

Fiber Optic Passive Devices

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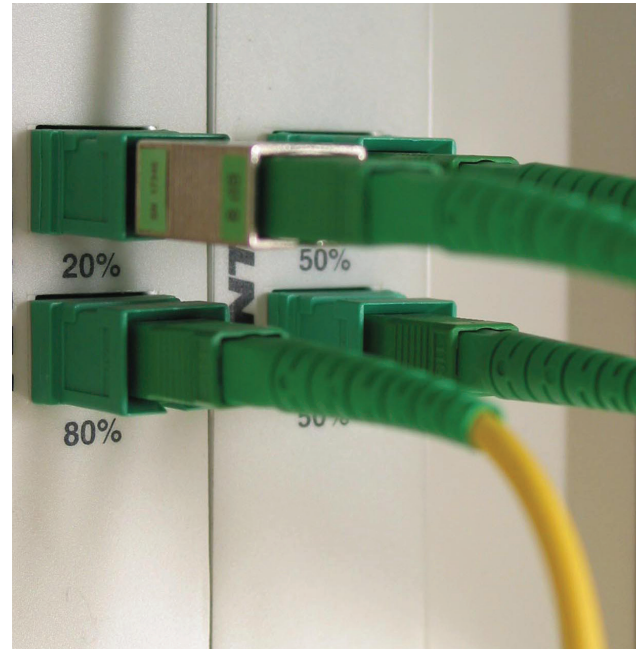


A primer from components to systems

This DVD serves as a primer on the various types of passive devices that have been developed for use in fiber optic communication systems. Fiber optic passive devices are purely optical instruments that work by guiding, refracting and reflecting light. Considered a cost-effective alternative to electro-optical components, these devices have become commonplace and are seeing wide use as components and optical sub-assemblies in communication systems.

The DVD's individual chapters detail the theory, manufacture and employment of passive components and optical sub-assemblies, including an in-depth look at the products and technology used in wide, coarse and dense wavelength division multiplexing. Later chapters discuss the evolution of optical add/drop multiplexing, and look at the specifics of testing and test equipment for passive components.

Special features include a student quiz, with matching instructor version, written in Microsoft Word format to allow for customization for your specific needs. In addition, the DVD features a comprehensive list of acronyms and a glossary of terms.



Chapter Selections

Introduction — 12:27

Since their development, passive devices have grown from simple splitting devices to sophisticated components capable of controlling individual wavelengths. This chapter takes a look at the various passive devices available today.

Optical Couplers — 19:05

Optical couplers use resonant coupling to combine or split multiple signals. This chapter examines fused biconical taper splitters, planar lightwave circuits, tap splitters, and common split ratios supporting network requirements.

Optical Filters & Gratings — 16:12

Fiber-optic filters began as simple attenuators that created loss between a transmitter and a detector. They soon could combine multiple transmitters and detectors within the same wavelength window or even commit or extract multiple wavelengths into a single fiber core.

WDM Components — 11:22

Wavelength division multiplexing (WDM) devices are optical components and sub-assemblies that allow a single fiber to carry two or more wavelengths. This chapter looks at products including filters, gratings, diplexers, triplexers, and interleavers.

WDM Systems — 15:27

Fiber optic WDM systems expand the transmission capacity of existing or planned fiber spans by multiplexing wavelengths within the ITU-standardized optical bands. This chapter examines how WDM systems are used in short haul, long haul, metropolitan, traffic and FTTx applications.

Dispersion Compensators — 11:49

Dispersion compensators can be either passive, using specialized optical fibers, or feedback controllers that actively tune a laser's output. This chapter explores the different types available and how they function.

Optical Switches — 10:39

Optical switches re-direct the addressed data signals that re-configure fiber optic communication systems. This chapter discusses optical cross-connects, bypass switches, matrix switches, MEMs, and more.

ROADMs — 8:23

Reconfigurable optical add/drop multiplexers (ROADMs) are tunable products that remotely provision a network without sending personnel to modify fibers at panels, closures or hub sites. Learn how ROADMs evolved from the original OADMs as well as how they function.

Design and Testing — 12:04

The equipment used to test passive and tunable components ranges from simple loss test sets to sophisticated optical spectrum analyzers. This chapter reviews the testing of optical components, sub-assemblies, and systems during manufacturing, integration, and deployment.

Bonus Materials – Acronym list, glossary, and quizzes in Word format, with both student and instructor versions.