Tellabs® 1131 Optical Line Terminal

A cost-effective low-energy and space-savings 1 RU OLT for low-density Enterprise LANs

Overview

The Tellabs® 1131 Optical Line Terminal provides a small form-factor OLT for low-density enterprise LAN deployments. It is ideal for replicating the benefits of Tellabs® Optical LAN solution into regional offices, smaller schools, boutique hotels/resorts, healthcare clinics, physician offices and small enterprise facilities. It is the smart choice for serving modern voice, video, data, wireless access, access control, security, surveillance, building environmental and building automation in high-performance enterprise LAN. The slim Tellabs 1131 OLT is equipped with both Ethernet network uplinks and G-PON service ports supporting all of Tellabs Optical Network Terminals (ONTs) in a cost-effective low-energy and space-savings means [Table 1].

	Tellabs 1131 OLT
Height	1.75″/1 RU
Width	17.7″
Depth	13″
Fans	Integrated (5)
Power Source	Integrated rectifier
Switching capacity	200 Gbps
Total G-PON ports	4
Total ONTs served	Up to 128
Total PON Ethernet ports	Up to 512
10 GbE network interfaces	2
1 GbE network interfaces	4

Table 1: Tellabs 1131 OLT quick reference

IP/Ethernet Interface

The sleek Tellabs 1131 OLT comes equipped with four Gigabit Ethernet and two 10 Gigabit Ethernet network uplink interfaces. These 1 GbE and 10 GbE ports are integral to the Ethernet switching fabric, common control and timing mechanism of the Tellabs 1131 OLT. This allows for efficient delivery of modern enterprise services and applications (both IPv4 and IPv6), including the management of subtended powered devices (e.g., VoIP phones, Wi-Fi WAPs, IP cameras). Quality of Service (QoS) is provided through traffic segmentation/classification, rate limiting (shaping), queue management (buffering) and scheduling (policing). High availability is also provided via Link Aggregation (LAG) and Rapid Spanning Tree Protocol (RSTP) for dual homing to core routers. Advanced security is maintained through the regimented support of Network Access Control (NAC), IEEE 802.1x, RADIUS, MAC Authentication Bypass (MAB, Dynamic ARP Inspection (DAI) and DHCP. Additional security functions include Access Control List (ACLs) implemented at Layer-2, Layer-3 and Layer-4 triggers.

10 GbE Interface

- Quantity: 2
- Connectors: XFP based
- XFPs are ordered separately

1 GbE Interface

- Quantity: 4
- Connectors: SFP based
- SFPs are ordered separately

IP/Ethernet Support

- Ethernet — IEEE 802.1
- LLDP/LLDP-MED — IEEE 802.1AB
- Ethernet Bridging — IEEE 802.1ad
- Connectivity Fault Management — IEEE 802.1ag
- Link Aggregation — IEEE 802.1AX
- MAC Bridging Standard — IEEE 802.1D
- Rapid Spanning Tree Protocol (RSTP) — IEEE 802.1D
- Traffic Classification — IEEE 802.1p
- Virtual LANs — IEEE 802.1Q
- VLAN by protocol/by port — IEEE 802.1v
- Port-based Network Access Control — IEEE 802.1X
- Flow Control — IEEE 802.3x
- Link Aggregation Protocol — IEEE 802.3ax
- Link-level OAM — IEEE 802.3ah
- Energy Savings — IEEE 802.3az
- Gigabit Ethernet — IEEE 802.3z
- 10 Gigabit Ethernet — IEEE 802.3ae
- Timing over Packet (ToP) — IEEE 1588
- IGMPv2 Snooping and Proxy — RFC 2236
- IGMPv3 Snooping and Proxy — RFC 3376
- Priority Queuing — RFC 1046
- Weighted Fair Queuing — RFC 3662
- SIP — RFC 3261
- SDP — RFC 2327
- RTP — RFC 3350/3551
- Endpoint Discovery (MED) — ANSI/TIA-1057
- IPv4 and IPv6
- Syslog - RFC 5424
- Dynamic ARP Inspection (DAI)
- MAC Authentication Bypass (MAB)

Passive Optical Network Interface

The Tellabs 1131 OLT is compliant with the ITU-T G.984 standard, based on the recommendations of the Full Service Access Network (FSAN) committee. It delivers both IP video (all types of enterprise video) and can be deployed in conjunction with RF overlay video. Tellabs 1131 OLT provides efficient delivery of IP voice, unified communications and analog POTS voice services. Relative to data services, it is ideal for serving wireless access, access control, security, surveillance, building environmental and building automation endpoints from Tellabs ONTs. It supports Ethernet-centric G-PON Encapsulation Mode (GEM), highly reliable Forward Error Correction (FEC), support secure transmission with Advanced Encryption Standard (AES) and Dynamic Bandwidth Allocation (DBA). The Tellabs 1131 OLT supports extended optical reach as far as 18.5 miles (30 km). It also supports fiber route diversity and geographically dispersed OLTs with FSAN-based Type-B PON redundancy. It fully interoperates with all of Tellabs G-PON ONTs, including desktop, in-wall, in-cubicle and telecom closet-based ONTs.

