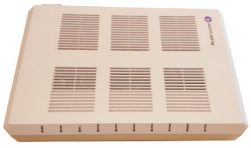
ALCATEL-LUCENT 7368 ISAM ONT
G-440G-A

The Alcatel-Lucent G-440G-A Optical Network Terminal (ONT) with four Gigabit Ethernet, four POTS is part of the industry-leading Alcatel-Lucent 7368 ISAM ONT product family and is compatible with the Alcatel-Lucent 7342/7360 ISAM FTTx product line. It is designed to deliver triple play services in a Fiber-to-the-Home (FTTH) environment to single family units where multiple Ethernet and voice ports are required. The Alcatel-Lucent ONTs terminate the Gigabit Passive Optical Network (GPON) fiber interface compliant with a Full Service Access Network (FSAN).



G-440G-A indoor

G-440G-A outdoor

The G-440G-A ONT is designed to cater to small-business and residential customer requirements. This ONT offers data, voice and video services to the subscriber through FTTH or Fiber-to-the-Premises (FTTP) applications. The G-440G-A is a temperature-hardened ONT suitable for outdoor and indoor deployments. For outdoor deployment, the G-440G-A should be mounted in an "Alcatel-Lucent Universal SFU Out-door ONT enclosure."

The G-440G ONT is compliant with ITU-T G.984, supporting a line rate of 2.5 Gb/s downstream and 1.25 Gb/s upstream. With GPON as the up-link interface, the G-440G-A ONT supports standard triple play services: voice, video, and high-speed Internet access to support home networking. Compliant with standard ONT management and control interface (OMCI) definition, the G-440G-A ONT can be managed from a remote site via application management services (AMS) and supports the full range of Fault, Configuration, Accounting, Performance, and Security (FCAPS) functions.

FEATURES

- Compliant with ITU-T G.984, supports a line rate of 2.5 Gb/s downstream and 1.25 Gb/s upstream
- With GPON as the up-link interface, supports standard triple play services: voice, video, and high-speed Internet access to support home networking
- Can be managed from a remote site via access management system (AMS)
- Supports the full range of Fault, Configuration, Accounting, Performance, and Security (FCAPS) functions

BENEFITS

- Delivers connectivity to Ethernet devices within the home
- Supports full triple play services including voice, video, and high-speed Internet access
- Supports IP video distribution
- Delivers voice services using voice over IP (VoIP)
- Supports T.38 fax services
- Delivers video services efficiently with multicasting or unicasting
- Network management via Alcatel-Lucent 5520 AMS
- Internet Group Management Protocol (IGMP) snooping

Services

Data

The G-440G-A ONT supports up to four 10/100/1000 Gigabit Ethernet data interfaces:

- Auto-negotiation and MDI/MDIX auto sensing
- Data transfer at wire speed
- Built-in Layer 2 switch
- Advanced data features such as VLAN tag manipulation, classification and filtering

Voice

The G-440G-A ONT supports up to four POTS interface ports for carrier-grade voice services:

- 5 REN per line, balanced sinusoidal ring signal at 55 V RMS, DTMF dialing
- Multiple voice CODECs
- Echo canceling, voice activity detection (VAD), comfort noise generator (CNG)
- Various CLASS services – Caller ID, Call waiting, Call forwarding, Call transfer, etc.
- Session Initiation Protocol (SIP) (RFC 3261)

Video

G-440G-A ONT supports video services over the Ethernet data ports (multicast or unicast).

The ONT also supports the Internet Group Management Protocol (IGMP) snooping function to perform the filtering process for IPTV. The ONT supports IPTV service capability on all the Ethernet service ports concurrently. The fast leave function is supported for enhancing the efficiency of bandwidth.

