PL-2000

Multiprotocol / Multirate Muxponder

The PL-2000 is an advanced Multiprotocol/Multirate Muxponder with flexible uplink aggregation capacity of up to 20G

FEATURE OVERVIEW

Increasing the spectral efficiency of CWDM/DWDM networks with user configurable Single or Dual Low Latency 10G Muxponders

Up to 16 multiprotocol and multirate services aggregation over a single or dual independent 10G wavelengths

Service type supported are:
Fast Ethernet, GbE, 1/2/4G FC/FICON, STM-1/OC-3, STM-4/OC-12, STM-16/OC-48, DVB-ASI, SD-SDI, HD-SDI, and 3G HD-SDI

Dual standard based Optical Transport Network (OTN) OTU2 Uplinks

Supporting three Forward Error Correction (FEC) and EFEC types

1+1 Facility uplink protection

Supports both Line and Service performance monitoring

Optional integrated EDFA and/or MUX/DEMUX modules

Cost-effective, compact 1U platform with low power consumption ideal for CLE (Customer Located Equipment)

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

Dual AC or DC pluggable Power Supply and pluggable FAN Unit

Supports standard MSA SFPs (client) and XFPs (uplink) & C-Band Tunable XFPs

PRODUCT DESCRIPTION

The PL-2000, a member of PacketLight's Muxponder Family, is a perfect solution for simplifying the management and maintenance as well as reducing the overall cost of CWDM/DWDM solution. The PL-2000 significantly lowers the number of wavelengths needed for the CWDM/DWDM network as well as the number of required filters thus reducing the size and cost of EDFA's and the management complexity of the network.

The PL-2000 provides an efficient and flexible aggregation layer of multiprotocol/multirate sub-10G services into 10G uplink trunk thus reducing the number of wavelengths needed for a sub-10G solution by a factor of 8 on average. Increasing fiber utilization and spectral efficiency of data transport further reduces the solution cost and operation complexity.

With its multiprotocol and multirate support, the 10G OTU2 uplink can aggregate simultaneously SDH/SONET, Eth, Fibre channel and Video services, thus providing a perfect access platform for multiple clients' needs and allows merging of legacy and new services transparently.

PacketLight's PL-2000 transparently multiplexes up to 16 client services into a single or dual independent 10G wavelengths, in an elegant, transparent layer-1, ultra low latency mapping to 10G uplink pipe without packet loss and with Enhanced Forward Error Correction (EFEC) suitable for extremely long distance amplified DWDM network.

PL-2000 is fully integrated with PacketLight's WDM product family. The PL-2000 can be managed by HTTP/ HTTPS web browsers, CLI, PacketLight's EMS or by any 3rd party SNMP system.

This solution fits perfectly:
- Service providers multi service access platform
- Transporting multi-services over long distance optical network
- Upgrading legacy infrastructure with new services
- Building efficient and flexible CWDM/DWDM solutions for Enterprises
- Fast deployment of servises pver existing OTN Networks
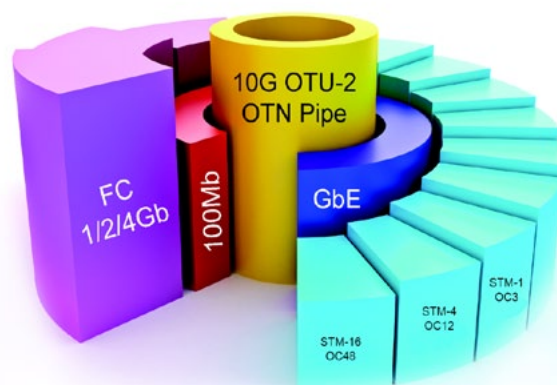
TECHNICAL SPECIFICATIONS

System

Topology	Point to point or Ring
Transport Network Medium	Access/Metro CWDM/DWDM or Dark Fiber
Protection	1+1 Facility

Product Configurations

Dual 10G OTU2 Muxponder	Up to 16 Multiservice & rate clients mapped over two independent OTU2 uplinks
Single protected 10G OTU2 protected uplink	Up to 16 Multiservice & 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	-36 dBm up to 16 dBm
Gain	10 dB to 22 dB
Operating Modes	AGC (Automatic Gain Control), APC (Automatic Power Control)
Eye Safety	Automatic laser power reduction upon fiber cut or disconnection

Mux/Demux

Channels	2/4/8 CWDM or DWDM Channels
Spacing	50/100GHz (for DWDM)

Muxponder Uplink

Bit Rate	10.7092G (OTU-2)
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 • STM1,STM4, STM16 • OC3, OC12, OC48 • DVB-ASI, SD-SDI, HD-SDI and 3G HD-SDI
Bit Rate	100 Mbps to 4.25 Gbps
Optical/copper Interface	Pluggable SFP transceiver

Network Management

Ports	CONTROL, LAN, OSC, External Alarms
Protocols	SNMP, HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS
Management Applications	Web browser over HTTP/HTTPS, PacketLight EMS or 3rd party EMS over SNMP, CLI over RS-232 or Telnet/SSH
OAM	• Facility Loopback • Event Logger • Alarms • Automatic Laser Shutdown (ALS) • External Alarms
Performance Monitoring	• Intervals of Layer-1 errors, current and previous day errors • Optical power RX/TX levels
Inband Management	Embedded channel in the overhead of the Muxponder uplink signal
Visual Indicators	LED status indicators for optical ports, Critical./Major/Minor alarms, Amplifier, power supply and system
Software Upgrade	Traffic Hitless-dual image

Management Ports and Physical Interfaces

CONTROL	RS-232, BD-9
LAN	10/100MBase-T, RJ-45
OSC (MNG1 & MNG2)	100 Base-FX, SFP
Inband Channel	Based on GCC OTN overhead
External Alarms	1-Input and 1-Output, DB-9

Power Supply

AC/DC	~100 to ~240 VAC, -36 to -72 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% RHI

Physical Dimensions

Size	1.77"(1 RU) (H) x 17.32"(W) x 9.05"(D) 45 mm(H) x 440mm (W) x 230 mm (D)
Weight	5.5 Kg / 12.1lb (Max)
Mounting	19", ETSI and 23"

Approvals & Standards

CE, FCC, RoHS, REACH NEBS Compliant ISO9001