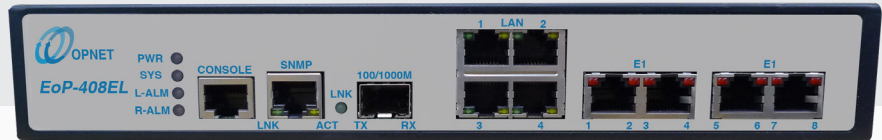


# EoP-408EL

Offering Broadband Services over existing TDM network  
16 Mbps Inverse Multiplexer



## Description

EoP-408EL is a 1~8 E1 inverse multiplexer enabling the transport of high speed data broadband services over the 1 to 8 E1 links. Using G.704 and G.8040 standard to convert Ethernet to multiple E1 by GFP format mapping, EoP-408EL supports minimum 1.984Mbps and Maximum 15.872Mbps.

10/100/1000 Base-TX or fiber LAN interface make EoP-408EL be ideal solution for high speed broadband application. The inverse aggregation bandwidth is scalable as  $N \times 1.984$  Mbps [ $N=1 \sim 8$ ] with maximum payload bandwidth at 15.872Mbps.

EoP-408EL can be managed locally by connecting a VT-100 emulated PC to the CID port or remotely through Telnet/SNMP access all on front panel of the unit. Administration, Maintenance, and Provisioning (OAM&P) are provisioned with the use of 16Kbps embedded operation channel (EOC) that runs through the inverse link. Configured with individual IP address for local and remote unit, EoP-408EL is accessible to the Internet users who are managing the units from a far end place.

To ensure operation continuity and accommodate field requirement, EoP-408EL offers choices of AC or DC or AC + DC power.

## Key Features

- Connect one high speed broadband over 1~8 E1 links
- Available in Desktop or 19 inch rack
- Automatically scale up and down E1 links according to link availability.
- Support data rates  $1.984 \times N$  [ $1 \sim 8$ ] Mbps.
- Use 16Kbps EOC channel for remote configuration and OAM&P.
- Support 10/100/1000 Base-TX or 1000Base-FX interfaces
- Comply with ITU-T G.703
- Support VLAN ID Q-in-Q
- Support dying gasp for remote power failure detection
- Allow a maximum delay of 64 ms among E1 links.
- Support management via VT-100, Telnet, SNMP and Web

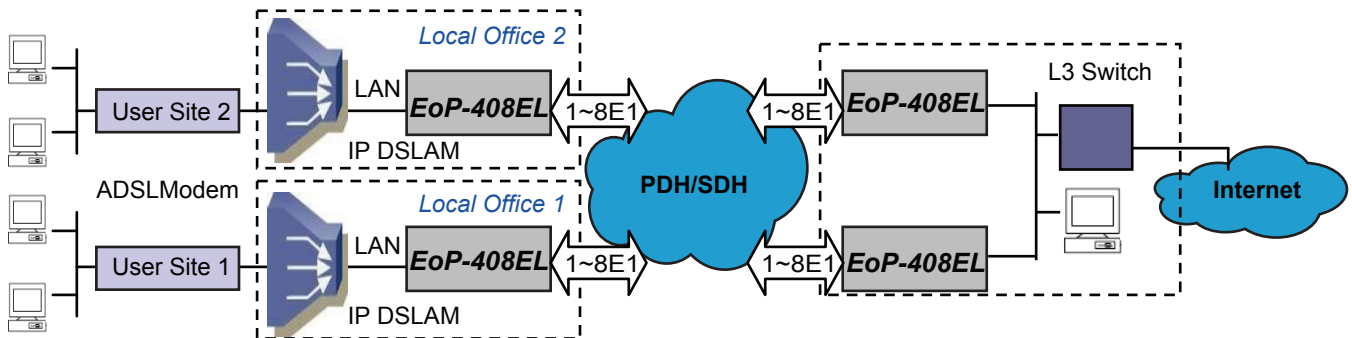
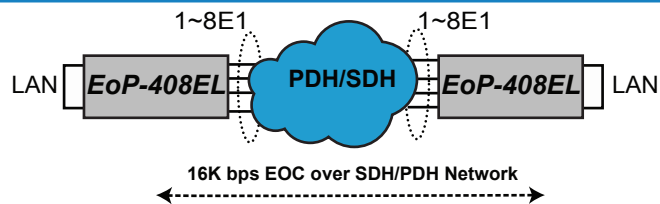
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16 Mbps Inverse Multiplexer

## Application

### Point to Point

Two units of EoP-408EL connected in a pair for transporting user LAN traffic over the PDH network. The 16K EOC channel for management traffic of EoP-408EL is also shown.



### Transporting Broadband Services over TDM Network

EoP-408EL enables the transport of Broadband Services over the legacy TDM network.

In the typical application diagram illustrating below, Broadband ADSL traffic from 2 user Sites are connected to Local Offices 1 & 2 respectively, where IP DSLAM and EoP-408EL are deployed for transporting over the PDH network.

In the Central Office of Service Providers, user traffic relayed by two EoP-408EL peers is sent to a Layer 3 switch where Internet connection is made.

## Specifications

### 1. Inverse multiplexing

- Maximum delay : 64 ms[512 frame buffer]
- Data rate :  $N \times 1.984 \text{ Mbps}$ ,  $N=1-8$ , 16Kbps EOC channel is embedded in SA4-SA6 spare bits.

### 2. E1 interface

- Standard : ITU-T G.703, G.704,
- No. of E1 : 1-8, scaled down automatically per E1 alarms
- Line rate : 2048 Kbps +/- 50 PPM
- Line Code : HDB3
- Framing : PCM31C
- Pulse shape : Meet ITU-T G.703
- Impedance : Balanced 120Ω +/- 5% resistive or unbalanced 75Ω +/- 5% resistive, software programmable
- Connection Type : RJ-45 or BNC

### 3. LAN interface

- Standard : IEEE 802.3 / IEEE 802.3u
- Interface : IEEE 802.3/802.3u 10/100/1000 Base-T
- Data Rate :  $N \times 1.984 \text{ Mbps}$  [ $N=1 \sim 8$ ]
- Bridging Capability : Complied with IEEE 802.1d transparent bridge Supports VLAN ID, Q-in-Q and up to 2048 MAC addresses learning
- Connection Type : RJ45, 4 ports
- Ethernet packet size : Maximum packet size up to 9K jumbo frame

### 4. Maintenance

- Loopback: LL, RL and NL(local payload loopback)

### 5. Fiber interface [optional]

- Type  
One 100 Base-FX or 1000 Base-FX 802.3u SFP interface LC or SC type
- Parameter  
The detail specification is in order information required like fiber type, wavelength and optical power.

### 6. Alarm and Performance Monitoring

- CID interface : VT-100/RS-232C/Telnet/SNMP/Web server
- EOC channel : 16Kbps
- SNMP : meet IETF RFC1157, 1212 and 2495@10/100Based Tx with RJ-45 connector
- Meet G.821 and G.826 for E1 interface
- Fiber interface; LOS

### 7. Power

- AC or DC or AC + DC is optional
- AC: 90 - 260 V @ 50-60 Hz, 0.2A
- DC: -36 ~ -72 V

### 8. Dimensions

- Desktop (WxHxD) 250mmx40mmx168mm