Interfaces

The G-440G-A supports the following service interfaces:

- 4 x 10/100/1000Base-T
- 4 x POTS

TECHNICAL SPECIFICATIONS

Dimensions

- Height: 33 mm (1.3 in)
- Width: 227 mm (8.9 in)
- Depth: 147 mm (5.79 in)
- Weight: 0.4 kg (0.88 lb) (power adapter not included)

Installation

- Desktop mounting
- Wall mounting
- Outdoor mounting (In Alcatel-Lucent Universal SFU-ONT enclosure)

Power supply

- +12 V (feed via external AC/DC adapter)
- Dying Gasp support
- Power consumption: less than 8 W

Operating environment

- Temperature: -40°C to 60°C (-40°F to 140°F)
- Humidity: 5% to 90% relative humidity

GPON TC layer

- G.984.3-compliant GPON Encapsulation Method (GEM) framing
- Multiple transmission containers (T-CONTs) per device
- Multiple GEM ports per device
- Flexible mapping between GEM ports and T-CONT
- G.984.3-compliance:
  - ¬ activation with automatic discovered SN and password
  - ¬ Advanced Encryption System (AES-128)
  - ¬ Forward Error Correction (FEC)
  - ¬ DBA reporting IEEE 802.1p to GEM mapper service profile in upstream direction
- G984.5 compliance: GPON/XGPON co-existence

GPON network interface

- Compliant with G.984.x GPON standards
- SFF-type laser, SC/APC connector
- 1.244 G burst mode upstream transmitter
- 2.488 G downstream receiver
- Avalanche photodiode (APD) receiver and distributed feedback (DFB) transmitter
- 0.5 dBm ~ 5.0 dBm launch power, -28 dBm ~ -8dBm for receiving
- Wavelengths:
  - ¬ upstream: 1310 nm
  - ¬ downstream: 1490 nm
- Laser compliant with FCC 21 CFR

Ethernet

- 10/100/1000 Base-T interface with RJ-45 connectors
- Ethernet port auto-negotiation or manual configuration
- MDI/MDIX automatically sense
- Support of port based downstream priority queues and strict priority scheduling for traffic class of service (CoS) differentiation
- Virtual switch based on IEEE 802.1Q VLAN
- VLAN tagging/detagging per Ethernet port and marking/remarking (IEEE 802.1P)
- VLAN stacking (Q-in-Q) and VLAN translation
- CoS based on VLAN ID, 802.1p bit
- IP v4 Type of Service/Differentiated Service Code Point (ToS/DSCP) to 802.1p mapping for untagged frames
- Internet Group Management Protocol (IGMP) v2/v3 snooping
- Supports RFC 2236 (V2), RFC 3376 (V3), any-source multicast (ASM) and source-specific multicast (SSM)

POTS interface

- RJ-14 connector
- 5 REN
- Balanced ring, 55 V RMS
- DTMF dialing
- Echo cancellation
- VAD and comfort noise insertion
- SIP
- Real-time Transport Protocol (RTP) (RFC 3550/3551)
- Support various CLASS services – Caller ID, Call waiting, Direct Call, CLIP, Call forwarding, Call transfer, Three way calling, etc.
- ITU-T G.711, G.722, G.729
- ITU-T T.38 fax
- Country-specific ring tone generation

OA&M

- Standard compliant OMCI (the embedded operations channel) interface as defined by ITU-T G.984.4 and ITU-T G.988
- Support local web GUI for the ONU authentication password configuration from LAN side
- MIB manipulation over OMCI by create, delete, set, get, get next commands
- Provisioning of diverse services including Ethernet, VoIP, etc.
- Alarm reporting and performance monitoring
- Remote software image download over OMCI, as well as activation and rebooting
- Supports SLID (via POTS port or web GUI)

Buttons

- Power
- Reset

LEDs

- POWER
- BTRY
- FAIL
- DATA1-4
- NTWK
- MGMT
- POTS

REGULATORY

Safety and EMI

- IEC 60950-1
- CISPR 22 Class B
- ITU-T K.21 Basic Level
- EN 60950-1
- EN 55022 Class B
- EN 300386
- UL 60950-1
- CAN/CSA C22.2 No.60950-1
- FCC part 15b Class B
- IC-003

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