Tellabs® 1100 Series Optical Line Terminals (OLT)

Variety of OLT sizes for right-sized 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 three different distribution shelves that best match total number of IP/Ethernet end-points desired, power utilization and minimizes the physical space required within the data communications closet. This is accomplished with the following three IP/Ethernet centric Optical Line Terminals (OLT) distributions 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

All three of these OLT distribution shelves support common software and common hardware. They provide options for multiple 10GbE and 1GbE uplinks. Each can be equipped with GPON, Ethernet, ADSL2+ and VDSL2 service card, supporting both Fiber-to-the-Desktop, Fiber-to-the-Multi-Desk (also known as Fiber to the Communications Closet) 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 IP/Ethernet end-points or serving 8,000 end-points, Tellabs can provide the right sized distribution shelf for the lowest first cost CapEx, on-going OpEx, energy use and space required (Table 1).

<table>
<thead>
<tr>
<th></th>
<th>Tellabs 1150 OLT</th>
<th>Tellabs 1150E OLT</th>
<th>Tellabs 1134 OLT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>15.75”/9RU</td>
<td>15.75”/9RU</td>
<td>6”/4RU</td>
</tr>
<tr>
<td>Width</td>
<td>23”</td>
<td>19”</td>
<td>19”</td>
</tr>
<tr>
<td>Depth</td>
<td>12”</td>
<td>12”</td>
<td>12”</td>
</tr>
<tr>
<td>Fan (2 per 1150 and 1150E)</td>
<td>3.50”/2 RU</td>
<td>3.50”/2 RU</td>
<td>Integrated</td>
</tr>
<tr>
<td>Ethernet Switch Unit slots</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Multi-Service slots</td>
<td>16</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>Shelf backplane capacity</td>
<td>720Gbps</td>
<td>616Gbps</td>
<td>176Gbps</td>
</tr>
<tr>
<td>Bandwidth slot capacity</td>
<td>44Gbps</td>
<td>44Gbps</td>
<td>44Gbps</td>
</tr>
<tr>
<td>Total GPON ports</td>
<td>64</td>
<td>56</td>
<td>16</td>
</tr>
<tr>
<td>Total ONTs served</td>
<td>Up to 2,048</td>
<td>Up to 1,792</td>
<td>Up to 512</td>
</tr>
<tr>
<td>Total Ethernet ports served</td>
<td>Up to 8,192</td>
<td>Up to 7,168</td>
<td>Up to 2,048</td>
</tr>
<tr>
<td>10GbE interfaces</td>
<td>4</td>
<td>4</td>
<td>Future</td>
</tr>
<tr>
<td>1GbE interfaces</td>
<td>8</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 1: 1150, 1150E and 1134 quick reference

See tellabs.com for more information about Tellabs Solutions
These Tellabs OLTs equipped with network uplinks, service modules and Optical Network Terminals (ONTs) supports flexible service delivery models (e.g. bridged or force-forward), strict quality of service (e.g. rate shaping, VLAN trunking and priority, DBA, Type B PON protection), 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 Multi-Service 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 or entertainment (e.g. hospitality) markets.

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 both ESU11 and 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.
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 lbs / 18.84 kg

**Capacity**
- 720Gbps backplane
- 44Gbps per multi-service slot

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

**Timing**
- Composite clock input
- Timing over Packet (ToP)
- Network Time Protocol (NTP)
- Equip with redundant TDU

**Alarming**
- Equip with AMU

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

**Fan**
- 1RU 23” Fan Tray Assembly
- 1600 CFM
- Vertical discharge

**Mounting**
- 23” rack

**Cable management**
- Horizontal fiber tray & guides

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 lbs / 14.67 kg

**Capacity**
- 616Gbps backplane
- 44Gbps per multi-service slot

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

**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
- Humidity: 5% to 95% relative humidity
- Altitude: -200ft/-61m to +10,000ft/+3 km

**Fan**
- 1RU 19” Fan Tray Assembly
- 1100 CFM
- Vertical discharge

**Mounting**
- 19” or 23” rack

**Cable management**
- Horizontal fiber tray & guides

Tellabs 1134 Specifications

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

**Weight**
- 21 lbs / 9.52 kg

**Capacity**
- 176Gbps backplane
- 44Gbps per multi-service slot

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

**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
- Humidity: 5% to 95% relative humidity
- Altitude: -200ft/-61m to +10,000ft/+3 km

**Fan**
- Integrated
- 950 CFM
- Horizontal discharge

**Mounting**
- 19” or 23” rack

**Cable management**
- Cable guides on right side

See tellabs.com for more information about Tellabs Solutions
Compliance and Safety

All distribution shelves meet the following compliance and safety requirements:

- NEBS Level 3 compliant
- 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 1RU fan tray and power cable, order part number - 4195091

Tellabs 1150E OLT
- Tellabs 1150E distribution shelf, order part number - 4125061
- Tellabs 1150E 1RU 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

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