

**Enabling the hyper
connected world**



5222XG

Advanced XGS-PON ONT

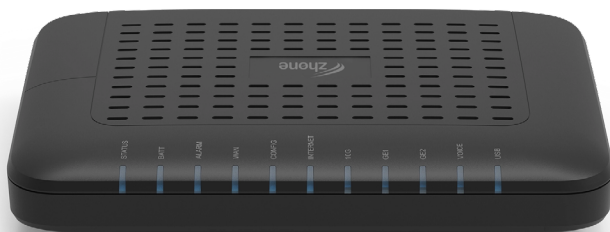
The first generation of 10 Gigabit X-Series ONT enables subscribers to enjoy bandwidth-intensive multimedia services with leading-edge XGS-PON technology.

Features & Benefits

- + Supports 10Gbps/10Gbps (Downstream/Upstream) with integrated XGS-PON WAN interface
- + High capacity multi-rate 1G/2.5G/5G/10G Ethernet interface
- + Two gigabit multi-rate 10/100/1000M Ethernet interfaces
- + Two POTS interfaces compliant to SIP and MGPC telephony standards Integrated with Zhone Xtreme OEO/SDN-C

The Zhone 5222XG is a high-performance, XGS-PON 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.9807.1 XGS-PON standard with integrated, on-board optics supporting 1270nm and 1577nm wavelengths. The 5222XG offers symmetrical data rates of 10Gbps downstream and 10Gbps upstream able to deliver access edge services and full range of residential and business use cases required. With unique software management features, subscribers can enjoy hyper connected multimedia services faster, easier, and more reliable.

The 5222XG includes one SC/APC XGS-PON interface, one 1G/2.5G/5G/10G Base-T port, two 10/100/1000 Base-T ports, and two FXS RJ11 voice ports. 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 XGS-PON 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 5222XG ONT support 10 Gigabit symmetrical data using the XGS-PON 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.9807.1 XGS-PON compliant
- + One 10GBase-T Ethernet port, RJ45 supporting 10Gbps symmetrical services
- + Two 10/100/1000MBase-T Ethernet ports, RJ45 supporting 1Gbps symmetrical services
- + Two voice ports, FXS interfaces compliant to ANSI and ETSI standards, SIP and MGCP
- + MTU jumbo frame 9216-byte support
- + 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
- + Transparent LAN services, LLDP-MED
- + 12 VDC power adapter, optional uninterruptible service power source with battery backup

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Product Specifications

Hardware

- Dimensions
 - Width: 8.5" (216mm)
 - Depth: 5.6" (142mm)
 - Height: 1.4" (35mm)
- Weight 0.81 LB (0.37 kg)
- 256GByte Flash Memory
- 512GByte SDRAM (DDR3)
- XGS-PON WAN Interface
- Capacity: 10Gbps Down/10Gbps Up

Interfaces

- WAN: 1 SC/APC port, XGS-PON
- LAN: 1 port 1/2.5/5/10GBase-T Ethernet (RJ45), 2 ports 10/100/1000MBase-T Ethernet (RJ45)
- Telephone: 2 ports 2-wire RJ11
- Power: 1 2-pin barrel connector, optional 1 2x4 8-pin battery connector
- LED Indicators
- Power switch
- Recessed RESET button

XGS-PON

- N1 Class, 20km (12.4 miles), reach, max split 128
- Maximum ODN Attenuation, +29 dB link budget
- Transmitter, 1270nm, +2.0 to +7 dBm
- Receiver, 1577nm, -28 dBm
- Forward Error Correction (FEC) per G.989.3

Ethernet LAN ports

- Auto-MDI-X crossover control
- Auto-Speed or manual selection
- IEEE 802.3an 10GBase-T
- IEEE 802.3bz 2.5G/5GBase-T
- IEEE 802.3ab 1000Base-T
- IEEE 802.3u 100Base-T
- IEEE 802.3az EEE
- IEEE 802.1x Authentication/SIP (RFC 3261)

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)

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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, 18W out
- Power consumption, ~14W 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
5222XG	1x SC/APC port, XGS-PON (Class N1) 2x POTS RJ11 ports, 1x 10G RJ45 port, 2x 1G RJ45 ports 1x 12VDC barrel connector, 2-pin power 1x Optional 2x4 Molex Battery-Backup (BBU), 8-pin power 0 to +40°C
HX-5222XG-NA	North America
HX-5222XG-EU	EU
HX-5222XG-UK	UK
HX-5222XG-00	No power supply



Zhone Technologies, Inc