

## Product Specifications

8 PON GEAPON OLT with 8-Port 10/100/1000T + 4-Port 1G SFP + 4-Port Shared 1G/10G SFP+

### EPL-8000

Version 1.0

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#### Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2019/06/10	Simon Yeh	Initial Release

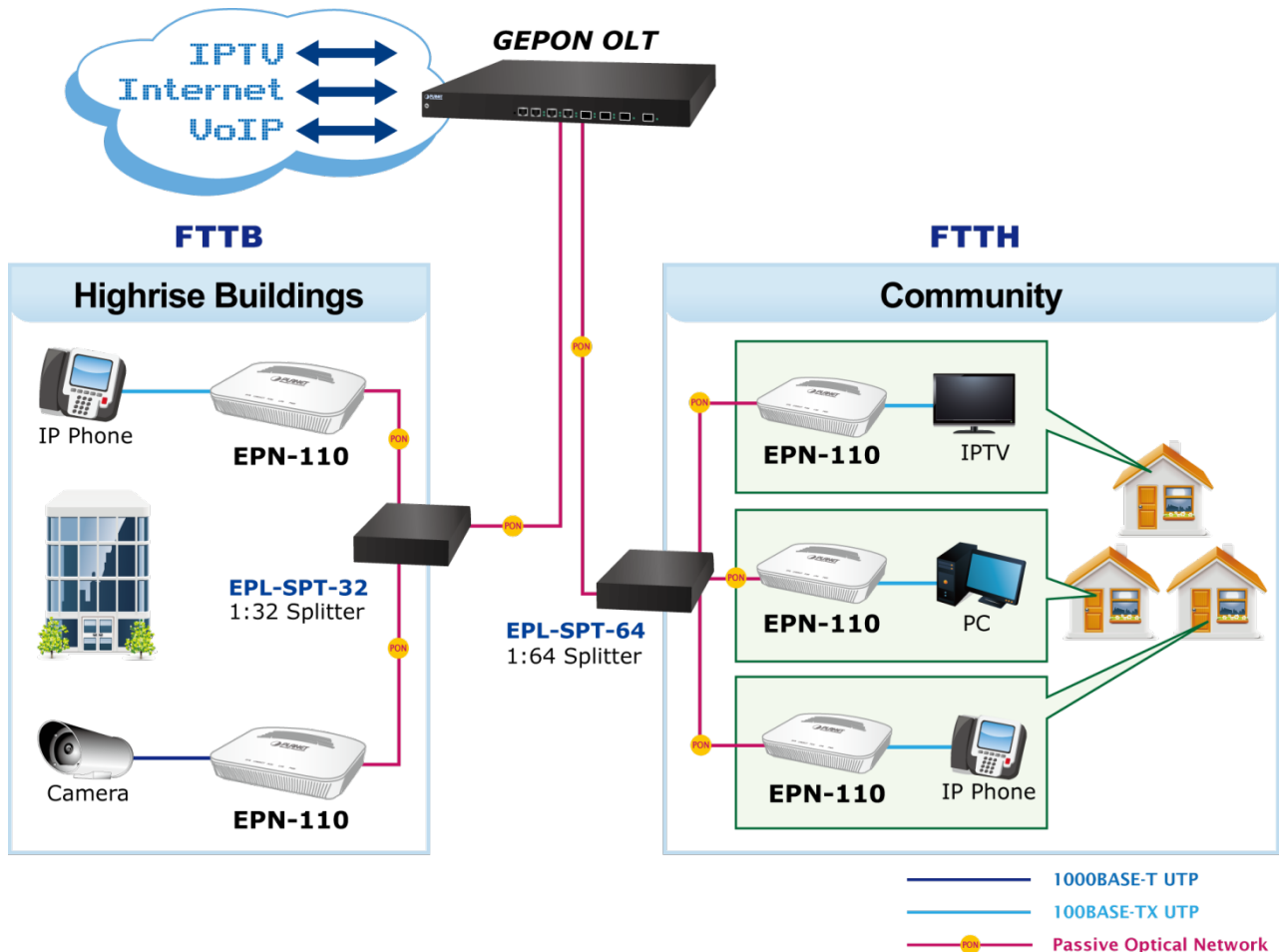
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## 1. PRODUCT DESCRIPTION



