PL-2000 2x10G Muxponder/ADM

Multi-protocol multi-rate muxponder with flexible uplink aggregation, capacity of up to 20G

Features Overview

- Single or dual configurable 10G muxponders
- Up to 16 multi-protocol and multi-rate services aggregation over single or dual OTU2 uplinks
- **Service types supported:**
  - Fast Ethernet
  - GbE
  - 1/2/4G FC/FICON
  - STM-1/OC-3, STM-4/OC-12, STM-16/OC-48
  - Video protocols such as DVB-ASI, SD-SDI, HD-SDI, 3G-SDI
- Dual standard-based optical transport network (OTN) OTU2 uplinks supporting multiple forward error correction (GFEC/I.4/I.7) types
- 1+1 facility protection
- OTN SNCP 1+1 service protection for ring applications
- Low latency
- Supports standard MSA SFPs (client), XFPs (uplink), and C-band tunable XFPs
- Supports line and service performance monitoring
- Remote management optical supervisory channel (OSC)
- Flexible OTN cross connect
- Remote management and fiber monitoring with OSC OTDR SFP
- Optional integrated EDFA, mux/demux, DCM and optical switch
- Dual AC or DC pluggable power supply and pluggable fan unit
- Web-based GUI and SNMP EMS management
- Low power consumption

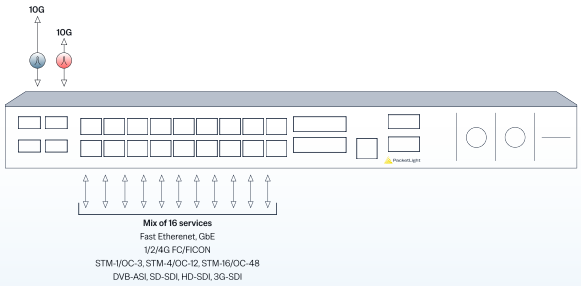
Muxponder/ADM Capabilities

The PL-2000 provides an efficient and flexible aggregation layer of multi-protocol multi-rate sub-10G services, delivering two 10G OTU2 uplinks using flexible cross connect matrix. The PL-2000 increases the spectral efficiency of WDM networks by reducing the number of wavelengths needed for a sub-10G solution by a factor of 8 on average.

Main Benefits

- Sub-10G gateway for 10/100G OTN networks, supporting LR and tunable DWDM uplink modules
- Multiplexes up to 16 client services into single or dual independent 10G OTU2 wavelengths
- Aggregates SDH/SONET, Ethernet, Fibre Channel and video services

PL-2000 Product Diagram 2 x 10G OTU2 Uplinks



A Flexible Platform

The PL-2000 reduces the solution cost and operation complexity by increasing fiber utilization and spectral efficiency. Each of the 10G OTU2 uplinks can simultaneously aggregate SDH/SONET, Ethernet, Fibre Channel and video services, providing a perfect access platform for multiple clients, and enables to merge legacy and new services transparently.

Together with PacketLight LightWatch NMS the system provides A-to-Z provisioning. The PL-2000 Incorporates forward error correction suitable for long distance amplified DWDM network.

Recommended Applications

- 10G ring applications
- Sub-10G gateway for 10G/100G OTN networks
- Multi-service access platform for service providers
- Transporting multi-services over long haul networks
- Upgrading legacy infrastructure with new services
- Efficient aggregation of multiple native video streams over DWDM and OTN infrastructure

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Technical Specifications

System

Topology: Point-to-point, ring or linear add/drop

Transport Network Medium: Access/ metro CWDM/DWDM or dark fiber

Protection: 1+1 facility per service

Uplink Characteristics

Dual 10G OTU2 Muxponder:
Up to 16 multi-service & rate clients mapped over two independent OTU2 uplinks

Single protected 10G OTU2 uplink:
Up to 16 multi-service & rate clients mapped over protected OTU2 uplink

EDFA: Optional EDFA module

Mux/Demux:
Optional mux/demux module

Amplifier

Output Power: 14, 17, 20 or 23dBm

Input Power: -36dBm up to 16dBm

Gain: 8dB to 22dB

Operating Modes:

- Automatic gain control (AGC)
- Automatic power control (APC)

Eye Safety: Automatic laser power reduction upon fiber cut or disconnection

Mux/Demux

Channels: 2/4/8 CWDM or DWDM

Spacing: 50/100GHz (for DWDM)

Muxponder Uplink

Bit Rate: 10.7092G (OTU2)

Optical Interface:
Pluggable XFP transceiver

OTN support:

- ODU1 VCAT mapping to OTU2
- **Supported FEC types:**
  - G.709 GFEC (RS)
  - G.975.1 I.4
  - G.975.1 I.7

Muxponder Service

Service Type:

- Optical or copper GbE
- FC/FICON 1G, 2G or 4G
- Optical or copper Fast Ethernet
- STM-1,STM-4, STM-16
- OC-3, OC-12, OC-48

Bit Rate: 100Mbps to 4.25Gbps

Optical/copper Interface:
Pluggable SFP transceiver

Network Management

Management Ports:

- RJ-45 LAN port 10/100MBase-T
- 2xSFP MNG ports 100/1000MBase-X
- RS-232 serial port
- DB9 external alarm port

Management Protocols:

SNMP, HTTP, HTTPS, CLI over RS-232 or CLI over Telnet/SSH, Telnet, SSH, Syslog, RADIUS, TACACS+, SNTP, RSTP, TFTP & FTP

NMS: PacketLight LightWatchTM NMS, or third party NMS over SNMP

OAM: Facility loopback (client & line interfaces), PRBS, event logger, alarms, ALS

Performance Monitoring: Layer-1 PM for all services, optical power Tx, Rx levels for all optical ports , Layer-2 PM for the data services 1G & 10G LAN

Visual Indicators: LED: client and line ports, Management and LAN ports, amplifier/s, system Critical/Major/ Minor and Power Supply

Software Upgrade:
Hitless traffic – dual image

Power Supply

AC/DC: 100 to 240 VAC or -36 to -60 VDC, 50/60 Hz, 68W max

PSU Redundancy: Single/dual feeding, hot swappable

Cooling Unit:
Hot swappable fan unit

Environmental

Operating Temperature:
-5ºC to 50ºC (+23ºF to +122ºF)

Humidity: 5% to 85% RH

Physical Dimensions

Size:

- 1.77" (H) x 17.32" (W) x 9.05" (D)
- 45mm (H) x 440mm (W) x 230mm (D)

Weight: 5.5kg / 12.13lb (max)

Mounting: 19", ETSI and 23"

Approvals & Standards

- CE, FCC, RoHS, REACH
- NEBS ready

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