

T1 LIMs for ATM, Frame Relay & Circuit Emulation Applications

Introduction to Xedge T1 LIMs

The operational capabilities of an Xedge switch is determined in part by the slot controller in use and the number and type of associated line interface modules (LIMs). The Xedge DS1 LIM is used for ATM cell switching, frame relay, channelized frame relay, and N x 64 Kbps Circuit Emulation over two or four physical ports.

Two models of T1 LIMs are available for use with their corresponding Xedge slot controller(s) in the Xedge switch:

- The Xedge DS1-2CS dual port LIM is used with the Xedge PCX, PCE, CE, CHFRC, FRC, VSM, or ACP.
- The Xedge DS1-4CS quad port LIM is used with the Xedge CE, CHFRC, or VSM.

Application	Controller	LIM	Ports
ATM Cell Switching	ACP or PCX	DS1-2SC/4CS	Up to 4
Frame Relay	FRC (Frame to ATM)	DS1-2SC	Up to 2
Channelized Frame Relay	CHFRC (Ch Frame to ATM)	DS1-2SC/4CS	Up to 4
T1 Circuit Emulation	CE or PCE	DS1-2SC/4CS	Up to 4
Nx64 Kbps CE Emulation	VSM	DS1-2SC/4CS	Up to 4
Voice over ATM	VSM	DS1-2SC/4CS	Up to 4

Specifications

All physical and operational specifications apply to the DS1-2CS and DS1-4CS LIMs.

- Standards: ANSI T1.102, T1.107, T1.408, ITU-T G.703, G.804, I.432, ATM Forum UNI 3.1
- Interface: T1
- Connector Type: DB15, 100 ohms
- Line Encoding: AMI or B8ZS
- Framing: SF, T1DM, SLC96, ESF4K, ESF2K 1, ESF2K 3
- Transmit Line: 0 dB to more than 655 feet in eight increments.
- Transmit Timing: From received clock; internal oscillator; primary or secondary system reference (line of Node Timing Module)

LIM Features

- Dual or Quad port T1 1.544 Mbps interface or ATM, Frame Relay, Frame UNI and circuit emulation applications.
- Comprehensive alarm reporting and performance monitoring
- Meets international ITU-T transmission standards

Diagnostics & Alarms

Loopbacks

The T1 LIMs support Transmit, Receive, and Payload Loopbacks

Status Indications

- IS (In Service)
- LS (Loss of Signal)
- AL (Alarm Loopback or Loss of Frame)

Alarms & Performance

The T1 LIMs support the physical layer alarms and performance monitoring statistics, such as:

- Loss Of Signal, Loss Of Frame
- Alarm Indication Signal
- Alarm Indication Signal Seconds
- Errored Seconds
- Severely Errored Seconds
- Unavailable Seconds
- Line Coding Violations
- Line Errored Seconds
- Line Severely Errored Second
- Loss of Cell Delineation
- Yellow Alarm, PLCP Yellow Alarm
- PLCP Code Violations
- PLCP Loss of Frame
- PLCP Errored Seconds
- PLCP Unavailable Seconds
- PLCP Severely Errored Seconds
- PLCP Far End Code Violations
- PLCP Far End Errored Seconds
- PLCP Far End Severely Errored Seconds
- PLCP Far End Unavailable Seconds