G-PON Interface

- Quantity: 4
- Connectors: ships with 4 SC/UPC G-PON SFPs
- Optical budget: 28 dB (G.984 Class B+)
- Maximum reach: 18.5 mi/30 km (split ratio 1:16)
- Maximum split ratio 1:32 (reach 12.5 mi/20 km)
- Wavelength downstream: 1490 nm ± 10 nm
- Wavelength upstream: 1310 nm ± 50 nm
- Downstream: 2.488 Gbps
- Upstream: 1.244 Gbps

G-PON Support

- Compliant with the ITU-T G.984 standard, based on the recommendations of Full Service Access Network (FSAN)
- Compliant with the ITU-T G.988 OMCI standard
- Delivers both IP video (all types of enterprise video) and RF overlay video
- Efficient delivery of both IP voice and Analog POTS voice
- Data transport, including wireless access, access control, security, surveillance, building environmental and building automation
- Supports Transparent LAN Services (TLS) to the ONT
- Ethernet-centric G-PON Encapsulation Mode (GEM)
- Multiple T-CONTs and GEM ports per device
- Supports single T-CONT and multiple T-CONTs modes
- Flexible mapping between GEM ports and T-CONT with priority queue-based scheduling
- Activation with automatic discovered Serial Number (SN) and password
- AES-128 Decryption with key generation and switching with 60-second key re-generation
- Support for multicast GEM port
- Highly reliable Forward Error Correction (FEC)
- Secures transmission with Advanced Encryption Standard (AES)
- Dynamic Bandwidth Allocation (DBA)
- Extended optical reach as far as 18.5 miles (30 km)
- Fiber route diversity and geographically dispersed OLTs with Type-B PON redundancy

General Specifications

Dimensions
- Height: 1.75 in/4.4 cm
- Width: 17.7 in/45 cm
- Depth: 13 in/33.3 cm

Weight
- 15 lb/6.8 kg

Capacity
- 200 Gbps switch fabric

Power
- Input: redundant 100/240 VAC
- Consumption Max: 240 W
- Max Draw: 5 A
- Ships with AC power cord

Timing
- No timing support for fax or modem traffic

Environmental
- Environmentally hardened for remote deployments in areas with no air conditioning or heating
- Temperature: -40° F/-40° C to +149° F / +65° C
- Relative humidity: 5% to 95%, noncondensing
- Altitude: -200 ft/-61 m to +10,000 ft/+3 km

Fan
- 5 Optical Fan Assemblies (OFA1)
- Horizontal discharge (front/rear to right)

Mounting
- 19-in or 23-in rack

Ordering Information

Tellabs 1131 OLT
- Order part number 81.11S-1131-10G-R5
- Minimum base software SR29
- Ships with 4 SC/UPC G-PON SFPs
- 1 GbE SFPs and 10 GbE XFPs are ordered separately

SFP and XFP Options

Small Form-factor Pluggable (SFP) Options
- Part Number = 128211
  - 1000Base-SX with LC/MM connector
  - 850nm with up to 550 meter reach
- Part Number = C.11T-S1GBELX1131S
  - 1000 Base-SX and LC/SM connector
  - 1310nm and 10 kilometer reach
- Part Number = 81.11T-S1GB40KM-R6
  - 1000 Base-LX and LC/SM connector
  - 1310nm and 40 kilometer reach
- Part Number = C.11T-S1GBER450030
  - 1000 Base-T and RJ-45
  - Up to 100 meters reach

10 Gigabit Form-factor Pluggable (XFP) Options
- Part Number = C.11T-XO192SR1851M
  - 10GbE with LC/MM connector
  - 850nm with up to 550 meter reach
- Part Number = 4195098
  - 10GbE with LC/SM connector
  - 1310nm with up to 10 kilometer reach
- Part Number = C.11T-8800-XFP-IR2
  - 10GbE with LC/SM connector
  - 1550nm with up to 40 kilometer reach

Software Options
- Base Software
  - 81.SR290BASE1131
- Advance Security
  - 81.SR290AS1131
- Advance Availability
  - N/A
- Advance Operations
  - 81.SR290AO1131

For more information, please contact your local Tellabs sales representative or local Tellabs sales office at the phone numbers provided below, or visit www.tellabs.com.

Take the next step. Contact Tellabs today.

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