

• **IMUX WAN Router with Two Integrated E1 DSU/CSUs** •

• MPEG Video Distribution • Branch Office Connectivity • Education District Networking

IP•Express DLE1 is a high performance, bandwidth scalable, IP WAN router with 2 E1 ports offering a standards based inverse multiplexing (N x E1) capability. The 2 E1 ports are able to interconnect to 2 remote locations or optionally to be N x E1 inverse packet multiplexed to remote locations at 4 Mbps. Standards based WAN protocols, PPP, Multilink PPP, and Frame Relay, ensure interoperability.

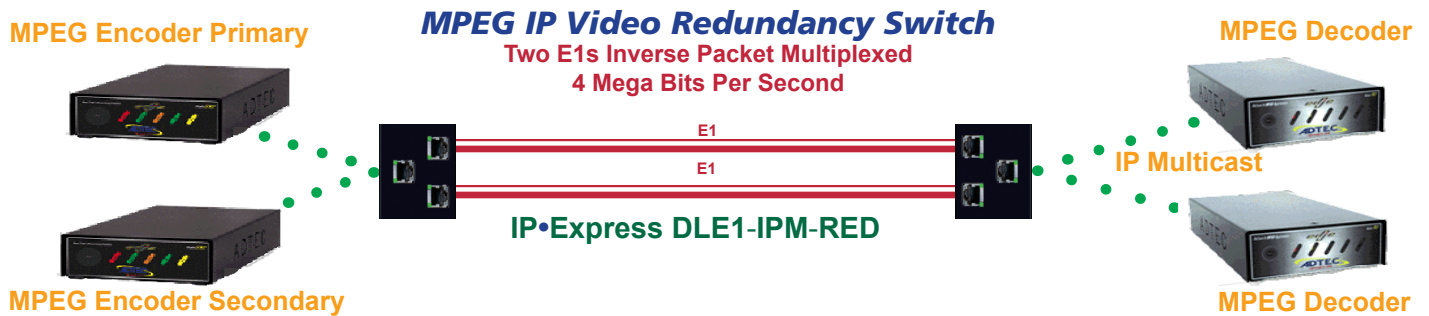
The **IP•Express DLE1** interconnects remote LANs and addresses the large market for connectivity in the multi-megabit bandwidth range such as high quality MPEG Video delivery.

The **Integration** of the E1 CSUs provides for a complete solution with a straight forward configuration.



• **Two E1 Inverse Packet Multiplexor** •

Inverse Packet Multiplexing is an option of the **IP•Express DLE1**. **IPM** delivers 4 Megabits of interconnectivity over 2 Dedicated E1 WANs. IETF approved RFC1990 Multilink PPP protocol bonds multiple E1s into a high-speed link that has built-in redundancy. E1 line fault detection provides resilient connectivity for Mission Critical Interconnects.



MPEG IP Multicast Streaming Video

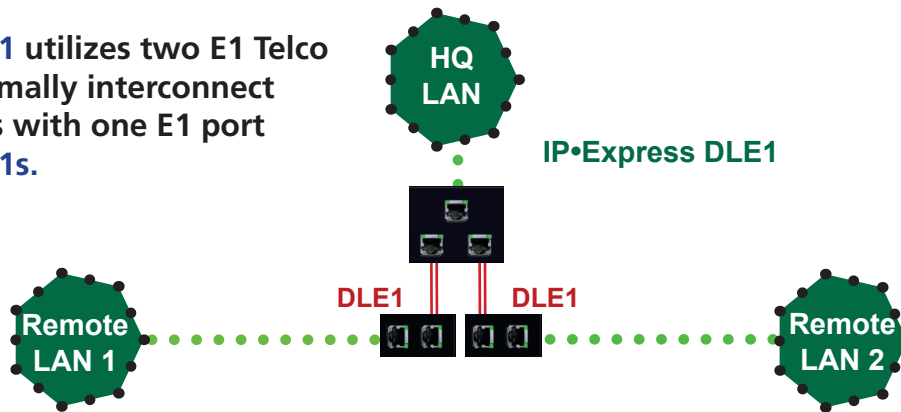
IP•Express DLE1-IPM models deliver **MPEG** IP Streaming Video over Inverse Packet Multiplexed T1s. The Inverse Packet Multiplexor provides the bandwidth necessary for the delivery of broadcast quality video feeds for a single MPEG Video. **IP Multicast** is a standard feature of the **IP•Express DLE1** and is utilized to distribute MPEG video simultaneously to multiple decoders.

