



MODEL

PM620

FTTX GIGABIT OPTICAL NETWORK UNIT



Fully featured Triple-Play GEAPON, Fiber Access Gateway with Router, Wi-Fi, CATV, and VoIP



LIGHTLINK[®]
DIRECT

About the Product

The PBN PM620 is the successor of PBN's successful PM520 product, featuring the latest industry chipset and added support for the ITU-based GEAPON standard. With wire-speed switching, NAT speed upto 900 Mbps, this device helps distribute the FTTH experience within the consumers home. Wi-Fi speeds of up to 600Mbps with triple-antenna 802.11 AC standard as well as backward compatible 802.11 b/g/n connects all devices in a user's home seamlessly. With public Wi-Fi network offerings by MSOs becoming more popular every day, the PM620 supports up to 4 SSIDs which allow the re-use of the high-speed infrastructure without impacting the end-user's experience.

Same as in the previous product families, PM620 CPE comes with embedded VoIP, Wi-Fi and routing capabilities, as well as with PBN's optional full-band CATV receiver for dual- and single-fiber deployments. With TR069 provisioning capabilities out of the box, the new CPE can be used either in conjunction with NMSE or the provider's incumbent provisioning system.

Key Features and Functions

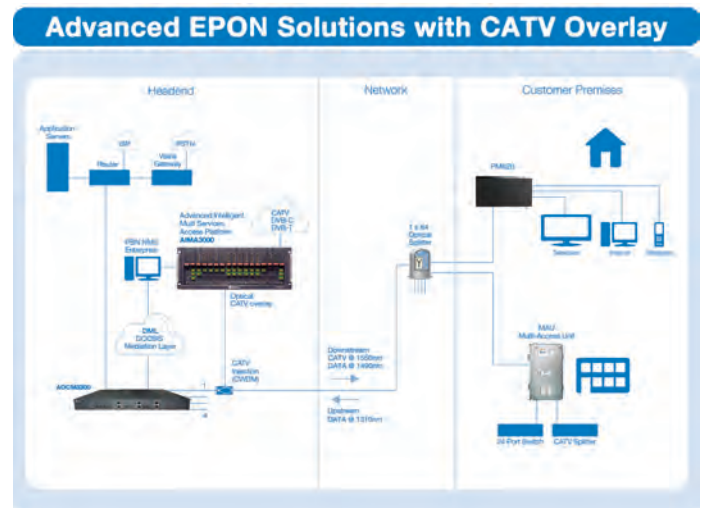
- Service access over IEEE802.3ah GEAPON
- 4x 10/100/1000Mbps routed/bridged user ports with auto cross-over (MDI/MDI-X)
- Management through TR069 or DOCSIS-like IPv4 DHCP/TFTP flow, an embedded web-server and plain XML configuration file
- Enhanced security with 128-bit AES
- Supports 4 simultaneous SSIDs allowing for commercial hotspot applications. Perfect for offices or the hospitality industry
- System management provided by PBN's NMSE management and provisioning software for broadband data services and CATV solutions
- Smart fast installation, either on a desktop or mounting on a wall. Includes fiber organizer for standalone installation, as well as a snap-on attachment
- High-performance optical CATV receiver delivering full-spectrum television from 45 to 1000 MHz
- CATV Module removable by customer
- Controllable optical Automatic Gain Control (AGC) circuit, to maintain a constant RF-Output level at the CATV module
- IPv6 supported
- SIP VoIP functionality with two physical RJ11 ports
- 802.11 a/b/g/n/ac Wi-Fi capability

Typical Application

PM620 is ideal for use in commercial and residential installations when value is a priority. The application diagram shows a typical hybrid HFC-FTTx scenario with CATV overlay utilizing PBN's AIMA3000.

Due to its extensive feature set, PM620 is very competitive in fiber-to-home and hospitality businesses where multiple Wi-Fi SSIDs, IPTV, and security applications are used in a dense short-haul deployment. Integrated into a single management system, the entire HFC-FTTx environment is able to be monitored and provisioned by the operator from a single screen.

For the CATV overlay components, PBN's 1RU EDFA and LTE product line can be used, instead of the larger AIMA3000 carrier-grade RF headend solution, based on operator needs.



