GigaPoint®

GP4200AH

The Calix GP4200AH optical network terminal is an outdoor rated, 2.5 Gbps GPON and 1.0 Gbps Active Ethernet (AE) service delivery terminal that provides broadband connectivity to the subscriber. This high-performance terminal features one 2.5 Gigabit Ethernet (GE) interface and three 1 Gigabit Ethernet interfaces delivering IPTV video and data services. Two voice lines supporting carrier-grade VoIP are also available. Connecting a Calix GigaSpire to the LAN port of the GP4200AH allows for the delivery of a sensational Wi-Fi experience to your subscribers. Decoupling the broadband demarcation from the premises system provides more flexibility and reduces costs.

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OVERVIEW

The GP4200AH Optical Network Terminal (ONT) is designed for the industry-leading Calix E-Series platforms. The GP4200AH ONT terminates a GPON or AE fiber link at the subscriber's location and provides industry-standard interfaces for the customer premises equipment. The ONTs enable subscribers to receive broadband data, IPTV, and VOIP on a single fiber. At the ONT, the optical signal is converted to the appropriate electrical signals for transmission over the residence's existing twisted pair and CAT5 cables.

The GP4200AH ONT is easy to install, activate, and maintain. Innovative software management tools allow the broadband service provider to quickly configure, activate and upgrade ONTs from a remote location. Extensive troubleshooting capabilities, remote software downloads, and easy-to-use service profile menus ensure that services are delivered and ONTs are maintained without the need to initiate unnecessary truck rolls and hardware upgrades.

Smart Activate simplifies installation and turn-up by using a laptop or phone to configure and activate the ONT at the premises location. The technician can install and turn up an ONT without assistance from the central office or use of special equipment.

Calix outdoor ONTs are hardened to withstand a full range of outdoor temperatures. When placed outside, the ONT is housed in an environmentally sealed enclosure that protects it from the elements. For an indoor installation, the ONT can be mounted on a bracket specially designed for wall-mount and structured wiring enclosure applications.

Outdoor and indoor installations use a 120 Volt, 60 HzAC UPS that provides battery backup of lifeline POTS in the event of local AC power loss. Battery charge and battery life are monitored and reported through SMx.

KEY ATTRIBUTES

Standards-based Full Service Access Network (FSAN), ITU-T GPON and IEE AE compliant

- 2.5 Gbps GPON
- 1 Gbps Active Ethernet
- Auto-detect options enable seamless transition between WAN interfaces

One 2.5 Gigabit Ethernet (GE) interface

- Symmetrical 2.5 Gbps bandwidth for residential IPTV and data services
- Multi-rate 10/100/1000/2500 BASE-T Ethernet, auto-negotiating

Three 1 Gigabit Ethernet (GE) interfaces

- Symmetrical 1 Gbps bandwidth for residential IPTV and data services
- Multi-rate 10/100/1000 BASE-T Ethernet, auto-negotiating

Two voice lines

- Carrier grade SIP, H.248, MGCP VoIP Voice services

Supports multiple data service profiles

Traffic management and Quality of Service (QoS)

- 802.1Q VLANs
- 802.1p service prioritization
- Q-in-Q tagging
- Multiple VLANs
- Rate limiting
- DiffServ
- Pre-defined QoS on service type

IPTV, IGMPv2, and IGMPv3

- IGMP Snooping and Proxy
- IGMP Fast Leaves

Complete Operations, Administration, Maintenance, and Provisioning (OAM&P) support via SMx

Indoor and outdoor applications

- Outdoor installation features a small, environmentally hardened enclosure that withstands the rigors of the outside plant environment; Telcordia GR-49 compliant
- Indoor installation offers a range of mounting options including: the standard enclosure for added security and protection; a wall-mount bracket for indoor cabinets and indoor wall mounts; a multi-ONT enclosure that houses up to four ONTs and can be used for indoor or outdoor applications

Lifeline service power source with in-home battery backup and alarm monitoring

SPECIFICATIONS

Mechanical - Outdoor Enclosure

- Height: 12 in (30.48 cm)
- Width: 10 in (25.4 cm)
- Depth: 4 in (10.16 cm)
- Outdoor installed height: 50–60 in (1.3 to 1.5 m) above ground
- Installed weight: 4 lbs. (1.76 kg)

Recommended Outdoor Clearance

- Left side: 12 in (30.48 cm)
- Right side: 6 in (15.24 cm)
- Front: 36 in (91.44 cm) standing room
- Rear: None

PON Characteristics

- Max. split: 64 GPON
- Max. reach: 58 km (36 miles) with Class+/FEC, 20km (12.4 miles) with Class B+/non-FEC
- Maximum Optical Distribution Network (ODN) Attenuation: GPON Class B+ 28 dB

