

# Tellabs® 1100 Series Optical Line Terminals (OLTs)

Variety of OLT sizes for right-size density, least energy and rack space usage

## Overview

The goal of the Tellabs® 1100 Series is to optimize capital expenditures, energy consumption and space requirements wherever possible. To accomplish that end goal, Tellabs provides four different distribution shelves that best match the total number of IP/Ethernet end points desired and power utilization, and minimize the physical space required within the data communications closet. This is accomplished with the following four IP/Ethernet-centric Optical Line Terminal (OLT) distribution shelves:

- Tellabs 1150 OLT — high-density 23"-wide shelf
- Tellabs 1150E OLT — mid-to-high density 19"-wide shelf
- Tellabs 1134 OLT — low-density 19"-wide shelf
- Tellabs 1134AC OLT — low-density 19"-wide shelf with integrated AC to DC rectifier
- Tellabs 1131 OLT — for more information, see Tellabs 1131 OLT (81.11S-1131-10G-R5) data sheet

All four of these OLT distribution shelves support common software and common hardware. They provide options for multiple 10 GbE and 1 GbE Ethernet uplinks. Each can be equipped with G-PON, Ethernet, ADSL2+ and VDSL2 service cards, supporting both Passive Optical LAN and Multiservice Access architectures. Ultimately, these shelves are built to serve voice, video, data, wireless access, building security, building surveillance and building automation end points.

## Physical Attributes

Whether serving 200 Gigabit IP/Ethernet end points or serving 8,000 Gigabit IP/Ethernet end points, Tellabs can provide the right-size distribution shelf for the lowest first cost CapEx, on-going OpEx, energy use and space required (Table 1).

	Tellabs 1150 OLT	Tellabs 1150E OLT	Tellabs 1134 OLT	Tellabs 1134AC OLT
Height	15.75"/9 RU	15.75"/9 RU	6"/4 RU	6"/4 RU
Width	23"	19"	19"	19"
Depth	12"	12"	12"	16"
Fan (2 per 1150 and 1150E)	3.50"/2 RU	3.50"/2 RU	Integrated	Integrated
Power Source	External rectifier	External rectifier	External rectifier	Integrated rectifier
Multiservice slots	16	14	4	4
Shelf backplane capacity*	1.28 Tbps*	1.12 Tbps*	320 Gbps*	320 Gbps*
Bandwidth slot capacity	80 Gbps*	80 Gbps*	80 Gbps*	80 Gbps*
Total G-PON ports	64	56	16	16
Total ONTs served	Up to 2,048	Up to 1,792	Up to 512	Up to 512
Total Ethernet ports served	Up to 8,192	Up to 7,168	Up to 2,048	Up to 2,048
Ethernet Switch Unit slots	2	2	2	2
10 GbE interfaces (with dual ESUs)	4	4	ESU32 = 4	ESU32 = 4
1 GbE interfaces (with dual ESUs)	8	8	ESU30 = 12 ESU32 = 8	ESU30 = 12 ESU32 = 8

Table 1: 1150, 1150E, 1134 and 1134AC Quick Reference

\*Shelf and slot capacity calculated based on shelf being equipped with next generation ESU and next generation 10G XG-PON service module

These Tellabs OLTs equipped with network uplinks, service modules and Optical Network Terminals (ONTs) support flexible service delivery models (e.g., bridged or private VLAN), strict quality of service (e.g., rate shaping, VLAN trunking and priority, dynamic bandwidth allocation (DBA), Type-B PON protection (at ports, modules or OLTs), advanced security (e.g., ACLs, ingress broadcast rate limiting, AES) and strong authentication mechanisms (e.g., NAC, 802.1x, RADIUS, DHCP).

## Features and Benefits

### Tellabs® 1150 OLT (23") distribution shelf

The Tellabs 1150 distribution shelf is designed for high-density deployments (Figure 1). The Tellabs 1150 is well suited to support Optical LAN, Fiber to the Premises and Multiservice Access. Voice, video and data services can be delivered from this distribution shelf. It also supports voice, delivering both IP PBX, application servers and unified communications systems, and it can support TDM analog voice when bundled with Tellabs® 1000 Voice Gateway. For video delivery, the Tellabs 1150 can be deployed in IP video and RF video configurations within telecom service provider, commercial enterprise, government, healthcare, education and hospitality markets — this is true for all four of the Tellabs OLT distribution shelves.