Specifications

Optical Interface-GEAPON

Data TX operating wavelength	1310 nm ± 20 nm
Data RX operating wavelength	1490 nm ± 10 nm
Optical RX sensitivity	< -24 dBm @ 1490 nm
Data RX saturation	≥ -6 dBm @ 1490 nm
Data TX output	-1 dBm to 4 dBm @ 1310 nm
Data line speed	
Downstream	1.25 Gbps
Upstream	1.25 Gbps
Optical connector	SC/PC (SC/APC with CATV)

User-Side Ports

Interface	4x10/100/1000 Mbps, full/half duplex with auto-negotiation, auto MDI/MDIX
IEEE802.1D	4k MAC addresses total per ONU
IEEE802.1Q	VLAN support, QinQ support
QoS	IEEE802.1p
Frame size	64 to 1522 bytes
Data security	128-bit AES
Connectors	4 x RJ45, 2 x RJ11

CATV Performance

CATV input	-8 to +2 dBm
CATV ON/OFF control	ON/OFF by microcontroller
CATV wavelength	1550 ± 5 nm
RF output	20 dBmV (80 dBuV) @ -5 dBm ⁽¹⁾
RF bandwidth	45 ~ 1000 MHz
RF flatness	± 1 dB typical ± 1.5 dB maximum
RF return loss	> 14 dB
RF connector	SCTE F-type
Automatic gain control	-7 to 0 dBm optical

(1) Measured with PBN LTM15 test transmitter over 5 km fiber, set for -5 dBm optical input at 1550 nm with 4 % OMI.

CATV Link Performance

42 GENELEC channels (as per EN50083-3) /
110 NTSC channels (as per NCTA standard)

CNR	> 48 dB
CSO	< -55 dBc
CTB	< -61 dBc

VoIP Performance

VoIP	SIP v2
Voice Codecs	G.711, G.729
Features	Call forward unconditional Call forward on busy Call forward on no answer Call hold / release Call waiting Caller ID Line Echo Cancellation (LEC) Adaptive jitter buffer Packet Loss Concealment Comfortable Voice Generator Modem/Fax support (T.38)
Phone connectors	2 x RJ11 (POTS)

General

Input voltage	12 Vdc, 1.5 A
Mains power adapter	100~240 Vac, 50~60 Hz, 0.5 A max.
Power consumption	< 16.0 W (data, VOIP, CATV, Wi-Fi)
Operating temperature	-10 °C to +50 °C
Storage temperature	-20 °C to +70 °C
Operating / storage humidity	10 % to 90 % (non-condensing)
Dimensions (H x W x D)	46 x 207 x 147 mm
Net weight	0.55 kg
Carton dimensions (H x W x D)	88 x 325 x 210 mm
Packed weight *	1.2 kg
Shipping carton dimensions (contains 10 units)	450 x 445 x 345 mm
Shipping carton weight (contains 10 units)	13.0 kg

* Including AC Power Adapter and accessories.

Order Details

PM620-[V]-[W]-[X]-[Y]-[Z] | IEEE 802.3ah GEAPON ONU

Companion Equipment

AOCM6000 FTTx OLT and Switching Framework

AOCM-60-CH12	Chassis 19", 12RU, 10 card slots, 2 power supply slots, empty
AOCM-60-SCC-384	Switching and control card 384 Gbps (60 W)
AOCM-60-48GE-SFP	Line card, Enhanced, 48 ports 1 Gbps SFP, supports MPLS, Selective QinQ (109.13 W)
AOCM-60-8PON-8GE-SFP	Line card, 8 OLT EPON interfaces and 8 gigabit SFP optical interfaces

AOCM3600 OLT

AOCM3608-2x10GE	AOCM3600 OLT Series Switch, 8x GEAPON OLT SFP ports, 4x Gbps SFP ports, 4x 10/100/1000Mbit TX/Gigabit SFP combo ports, 2x 10Gbps SFP+ ports, PSU order separate
AOCM3616-2x10GE	AOCM3600 OLT Series Switch, 16xGEAPON OLT SFP ports, 4x Gbps SFP ports, 4x 10/100/1000Mbit TX/Gigabit SFP combo ports, 2x 10Gbps SFP+ ports, PSU order separate

Standalone Equipment

LTE153-6000	Externally-modulated laser transmitters for larger networks or longer fiber distances
LT1550	Laser transmitter in 19" sub-rack 1RU, 1550 nm, 6~250 mW, for 45~1000 MHz CATV services, with SNMP/HTTP
EDFA-R	Erbium-doped fiber amplifier 19" sub-rack 1RU, 1550 nm, 20~1280 mW, up to 32 ports, with SNMP/HTTP
OSF-19	Optical splitters in 19" sub-rack. Standard units 4, 8, 16, 24, 32, 64 ports. Custom configurations made to order
CWDM19-8FTTH-SC	HFC PizzaBox CWDM19 1RU CWDM, 8x GPON/EPON with 1550nm CATV overlay filters, SC/APC

Management Software

NMS3-EPMS | EPON Provisioning and Service Management software

NMS3-EPMS software is recommended to configure customer service level agreements with upstream/downstream rate limiting, priorities and VLANs in EPON systems.