

# Tellabs® 7310 Ethernet Demarcation Device

Reduce Ethernet delivery costs to stay competitive.

## Overview

The Tellabs® 7310 Ethernet Demarcation Device (EDD) is a flexible and cost-effective Network Interface Device (NID). The Tellabs 7310 EDD can operate as a Transport NID or Service NID to provide service demarcation for in-franchise and out-of-franchise applications. It includes the standards-based performance and Operations, Administration and Maintenance (OAM) features that network operators need to successfully transport and deliver Carrier Ethernet services. Metro Ethernet Forum (MEF) User Network Interface (UNI) functions are also supported by the Tellabs 7310 EDD.



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The Tellabs 7310 EDD is part of the Tellabs® 7300 Metro Ethernet Switching Series and an integral component of Tellabs® Carrier Ethernet Solutions. By combining the Tellabs 7310 EDD with the Tellabs® 7100 Optical Transport System (OTS) and the Tellabs® 8800 Multiservice Router (MSR) Series, operators can design, scale and deliver cost-effective and reliable networks that meet users' varying service needs.

## Benefits

- Delivers 10 Gigabit Carrier-Class Ethernet Transport
- Service-transparent, passes data without performing traffic management
- Supports 2 operation modes to meet service provider needs
- Conforms to the latest carrier-class Ethernet OAM standards to provide efficient detection and rapid isolation of potential service problems

## Features

- Functions as a Service NID or Transport NID
- Supports 802.3ah Link OAM and 802.1ag Service OAM for end-to-end fault detection and Y.1731 AIS and performance monitoring
- VLAN service tagging (802.1Q)
- E-Line and E-LAN service multiplexing via 802.1ad VLAN stacking (Q-in-Q)
- Single Rate and Two Rate Three Color Marking (srTCM & trTCM) based rate limiting
- Class of Service based on 802.1p QoS prioritization
- 10G Small Form Factor Pluggable (XFP) 10 Gigabit Ethernet fiber transceivers for standard Dense Wavelength Division Multiplexing (DWDM) applications
- Temperature-hardened
- Certified MEF 9 and MEF 14 compliant

When functioning as a Transport NID, the Tellabs 7310 EDD acts as a remotely managed media converter with carrier-grade OAM capabilities. The Tellabs 7310 EDD is service-transparent and passes data without performing traffic management. Traffic management functions are performed by carrier equipment at the edge of the service provider network.

As a Service NID, the Tellabs 7310 EDD provides service mapping and traffic policing and shaping functions. The Tellabs 7310 EDD supports MEF-certified User-to-Network Interface (UNI) functions, including Class of Service (CoS) prioritization, granular rate-limiting and 802.1ad Provider Bridge VLAN stacking (Q-in-Q) for service multiplexing of multiple E-LINE and E-LAN services.

In both operational modes, the Tellabs 7310 EDD conforms to the latest carrier-class Ethernet OAM standards — 802.3ah Link OAM proactively monitors the network provider's fiber access and customer-facing links for physical failures and deterioration of data quality, 802.1ag Service OAM provides end-to-end Connectivity Fault Management (CFM), and Y.1731 AIS and performance monitoring. These OAM features provide efficient detection and rapid isolation of potential service problems to provide Service Level Agreement (SLA) assurance while reducing Operational Expenditures (OpEx).

Tellabs 7310 EDD supports two 10 Gigabit small form-factor pluggable modules (XFP), to offer users the flexibility to support different interface types (e.g., short reach, long reach, WDM).

The standalone Tellabs 7310 EDD is a rack mounted unit that supports DC power. An external AC/DC power adapter is available for locations where AC power is preferred.

## Specifications

### Ethernet

- Interfaces: 10GBase-R
- 802.3ah Link OAM
  - Link loopback
  - Unidirectional link fault detection
  - Threshold-based monitoring and notification
- 802.1ag end-to-end Service OAM and CFM
  - Supports eight levels of maintenance domains and Maintenance End Points (MEP)
  - Up to 512 Maintenance Associations
  - Connectivity Check Messages (CCM)
  - Remote Defect Indication (RDI)
  - Link trace
  - Diagnostic loopback (Layer 2 ping)
- Y.1731 Performance Monitoring
  - Frame delay
  - Frame delay variation (jitter)
  - Frame loss — AIS
- IETF compliant Ethernet Remote Performance Monitoring (RMON)

### Fault Detection

- Supports a variety of link fault detection and fault propagation features
  - Loss of Signal (LOS)
  - Loss of Synchronization (LOSYNC)
  - Frame Error-based Signal Failure (SF)
  - Frame error-based Signal Degrade (SD)
  - Auto-negotiation fault (ANF)
  - Tellabs RDI (TRDI) based on 802.3ah link fault indication and RF ordered set

### Transport NID Functions

- Transparent transport of customer data
- Ethernet OAM
- Comprehensive fault detection and notification

- Remotely managed and provisioned
- Supports 9600 byte jumbo frames
- MEF 9 and 14 Certified Compliant

### Service NID Functions

- Supports all Transport NID functions
- Service mapping to enable multiple services per UNI
  - 802.1Q VLAN tagging
  - 802.1ad Provider Bridge VLAN stacking (Q-in-Q)
  - Service Multiplexing up to 4K VLANs per port
  - Layer 2 control protocol policy management
- Traffic policing and shaping
  - Granular rate limiting
    - trTCM (CIR, CBS, PIR, PBS)
    - srTCM (CIR, CBS, EBS)
- CoS based on 802.1p QoS prioritization

### Integrated Management

- Remote management
  - In-band via management VLAN
  - SNMPv2c/3
  - CLI via Telnet
- Local management
  - Local management access via serial console or 10/100 Mbps Ethernet ports

### Port Interfaces

- XFP transceivers for standard or DWDM wavelengths
- XFP transceivers models support maximum fiber distances up to 140km
- Supports 10 Gigabit (10GBase-R) Ethernet fiber access networks

### Physical and Environmental

#### Dimensions

- Height: 1.75 in. (4.5 cm)
- Width: 17.5 in. (44.5 cm)
- Depth: 11.0 in. (27.9 cm)
- Weight: 7.1 lbs. (3.2 kg) including redundant Power Supply Units (PSU)
- 19-inch data rack

#### Operating Temperature and Humidity

- -40° F to +149° F (-40° C to +65° C)
- 0%–95% Relative Humidity (non-condensing)
- ETSI EN 300 019-1-3

#### Storage Temperature

- -40° F to 158° F (-40° C to +70° C)
- ETSI EN 300 019-1-1 Power Specifications
- -38V to -72V DC input power
- 100V to 240V AC

### Regulatory

- FCC Part 15, Class A
- Transportation ETSI EN 300 019-1-2
- UL 60950 1st Addition
- NEBS Level 3
- RoHS
- China RoHS
- DOT-WM\_333
- WEEE
- Ethernet UNI Type 1 — MEF 13
- Ethernet Services Definition — MEF 6 and MEF10.1
- Ethernet Services Delivery — MEF 9 and MEF 14

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