

Tellabs® 1600 Series

621 Multiple Dwelling Unit Optical Network Terminal

■ **Overview:** The Tellabs 1600 Series 621 Multiple Dwelling Unit (MDU) Optical Network Terminal (ONT) supports voice, Ethernet-based data, IPTV and Cable Television (CATV) services all over a single optical fiber in one cost-effective, easy-to-install unit.

- **Features:**
- Provides 16 POTS ports, eight Ethernet data ports, and one video port
 - ITU-G.983 compliant
 - Supports 622/155 Mbps asymmetrically on the PON
 - Utilizes the 1490 nm wavelength for downstream PON traffic from the OLT and 1310 nm wavelength for upstream traffic to the OLT
 - NEBS-3 compliant
 - Environmentally hardened enclosure
 - Install either indoors or outdoors
 - Locally powered by a 48 V DC input to enable flexibility in the placement of the power supply and battery backup system



Tellabs 1600 Series 621 MDU ONT

■ **Support:** **Voice Support**

The Tellabs 621 ONT includes 16 POTS ports for carrier-grade voice services. The POTS ports:

- Provide all SLIC, CODEC, DTMF and dial-pulse detection/decoding functions needed for a complete analog telephone service
- Support FSK Caller ID generation
- Provide MWI functions for visual and audible alerts
- Provide 30 REN per ONT
- Support DTMF generation and decoding, tone generation and modem/fax tone detection

The POTS ports perform all battery, over-voltage, ringing, supervision, CODEC, hybrid and test (BORSCHT) functions. The internal line-feed circuitry provides:

- Reverse battery operation
- Loop-start operation
- On-hook transmission

Data Support

The Tellabs 621 ONT supports eight 10/100BaseT Ethernet ports, each of which supports up to eight permanent virtual channels (PVCs). The Tellabs 1600-621 ONT Ethernet service is an IEEE 802.1d transparent bridge based on the RFC-2684 specification. Bandwidth is allocated on a per-PVC basis based on peak and sustained cell rates as defined by the ITU. The Ethernet port supports streaming IP video and IPTV content delivery, and meets ITU 802.1p QoS standards at the MAC level.

CATV Support

The Tellabs 621 ONT provides a 55–870 MHz Cable Television (CATV) AM-VSB service over the 1550 nm optical wavelength on the PON in compliance with the G.983.3 standard. The CATV service can handle a variety of digital and analog channels. The video output is 33 dBmV, allowing for multiple splitter applications.

Management

The Tellabs 621 ONT supports management via the ITU G.983.2 OMCI interface to the OLT. When deployed with the Tellabs® 1000 Multi-service Access Series OLT, the Tellabs 1600 Series 621 ONT can be managed by the Tellabs® 1090 Network Management System.

■ Specifications:

- **ITU-T G.983.1** Broadband optical access systems based on PON
- **ITU-T G.983.2** ONT management and control interface specifications for B-PON
- **ITU-T G.983.3** Broadband optical system with increased service capability by wavelength allocation
- **ATM Forum** af-vtoa-0078.00 circuit emulation service
- **ATM Forum** UNI 3.1
- **RFC 3261** Session Initiation Protocol (SIP)*
- **RFC 3265** Session Initiation Protocol (SIP)*

Network Interface

- **Downstream** 622 Mbps @ 1490 nm received optical power levels -8 dBm to -28 dBm
- **Upstream** 155 Mbps @ 1310 nm transmitted optical power levels 0 dBm to +4 dBm
- **Video** AM-VSB cable video distribution @ 1550 nm received optical power levels +1 dBm to -5 dBm

Subscriber Interfaces

- 16 IDC ports for voice connections with RJ-11T test jacks
- Eight RJ-45 ports for Ethernet
- One Type F Coax connector for video output is 33 dBmV

POTS Voice Specifications

- 16 POTS ports
- Performs all BORSCHT functions
- Up to five REN per line (maximum of 30 REN for the system)
- Supports loop lengths up to 1,000 ft
- Loop start operation with Modem/fax tone detection
- DTMF and dial pulse generation/decoding
- Dual tone generators
- A-Law* μ -Law, linear PCM companding
- GR-909 loop diagnostics
- Draw and Break Dial Tone (DBDT)
- FSK caller ID generation
- Audible/visual MWI indicator support
- AAL1 CES
- SIP*

Data Specifications

- Eight Ethernet ports w/multiple PVC support
- 10/100BaseT auto-sensing support with MDIX
- 100 M cable length
- Transparent Bridging
- Switched Digital Video (SDV)
- NAT Routing Support with DHCP support*

*Future Release

Video Port Specifications

- 75 Ohm Type F
- Coaxial Connector
- RF Output Level: 33 dBmV Channel 55–870 Mhz forward path

Power Specifications

- 48 V DC input, 3A max

Physical

- Outer enclosure: 23 in x 19 in x 4 in
- Total weight: 17 lbs

Environmental

- Temperature: -40° C to +46° C with solar loading

Certifications

- FCC Part 15 Subpart B GR-63, GR-487, GR-1089



One Tellabs Center
1415 West Diehl Road
Naperville, IL 60563 U.S.A.
Tel: +1.630.798.8800
Fax: +1.630.798.2000

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