

Basic Fiber Optics and Loss Testing (IL and ORL)

Although this one-day course was originally designed for beginners in the fiber optics industry, we have found that it can also serve as a good refresher for more experienced technicians who were never offered any formal training in fiber optics.

After completing this course, the attendee will have a substantial comprehension of light propagation theory and an overall understanding of the fundamentals of fiber optics. This course also covers loss testing methods; particularly, insertion loss (IL) and optical return loss (ORL). The testing part of the course includes theory and hands-on sessions for both IL and ORL measurements.

Content

- › Advantages of fiber optics over copper wire
- › Principles of light propagation
- › Causes of attenuation in the fiber
- › Common types of fibers and connectors (pros and cons)
- › Sources, detectors and other fundamental components
- › Difference between measurements units: watts, dBm, dB
- › Insertion loss measurements using an optical source and a power meter
- › Referenced measurements in dB
- › Causes of reflectance in the fiber
- › Reflectance measurements using a backreflection meter
- › Reflectance vs. ORL

Pre-Requisites

- › Basic comprehension of physics and mathematics

Methodology

The training consists mainly of lectures using PowerPoint presentations and demonstrations, but also includes specific hands-on workshop sessions on IL and ORL testing.

Documentation

Attendees will receive a binder containing copies of presentations and other handouts.

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