

# PL-2000 20G ADM/Muxponder

## 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/L.4/L.7) types
- 1+1 facility protection
- 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)
- 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
- 1U footprint with low power consumption

### Sub-10G Multi-protocol Multi-rate ADM/Muxponder

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



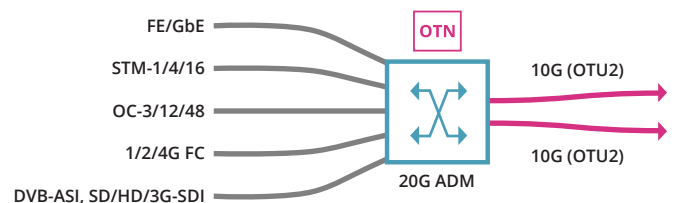
### Main Benefits

- Provides a sub-10G gateway for 10/100G OTN networks supporting LR and tunable DWDM uplink modules
- Transparently multiplexes up to 16 client services into single or dual independent 10G OTU2 wavelengths
- Simultaneously aggregates SDH/SONET, Ethernet, Fibre Channel and video services

### 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.



Multiple Client Services ADM/Muxponder into 2 x 10G OTU2 Uplinks

### 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 distance optical network
- Upgrading legacy infrastructure with new services
- Efficient aggregation of multiple native video streams over DWDM and OTN infrastructure



Low power consumption

1U

1U rack mount



Multi operation modes

## 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

### Product Configurations

**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

**Protocols:** SNMP, HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, TACACS+, SNMP, RSTP, TFTP and FTP

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

**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, 50/60 Hz, -36 to -60 VDC, 68W 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 9.05" (D)
- 45mm (H) x 440mm (W) x 230mm (D)

**Weight:** 5.5kg / 12.1lb (max)

**Mounting:** 19", ETSI and 23"

### Approvals & Standards

- CE, FCC, RoHS, REACH
- NEBS ready