The Tellabs 1150 can be equipped with Ethernet Switch Unit Two (ESU2). ESU2 provides a nonblocking 184 Gbps switch fabric, two 10 GbE XFP-based and four 1 GbE SFP-based IP/Ethernet interfaces. This ESU can be deployed redundantly for highest resiliency and reliability. System timing is controlled by redundant Timing Distribution Unit (TDU) cards in the Tellabs 1150 shelf. An Alarm Maintenance Unit (AMU) provides alarm collection, alarm reporting, visual alarms and alarm audible functions.

### Tellabs® 1150E OLT (19") distribution shelf

The Tellabs 1150E supports common software and common hardware with the Tellabs 1150. The Tellabs 1150E distribution shelf is built for high-density enterprise and international needs (Figure 2). In both enterprise and international deployments, 19" racks are expected within the data communication center. With voice service being delivered directly from IP PBX, application servers and unified communications systems, the Tellabs 1150E is targeted for pure VoIP, IP video and IP/Ethernet data service delivery. The Tellabs 1150E supports ESU2 equipped in simplex or duplex for high availability.

### Tellabs® 1134 OLT distribution shelf

The Tellabs 1134 supports common software and common service cards with the Tellabs 1150 and Tellabs 1150E. The Tellabs 1134 distribution shelf is designed for lower-density enterprise and international deployments (Figure 3). Furthermore, with its smaller form-factor, the Tellabs 1134 shelf is ideal for space-challenged installation in data center, communications closets and outdoor remote cabinets. The Tellabs 1134 can be equipped with the ESU30 and ESU32.

### Tellabs® 1134AC OLT distribution shelf

The Tellabs 1134AC adds a redundant AC to DC power rectifier integrated with the distribution shelf, resulting in faster installations (Figure 4). By integrating the power rectification, the time and material needed to install this distribution shelf are significantly reduced. Just like the other three Tellabs OLT distribution shelves, this Tellabs 1134AC leverages common software and common service cards. The Tellabs 1134 can be equipped with the ESU30 and ESU32.

### Tellabs® 1131 OLT

It should be noted that the one rack unit Tellabs 1131 OLT comes equipped with two 10G and four 1G network interfaces and four G-PON service interfaces. For more information about the Tellabs 1131 OLT, please review its specific data sheet.



Figure 1: Tellabs 1150 OLT

## Tellabs® 1150 (23") Specifications

### Dimensions

- Height: 15.75 in/40.00 cm
- Width: 23 in/58.42 cm
- Depth: 12 in/30.48 cm

### Weight

- 41.55 lb/18.84 kg

### Capacity

- 1.28 Tbps\* backplane
- 80 Gbps\* per multiservice slot

### Power

- Dual -48 V power feeds
- Total input power 1600 W
- Max draw 26.5 A @ -48 VDC

### Timing

- Composite clock input
- Timing over Packet (ToP)
- Network Time Protocol (NTP)
- Equip with redundant TDU (for analog voice/fax/modem)

### Alarming

- Equip with AMU for dry relay contact inputs

### Environmental

- Temperature: -40°F/-40°C to +158°F/+70°C
- Relative humidity: 5% to 95%, noncondensing
- Altitude: -200 ft/-61 m to +10,000 ft/+3 km

### Fan

- 1 RU 23" Fan Tray Assembly
- 1600 CFM
- Vertical discharge

### Mounting

- 23" rack

### Cable management

- Horizontal fiber tray & guides

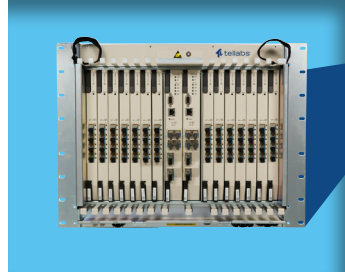


Figure 2: Tellabs 1150E OLT

## Tellabs® 1150E (19") Specifications

### Dimensions

- Height: 15.75 in/40.00 cm
- Width: 19 in/43.18 cm
- Depth: 12 in/30.48 cm

### Weight

- 32.35 lb/14.67 kg

### Capacity

- 1.12 Tbps\* backplane
- 80 Gbps\* per multiservice slot

### Power

- Dual -48 V power feeds
- Total input power 1450 W
- Max draw 23 A @ -48 VDC

### Timing

- No timing support for fax or modem traffic

### Alarming

- No dry relay contact inputs

### Environmental

- Temperature: -40°F/-40°C to +158°F/+70°C
- Relative humidity: 5% to 95%, noncondensing
- Altitude: -200 ft/-61 m to +10,000 ft/+3 km

