

## Overview

Introducing the newest mix of style and technology – the Zhone 2400A1 Series Indoor Gigabit Active Ethernet ONT. Dual-band 802.11ac WiFi capability combines with a compact design to bring next-generation connectivity and best-of-class performance to Fiber-to-the-Home deployments.

Five internal high-gain antennas enable two radios (2.4 and 5.8 GHz) WiFi radios to independently connect multiple users and devices simultaneously, including older 802.11b/g/n devices.

The 2400A1 AE ONT is ideal for providing WiFi coverage in homes, hotel guest and conference rooms facing a variety of laptops and mobile devices.

The 2424A1 AE ONT provides four 10/100/1000Mbps LAN ports, two FXS Voice ports, and one USB port. The integrated Fiber Module supports distances up to 20km and uses the 1490nm Rx and 1310nm Tx wavelengths. The four Ethernet LAN ports can be used to support any-port-any-service model, or separated into different services allowing the configuration of dedicated ports for IP video and data. Unique VLANs may also be configured per user to ensure full isolation of each department's data traffic. The 2426A1 AE ONT adds an 2.4G WiFi. The 2428A1 AE ONT has the most comprehensive feature set in the 2400A1 family supporting 4xGE, 2X POTS, 2.4G and 5.8 WiFi.



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 2400A1 AE ONT may be provisioned using the same intuitive and easy-to-navigate Web interface and CLI as the Zhone 2400, 2600, 2700, 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.

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## Specifications

### KEY FEATURES

- Integrated GE Optics – 1490nm Rx, 1310nm Tx
- Triple-Play QoS
- VoIP with CLASS 5 Features
- 802.11b/g/n/ac WiFi
- Lightning-fast WiFi speeds

### DIMENSIONS AND WEIGHT

#### Dimensions (H x W x D)

1.5 in. H x 10 in. W x 6 in. D

3.8 cm H x 25.4 cm W x 15.2 cm D

#### Weight

1.0 – 1.2LB (0.45 – 0.54 kg)

## POWER

12VDC, 2.0A max

Power Supply: 100-240VAC, 50/60 Hz, 24W 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

- SC/UPC connector
- 1490nm Rx, 1310nm Tx
- SFF (non-removable) optics work over a 20km distance
- Uplink speed = 1000Mbps
- Launch Power: -6.0 to -2.0 dBm
- Receiver Sensitivity: -25.0 dBm
- Input power overload: -2.0 dBm

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

WiFi – 802.11b/g/n:

- 2.4 GHz band
- 2×2 MIMO 3dBi internal antennas
- Channel width: 20 MHz, 40 MHz

WiFi – 802.11a/n/ac:

- 5 GHz band
- 3×3 MIMO 4dBi internal antennas
- Channel width: 20 MHz, 40 MHz, 80 MHz

USB Ports

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

## WIRELESS SUPPORT

SSIDs: 4 @ 2.4GHz + 4 @ 5.8GHz  
Max number of subscribers: 64 per Radio  
Max 2.4GHz Tx power: 100 mW (all 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

## **STANDARDS SUPPORT**

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

## **VOICE SUPPORT**

SIP (RFC 3261)  
MGCP  
Codec: G.711 (u-law and A-law), G.729B, G726  
SIP (RFC 3261)  
MGCP  
Codec: G.711 (u-law and A-law), G.729B, G726  
DTMF dialing  
Echo cancellation

## **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:  
– Per port IEEE 802.1Q VLAN ID processing  
– All VLAN IDs supported  
– VLAN tagging/untagging  
– VLAN Stacking (QinQ)  
– VLAN Switching  
IPTV:  
– IGMP v3 Snooping

- VLAN support

Layer 2:

- 802.3n flow control

- Automatic MAC learning and aging

- 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

## **MANAGEMENT**

Web UI

CLI

SNMP

TR-069, TR-104 and TR-98

USP (Unified Service Provisioning)

## **REGULATORY COMPLIANCE**

CE

UL/CSA

FCC Part B

21 CFR 1040.10, 1040.11

RoHS 2011/65/EU

## **OPERATING REQUIREMENTS**

Operating Temperature: 0°C to +40°C

Storage Temperature: -20°C to +85°C

Relative Humidity: 0 to 95%, non-condensing

## Ordering Information

| MODEL             | DESCRIPTION   |
|-------------------|---|
| ZNID-GE-2424A1-xx | Indoor Gigabit AE ONT, 4xGE, 2xPOTS; xx = NA, UK, EU power supply options   |
| ZNID-GE-2426A1-xx | Indoor Gigabit AE ONT, 4xGE, 2xPOTS, 2x2 2.4GHz 802.11b/g/n; xx = NA, UK, EU power supply options                         |
| ZNID-GE-2428A1-xx | Indoor Gigabit AE ONT, 4xGE, 2xPOTS, 2x2 2.4GHz 802.11b/g/n and 3x3 5.8Ghz 802.11a/n/ac; xx = NA, EU power supply options |



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