

ALCATEL-LUCENT 7342 ISAM ONT O-221H

The Alcatel-Lucent O-221H Optical Network Terminal (ONT) is designed for fiber termination outside single family homes and supports HPNA over coax to utilize the existing home wiring. This outdoor ONT terminates a GPON interface running at 2.5 Gb/s downstream and 1.25 Gb/s upstream to deliver triple play services. The ONT is designed as a hardened Network Interface Device (NID) and has two nested covers. Opening the outer cover provides access to the connectors for the service interfaces, while an interior cover protects access to fiber and power terminals. A 12-volt battery backup can be added for lifeline services. An optional fiber drop storage compartment provides storage for slack fiber and fits flush behind the ONT.



**7342 ISAM ONT
O-221H**

This outdoor ONT is designed to deliver triple play services (voice, data and video) to residential subscribers. Voice services are provided through two POTS ports, by using an integrated ATA that converts voice traffic into SIP or H.248. Connectivity to an existing PSTN CLASS 5 switch is supported through a voice gateway (GenBand) or via SIP with direct interoperability to a variety of soft switches. Ethernet connectivity is available on two GigE ports, both of which have the ability to burst up to a full gigabit dynamically.

Service providers can deliver video using RF overlay or as IP packets (IPTV) using the integrated HPNA feature. RF overlay allows video to be distributed to any television set without investing in a set top box. If a service provider chooses to offer IPTV, the service provider can distribute IPTV signals using HPNA. The ONT transfers IP packets onto coaxial cable (HPNA v3 over coax), enabling video and IP traffic to be distributed through the home using existing coaxial wiring. The Alcatel-Lucent HPNA over coax ONT is compatible with HPNA-enabled set-top boxes (STBs) that send all upstream communications via Ethernet. With the HPNA feature, Ethernet and

HPNA-enabled devices can be connected to the same physical medium – coaxial wiring. Operators can save time and money by reusing the coaxial wiring rather than rewiring the home with CAT5 cable.

FEATURES

- Two POTS ports
- Two Gigabit Ethernet (GigE) ports (10/100/1000 auto-negotiation)
- F connector for HPNA over coax or RF overlay
- IP video with IGMPv3
- VoIP software client (SIP and H.248)
- Powering options – with or without battery backup
- Managed by the Alcatel-Lucent 5520 Access Management System (AMS)

BENEFITS

- Enables service providers to deliver IPTV and data using existing coaxial wiring in the home
- Wirespeed throughput on Gigabit Ethernet ports
- Flexible video delivery options enable service providers to start with RF overlay and migrate to IPTV
- Delivers fast channel change (FCC) and efficient multicast

- Supports both PSTN-based as well as NGN-based voice (i.e., SIP) services
- Reduces complexity and operational expenses with one management system for fiber and copper solutions

TECHNICAL SPECIFICATIONS

Network interface

- FSAN (G.984.2) compliant GPON interface with 2.5 Gb/s downstream and 1.25 Gb/s upstream
- Integrated triplexers or bidirectional transceivers for single fiber with 1490 nm downstream, 1310 nm upstream, and optional 1550 nm downstream for RF video overlay
- Single-mode fiber (SC/APC connector)
- Compatible with FSAN C+ optics
- Support for up to 1:64 splits per PON
- FSAN (G.984.3) compliant GPON Encapsulation Method (GEM) protocol for efficient IP/Ethernet service traffic transport
- FSAN (G.984.3) compliant packet fragmentation for bandwidth efficiency
- FSAN (G.984.3 and G.983.2) compliant Dynamic Bandwidth Allocation
- Standards-compliant Advanced Encryption System (AES) for downstream and upstream data security
- Standards-compliant Forward Error Correction (FEC) for better performance and longer reach

Management

- Alcatel-Lucent 5520 Access Management System (AMS)
- FSAN (984.4) compliant OMCI interface for ONT management via OLT

Interfaces

- Two 10/100/1000Base-T Ethernet interface with RJ-45 jacks
- Two POTS via screw-down terminals and RJ-11 jacks for testing in-home wiring
- Coaxial port (75-Watt F connector) for RF video delivery and HPNA (IP over coaxial wiring)

POTS interface

- Compatible with existing CPEs (e.g., analog phones with rotary and tone dial, cordless phones, fax, modem, caller ID boxes)
- Screw terminal connectors with RJ-11 jacks for inside wiring tests
- Metallic Loop Testing (MLT)

- Loop start signaling
- Ringing: 5 REN/line
- Balanced sinusoidal ring signal with 18 V DC offset: 40 VRMS
- Off-hook DC current: 25 mA
- Line impedance: 600 W
- DC supervisory range: 500 W Class 5-based voice services
- Voice loop emulation over GPON with ITU-T H.248/Megaco signaling
- Dedicated GPON GEM-ports and Allocation-ID for voice traffic prioritization
- Class-5 interface (GR-303/ TR-008) via PSTN Gateway (GenBand G6)

Next-generation network based voice services

- SIP client software in 7342 ONT for POTS to VoIP interworking
- Softswitch interface (with SIP signaling) via attached routed network
- Compatible with softswitches such as Metaswitch, etc.

Gigabit Ethernet interface

- IEEE 802.3 compliant 10/100/1000 Base-T ports
- RJ-45 jacks
- Link and mode LEDs
- Full-duplex operation
- Auto-negotiation

Data service interface

- Managed and unmanaged gateway-based and service models
- Supports both PPPoE- and DHCPbased service models
- Up to eight classes of service for traffic prioritization via 802.1p or DSCP marking
- Bandwidth guarantees based on Committed Information Rate (CIR) and Peak Information Rate (PIR)
- IEEE 802.1x port-based authentication

IP video service interface

- Compatible with 3rd party IP video set-top boxes (STB) using HPNA version 3.1
- IP multicast via Internet group management protocol (IGMPv3) snooping
- Supports both IPoE and PPPoE encapsulated IGMP messages
- FSAN standards-compliant multicast using a single GEM Port-ID for all video traffic
- Maximum of 64 multicast streams per ONT Ethernet user interface

- Multicast bandwidth allocation and traffic prioritization
- HPNA-compliant with ITU G.984
- HPNA is not compatible with RF return

RF video service interface

- Coaxial port (75-Watt F connector)
- Operating wavelength range: 1550 nm to 1560 nm
- Operating RF bandwidth: 47 MHz to 870 MHz
- Video output power: +18 dBmV

Enclosure

- Outdoor wall-mount, Telco Network Interface Device (NID) design
- Can be mounted with optional fiber storage compartment

Power

- Local powering with 12 V DC input
- Compatible with multiple UPS with integrated ONT alarms
 - 100 V AC to 240 V AC input
 - 12 V DC output
 - Up to eight hours of battery backup
 - Commercially sealed lead acid battery
 - Visual status indicators

Dimensions

- Height: 13.5 in. (34.29 cm)
- Width: 12.0 in. (30.48 cm)
- Depth: 4.3 in. (10.9 cm)
- Weight: 7 lbs (3.18 kg)

Environment

- Operating temperature range:
 - -40°C to +46°C (-40°F to +115°F) undermaximum solar load
 - -40°C to +60°C (-40°F to +140°F) without solar load
- Maximum operating altitude: 10,000 ft (3048 m)
- Maximum non-operating altitude: 40,000 ft (12,192 m)
- Relative humidity (non-condensing) range: 5% to 95%

Certification

- UL 60950-1
- FCC Part 15, subpart B
- ISE-003