Digital Program-Controlled Switch PRI Optical Module



Overview

This module allows one input optical signal to be switched to any of the 32 output channels while maintaining the input polarization, thanks to its use of PM Panda fiber.

Key Takeaways

A Digital Program-Controlled Switch PRI Optical Module is an SDH-based optical interface board that enables programmatic switching and transmission of multiple 2M services over optical networks while supporting ISDN PRI signaling.

Overview and Function

This module serves as a sub-processor within a program-controlled switch, providing a standard 155M SDH optical interface for high-speed optical transmission. It converts incoming optical signals from fiber into electrical signals, performs clock recovery, data extraction, and overhead processing, and then maps the payload to extract multiple 2M services for switching and routing within the network. It supports flexible add/drop of services and can handle up to 63 2M channels per board.

Architecture and Components

The module typically includes the following components: CPU and Control Module: Manages signal processing and communication with the main processor. Shared Mailbox Module: Facilitates data exchange between the main processor and the optical module. Optoelectronic/Electro-Optical Conversion Module: Converts optical signals to electrical signals and vice versa.

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Overhead and Pointer Processing Module: Handles SDH section and path overhead, including B1/B2 error checking.

E1 Mapping/

Demapping and Framing Module: Extracts 2M services from VC-4 payloads and maps them back for transmission. Backplane Drive Circuit Module: Interfaces with the switch backplane for internal routing. Clock Module: Ensures precise timing and synchronization.

Power Module: Supplies stable power to all components.

Program-

Controlled Switching

The module supports programmatic control for optical path switching, enabling automated routing of signals. It can be triggered via software commands, external TRIG signals, or physical interfaces such as RS232, USB, or Ethernet. This allows integration into automated test systems or network management platforms, providing high repeatability, low insertion loss, and fast switching times (often

Article Content

Design of Optical Interface in Program-controlled Switch

The built-in SDH optical relay interface board (hereinafter referred to as SDH optical interface board) provides an STM-1 rate optical interface for the switching equipment, works in the terminal

POLATIS Optical Switch Modules from 16x16 up to

POLATIS Series 6000 Optical Switch Modules (OSM) are high-performance, fully non-blocking all-optical matrix switch modules with port counts from 16xCC up to

1x32 1550nm Polarization Maintaining Optical Switch Module

This module allows one input optical signal to be switched to any of the 32 output channels while maintaining the input polarization, thanks to its use of PM Panda fiber. Operating at the 1550nm

A Review of Silicon-Based Integrated Optical Switches

Recent studies on silicon-integrated optical switches incorporating PCMs are also reviewed. Furthermore, the pros and cons of different types of

White Paper: Management of Smart Optical Modules

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This white paper introduces a control paradigm for optical modules that decouples optical layer control from packet layer control and thus, from host software and packet controller software

Optical switch module MAP

These switches are components of the MAP-300 family. With the widest range of optical modules in the industry, it is the most popular choice for manufacturing

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What Is an Optical Module and Its FAQs (V200)

Describes what an optical module is and FAQs, including the fundamentals, appearance and structure, key performance counters, common types, and naming conventions of optical modules, causes of

Pluggable Optical Modules Market : Global Industry Analysis and ...

Explore the global Pluggable Optical Modules market with expert analysis on growth drivers, trends, key insights, and forecast outlook to 2036.

Optical Switch

Optical switches are defined as devices used in optical communications networks to switch signals optically rather than electronically, allowing for reduced power consumption compared to

Basic T1-PRI configuration (LAB Recreation) Service

Configuring T1-PRI example What is a PRI? The Primary Rate Interface (PRI) is a telecommunications interface standard used on an Integrated

Data Center Power Solutions for Optical Systems and Modules

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Analog Devices optical power solutions, including thermoelectric cooler (TEC) controllers, load switches, POL, regulators, and power micro modules enable customers to design power-efficient and compact

TI DLP® System Design: Optical Module Specifications

ABSTRACT The objective of this application note is to help product developers better understand optical module specifications and related system design considerations. This information helps expedite

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Application Notes

1. Introduction With an 8-port T1 module installed, the Catalyst 6509 switch can be configured as a VoIP gateway controlled by Cisco CallManager. Each T1 port can provide 23 voice channels with ISDN

A Review of Silicon-Based Integrated Optical Switches

The optical switch is an essential part of optical integrated circuits, with broad applications in optical communications and networks, optical computing,

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African project coordination: Century City, Cape Town, Western Cape, South Africa

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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