



## Overview

Introducing the newest mix of style and technology – the Zhone 2728A1 Indoor GE ONT. Dual-band 802.11ac WiFi capability combines with a stylish table-top finish to bring next-generation connectivity and best-of-class performance to Fiber-to-the-Home/Hotel deployments.

Seven internal high-gain antennas enable concurrent dual-band radios (2.4 and 5.8GHz) WiFi radios to independently connect multiple users and devices simultaneously, including older 802.11b/g/n devices. Its 3x3 and 4x4 MIMO antenna design provides superb WiFi throughput and coverage. The latest technology combined with 802.11ac (5.8GHz) makes delivering reliable Multicast IPTV services over WiFi a reality. The 2728A1 GE ONT is ideal for providing premium WiFi services in large homes, home theaters, and hotel guest and conference rooms facing a variety of laptops and mobile devices.

The 2728A1 GE ONT provides four 10/100/1000Mbps LAN ports, two FXS Voice ports, and one USB port. The four Ethernet LAN ports can be separated into different services allowing the configuration of dedicated ports for IP video and data.

The 2728A1 GE ONT sits upright and its attractive, modern enclosure requires a small footprint making it equally at home on a living room bookshelf or as a

## Features

- Triple-Play QoS
- Multicast Video
- VoIP with CLASS 5 Features
- 802.11b/g/n/ac WiFi
- Multicast IPTV over WiFi

polished accessory in high-end commercial accommodations. An easy to use wall-mounting bracket is also included. Simplified and easy-to-read indicators allow for quick trouble-shooting even with no internet connection to avoid unnecessary cable-pulling and power-cycling. Hospitality installations will appreciate the guest-friendly indicator modes (Day, Night, Off). Extensive diagnostics in the ONT (run locally on the ONT or remotely from the NOC) reduce service call disruptions.

The supported industry-standard SIP and MGCP VoIP signaling provides reliable voice services. Zhone's experience with packet voice ensures interoperability and support with a large number of soft switches and with the ability to tailor the VoIP solution by selecting from a list of over 30 countries.

Flexible management means the 2728A1 GE ONT may be provisioned using the same intuitive and easy-to-navigate Web interface and CLI as the Zhone 2400, 2600, 2800 and 4200 Series ONTs, as well as through USP (Unified Service Provisioning), the Zhone Network Management System (ZMS), or using a TR-069 compliant ACS. Software upgrades and configuration backups can be handled automatically by the ZMS using the CPE Manager feature.

## Specifications

### DIMENSIONS & WEIGHT

- Main Body:
  - Height: 6.7 in (180 mm)
  - Width: 11.0 in (300 mm)
  - Thickness: 1.4 in (35 mm)
- Desktop Footprint Depth:
  - 2.4 in (60 mm)
- 8lbs (3.6kg)

### POWER

- 12VDC, 2.0A max
- Power Supply: 100-240VAC, 50/60Hz, 12VDC, 36W out
- Round barrel-type connector for power input
- 2×4 Molex-type connector for optional BBU power input with alarm reporting

### INTERFACES

#### Active Ethernet Uplink (GE)

- SC/UPC connector
- 1490 nm Rx (Downstream)
- Fixed SFF optics
- Tx Data Rate 1.0 Gbps
- Tx Launch Power: -2 to +8 dBm
- Rx Data Rate: 1.0 Gbps
- Rx Receiver Sensitivity: -23
- Rx Input Power Overload: -2 dBm
- 1310 nm Tx (Upstream)

#### LAN Ports

- Four 10/100/1000Base-T LAN ports
- RJ-45 connectors
- Auto-MDI-X crossover control
- Auto-Speed or manual selection

#### POTS Ports

- Two FXS ports
- RJ-11 connectors
- 5 REN per line
- Battery voltage: -48VDC
- Max loop current: 40mA
- Ringing voltage: 48Vrms @ 20/25 Hz

### INTERFACES (cont)

#### USB Ports

- One USB 2.0 port
- 3G dongle support for uplink fallback

#### WiFi – 802.11b/g/n

- 2.4 GHz band
- 3×3 MIMO
- Three +3 dBi internal antennas
- Channel width: 20 MHz, 40 MHz
- Max WiFi Connect (Phy) Rates: 54 Mbps (g); 450 Mbps (n)

#### WiFi – 802.11a/n/ac

- 5 GHz band
- 4×4 MIMO
- Four +2 dBi internal antennas
- Channel width: 20 MHz, 40 MHz, 80 MHz
- Max WiFi Connect (Phy) Rates: 1700Mbps(ac)

### MANAGEMENT

- Web UI
- CLI
- SNMP
- TR-069
- USP (Unified Service Provisioning)

### VOICE SUPPORT

- SIP (RFC 3261)
- MGCP
- Codec: G.711 (u-law and A-law), G.729B, G726
- DTMF dialing
- Echo cancellation
- Voice Activity Detection and Comfort Noise
- Insertion
- Caller ID, Call Waiting, Call Forwarding, Call Transfer, Three Way Calling, Distinctive Ringing
- G.711 fallback for FAX
- T.38 FAX support
- DHCP client or static IP configuration

## Specifications (cont)

### WIRELESS SUPPORT

- SSIDs: 4 @ 2.4GHz + 4 @ 5.8GHz
- Max number of subscribers: 64 per Radio
- Max 2.4GHz Tx power: 100 mW (EU models)
- Max 2.4GHz Tx power: 600 mW (US models)
- Max 5.8GHz Tx power: 400 mW (all models)
- Authentication Security: WEP, WPA-PSK, WPA2,
- WPA2-PSK, 802.1x
- Encryption: WEP (64-bit, 128-bit), AES,
- TKIP+AES
- WPS modes: push-button, API PIN, STA PIN
- RADIUS Server support
- MAC address filtering
- Access Point and Wireless Bridge modes

### PROTOCOL SUPPORT

#### QOS:

- Ethernet bridging/switching per IEEE 802.1d/802.1q
- Traffic management (priority queuing)
- QoS with support for IEEE 802.1p + DSCP VLANs

#### IPTV:

- IGMP v3 Snooping
- VLAN support

#### VLANs:

- Per port IEEE 802.1Q VLAN ID processing
- All VLAN IDs supported
- VLAN tagging/untagging
- VLAN Stacking (QinQ)
- VLAN Switching

#### Layer 2:

- 802.3n flow control
- Automatic MAC learning and aging
- Unlimited # of MAC addresses for OMCI-configured flows
- Support for up to 4,096 MAC addresses for RG traffic flows
- Broadcast storm control
- LLDP-MED

#### IP Routing and Firewall:

- PPPoE
- NAT/NAPT
- Port forwarding
- DHCP Server
- DNS Server
- UPnP

#### IPv6:

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

### STANDARDS SUPPORT

- IEEE 802.3 Ethernet
- IEEE 802.1p/q VLANs
- IEEE 802.3u Fast Ethernet
- IEEE 802.3ab 1000Base-T

### REGULATORY COMPLIANCE

- CE
- UL/CSA
- FCC Part B
- 21 CFR 1040.10, 1040.11
- RoHS 2011/65/EU

### OPERATING REQUIREMENTS

- Operating Temperature: 0C to +40C
- Storage Temperature: -20C to +85C
- Relative Humidity: 0 to 95%, non-condensing



## Ordering Information

MODEL	DESCRIPTION
ZNID-GE-2728A1-xx	Indoor Active Ethernet ONT, 4xGE, 2xPOTS, 802.11b/g/n/ac WiFi; xx = 00, EU, NA, UK power supply options