

Tellabs® 1600-709 Desktop GPON ONT

Flexible, multi-port Fiber-to-the-Desktop (FTTD) GPON ONT provides a variety of service options

Overview

Designed to deliver powerful business services to end users in Fiber-to-the-Desktop (FTTD) applications, the Tellabs® 1600-709 Desktop GPON Optical Network Terminal (ONT) incorporates multiple Gigabit Ethernet ports in one compact, cost-efficient package.

Equipped with ITU-T G.984-compliant 2.5 Gbps downstream and 1.25 Gbps upstream GPON interfaces, the Tellabs 1600-709 Desktop GPON ONT supports the full range of advanced services including voice, video and High-Speed Internet (HSI).

Compliant with ITU standard ONT Management Control Interface (OMCI) definitions, the Tellabs 1600-709 Desktop GPON ONT is manageable from the Tellabs® 1191 Broadband Element Management System or the Tellabs® Panorama™ Integrated Network Manager and supports the full range of FCAPS functions including supervision, monitoring and maintenance.

Services

Data

Four 10/100/1000 Base-T Ethernet data interfaces support:

- Auto-negotiation and MDI/MDIX auto-sensing
- Data transfer at wire speed for all packet sizes
- Advanced data features such as VLAN tag manipulation, VLAN trunking, classification and filtering

VoIP

To enable VoIP access, the Tellabs 1600-709 Desktop GPON ONT also supports interfacing external IAD box or home router with voice capability through the Gigabit Ethernet Interface.

Video

The Tellabs 1600-709 Desktop GPON ONT supports video content delivered in the form of Ethernet/IP data (by multicast or unicast). When multicast technology is used for delivering video content through the data channel, the Tellabs 1600-709 Desktop GPON ONT supports the dedicated multicast GEM port on the downstream. Thus, video content is received and processed by all the ONTs through the unified channel, significantly improving bandwidth efficiency.



Figure 1. Tellabs 1600-709 Desktop GPON ONT

In addition, the Tellabs 1600-709 Desktop GPON ONT supports an Internet Group Management Protocol (IGMP) snooping function to be applied for further optimization. When IGMP snooping is enabled, the Tellabs 1600-709 Desktop GPON ONT monitors the member joining and leaving activities at the Ethernet service port, and then selectively delivers up to 48 multicast streams. Multicast Quality of Service (QoS) is supported via the 802.1p bits.

Specifications

Dimensions

- 4.99 in H x 6.69 in W x 1.54 in D

Power Supply

- +12V (feed via external AC/DC adapter)
- AC adapter input 120/240 volts +/- 10% 50/60 Hz
- Dying gasp support

Operating Environment

- Temperature: 0 to 40°C
- Humidity: 5% to 85% relative humidity

Safety & EMI

- ETSI, FCC and UL certified

Installation

- Wall mounting & desktop mounting

Network Interface

- Compliant to ITU-T G.984 GPON standards
- SFF type laser, SC/APC connector
- 1.244 Gbps burst mode upstream transmitter
- 2.488 Gbps downstream receiver
- Compliant with ITU-T G.984.2 Amd1, Class B+
- APD receiver and DFB transmitter
- 0.5~+5dBm launch power, -27 dBm sensitivity, and -8dBm overload
- Wavelengths:
 - Upstream 1310nm, Downstream 1490nm
- Laser compliant to FCC 47 CFR Part 15, Class B and FDA 21 CFR 1040.10 and 1040.11, Class I

GPON Quality of Service (QoS)

- Fully ITU-T G.984-compliant framing
- Multiple T-CONTs per device
- Multiple GEM ports per device
- Supports single T-CONT and multiple T-CONTs modes
- Flexible mapping between GEM ports and T-CONT
- Activation with automatic discovered SN and password
- AES-128 Decryption with key generation and switching
- Forward Error Correction (FEC)
- 802.1p mapper service profile on U/S
- Mapping of GEM Ports into a T-CONT with priority queues-based scheduling
- Support for multicast GEM port

Ethernet Interface

- 10/100/1000 Base-T interface with RJ-45 connectors
- Ethernet port auto negotiation or manual configuration
- MDI/MDIX automatic sensing
- Hardware priority queues on the downstream direction in support of Class of Service (CoS)
- 802.1D bridging
- Virtual switch based on 802.1Q VLAN
- Up to 256 MAC address and 4 VLAN group
- VLAN tagging/detagging per Ethernet port
- VLAN stacking (Q-in-Q), VLAN translation, VLAN trunking
- IP ToS/DSCP to 802.1p mapping
- CoS based on VLAN-ID, 802.1p bit, ToS/DSCP
- Marking/remarking of 802.1p
- IGMP v2/v3 snooping
- MAC address limiting to prevent flooding overflow
- Upstream broadcast rate limiting and filtering for security control

LED Indicators

- Power
- Optical
- LAN
- Update
- Alarm
- POTS

Operations, Administration and Maintenance (OAM)

- Standards-compliant OMCI as defined by ITU-T G.984.4 and G.983.2
- Management Information Base (MIB) manipulation over OMCI by Create, Delete, Set, Get and Get Next commands
- Provisioning all kinds of services including Ethernet, VoIP, etc.
- Alarming and AVC report, performance monitoring
- Remote image download over OMCI, as well as activation and rebooting
- Holds two versions with image integrity checking and automatic rollback

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