

Enabling the hyper  
connected world



## 2411GN GPON ONT

The next generation G-Series ONT enables subscribers to enjoy bandwidth intensive multimedia services with leading-edge GPON technology.

### Features & Benefits

- + Supports 2.5Gbps/1.25Gbps (Downstream/Upstream) with integrated GPON WAN interface
- + High capacity multi-rate 1G/2.5G Ethernet interface
- + One POTS interfaces compliant to SIP and MGPC telephony standards

The Zhone 2411GN is a next-generation, GPON compliant Optical Network Terminal (ONT) able to support service provider requirements for high-speed data and voice in a cost-effective design. The ONT is fully compliant with ITU-T G.984 GPON standard with integrated, Class B+ on-board optics supporting 1310nm and 1490nm wavelengths. The 2411GN offers data rates of 2.5Gbps downstream and 1.25Gbps upstream able to deliver access edge services and full range of residential and business use cases required. With unique Zhone's software management features, subscribers can enjoy hyperconnected multimedia services faster, easier, and more reliably than ever before.

The 2411GN includes one SC/APC GPON interface, one 1G/2.5GBase-T port, and one FXS RJ11 voice port. The ONT supports wire-speed L2 bridging and carrier grade lifeline voice services using a Zhone approved battery backup unit with battery status telemetry.



## Service Scenario

The GPON network consists of an Optical Line Termination (OLT) located at the Central Office, and a set of residential Single-Family Unit (SFU) and Multi Dwelling Unit (MDU) locations with Optical Network Terminals (ONTs). Between them is the optical distribution network (ODN) comprised of fibers, passive optical splitters and couplers.

The 2411GN ONT supports 2.5G capable downlinks using the GPON standard. Services include High-Speed Internet (HIS), Packet Voice, IPTV, OTT video, and cloud enabled services to multi-media devices.

## Key Service Attributes

- + FSAN ITU-T G.984 GPON Class B+ compliant
- + One 1G/2.5GBase-T Ethernet port, RJ45 supporting 2.5Gbps symmetrical services
- + One voice port, FXS interfaces compliant to ANSI and ETSI standards, SIP and MGCP
- + IPTV multicast, IGMPv2 and IGMPv3 services
- + Traffic management including Q-in-Q tagging, 802.1Q VLANs, multiple subscriber VLANs, per-port rate limiting
- + 802.1p priority bits, DiffServ and priority queues based on service types.
- + Transparent LAN services, LLDP-MED
- + Optional optical fiber tray for wall-mount applications
- + +12 VDC power adapter, optional uninterruptable service power source with battery backup

## 2411GN GPON ONT

### Product Specifications

#### Hardware

- Dimensions
  - Width: 5.0" (128mm)
  - Depth: 4.9" (125mm)
  - Height: 1.26" (32mm)
- Weight 0.4 LB (0.18 kg)
- 256GByte Flash Memory
- 512GByte SDRAM (DDR3)
- GPON WAN Interface
- Capacity: 2.5Gbps Down/1.25Gbps Up

#### Interfaces

- WAN: 1 SC/APC port, GPON
- LAN: 1 port 1/2.5GBase-T Ethernet (RJ45)
- Telephone: 1 ports 2-wire RJ11
- Power: 1 2pin power, 1 2x4 8-pin battery connector
- LED Indicators
- Power switch
- Recessed RESET button

#### GPON

- Class B+ optics, 20km (12.4 miles), reach, max split 64
- Maximum ODN Attenuation, +28.5 dB link budget
- GPON Type B redundancy support
- xPON co-existence filter
- Transmitter, 1310nm, +0.5 to +5 dBm, DBF
- Receiver, 1490nm, -28 dBm, APD/TIA
- Forward Error Correction (FEC) per G.989.3

#### Ethernet LAN ports

- Auto-MDI-X crossover control
- Auto-Speed or manual selection
- IEEE 802.3bz 2.5GBase-T
- IEEE 802.3ab 1000Base-T
- IEEE 802.3u 100Base-T
- IEEE 802.3az EEE
- IEEE 802.1x Authentication

#### Quality of Service

- HW-based internal IEEE 802.1p (CoS)
- Strict Priority (SP)
- 802.1Q(VLAN tag) QoS mapping ToS/CoS
- 8 queues per port
- Classified traffic can be tagged with VLAN ID and Ethernet Priority bit, and can be assigned to priority queues
- Classify packets into different IEEE 802.1p priority queues according to DSCP values (RFC 2475)
- The range of traffic shaping or ratelimit shall be between 64 Kbps to the maximum port rate with 64kbps granularity. The accuracy error shall be less than  $\pm 10\%$ .
- DSCP IP CoS (RFC 2475)

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## Product Specifications

### Telephone

- SIP (RFC 3261)
- MGCP
- Codec: G.711 (u-law and A-law), G.729B, G726
- RENs per line: 5 maximum
- Drop length: Residential short loop, 152.4 m (500 ft.)
- Output max: 25mA
- Ring voltage: 48Vrms @ 20/25 Hz

### Software Features

- IEEE802.1D and IEEE802.1Q
- Address learning with auto aging- L2/BPDU Filter
- Support 2048 MAC learning addresses
- Multiple T-CONTs/GEM ports per device
- Flexible mapping between GEM port and T-CONT
- Priority queues and scheduling on upstream
- Activation with automatic discovered serial Number and password
- Dying Gasp

### Management

- ITU-T 984.1/G988 compliant OMCI interface
- CPE Manager Web UI
- CLI over telnet
- SNMP Client
- TR-069, TR-104, TR-98

### Environmental

- Storage temperature -40~121°F (-40~85°C)
- Operating humidity 5 to 95% (non-condensing)
- Altitude: -200 to 10,000 feet (-61 to 3,048 m) above sea level

### Powering

- DC power, 12VDC, 1.0A maximum
- Input power, 100-240VAC, 50/60Hz, 12VDC
- Power consumption, ~10W maximum

### Compliance

- FCC Part 15 Class B
- ICES-003 Class B
- CE Mark
- Safety ETL/Intertek
- IEC 62368-1, UL 62368-1, EN 62368-1
- FDA IEC 60825-1
- RoHS 2015/863/EU

## Ordering Information

Model	Description
2411GN	1x SC/APC port, GPON (Class B+) 1x 2.5G RJ45 port 1x POTS RJ11 port 1x 12VDC barrel connector, 2-pin power 1x 2x4 Molex Battery-Backup (BBU), 8-pin power 0 to +40°C
HX-2411GN-NA HX-2411GN-EU HX-2411GN-UK HX-2411GN-00	North America EU UK No power supply



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