### Perfectly Designed for FTTx Applications

PLANET EPL-8000 GEAPON Optical Line Terminal (OLT) consists of **eight GEAPON ports, four GbE SFP ports, four 1G/10G shared SFP+ ports, eight GbE RJ45 interfaces** and one management port. It is easy to install and maintain a GEAPON deployment. With PLANET GEAPON Optical Network Unit (ONU) EPN series, the EPL-8000 can provide highly-effective GEAPON solutions and convenient management for broadband network. PLANET GEAPON technology provides a high bandwidth of up to **1.25Gbps** for both upstream and downstream, long-distance coverage of up to 20km between equipment nodes, and flexibility for network deployment. It is a cost-effective access technology with reliable and scalable network for triple-play service applications.



### **High-speed and Long-distance Coverage for Triple Play Services**

With growing network services such as HDTV, IPTV, voice-over-IP (VoIP) and multimedia broadband applications, the demand for broadband use rises quickly. The present broadband environment has not accorded with needs; however, **Passive Optical Network (PON)** would be the most promising NGN (Next Generation Networking) technology to fulfill the demand.

### **High Split Ratio for a Cost-effective Network Solution**

The EPL-8000 is an ideal solution for FTTx applications. It helps to minimize the investment cost for carriers by offering a high split ratio of **1:64** per port and supporting the usage of PLANET ONUs. The EPL-8000 provides strong functionalities for Ethernet features such as VLAN, Multicast, DBA (Dynamic Bandwidth Allocation), and Access Control List, Besides GEAPON, the point to multipoint communications protocol is based on Gigabit Ethernet. GEAPON protocol allows a Gigabit Ethernet communications fiber to be shared by multiple end users using a passive optical splitter. GEAPON communication takes place between an Optical Line Terminal (OLT) and multiple Optical Network Units (ONUs). Using standard terminology, downstream traffic flows from OLT to ONU, and upstream traffic flows from ONU to OLT. A protocol called Multi Point Control Protocol (MPCP) is used to arbitrate the channel between the ONUs so that no collisions will occur on the common fiber.

### **High Scalability and Flexible OLT Maintenance**

For efficient management, the EPL-8000 supports remote management functions. Via its user-friendly GUI utility, the administrators can manage and configure the OLT and ONU equipment on the central side. The GUI utility supports up to 32 EPL-8000 OLTs to be centrally managed through one control screen. The built-in **Element Management System (EMS)** offers an easy-to-use management and configuration facility to add to or remove PLANET OLTs and ONUs from the network architecture easily and economically. Its great flexibility is perfect for deployment among different network architectures.

### **Robust ONUs Management**

The EPL-8000 supports many operating and monitoring functions for efficient ONU management, such as ONU auto-detection, auto-registration, testing link connection, binding MAC address and filtration, bandwidth control, flow control, and multicast stream control.

### **Flexible and Extendable Solution**

The EPL-8000 has 16 uplink ports. The four mini-GBIC slots of the uplink ports of the EPL-8000 are compatible with 10GBASE-SR/LR SFP+, 1000BASE-SX/LX and WDM SFP (small form factor pluggable) fiber-optic modules. The distance can be extended from 550 meters (multi-mode fiber cable) to 10/30/50/70/120 kilometers (single-mode fiber or WDM fiber cable). They are well suited for FTTx applications for distribution data link.

