

PL-2000AD

200G Optical Transport Solution



200G multi-protocol multi-rate muxponder /transponder/ADM for metro and long haul optical transport solutions, in 1U

Features Overview

- Multiple user-configurable operation modes: muxponder, transponder and ADM
- Supported clients: 10G/40G/100G LAN, 8G/16G/32G Fibre Channel, STM-64/OC-192 SDH/SONET, OTU2/OTU2e/ OTU3/OTU4 OTN
- Forward error correction (FEC):
 - ITU-T G.709 GFEC or UFEC for metro applications
 - Soft decision (SD) FEC for long haul applications
- Dual pluggable CFP2 coherent tunable DWDM line interfaces
- Layer-1 GCM-AES-256 based encryption
- Comprehensive line and service performance monitoring
- Integrated EDFAs, mux/demux, and optical switch
- Remote management with in-band or out-of-band optical supervisory channel (OSC)
- Supports standard MSA pluggable SFP+ (8G/32G client), QSFP+ (40G client), QSFP28 (100G client) and CFP2 (uplink)
- Dual AC or DC pluggable power supply and pluggable fan unit

For Metro and Long Haul 200G Applications

The PL-2000AD is the smallest and most integrated transport solution of its kind, reaching up to 200km/42dB without intermediate sites and 2500km with inline sites. A powerful 200G multi-protocol multi-rate muxponder/transponder/ADM solution for building high capacity optical transport networks.

Main Benefits

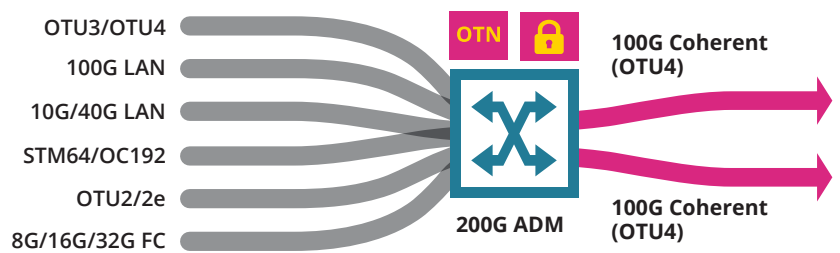
- Flexible OTN cross connect
- Dynamic mix of services
- Embedded encryption for all protocols
- Highly integrated 1U solution

Secured and Encrypted Communication for all Services

The flexible architecture of the PL-2000AD enables the same device to be used in multiple applications and adapt to network growth and changes.

It supports and aggregates a flexible mix of 10G/40G/100G client interface protocols into 2x100G OTU4 uplinks.

The platform supports various client services, allowing easy migration from current to future services without replacing the unit. The product supports standards-based Layer-1 encryption, configurable per service or per uplink.



Multiple Client Services Aggregated into Dual 100G OTU4 Uplinks

Recommended for the following applications:

- Metro and long haul network applications up to 2,500km
- 100G protected ring topology
- High capacity DCI for enterprise, campus, cloud computing networks
- 200G links to bolster existing OTN/DWDM infrastructure
- Last mile access/aggregation for 10G/40G/100G managed services
- Secured and encrypted communication for all protocols



**Layer-1
encryption**



**Low power
consumption**



1U rack mount



**Multi operation
modes**

Technical Specifications

Product Configurations

Dual 10x10G Muxponder: Up to 20 multi-service 10G clients aggregated to 2xOTU4 uplinks

40G and 16x10G Muxponder: 40G LAN and up to 16 multi-service 10G clients aggregated to 2xOTU4 uplinks

Dual 40G and 12x10G Muxponder: 2x40G LAN and up to 12 multi-service 10G clients aggregated to 2xOTU4 uplinks

Dual 100G Transponder: 2x100GbE LAN mapped to 2xOTU4 uplinks

100G Transponder and 10x10G Muxponder: 100GbE LAN mapped to one OTU4 uplink and up to 10 multi-service 10G clients aggregated to second OTU4 uplink

Optical Amplifiers: Optional up to two EDFA modules

Mux/Demux: Optional 2ch mux/demux module

Optical Switch: 1+1 facility protection

Uplink Characteristics

Bit Rate: 127.157GHz (OTU4v with 20% SD FEC)

Optical Interface: CFP2 coherent (ACO)

Tunability Range: DWDM ITU-T G.694.1 GRID channels 17-60.5, with 50GHz spacing

FEC Support: Standard ITU-T G.709 GFEC, enhanced HD-FEC, or SD-FEC

Optical Reach: Up to 2,500km with standard inline EDFAs

Optical Output Power: 2dBm to -2dBm

OSNR:

- Long haul: 14dB, 2,500km
- Metro: 17dB, 1,200km

Sensitivity: -25dBm

Optical Monitoring: Tx and Rx power, dispersion, OSNR

Client Interfaces

Service type: 10GbE LAN, 40GbE LAN, 100GbE, 8G/16G/32G FC, STM-64/OC-192, OTU2, OTU2e, OTU3, OTU4

Optical Interface:

- SFP+: LR (1310nm), SR (850nm), ER (1550nm), ZR (1550nm), C/DWDM
- QSFP+: LR4 (1310nm), ER4 (1310nm), SR4 (850nm), LR PSM
- QSFP28: LR4 (1310nm), ER4 (1310nm), SR4 (850nm), CWDM4 (CWDM)

Amplifier

Applications: Booster, pre-amp

Output Power:

- Booster: +4 to +14dBm
- Pre-amp: +5dBm

Input Power:

- Booster: 0 to +10dBm
- Pre-amp: -25 to -9dBm

Gain:

- Booster: +4 to +14dB
- Pre-amp: +18dB

Operating Modes:

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

Network Management

Management Ports:

- 2xRJ-45 LAN port 10/100MBase-T
- 2xSFP MNG ports 100/1000MBase-X
- RJ-45 serial port
- RJ-45 external alarm port
- OTN in-band GCC channel

Protocols: SNMP, HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, SNTP, TFTP & FTP

Management:

- Web browser over HTTP/HTTPS,
- PacketLight LightWatch™ NMS/EMS, or third party NMS over SNMP
- CLI over RS-232 or CLI over Telnet/SSH

OAM:

- Automatic laser shut-down (ALS)
- Facility loopback (client and line interfaces), PRBS, event log alarms

Performance Monitoring:

- Layer-1 PM for all services
- Layer-2 PM for Ethernet
- OTN PM for uplinks
- Optical power Rx levels for all optical ports

Visual Indicators: LED status indicators for: 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, 50/60 Hz, -36 to -60 VDC, 350W max

PSU Redundancy: Single/dual feeding, hot swappable

Cooling Unit: Hot swappable fan unit

Environmental

Operating Temperature: -5°C to 50°C (+23°F to +122°F) operational

Humidity: 5% to 85% RH

Physical Dimensions

1U:

- 1.77" (H) x 17.32" (W) x 11.22" (D)
- 45mm (H) x 440mm (W) x 285mm (D)

Weight: 8.5kg / 18.75lb (max)

Mounting: 19", ETSI, 23"

Encryption

Functionality: Full speed transparent Layer-1 encryption for selected clients or for the OTU4 uplinks

Compliance:

- FIPS 140-2 Level 2
- CNSA Top Secret Suite 2015

Approvals & Standards

- CE, FCC, RoHS, REACH
- NEBS ready



For more information please contact us at www.packetlight.com

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