  GPON Class C+ 32 dB
- Optical Receiver: 1490 nm:

  GPON Class B+ -27 dBm to -8 dBm

  GPON Class C+ -30 dBm to -8 dBm
- Optical Transmitter: 1310 nm:

  +0.5 dBm to +5 dBm

Point to Point AE Characteristics

- Max reach: 50 km (31 miles)
- 1490 nm optical receiver: -22.0 to -3.0 dBm
- 1310 nm optical transmitter: -5.5 to 0.0 dBm

Interfaces

- Telephony: Binding post
- Data/IPTV: 10/100/1000/2500 BaseT Ethernet ports, RJ-45 connectors
- PON: Single 9/125 µm (single mode) fiber, SC/APC connector,minimum 50 dB return loss
- Power: Screw-down plug

Telephony

- General: SIP, H.248, MGCP
- Number of lines: 2
- RENs per line: 5 maximum
- RENs per unit: 10 maximum
- Subscriber premises—physical connection: 22 or 24 AWG to twisted pair binding posts; premises isolating RJ-11 test jack (one per line)
- Drop length: Maximum 500 feet (305 m) using 26 AWG wire
- Input impedance: 600 Ohms
- DS0 Output: TBD
- Ring Voltage: 55 VAC @ 4 REN load

Environmental

- Operating temperature: Indoor ambient temperature –40 to 149°F (–40 to 65° C) w/o solar load, Outdoor ambient temperature with Calix enclosure –40 to 114° F, (–40 to 46° C) plus solar load
- Rate of change in operating temp: 15°F (8.3° C) per hour maximum

- Shipping and storage temperature: –40 to 140° F (–40to 60° C)
- Operating/storage relative humidity: 0 to 95 % non-condensing
- Altitude: –200 to 10,000 feet (–61 to 3,048 m) above sea level
- Misc: Salt fog resistant; wind- driven rain protection; anti-dustenclosure

Data

- Drop length:

  2500BASE-TX with CAT5E cable, 262 feet (80 m) maximum

  328 feet (100 m) maximum with CAT5e cable 1000BASE-TX 328 feet (100 m) maximum
- Auto MDI/MDIX crossover for 2500BASE-TX, 1000BASE-TX, 100BASE-TX,and 10BASE-T ports
- Traffic Management and QOS: 802.1Q VLAN; 802.1P Voice, Video, Data and Management Priorities; Q-in-Q tagging; Per- Port Rate Shaping; Rate Limiting
- MTU: 2000 Bytes

Power

- Screw-down terminal block plugs for 7-wire alarms and power interface

Certification and Compliance

- Emissions: FCC Part 15 Class B, IC ICES-003 Class B, CISPR24 and CISPR35
- Safety: UL 62368 and UL 1697 approved, CE Mark
- Telcordia: GR-1089, GR-49
- IEEE: 802.3, 802.3AB, 802.3U, 802.1P, 802.1Q, 802.3bz (2500BASE-T)

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Residential Battery Backup

- Residential battery backup source (local): UPS mounted at subscriber's home
- Power termination: Maximum length of 70 feet (21.3 m) DC power and alarm cable with seven 16/24 AWG conductors connected to a UPS
- Input voltage: 12 VDC (nominal)
- Input voltage range: 10.5 to 14.4 VDC
- Input current: 750 mA (nominal)
- Battery backup time rated capacity: 8 hours based on Telcordia GR-909 calculation methods using recommended UPS. Contact Calix for recommended UPS.

ORDERING INFORMATION

Order Code	Description
System	
100-05804	GP4200AH ONT, 2 POTS, 1 2.5GE, 3 GE
Optional UPS and Indoor Powering Options*	
100-03826	UPS SFU CYBP27U Indoor 12V 7.2AH 27W - 2-prong Type A Floating
100-03828	UPS SFU CYBP27U Indoor 12V 7.2AH 24W - 3-prong Type B grounded
100-05499	UPS SFU Outdoor 12V 7.2AH 30W
100-05565	UPS SFU Indoor 12V 20AH 30W, Audible Alarm R2
100-05666	Power Adapter CPA6 12V 3Amp - AM Type B -3 ft AC cable
Accessories	
100-01409	700 ONT Wall Mount Bracket
100-01578	SFU ONT Enclosure with Splice Tray
100-01579	SFU ONT Enclosure with OptiTap Adaptor
100-01580	SFU ONT Enclosure with Splice Tray and Primary Protection
100-01581	SFU ONT Enclosure with OptiTap Adaptor and Primary Protection

*GP4200AH does not ship with any power supply or outdoor enclosures. The ONT can be used with a variety of UPS systems that are all sold separately

Note: Calix believes the information in this publication to be accurate as of publication date and is not responsible for error. Product Specifications are subject to change without notice.