## 2. PRODUCT FEATURES

- **GEPON Port**
  - 8 x SC-type GEPON OLT port
  - Up to 1.25Gbps upstream and downstream
  - Maximum transfer distance of up to 20km
  - Each PON port supports up to 64 ONUs
  - Fully compliant with IEEE 802.3ah
  - Point-to-multipoint network topology
  - LED indicators for link status
- **Uplink and Management Port**
  - 4 1G/10G shared SFP+ interfaces
  - 4 1000BASE-X SFP interfaces
  - 8 100/1000BASE-T RJ45 interfaces
  - Maximum transfer distance of up to 120km
  - 1 10/100BASE-TX RJ45 management port
- **Layer 2 Features**
  - Dynamic bandwidth allocation (DBA) support
  - Supports VLAN
    - IEEE 802.1Q tagged VLAN
    - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
  - Supports up to 16K MAC addresses
  - Enhanced IGMP features
- **OLT Management**
  - User-friendly GUI management
  - IPTV multicast creation and management
  - Up to 32 OLTs managed through single GUI
  - Three user levels control
  - 2 control interfaces
    - Out-of-Band IP – the management RJ45 port
    - In-Band IP –the four uplink ports
  - Supports ONU authentication; averts illegal ONUs access to network
  - Event message logging to system log
- **ONU Management**
  - ONU port control
  - ONU multicast control
  - ONU IGMP fastleave
  - ONU VLAN mode

### 3. PRODUCT SPECIFICATIONS

#### 3.1 FUNCTION SPECIFICATIONS

<b>Product</b>	<b>EPL-8000</b>
<b>Hardware Specifications</b>	
<b>PON Interfaces</b>	<p>8 GEAPON ports</p> <p>Transmission Speed:</p> <ul style="list-style-type: none"> <li>■ Downstream: 1.25 Gbps</li> <li>■ Upstream: 1.25 Gbps</li> </ul> <p>Optical Split Ratio: Up to 1:64</p> <p>Transmission Distance: 20KM</p> <p>Wavelength: TX:1490nm; RX: 1310nm</p> <p>Connector: SC/PC</p> <p>Fiber Type: 9/125um SMF (single mode fiber optic)</p> <p>TX Power: +2~+7dBm</p> <p>RX Sensitivity: -27dBm</p> <p>Saturation Optical Power: -6dBm</p>
<b>LAN Interfaces</b>	<p>4 1G/10GBASE-X SFP+ slots</p> <p>4 1000BASE-X SFP slots</p> <p>8 100/1000BASE-T RJ45 ports</p>
<b>Management Interfaces</b>	1 RJ45 port (10/100BASE-TX)
<b>MAC Address Table</b>	16K entries
<b>LED Indicators</b>	<p>1 power LED</p> <p>1 system LED</p> <p>16 uplink port LEDs (ACT and Link)</p> <p>8 PON LEDs (Link)</p>
<b>Dimensions (W x D x H)</b>	442 x 320 x 43mm
<b>Weight</b>	4.42kg
<b>Power Requirements</b>	<p>100 – 240V AC</p> <p>48V DC (redundant power, optional)</p>
<b>Power Consumption</b>	52 watts
<b>Layer 2 Features</b>	
<b>VLAN</b>	<p>802.1Q tagged-based VLAN</p> <p>802.1ad Q-in-Q tunneling (VLAN stacking)</p> <p>Up to 256 VLAN groups, out of 4094 VLAN IDs</p> <p>Port VLAN</p>

