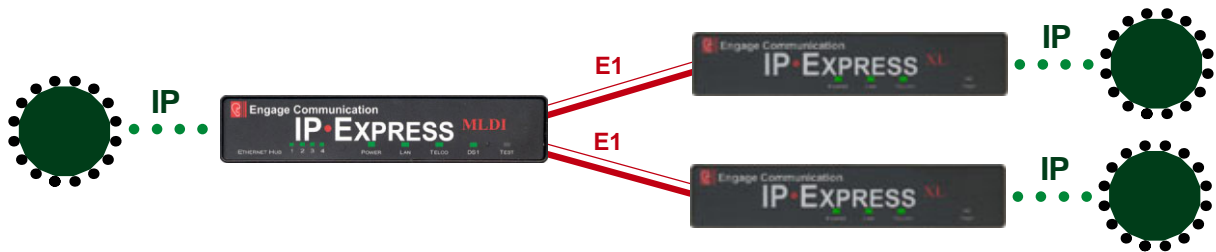# Engage Communication

IPExpress•MLBH•E1

• IP WAN Router with Integrated E1 DSU/CSUs •

IP•Express•MLBH•E1 is a Wide Area Network router that routes the Internet Protocol through integrated E1 WAN ports. The E1 WAN ports supports **Point to Point** and **Frame Relay** Wide Area Networking Protocols with 24/7 proven interoperability. An integrated Four Port 10Baset Ethernet Hub provides a complete E1 Branch Office solution.

The **IP•Express•MLBH•E1** is a very reliable, high performance and cost effective IP WAN Router for interconnecting remote LANs and for high performance MPEG IP Video delivery. The Integration of the E1 CSUs provides for a complete solution with a straight forward configuration. It is great for**:**

<p style="text-align:center">• Shared Internet Access • Branch Office Connections
• Education District Networking • Multimegabyte File Transfers
• MPEG Video Distribution</p>

Inverse Packet Multiplexing

Inverse **P**acket **M**ultiplexing is a feature of the **IPExpress•MLBH•E1•IPM**. **IPM** delivers 4 Megabits of interconnectivity over Dedicated E1 WANs. Built in E1 line fault detection provides for automatic bandwidth backup for Mission Critical Fault Tolerant Interconnects.

MPEG IP Multicast Streaming Video Delivery

IPExpress•MLBH•E1•IPM models delivers broadcast quality MPEG IP Streaming Video over Inverse Multiplexed E1s. The Inverse Packet Multiplexor provides the bandwidth necessary for the delivery of broadcast quality Streaming IP Video.

IP Multicast is a standard feature of the IPExpress and is utilized to distribute MPEG video simultaneously to multiple decoders.

REDundant IP Video configuration that automatically switches from the Primary to a Secondary Encoder's IP Video Stream for mission critical broadcasts and is only available with the **IPExpress•MLBH•E1•IPM•RED.**

MPEG Encoder Primary

Inverse Packet Multiplexed E1s
4 Mega Bits Per Second

MPEG Decoder

IP Multicast

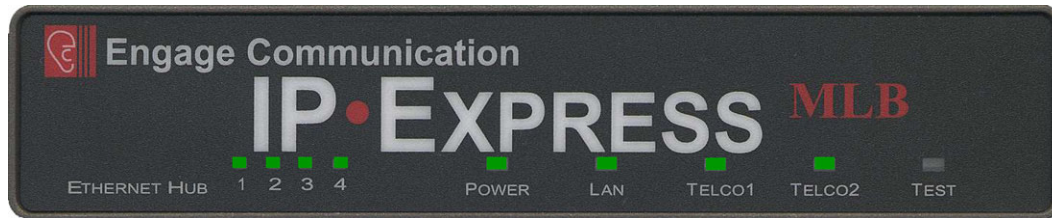MPEG Encoder Secondary

MPEG Decoder

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Engage Communication

IP•EXPRESS MLB

ETHERNET HUB 1 2 3 4   POWER   LAN   TELCO1   TELCO2   TEST

Bit Error Rate Tester is a standard feature. The **BERT** capability in combination with the diagnostic test loops provides for E1 physical layer qualification.   An integrated Four Port 10Baset Ethernet Hub provides a complete E1 Branch Office solution.

Management of the **IP•Express•MLBH** models is accomplished with a Command Line Interface that is accessed through a Console or Telnet connection. Templates of the most common configuration provide for an Edit and Paste configuration.

Technical Specifications

LAN Network Interface:
- 10BaseT Four Port Ethernet Hub

LAN Network Protocols Supported:
- IP, TCP, UDP, RIP, ICMP, BOOTP
- IP Multicast support
- IP Video Stream Redundancy (Optional)
- AppleTalk (Configuration Only: EngageView)

WAN Network Interfaces:
- Two E1/FracE1 CSU/DSU ports
- Inverse Packet Multiplexing (Optional)

WAN Network Protocols Supported:
- PPP (RFC 1548, RFC 1332, RFC 1334, PAP)
- Frame Relay (ANSI ANNEX D, LMI, RFC 1420)

E1/Fractional E1 Specifications:
- Framing - CRC4 or FAS
- Coding - HDB3 or AMI
- Supports DS0 assignments from 1 to 31

E1 Diagnostic:
- Loopback Test
    Network, Internal, Framer, Payload
- Bert Tests
    2E07,2E11,2E15,QRSS

TFTP Online Upgrade Capable (FLASH ROMs)
- IPExpressXLT1 is fully operational during upgrade

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

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

Regulatory:
- Safety -IEC60950
        CB TEST CERTIFICATE
- 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:
- 12-36 VDC, 1.0A; International Adapters Available

Dimensions:
- 9" (L) x 7.3" (W) x 1.50" (H)

DC Powered Back Panel

Telco1: E1 Telecom Circuit 120 Ohm RJ48S   Telco2: E1 Telecom Circuit 120 Ohm RJ48S

CONSOLE   4 3 2 1 10 BASET HUB   TELCO 2   TELCO1   GND VDC FRM

Console Port Connector
• RJ 45 to DB 9 Male Adapter provided   *Four Port 10BaseT Ethernet Hub*   *12-36VDC, 1.0A*