

PL-2000AD

200G Optical Transport Solution



The PL-2000AD is an advanced 200G ADM in just 1RU targeted for next generation Metro and Long Haul Applications

FEATURE OVERVIEW

Next generation versatile 200G capacity platform with low power consumption and compact 1U dimensions

Supports multiple user configurable operation modes: Muxponder, Transponder and ADM

Supported clients:
10G LAN, 8G/10G/16G/32G Fibre Channel, STM64/OC192, OTU2, OTU2e, 40G LAN, OTU3, 100G LAN, OTU4

Standards based ITU-T G.709 Forward Error Correction (FEC) GFEC for short haul applications, or HD-FEC and SD-FEC for metro and 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, Optical Switch, providing solution in a box

Remote management with In-band or out-of-band Optical Supervisory Channel (OSC)

Dual AC or DC pluggable Power Supply and pluggable FAN Unit

Supports standard MSA pluggable SFP+ (8G/10G/16G/32G client), QSFP+ (40G client), QSFP28 (100G client) and CFP2 (uplink)

Operates with both dual or single fiber

200G MULTIPROTOCOL MULTIRATE MUXPONDER / TRANSPONDER / ADM FOR METRO AND LONG HAUL OPTICAL TRANSPORT SOLUTIONS

PL-2000AD is the PacketLight's 200G multi-protocol multi-rate Muxponder/ Transponder/ADM solution for building high capacity optical transport networks. Its flexible architecture enables the same device be used in multiple applications and adapt to network growth and changes.

The PL-2000AD product provides high transport capacity of up to 200G in a modular and cost-effective way for rolling out services. It fully meets the market demands for low power consumption, rack space savings and reduction in the overall solution CAPEX and OPEX by increasing the capacity of enterprise, metro and long haul networks.

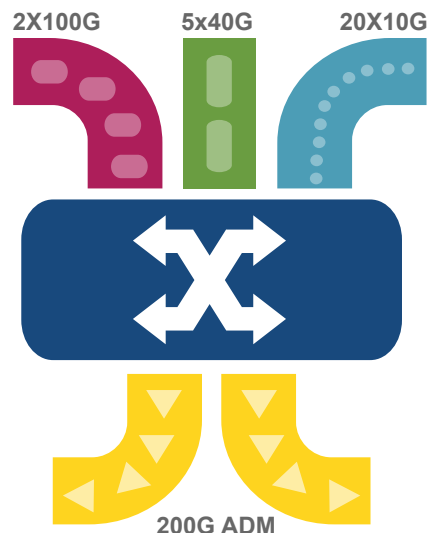
The PL-2000AD supports flexible mix of 10G/40G/100G client interfaces protocols and aggregating them into a 100G OTU4 uplinks. The platform supports various client services including the protocols: 10G/40G/100G LAN, STM64/OC192, OTU2/3/4 and 8G/10G/16G/32G FC, thus allows an easy migration from current to future service requirements (protocols and rates) without replacing the unit.

The PL-2000AD 1U device supports up to two integrated optical amplifiers. It is the smallest, most integrated transport solution of its kind reaching up to 200Km/42dB without intermediate sites and 2500Km with Inline sites.

The PL-2000AD seamlessly integrates with PacketLight's PL-2000 and PL-1000TN to deliver-carrier, grade high-end 100G solutions capable of serving multiple applications and protocols for Enterprise/Data Center, Metro and Long Haul networks such as Data, Storage, TDM, ATM and Video.

Ideal for Metro and Long Haul networks applications ranging up to 2,500km such as:

- High capacity enterprise and campus networks
- Dynamic add/drop of services in ring, linear add/drop topologies
- High bandwidth connectivity for data center and cloud computing
- Last mile access/aggregation CPE for 10G/40G/100G managed service
- Providing 100G links over existing OTN/DWDM infrastructure
- Secured and encrypted communication



TECHNICAL SPECIFICATIONS

Product Configurations

Dual 10x10G Muxponder	Up to 20 multi-service 10G clients aggregated to 2x OTU4 uplinks
40G and 16x10G Muxponder	40G LAN and up to 16 multi-service 10G clients aggregated to 2x OTU4 uplinks
Dual 40G and 12x10G Muxponder	2x 40G LAN and up to 12 multi-service 10G clients aggregated to 2x OTU4 Uplinks
Dual 100G Transponder	2x 100GbE LAN mapped to 2x OTU4 uplinks
100G Transponder and 10X10 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

Bite Rate	127.157GHz (OTU4v with 20% SD FEC)
Optical Interface	CFP2 Coherent (ACO)
Tune-ability 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
Optical Output Power	2dBm to -2dBm
Sensitivity	-25dBm, 14dB OSNR
Optical Monitoring	Tx and Rx Power, Dispersion, OSNR

Client Interfaces Characteristics

Service type	10GbE LAN/WAN, 40GbE LAN, 100GbE, 8G/10G/16G/32G FC, STM-64/OC-192 OTU2, OTU2e, OTU3, OTU4
Optical Interface	SFP+: LR(1310nm), SR (850nm), ER (1550nm) , ZR (1550nm) and C/DWDM QSFP+:LR-4 (1310nm), SR-4 (850nm) QSFP28: LR-10 (1310nm), SR-10 (850nm)

Amplifier

Applications	Booster, Pre-Amp
Output Power	Booster: +4 to +14 dBm Preamp: +5 dBm
Input Power	Booster: 0 to +10 dBm Pre-Amp: -25 to -9 dBm
Gain	Booster: +4 to +14 dB Preamp: +18 dB
Operating Modes	AGC (Automatic Gain Control), APC (Automatic Power Control)

Approvals & Standards

CE, FCC, RoHS, REACH
ISO 9000, NEBS Compliant

Network Management

Management Ports	<ul style="list-style-type: none"> • 2x RJ-45 LAN port 10/100Mbase-T • 2x SFP MNG ports 100/1000MBase-X • RJ-45 Serial port • RJ-45 External Alarm port • OTN GCC Inband channel
Protocols	SNMP, HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, SNMP, TFTP and FTP
Management	Web browser over HTTP/HTTPS, LightWatch PacketLight NMS/EMS, or 3rd party NMS over SNMP, CLI over RS-232 or CLI over Telnet/SSH
OAM	Facility Loopback (Client and Line Interfaces), PRBS, Event Log, Alarms Automatic Laser Shut-Down (ALS)
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	Traffic Hitless – dual image

Power Supply

AC/DC	~100 to ~240 VAC, -36 to -72 VDC, 250W 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

Size	1.77" (1 RU) (H) x 17.32"(W) x 11.22"(D) 45 mm (H) x 440mm (W) x 285 mm (D)
Weight	8.5Kg / 18.75 lb (Max)
Mounting	19", ETSI and 23"

Encryption

Functionality	Full speed transparent Layer 1 encryption for selected clients or for the OTU4 uplinks
Compliance	FIPS 140-2 Level 2 NSA Suite B
Algorithms	Encryption/Decryption: GCM-AES-256 Key Exchange: ECC CDH Message Digest: SHA-256
Authentication	Role based User/Password authentication