	<p>Protocol VLAN</p> <p>Port isolation</p> <p>VLAN transparent transmission</p>
<b>Link Aggregation</b>	Static Port trunk
<b>Spanning Tree Protocol</b>	<p>IEEE 802.1D Spanning Tree Protocol (STP)</p> <p>IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)</p>
<b>IGMP Snooping</b>	Up to 256 multicast groups
<b>Access Control List</b>	IP-based ACL/MAC-based ACL
<b>QoS</b>	<p>Port-based storm control</p> <p>Port-based rate limitation</p> <p>QoS based on:</p> <ul style="list-style-type: none"> <li>- Port</li> <li>- VID</li> <li>- TOS</li> <li>- MAC address</li> </ul> <p>Dynamic Bandwidth Allocation (DBA)</p>
<b>Layer 3 Features</b>	
<b>ARP proxy</b>	IPv4 ARP proxy
<b>Hardware Host Routes</b>	1024
<b>Hardware Subnet Routes</b>	512
<b>Static Route</b>	IPv4 Static Route
<b>EMS Utility Specifications</b>	
<b>Switch Feature</b>	<p>IPTV multicast creation and management</p> <p>MAC address learning and binding</p> <p>MAC filtering</p> <p>Supports IGMP mode</p> <p>Supports the VLAN division on the basis of port</p> <p>Up to 4096 VLAN</p> <p>16K MAC addresses</p> <p>ONU multicast control</p> <p>ONU IGMP fastleave</p> <p>ONU VLAN mode</p> <p>ONU port management</p>
<b>Management</b>	<p>User-friendly GUI Utility</p> <p>Firmware and configuration upgradable via utility</p> <p>ONU auto-discovery, link detection and remote upgrade of software</p> <p>Remote ONU management</p> <p>DHCP server</p>

	DHCP relay DHCP snooping
<b>Standards Conformance</b>	
<b>Safety</b>	CE, LVD
<b>Standards Compliance</b>	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3z Gigabit SX/LX IEEE 802.3ae 10Gigabit Ethernet IEEE 802.3x flow control and back pressure IEEE 802.1Q tagged VLAN
<b>Environment Specifications</b>	
<b>Temperature</b>	Operating temperature: -10 ~ 55 degrees C Storage temperature: -40 ~ 85 degrees C
<b>Humidity</b>	5 ~ 90% non-condensing

