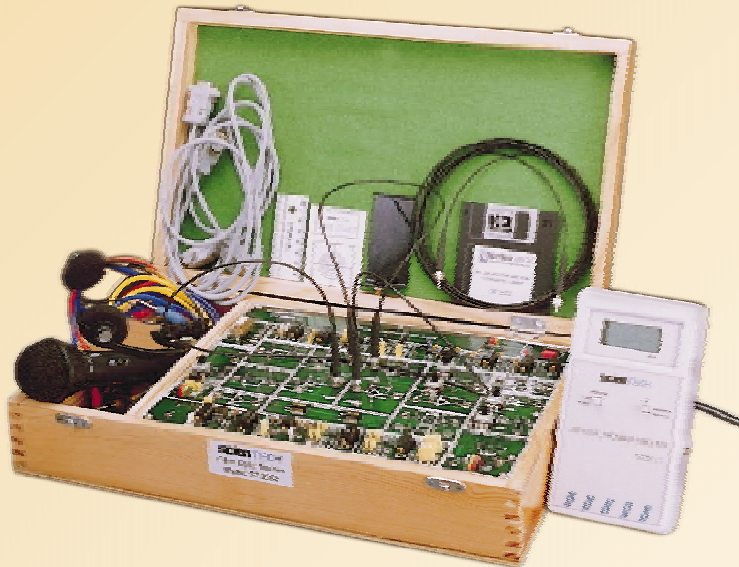


Advanced Fiber Optics Trainer ST2502



- Full Duplex Analog & Digital Trans-receiver.
- Single Module covering large number of experiments including experiments with Optical Power Meter.
- 660 nm & 950 nm channels with Transmitter & Receiver.
- AM-FM-PWM modulation / demodulation.
- PC-PC comm. with RS232 ports & software.
- On board Function Generator.
- Crystal Controlled Clock.
- Functional Blocks indicated on-board mimic.
- Input-output and test points provided on board.
- On board voice link.
- Built in DC power supply.
- Numerical Aperture measurement jig and mandrel for bending loss included.
- Switched faults on Transmitter & Receiver.
- Students workbook and Operating Manual contains theory of Fiber Optics Technology, experiments & Glossary of Fiber Optics Terms.

Fiber Optics as a new transmission medium has revolutionized the telecommunication industry. Fiber Optic systems have numerous performance and cost advantages over traditional radio and wire based transmission systems. The study of Fiber Optic communication systems thus have become more important. Advanced Fiber Optics Trainer ST2502 is designed to learn the communication techniques in Fiber Optics. The trainer demonstrates properties of Fiber Optics Transmitter & Receiver, characteristics of Fiber Optics Cable, different types of Modulation / Demodulation techniques and PC to PC communication via fiber link using RS232 interface. A large number of experiments are included in the Workbook and many more can be performed ST2502 can also be used to demonstrate various Digital Communication Techniques via Fiber Optic link using Scientech Digital Communication Trainers.



Advanced Fiber Optics Trainer ST2502

Chapters Included in Manual :

- Introduction to Fiber Optics
- Theory of Fiber Optics
- Optical Fiber Communication System
- Advantages of Fiber Optic System
- Characteristics of Optical Fiber
- Glossary of Fiber Optic terms

Experiments that can be performed :

- Fiber Optic Analog Link
- Fiber Optic Digital Link
- AM system using Analog & Digital Inputs
- FM & PWM Modulation Systems
- Propagation loss in Optical Fiber
- Bending loss in Optical Fiber
- Measurement of Numerical Aperture
- Characteristics of E-O Converter (LED)
- Characteristics of F.O. communication Link
- Measurement of power using Optical Power Meter
- Characteristics of E-O converter using Optical Power Meter
- Propagation loss using Optical Power Meter
- Setting of Fiber Optic Voice Link using AM-FM & PWM
- Study of Switched Fault in AM-FM & PWM systems
- Full Duplex Computer Communication using RS232 ports and software
and many more...

Technical Specifications :

Transmitter : 2 Nos., Fiber Optic LED's having peak wavelength of emission 660 nm & 950 nm.
Receiver : 2 Nos., Fiber Optic Photodetectors.
Modulation Techniques : 1) AM 2) FM 3) PWM.
Drivers : 2 Nos. with Analog & Digital modes.
PLL detector : 1 No.
Comparators : 2 Nos.
Filters : 2 Nos., 4th order Butterworth, 3.4 KHz cut-off freq.
Analog Band Width : 350 KHz
Digital Band Width : 2.5 MHz
Function Generator : 1) 1 KHz Sine wave (Amplitude adjustable)
2) 1 KHz square wave (TTL).
Voice Link : F.O. voice link using microphone & speaker (built-in).
PC-PC Communication : Using 2 channels through RS232.
Port : 19200 baud.
Switched Faults : 4 in transmitter & 4 in Receiver.
Fiber Optic Cable : Connector Type Standard SMA.
Cable Type : 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 deg.
Fiber Diameter : 1000 microns. **Outer Diameter** : 2.2 mm.
Fiber Length : 0.5 m & 1 m
Test Points : 50
Inter connections : 4 mm. sockets
Dimensions : W 325 x H 90 x D 255 mm.
Weight : 2.8 kg. approx.
Power Supply : 230V \pm 10%, 50Hz.
Accessories Included : Line cord, Manuals, NA Measurement Jig, Mandrel, Fiber Cables, Microphone, Headphone, Set of Patch Cords.
Optional Accessories : Optical Power Meter, 5 meter Fiber Cable, 10 meter Fiber Cable.

subject to change

Other Fiber Optic Products & Trainers :

- ★ Elementary Fiber Optic Trainer ST2501.
- ★ Laser Fiber Optic Trainer.
- ★ Fiber Optic Connectorization kits, FOK601 & 602.
- ★ PC based OTDR.
- ★ Fiber Optic Training Videos.
- ★ LASER and LED Light sources.
- ★ Optical Power Meters.
- ★ Patch cords and Connectors.
- ★ Tools and Consumables.

Scientech Digital Communication Trainers :

- ST2101** : Sampling & Reconstruction Trainer.
- ST2102** : TDM pulse Amplitude Mod. / Demod. Trainer.
- ST2103** : TDM PCM Transmitter Trainer.
- ST2104** : TDM PCM Receiver Trainer.
- ST2105** : Delta, Adaptive Delta & Delta sigma Mod./Demod. Trainer.
- ST2106** : Data Formatting & Carrier Modulation Transmitter Trainer.
- ST2107** : Carrier Demod. & Data Reformatting Receiver Trainer.
- ST2108** : Audio input module.
- ST2109** : Audio output module.
- ST2110** : PAM / PWM / PPM Trainer.

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