Premises/LAN Installation and Maintenance

Course Description

This two-day class features 8 hours of classroom training and 8 hours of hands-on skills labs that provide the practical understanding and skills required to properly design, install, and maintain premises-based local area networks (LANs). Students will use the latest fiber optic technology and equipment to learn how to splice, connectorize, test, and troubleshoot premises-based optical fiber networks in order to increase efficiency, reliability, and on-the-job safety as well as reduce costs and downtime.

Course Level

Introductory to intermediate. Beginners to experienced fiber technicians find the class and extensive hands-on skills training beneficial.

Course Options

Two days – Classroom lecture and hands-on exercises.

COURSE FEES

- Two-day Course $995
- Optional FOA CFOT or AFOT Exam $60

Certification

FOA Certified Fiber Optic Technician

FOA Advanced Fiber Optic Technician

Complete the two-day Premises/LAN Installation and Maintenance course and pass the Fiber Optic Association's Certified Fiber Optic Technician (CFOT) or Advanced Fiber Optic Technician (AFOT) exam.

NEW

Fiber Optics for Pro-AV

Ask about our **Fiber Optics for Pro-AV** custom course, which is designed to teach fiber optics to the audio/video industry.

Classroom (8 Hours)

Introduction to Fiber Optics
- Development Timeline
- Advantages of Optical Fiber Media

Fiber Optic Transmission Theory
- Structure of Optical Waveguides
- Types of Optical Fibers
- Basic Fiber Parameters
- Operating Wavelengths

Optical Fiber Manufacturing

Fiber Optic Cable Technology
- Cable Design Objectives
- OSP Cables and Loose Buffer Protection
- ISP Cables and Tight Buffer Protection

Fiber Optic Cable Installation Methods
- Comparison to Metallic Cable
- Basic Installation Parameters
- Underground, Aerial, and Direct Buried Installations

Termination and Splicing of Optical Fiber
- Connector Types
- Installation Methods
- Field Installable versus Factory Termination
- Splicing Methods

Field Testing and Troubleshooting
- Types of Field Tests
- Visual Continuity and Connector Inspection
- Insertion Loss Test Measurements
- Optical Time Domain Reflectometer Testing

Standards and Codes

System Design Parameters
- Insertion Loss Values
- System Dynamic Range
- Restoration Margin

Hands-on (8 Hours)

TRAINING LABS AND CERTIFICATION TESTING

Safety Meeting

Station #1 – Fiber Optic Cable Preparation
- Loose Tube Cable Preparation
- Tight Buffer Cable Preparation
- Fanout Kit Installation
- Pulling Grip Set Up

Station #2 – Fusion Splicing
- Fiber Cleaning and Preparation
- Fiber Optic Cleaving Process
- Core Alignment Splicers
- V-groove Alignment Splicers
- Splicing 250-µm to 900-µm Fiber
- Equipment Maintenance and Cleaning

Station #3 – Fiber Connectorization
- Fiber Cleaning and Preparation
- Anaerobic (Epoxy) Field Connector Installation
- Cleave and Crimp Field Connector Installation
- 250-µm Fiber Fan Termination
- 900-µm Tight Buffer Termination
- 2-mm and 3-mm Cordage Termination

Station #4 – Field Testing and Troubleshooting
- Cleaning Connectors
- Evaluation of Connector Endfaces
- Continuity Test with Visual Fault Locator
- Bidirectional Insertion Loss Methods
- Launch Conditions for Multimode Systems
- Bidirectional OTDR Traces
- OTDR Event Analysis
- Compute Link Loss Budget and Test Acceptance
- Testing and Troubleshooting Tips
- Documentation Requirements

"This course went beyond my expectations. This was my first exposure to fiber optics and it brought me completely up to my expectation of being able to talk to my customers and know what products to look at buying." – **Gary Weber, G N REPAIR & TECHNOLOGY**

The LIGHT BRIGADE (206) 575-0404 • (800) 451-7128 • Fax (206) 575-0405 • www.lightbrigade.com