

PL-2000M

200G Coherent Optical Transport



The PL-2000M is an advanced 200G Single Wavelength Muxponder/Transponder compact 1RU platform targeted for next generation DCI and Metro Applications

FEATURE OVERVIEW

- User configurable for both Muxponder and Transponder operation modes
- Supported clients:
10G/40G/100G LAN, 8G/10G/16G/32G Fibre Channel, OC192/STM64 SONET/SDH, OTU2/OTU2e/OTU3/OTU4 OTN
- 200G Uplink aggregation examples:
 - Up to 20x 10G (multirate)
 - 2x 100G clients
 - 1x 100G + 10x 10G clients
 - 4x 40G + 4x 10G clients
- Standards based ITU-T G.709 (FEC) GFEC for short haul applications, or UFEC and SD-FEC for metro and long haul applications
- 200G pluggable CFP2 Coherent (ACO) tunable DWDM line interface
- Layer-1 GCM-AES-256 encryption, complies with FIPS 140-2 Level 2
- Diffie-Hellman (DH) Key Exchange
- Comprehensive Line and Service performance monitoring
- Optional integrated EDFA & Mux/DeMux
- Protection modes
 - Facility protection using integrated Optical Switch
 - Equipment protection
- Remote management with In-band, GCC or out-of-band OSC
- Dual AC or DC pluggable Power Supply and pluggable FAN Unit
- Supports standard MSA pluggable SFP+, QSFP+, QSFP28 and CFP2
- Operates with both dual or single fiber

200G MULTIPROTOCOL MULTIRATE MUXPONDER / TRANSPONDER FOR DCI AND METRO OPTICAL TRANSPORT SOLUTIONS

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

The PL-2000M product provides high transport capacity of 200G over a single wavelength in a modular and cost-effective way for rolling out services or uplifting existing network capacity. 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 DCI (Data Center Interconnect) and metro networks.

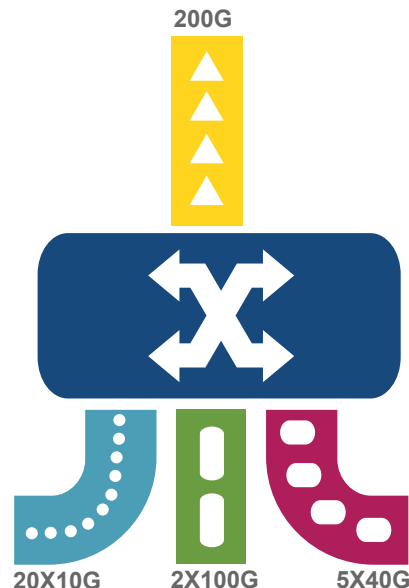
The PL-2000M supports flexible mix of 10G/40G/100G client interfaces protocols and aggregating them into a 200G OTUC2'V2 uplink. The platform supports various operation modes of Muxponder and Tranponder and mixing different protocols and rates over single uplink.

The PL-2000M 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 1,000Km with Inline sites.

The PL-2000M seamlessly integrates with PacketLight's products to deliver-carrier, grade high-end 200G solutions capable of serving multiple applications and protocols for Enterprise/Data Center networks such as Data, Storage, Video, TDM, ATM.

The PL-2000M is ideal for Metro and DCI applications ranging up to 1,000km such as:

- High capacity enterprise and campus networks
- High bandwidth connectivity for Data Center Interconnect and cloud computing
- Last mile access/aggregation CPE for 10G/40G/100G managed services
- Providing 200G links over existing OTN/DWDM infrastructure
- Secured and encrypted communication for all protocols



TECHNICAL SPECIFICATIONS

Product Configurations

Single 20x10G Muxponder	Up to 20 multi-service 10G clients aggregated to 1x 200G uplink
40G and 16x10G Muxponder	40G LAN and up to 16 multi-service 10G clients aggregated to 1x 200G uplink
Dual 40G and 12x10G Muxponder	2x 40G LAN and up to 12 multi-service 10G clients aggregated to 1x 200G uplink
Dual 100G Transponder	2x 100GbE LAN mapped to 1x 200G uplink
100G Transponder and 10X10 Muxponder	100GbE LAN + 10x10G mapped to 1x 200G 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	200G OTUC2*V2- 2x132.2680Gbps 100G OTU4V2 - 131.1026 Gbps
Optical Interface	CFP2 Coherent (ACO)
Tune-ability range	DWDM ITU-T G.694.1 GRID Channels 13-60.5 ,with 50GHz spacing
FEC Support	Standard ITU-T G.709 GFEC, Enhanced HD-FEC, or SD-FEC
Optical Output Power	100G: -2dBm to +3dBm 200G: -5dBm to 0dBm
Optical Reach & Sensitivity	200G: -25dBm Up to 1,000Km 18.5dB OSNR 200G: -25dBm Up to 100Km 21dB OSNR 100G: -25dBm Up to 4,000Km 11dB 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-4 (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)

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, SNTP, 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, 300W 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

Approvals & Standards

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

