



4244GN-EL

Intelligent Gateway GPON ONT

Next generation ONT with multiple data and voice FXS ports optimized for outdoor and indoor installations using Zhone leading-edge GPON technology.

Features & Benefits

- + Supports 2.5Gbps/1.25Gbps (Downstream/Upstream) with integrated GPON WAN interface
- + Four gigabit multi-rate 10/100/1000M Ethernet interfaces
- + Four POTS interfaces compliant to SIP and MGPC telephony standards
- + Supported within Corning fiber transition housing with integrated fiber management

The Zhone 4244GN-EL is the next generation of Optical Network Terminal (ONT) able to support service provider requirements for high-speed data and voice for outdoor and indoor structured wiring applications. 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 4244GNEL 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 much easier, faster, and more reliably than ever before.

The Zhone 4244GN-EL includes one SC/APC GPON interface, four 10/100/1000Base-T ports, and four FXS RJ11 voice ports for phone or fax. The ONT supports wire-speed L2 bridging and L3 gateway features, with carrier grade voice services and option for 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 4244GN-EL 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
- + Four 10/100/1000MBase-T Ethernet ports, RJ45 supporting 1Gbps symmetrical services
- + Four voice ports, FXS interfaces compliant to ANSI or ETSI standards, SIP and MGCP
- + IPTV multicast, IGMPv2 and IGMPv3 services
- + Any-port, Any-service data model
- + 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 services types.
- + OMCI and TR-069/TR-98 management
- + Zhone Universal Service Provisioning (USP), ONT SNMP Client
- + Local Web UI, Zhone CPE Manager feature set
- + +12 VDC power source, option for battery backup

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Product Specifications

Hardware

- Electronic Dimensions
 - Width: 7.9" (200mm)
 - Depth: 1.2" (30.5mm)
 - Height: 9.0" (229mm)
- Electronics Weight .9 LB (0.4 kg)
- Enclosure Dimensions
 - Width: 9.9" (251mm)
 - Depth: 3.8" (97mm)
 - Height: 12.7" (322mm)
- Enclosure Weight 3.5 LB (1.6 kg)
- 256MByte Flash Memory
- 512MByte SDRAM (DDR3)
- GPON WAN Interface
- Capacity: 2.5Gbps Down/1.25Gbps Up

Interfaces

- WAN: 1 SC/APC port, GPON
- LAN: 4 ports 10/100/1000MBase-T Ethernet (RJ45)
- Telephone: 4 ports 2-wire RJ11
- Power: 1 7-pin screw-terminal connector for power and battery backup telemetry
- LED Indicators
- 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
- G.985 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
- Dying Gasp

Ethernet LAN ports

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

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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, 152.4m (500 ft.)
- Output max: 25mA
- Ring voltage: 48Vrms @ 20/25 Hz

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 rate-limit 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)

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

IP Routing and Firewall

- DHCP, Static-IP and PPPoE
- NAT/NAPT
- DNS Proxy
- DHCP Server
- UPnP, plug and play

IPv6

- IPv4 and IPv6 Dual-Stack-Lite
- Bridged Mode (transparent pass thru of IPv6 frames)
- IPv6 support of BRouted and PPPoE Bridged VLANs
- DHCPv6 client and server
- Router Advertisement on LAN-side interfaces
- SLAAC for automatic acquisition of WAN-side IPv6 addresses and GW
- CLI, HTTP and TR-069 management via IPv6

Environmental

- Enclosure IP45 Rating
- Operating Temperature -40~149°F (-40~+65°C) Industrial Temperature
- Storage temperature -40~185°F (-40~85°C)
- Operating humidity 10 to 95% (noncondensing)
- Altitude: -200 to 10,000 feet (-61 to 3,048 m) above sea level

Powering

- DC power, +12 VDC nominal, +10-16 VDC / 1.0A
- Input power, 90-240VAC, 50/60Hz
- Power consumption, ~12W maximum

Management

- ITU-T 984.1/G988 compliant OMCI interface
- CPE Manager Web UI
- CLI over telnet
- SNMP Client
- TR-069, TR-104, TR-98
- Zhone Universal Service Provisioning
- LED indications for status

Compliance

- FCC Part 15 Class B
- ICES-003 Class B
- EN55022, EN55024
- IEC 62368-1
- FDA IEC 60825-1
- RoHS 2015/863/EU

Ordering Information

Model	Description
4244GN-EL	1x SC/APC port, GPON (Class B+) 4x 1G RJ45 ports 4x POTS RJ11 ports 1x 7-pin screw-terminal connector
HX-4244GN-EL	ONT electronics, no power supply
ZNID-ENCL-422X	422x fiber termination enclosure. (GPON electronics sold separately.)



42xx Fiber Termination Enclosure



Zhone Technologies, Inc