### 3.2 PHYSICAL SPECIFICATIONS:

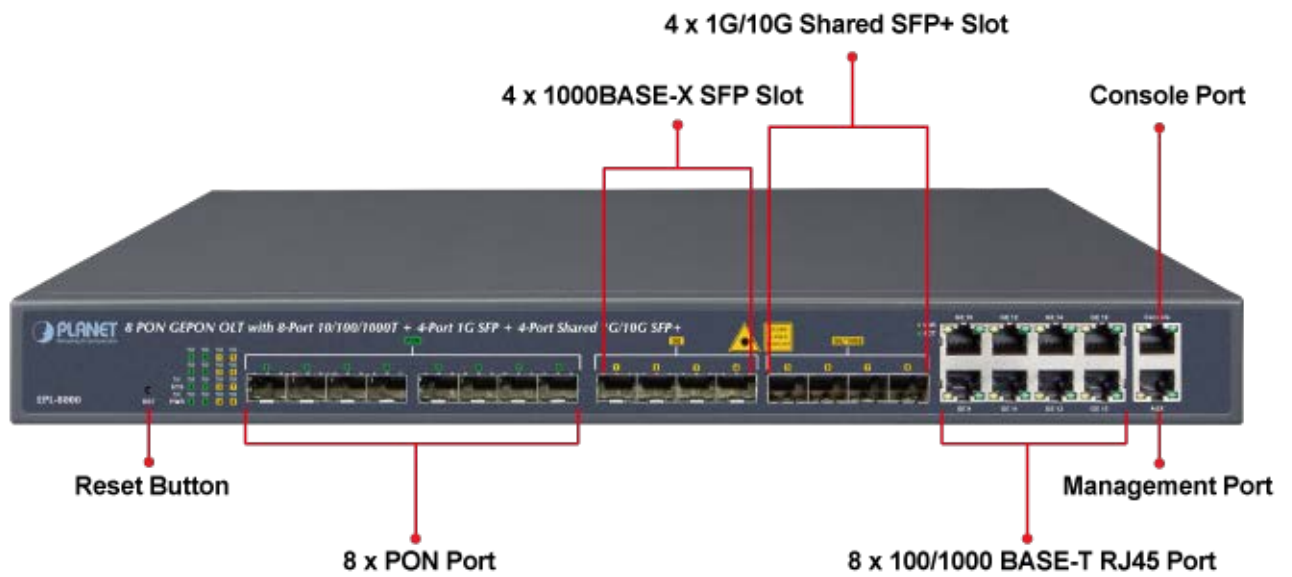
■ **Dimensions:**

442 x 320 x 43mm (W x D x H), 1U height

■ **Weight:**

4.42kg

■ **Front Panel:**

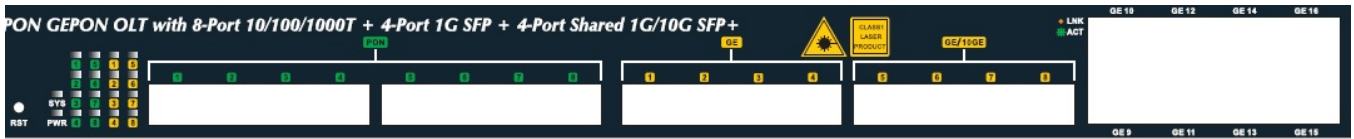


**Rear Panel:**





■ LED Definition



■ System

LED	Color	Function	
PWR	Green	Lights:	To indicate that the Switch is powered on.
SYS	Green	Blinks:	The OLT is ready for management.
		Off:	The OLT is operating abnormally.

■ 1000BASE-PX20 SFP PON Interfaces

LED	Color	Function	
PON1-8	Green	Lights:	To indicate the link through that PON port is successfully established.
		Off:	To indicate that the PON port is link-down.
		Blinks	To indicate that the switch is actively sending or receiving data over that port.

■ 1000BASE-X SFP Interfaces

LED	Color	Function	
Port1-4	Green	Lights:	To indicate the link through that SFP port is successfully established.
		Off:	To indicate that the SFP port is link-down.
		Blinks:	To indicate that the switch is actively sending or receiving data over that port.

■ 1G/10G Shared SFP+ Interfaces

LED	Color	Function	
Port5-8	Green	Lights:	To indicate the link through that SFP+ port is successfully established.
		Off:	To indicate that the SFP+ port is link-down.

		<b>Blinks:</b>	To indicate that the switch is actively sending or receiving data over that port.
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■ **100/1000BASE-T RJ45 Interfaces (GE9 to GE16 Ports)**

LED	Color	Function	
LINK	Green	<b>Lights:</b>	To indicate the link through that RJ45 port is successfully established.
		<b>Off:</b>	To indicate that the RJ45 port is link-down.
ACT	Green	<b>Blinks:</b>	To indicate that the switch is actively sending or receiving data over that port.

### 3.3 ENVIRONMENTAL SPECIFICATIONS

**Operating:**

**Temperature:** -10 ~ 55 degrees C

**Relative Humidity:** 5% ~ 90% (non-condensing)

**Storage:**

**Temperature:** -40 ~ 85 degrees C

**Relative Humidity:** 5% ~ 90% (non-condensing)

### 3.4 ELECTRICAL SPECIFICATIONS

**Input Voltage:** 100 - 240VAC, 50 - 60Hz, 1A

**Power Consumption:**

<b>Power Consumption</b>	110V: 36.7 watts
<b>(System on Standby):</b>	220V: 36.6 watts
<b>Power Consumption</b>	110V: 47.9watts
<b>(System on Full Loading):</b>	220V: 47.2 watts

### 3.5 REGULATORY COMPLIANCE

CE, LVD

### 3.6 BASIC PACKAGING

- GEPON OLT x 1
- MGB-PX20 SFP Transceivers x 8
- Quick Installation Guide x 1
- Rack-mount Accessory Kit x 1
- AC Power Cord x 1
- Console Cable x 1

### 3.7 PACKING INFORMATION

**Box Dimensions (W x D x H):** 567 x 392 x 93 mm

**Gross Weight:** 6.3kg

**Carton Dimensions (W x D x H):** 600 x 432 x 221 mm

**Carton Weight:** 13kg

**Carton Unit:** 2pcs in one carton