### Fan

- 1 RU 19" Fan Tray Assembly
- 1100 CFM
- Vertical discharge

### Mounting

- 19" or 23" rack

### Cable management

- Horizontal fiber tray & guides



Figure 3: Tellabs 1134 OLT

## Tellabs® 1134 Specifications

### Dimensions

- Height: 6 in/15.24 cm
- Width: 19 in/43.18 cm
- Depth: 12 in/30.48 cm

### Weight

- 21 lb/9.52 kg

### Capacity

- 320 Gbps\* backplane
- 80 Gbps\* per multiservice slot

### Power

- Dual -48 V power feeds
- Total input power 400 W
- Max draw 10 A @ -48 VDC

### Timing

- No timing support for fax or modem traffic

### Alarming

- Eight (8) dry relay contact inputs

### Environmental

- Temperature: -40°F/-40°C to +158°F/+70°C
- Relative humidity: 5% to 95%, noncondensing
- Altitude: -200 ft/-61 m to +10,000 ft/+3 km

### Fan

- Integrated
- 950 CFM
- Horizontal discharge

### Mounting

- 19" or 23" rack

### Cable management

- Cable guides on right side

\*Shelf and slot capacity calculated based on shelf being equipped with next generation ESU and next generation 10G XG-PON service module

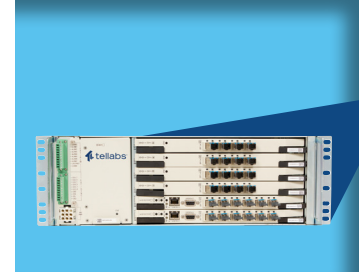


Figure 4: Tellabs 1134AC OLT

## Tellabs® 1134AC Specifications

### Dimensions

- Height: 6 in/15.24 cm
- Width: 19 in/43.18 cm
- Depth: 16 in/40.64 cm

### Weight

- 28 lb/12.70 kg

### Capacity

- 320 Gbps\* backplane
- 80 Gbps\* per multiservice slot

### Power

- Dual power 120 VDC
- Total input power 600 W to 800 W
- Max draw 8 A @ 90 VDC to 176 VDC operating range

### Timing

- No timing support for fax or modem traffic

### Alarming

- Eight (8) dry relay contact inputs

### Environmental

- Temperature: -40°F/-40°C to +158°F/+70°C
- Relative humidity: 5% to 95%, noncondensing
- Altitude: -200 ft/-61 m to +10,000 ft/+3 km

### Fan

- Integrated
- 950 CFM
- Horizontal discharge

### Mounting

- 19" or 23" rack

### Cable management

- Cable guides on right side

### Compliance and Safety

All distribution shelves meet the following compliance and safety requirements:

- NEBS Level 3 compliant
- Department of Defense Joint Interoperability Test Command (JITC)
- FCC Part 15 Class A
- UL 60950
- NEC 2002
- ANSI 319
- SR-3580 Issue 1
- GR-63 Issue 2
- GR-78-CORE Issue 1
- GR-295-CORE Issue 1
- GR-418-CORE Issue 2
- GR-487 Issue 2
- GR-909-CORE Issue 2
- GR-1089 Issue 3

### Ordering Information

#### Tellabs® 1150 OLT

- Tellabs 1150 distribution shelf, order part number — 4125053
- Tellabs 1150 1 RU fan tray and power cable, order part number — 4195091

#### Tellabs® 1150E OLT

- Tellabs 1150E distribution shelf, order part number — 4125061
- Tellabs 1150E 1 RU fan tray and power cable, order part number — 4125073

#### Tellabs® 1134 OLT

- Tellabs 1134 distribution shelf, order part number — 4115093
- Tellabs 1134 fan assembly (OFA1), order part number — 4115094

#### Tellabs® 1134AC OLT

- Tellabs 1134AC distribution shelf, order part number — 81.11K-1134ACSH-R5
- Tellabs 1134AC power rectifier, order part number — 81.11P-1134ACPW-R6
- Tellabs 1134 fan assembly (OFA1), order part number — 4115094

#### Tellabs® 1131 OLT

- Tellabs 1131 OLT, order part number — 81.11S-1131-10G-R5
- For more information, see Tellabs 1131 OLT data sheet.

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](http://www.tellabs.com).

#### For additional information:

Contact an UberData Network representative:  
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