



The
LIGHT BRIGADE[®]

Your Fiber Optic Resource.

Fiber Optic Test Equipment and Testing Fiber Optic Links

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Testing is vital for network efficiency

In any complex system, testing and maintenance play a vital role in keeping the system functioning at peak efficiency. Fiber-optic networks are no exception. The test equipment employed by today's installers and technicians plays a critical part in that role. From simple power meters to specialized inspection equipment, a variety of test instruments have evolved over the years for acceptance testing, troubleshooting and documenting fiber-optic links. Technicians not only need knowledge of the theory and operation behind these instruments, but need the ability to choose the correct instrument for the testing task.

This DVD examines the products and applications involved in testing fiber-optic links, including light sources, detectors, and applicable optical theory. Common standards and recommendations are addressed, as well as the values established to test against.

The twelve menu-based chapters show an ample cross-section of the available types of test equipment along with explanations of each. The DVD also covers the issues confronted by technicians and addresses common problems and challenges that occur in fiber testing. Different testing techniques and methods are highlighted to help the viewer understand the choices available from the manufacturing industry.

Chapter Selections

Introduction to Fiber Testing – 6:30

Fiber optic testing requires equipment that is tailored for the application. This chapter is an overview of available equipment, as well as the tasks required to perform an attenuation test.

Selecting Test Equipment – 9:08

Understand how elements such as instrument resolution, dynamic range, launch conditions and calibration affect the final measurement.

Cleaning – 9:56

The need for connector cleanliness is critical for successful installation. This chapter focuses on the various contaminants, where and why they occur, along with cleaning products and techniques.

Basic Loss Testing – 7:00

This chapter describes three basic techniques to perform optical loss testing, and the need for bi-directional dual wavelength testing.

Multimode Testing – 9:30

This chapter examines multimode testing scenarios including LED and VcSel sources, 50/125 and 62.5/125 testing, new smart optical loss tests and launch conditions.

Singlemode Testing – 7:06

Most singlemode fiber spans are much longer and have higher fiber counts than multimode spans. The need for bi-directional, dual wavelength testing along with special wavelengths for testing new technologies such as FTTx is included.

Testing Transmitters & Receivers – 3:03

Testing optical power levels is a requirement for any fiber optic user, not just high-end users. This chapter shows how and why to perform basic power level testing of transmitters and receivers, and how to document the results for future comparisons.

Testing Dissimilar Connectors – 5:02

This chapter covers testing dissimilar connectors, MT-RJ and military types, and potential problems with mismatched end polishes on singlemode connectors.

Measuring Reflection – 6:05

Today the impact of reflectance is being recognized as a limitation in high-performance systems. This chapter explains the roles of components causing reflections and how the test to measure the amount of reflectance in a span is performed.

Fiber Identifiers – 2:58

Fiber identifiers are invaluable when determining if a fiber is carrying live traffic. This chapter focuses on how fiber identifiers work and how they are used to perform mid-entry or "express" entries into fiber-optic spans.

Visual Tracers – 4:39

This chapter discusses visual tracers and how they are used, including detailed list of problems that they can resolve, including damaged or contaminated connectors, tracing fiber spans, or identifying micro/macrobends.

Visual Inspection – 6:27

Safely identifying if a connector is contaminated or damaged is critical for a technician. This chapter explores inspection equipment, including videoscopes, microscopes and interferometers.

Fiber Optic Talk Sets – 2:50

Fiber optic talk sets provide technicians with a quick and reliable method of communications when testing fiber optic links. This chapter reviews the applications and features that should be addressed when communication is required.

Bonus Materials – Quiz in Word format, with both student and instructor versions.