

Tellabs® 1600-728GP & Tellabs® 1600-729GP Multi-Desk / Multi-Dwelling Unit GPON ONT

Flexible, stackable, Multi-Desk/Multi-Dwelling Unit GPON ONT for Gigabit Ethernet, PoE, and (optional) POTS services delivery.

Overview

Designed to deliver powerful business Data, VoIP, and POTS services to 24 users, the stackable, scalable Tellabs® 1600-728GP and Tellabs® 1600-729GP Multi-Desk/Multi-Dwelling Unit (MDU) GPON ONTs pack a lot of functionality into a compact one rack unit (1RU) chassis. Both units can be located in a telecommunications room, data center or telephone closet, driving fiber optics closer to the user.

Both units feature 24 Gigabit Ethernet ports with Power-over-Ethernet (PoE) for powerful business data service delivery. IEEE 802.3af and 802.3at compliance provides up to 30 watts on each Ethernet port. PoE provides remote power to VoIP desktop phones, WiFi Access Points, IP Security Cameras, and other environmental and access control systems. The Tellabs 1600-729GP also features 24 POTS ports for analog business POTS service delivery.

Equipped with standard CAT-rated cabling for Ethernet data and voice service delivery, the Tellabs 1600-728GP and Tellabs 1600-729GP ONTs feature an ITU-T G.984-compliant 2.5 Gbps downstream and 1.25 Gbps upstream GPON interface supporting 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 1600-728GP and Tellabs 1600-729GP ONTs are managed by the Tellabs® Panorama™ Integrated Network Manager (INM) with full FCAPS functions including supervision, monitoring and maintenance.

Services

Data

- 24 10/100/1000Base-T Gigabit Ethernet data interface ports
- IEEE 802.3at (30W) Power-over-Ethernet on each port
- Auto-negotiation and MDI/MDIX auto-sensing
- Data transfer at wire speed
- Advanced data features, including Virtual Local Area Network (VLAN) trunking, VLAN termination, VLAN translation, traffic classification and Access Control Lists (ACL)
- Ethernet-bridged services: port-to-port communication
- 802.1x authentication
- Network Access Control (NAC)

*Future release



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Voice (only available on Tellabs 1600-729GP ONT)

- 24 POTS interface ports for carrier-grade voice services
- Five REN per line, balanced ring at 55V RMS, DTMF dialing
- Support for multiple voice codecs
- Echo canceling, VAD, CNG
- Full CLASS service support — caller ID, call waiting, call forwarding, call transfer, etc.
- SIP (RFC-3261)
- MEGACO v2 (H.248)*
- Drop-in replacement to serve existing analog telephone sets

To enable VoIP access, the Tellabs 1600-729 MDU GPON ONT also supports interfacing an external IAD box or home router with voice capability through the Ethernet interface.

Video

Tellabs 1600-728GP and Tellabs 1600-729GP ONTs support flexible video content delivery in the form of Ethernet/IP data, either as unicast or multicast streams controlled by the Internet Group Management Protocol (IGMP). Multicast Quality of Service (QoS) is supported with a combination of 802.1p bits and advanced bandwidth management mechanisms. Using VLANs and advanced IGMP processing ensures security, service delivery and efficiency for each user.

Specifications

Dimensions

- 1.73 in H x 17.3 in W x 11.0 in D

Power Supply

- Input power – 120/240 VAC 50/60 Hz
- 3-Pin AC power connector with switch and fuse (rear accessible)
- Dying gasp support

Operating Environment

- Temperature: -5°C to +55°C
- Humidity: 5% to 85% relative humidity

Safety & EMI

- ETSI, FCC and UL/ETL certified

Installation

- Rack or wall mounting
- 19-inch rack mounting, 1RU height
- Brackets available for 23" mount option

Network Interface

- Compliant to ITU-T G.984 GPON standards
- SFF type laser, SC/APC connector
- Wavelengths: Upstream 1310nm; Downstream 1490nm
- 2.488 Gbps downstream receiver
- 1.244 Gbps burst mode upstream transmitter
- 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
- 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

- 10/100/1000Base-T Gigabit Ethernet with RJ-45 connectors
- Power-over-Ethernet compliant with IEEE 802.3af and 802.3at
- Maximum PoE power: 30W/port; 450W per unit
- Ethernet port auto negotiation or manual configuration
- MDI/MDIX automatic sensing
- 802.1D bridging
- Virtual switch based on 802.1Q VLAN
- Up to 384 MAC addresses and 192 VLAN groups
- 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
- L2, L3, L4 Access Control Lists (ACL)
- 802.1x port-based authentication
- Network Access Control (NAC)

POTS Interface (only available on Tellabs 1600-729GP ONT)

- Standard 50-pin connector (RJ-21)
- 5-REN load
- Balanced Ring, 55V RMS
- DTMF Dialing
- Multiple Codecs:
 - G.711 (μ -law and A-law)
 - G.729 (A and B)
 - G.723.1
- Echo Cancellation
- Voice Activity Detection (VAD) and Comfortable Noise Insertion
- SIP (RFC-3261)
- SDP (RFC-2327)
- RTP (RFC-3550/3551)
- DTMF encoding by RELAY or IN-BAND method
- Full CLASS service support — caller ID, call waiting, call forwarding, call transfer, call toggle, three way calling, distinctive ringing and more
- G.711 for FAX, modem connection and TTY devices
- T.38 / T.30 Fax
- Configurable dial plan
- Country-specific ring tone generation
- DHCP client or static IP configuration

LED Indicators

- Power
- Optical Signal
- Alarm
- POTS
- POE
- Individual LAN port speed indication



Specifications (continued)

Operations, Administration and Maintenance (OAM)

- Standards-compliant OMCI as defined in 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 for all 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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