MPEG IP Video Redundancy Switch

REDundant IP Video configuration automatically switches from the Primary to a Secondary Encoder's IP Video Stream for mission critical broadcasts and is available with the **IP•Express DLE1-IPM-RED**. A one second absence of IP packets from the Primary Encoder results in the switch to the Secondary Encoder. The WAN bandwidth is reserved for a single feed.

E1 Branch Office Connectivity

IP•Express DLE1 utilizes two E1 Telco Circuits to optimally interconnect 2 Remote LANs with one E1 port IP•Express DLE1s.



IP•Express DLE1 Technical Specification

LAN Network Interface:

- 10/100 BaseT Ethernet Port
- Auto-negotiate or Configured Speed/Duplex

LAN Network Protocols Supported:

- IP, TCP, UDP, RIP, ICMP
- IP Multicast support
- IP Video Stream Redundancy (Optional)

WAN Network Interfaces:

- Four E1/FracE1 CSU/DSU ports
- Inverse Packet Multiplexing (Optional)

WAN Network Protocols Supported:

- PPP (RFC 1548, RFC 1332, RFC 1334, PAP)
- Multilink PPP (RFC 1990)
- Frame Relay (ANSI ANNEX D, LMI, RFC 1420)

Routing Protocols Supported:

- RIPV1, Static

E1/Fractional E1 Specifications:

- Framing - CRC4 or FAS or UNFRAMED
- Coding - HDB3 or AMI
- Supports DS0 assignments from 1 to 32 (64Kbps to 2.048Mbps)

E1 Diagnostic:

- Loopback Test
 - Network, Internal, Framer, Payload
 - Bert Tests
- 2E07,2E11,2E15,QRSS

TFTP Online Upgrade Capable

- Fully operational during upgrade

Network Security:

- Full On Source, Destination Address; Port and Flag IP Packet filtering
- Network, Device and Application Layers.

Dimensions:

- 9" (L) x 7.3" (W) x 1.50" (H)
- 2 E1 Wan Connectivity in 1/2 of a 19" rack

Management:

- Telnet support with Edit and Paste Templates
- Console Port for Out of Band Management
- SNMP support (MIB I, MIB II)
- Remote configuration, monitoring, & reset

Regulatory:

- Safety -IEC60950
- EMC - CFR 47 Part 15 Sub Part B:2002 EN55022:1994+A1&A2 EN55024, ICES-003 1997 CISPR 22 Level A
- Telecom TBR12, TBR13
- CE

Power:

- Locking Power Connector
- 12-24 VDC 1.0A
- Ships with Universal Adapter
- Optional -48V 0.25 Amp
- Hot Standby with 2nd Power Module

How to Order — IP•Express DLE1

Part No.	Description	Notes
095-2048-0x	IP•Express DLE1, xE1 (x=1 - 2 Ports)	Base Model Specify # of E1 Ports Enabled
U95-2048-0x	IP•Express DLE1 E1 Port Upgrade	Enable Additional E1 Ports (up to 2)
Base Options		Specify as suffix
-IPM	Inverse Multiplexor Option	IPM 4 Mbps Interconnect over 2 Dedicated E1 WANs
-RED	MPEG IP Video REDundancy Switch	Secondary Encoder Traffic passed on failure of Primary Encoder
Power Options		Specify as suffix
-DCMOD	Power 12/30 VDC w LOCKING CONNECTOR	Ships with Universal Adapter 90/240 50/60
-WIRED	Power 12/30 VDC Stripped Wire Screw	
-N48VDC	Power Supply Module Negative 48 Volt DC	Isolated Negative 48 Volt Power Hot Standby
Rack Mount Option		Specify as suffix
-RACKMNT	19" Wide Rack Mount Brackets	Enclosure Nut Serts Installed