

IOM-310 Three Ports Channelized T3 Line Card

The IOM-310 line card supports three channelized T3 interfaces. Designed for applications with high-density termination over T1s, each T3 interface is channelized to 28 logical T1 channels (total of 84 T1s per IOM-310 card), which can be further channelized to 672 DS0s respectively. The IOM-310 functions very much like an M13 multiplexer with each logical T1 channel terminating or originating into or from an HDLC controller rather than a physical T1.

The IOM-310 can be used in the AXN1600, AXN800, and AXN100 Pseudo-Wire Gateways™. It is hot swappable and has no slots assignment restrictions. The IOM-310 channelized T3 line card supports a corresponding interface module with three T3 BNC physical interfaces.

IOM-310 Key Features:

- Three T3 interfaces
- Framed channelized down to framed-unchannelized T1s with DS0 granularity
- Pseudo-Wire encapsulations (PWE3) per T1 or nxDS0
 - T1 structured (CESoPSN) with trunk emulation: T1/E1 alarms propagation
 - T1 unstructured (SAToP)
 - Frame Relay
 - HDLC
- IP Forwarding
 - HDLC, FR, PPP
- IP Service Interworking (IP-IWF)
 - HDLC, FR, PPP
- Enables any PWE3 or IP service on any physical or logical (nxDS0) interface
- Supports a maximum of 512 concurrent multiservice connections per card
- Per T3 / T1 alarm processing and performance monitoring
 - 24-hour history retained, 15-minute intervals on all errors
- Interface diagnostics and loopback control
 - DS-3 level: Terminal and Facility (local and network)
 - DS-1 level: Terminal and Facility (local and network)
- Remote management through Axerra's CLI and AXNVision™ NMS

HARDWARE SPECIFICATIONS

Platform Support

- AXN1600, AXN800, and AXN100

Number of Interfaces: 3

T3

- **Bit Rate:** 44.736 Mbps +/- 20 ppm
- **Standards Compliancy**
ANSI T1.107a
- **Framing:** M13, C-Bit Parity
- **Line Code:** AMI
- **Zero Suppression:** B3ZS
- **Line Impedance:** 75 Ω unbalanced BNC
- **Signal Level**
Receive: DSX-3
Transmit: DSX-3 ANSI T1.102-1993
- **Jitter and Wander Performance**
Telcordia GR-499-CORE
- **Range:** 1200 feet with 75 Ω
- **Connector:** BNC 75 Ω

T1

- **Bit Rate:** 1.544 Mbps +/- 20 ppm
- **Framing:** Unframed, D4, ESF

Indicators

- **Line Card**
 - Power
Off – No power
Green – Operational
Orange – Transient mode
 - Active
Off – No power
Green – Operational
Orange – Unassigned or transient mode
 - Alarm
Off – No alarm
Orange – Minor alarm or transient mode
Red – Major alarm

SOFTWARE SPECIFICATIONS

Pseudo-Wire Services

TDM - CES

- Framed (CESoPSN)
 - n x DS0 (1 < n < 30)
 - Framed unchannelized T1/E1
 - Trunk emulation: T1/E1 alarms propagation

- Unframed (SAToP)
 - Unframed T1/E1

HDLC

- Port mode

Frame Relay

- Port mode
- 1:1 mode (per DLCI)

Layer-3 Forwarding Services

- IPoFR (RFC 1490)
- IPoC-HDLC
- IPoPPP

IP Service Interworking

- Supported Layer-2 circuits
- FR
 - HDLC
 - PPP

GENERAL SPECIFICATIONS

QoS Management

- Layer 3 Marking – DSCP (DiffServ)
- Layer 2 Marking – VLAN 802.1Q/P

Timing

- Adaptive clock recovery (ACR)
- System clock
- Loopback timing (clock source is determined from logical T1/E1 port)

Diagnostics

- T3 / T1
 - Terminal (Local) loopback
 - Facility (Remote) loopback

Performance Monitoring

- T3 / T1
 - 5 x 24 hour
 - 96 x 15 minute interval
 - ES, SES, UAS

Alarms

- T3 / T1
 - Alarm Indications Signal (AIS)
 - Loss of Signal (LOS)
 - Loss of Framing (LOF)
 - Remote Alarm Indication (RAI)

Management Specifications

- In-band or out-of-band
- SNMP
- Command Line Interface (Telnet / ICP)
- SSH
- AXNvision NMS
- Local
 - ICP: RS-232 or RJ-45 via CLI

Physical Dimensions

- **Interface Module**
 - Inches: 10.52 (h) x 4.53 (d) x 0.79 (w)
 - Cm: 26.7 (h) x 11.5 (d) x 2.0 (w)
 - Weight: 0.62 lb (0.28 Kg)
- **Line Card**
 - Inches: 10.52 (h) x 9.84 (d) x 0.79 (w)
 - Cm: 26.7 (h) x 25.0 (d) x 2.0 (w)
 - Weight: 1.17 lb (0.53 Kg)

Environmental

- Operating temp: 0–50°C / 32–122°F
- Humidity: 5%–95% non-condensing

Regulatory¹

- **Safety**
 - UL 60950-1
 - CE Mark: EN 60950

Port Density Summary

AXN Model	T3 Interfaces/Chassis	T3 Interfaces/Rack (44U)
AXN1600N	36	144
AXN1600E	36	144
AXN800	12	132

¹ Please contact Axerra Networks for current list of approvals

Ordering Information

Order Code	Description
IOM-0310-B	Three ports channelized T3 MULTISERVICE IOM bundle
IOM-0310	Three ports channelized T3 MULTISERVICE IOM line card
IMIO-0300	Three ports T3 75 ohm BNC connector Interface Module for IOM-310



1900 Glades Road, Suite 359
Boca Raton, FL 33431
USA
Tel: +1-561-750-5506
Fax: +1-561-750-5407
www.axerra.com

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH AXERRA NETWORKS PRODUCTS AND IS SUBJECT TO CHANGE WITHOUT NOTICE. AXERRA NETWORKS ASSUMES NO RESPONSIBILITY FOR ANY ERRORS THAT MAY APPEAR IN THIS DOCUMENT. #57-58-64