



# Loop-IP 6440 IP I-MUX

## Description

Preliminary



The Loop-IP 6440 IP Inverse Mux provides connectivity from 10/100 BaseT LAN to E1 WAN through multiple E1, up to 4 E1 links. Loop-IP 6440 also provides a bridging function from Ethernet to E1 links. This unit can provide customers from 2Mbps to 8Mbps network bandwidth.

## Features

- Support WAN link, which is virtually concatenated  $n \times E1$  ( $n$  can be 1 to 4)
- Support up to 64ms (configurable for 16, 32, and 64ms) of transmission different delay between E1s.
- GFP (Generic Frame Protocol) is used to map the Ethernet packet into the virtually-concatenated E1's.
- Support 10/ 100 BaseT Ethernet
- Support Tx (Transmit)/ Rx (Receiver) auto reverse function
- Support 10M or 100M auto detecting function
- Support timing sources selection from (1) a certain E1 from  $n \times E1$ , (2) External clock, (3) Internal
- Support Alarm Relay
- Support local control and diagnostic via DB9S console port
- Support Ethernet, SNMP, and inband management
- Support VLAN packet transparent:
  - Up to 1916 bytes for optional MAC learning is included.
- Multicolor LED indicators.

Loop-IP 6440 offers automatic E1 channel failure detection and can re-assign the number of E1 channels for transport of Ethernet traffic. For example, if there are 4 E1s configured for 10/100 Ethernet traffic transport, and one E1 fails during the service, the other 3 pick up the entire load. This minimizes loss of IP packets.

Loop-IP 6440 support DB9S console port, which allows users to execute in-service diagnostics and fault isolation from a local or remote terminal. Loop-IP 6440 also allows remote site to telnet via Ethernet port. The IP 6440 series also provides multicolor LED indicators on the front panel and ACO (Alarm Cut-Off) button.

**CERTIFIED  
ISO-9001**

## Ordering Information

To order specify:

Model	Description	Note
<b>Main Unit</b>		
Loop-IP 6440-1UA-4E- <b>pp1-pp2-Add</b>	1U height ANSI (rear & front access) shelf w/ 4E1 channels	• where <b>pp1</b> , <b>pp2</b> , and <b>Add</b> are defined in below tables
Loop-IP 6440-1UE-4E- <b>pp1-Add</b>	1U height ETSI (fully front access) shelf w/ 4E1 channels	• where <b>pp1</b> and <b>Add</b> are defined in below tables

### Plug-in Power Module:

Loop-IP 6440-SA	Single AC power supply	For power redundancy, order extra power supply
Loop-IP 6440-SD24	Single DC power supply (24Vdc: 18-36 Vdc)	
Loop-IP 6440-SD48	Single DC power supply (48Vdc: 40-75 Vdc)	

■ where **pp1** are used to select power supply for main shelf:

pp1 =	Description	Note
AC	Fixed AC power	
SA	Single plug-in AC power supply	
SD24	Single plug-in DC power supply (24Vdc: 18-36 Vdc)	
SD48	Single plug-in DC power supply (48Vdc: 42-72 Vdc)	

■ where **pp1** and **pp2** are used to select power supply for main shelf:

pp2 =	Description	Note
SA	Single plug-in AC power supply	
SD24	Single plug-in DC power supply (24Vdc: 18-36 Vdc)	
SD48	Single plug-in DC power supply (48Vdc: 42-72 Vdc)	

■ where **Add** is used to select other additional options (**Multiple option choices are available**) :

Add =	Description	Note
EXT	External Clock	
LCD	LCD front panel(see Note)	LCD is supported for ANSI shelf only

## Loop-IP 6440 IP I-MUX Product Specification

### Line Interface

Line Rate	2.048 Mbps ± 50 ppm	Connector	BNC (75 ohm), RJ48C (120 ohm)
Data Rate	n x 30 x 64Kbps (n=1 to 4) or n x 29 x 64Kbps (n=1 to 4)	Output signal	ITU G.703
Line Code	AMI/ HDB3	Electric	75 ohm/ 120 ohm twisted pair
Input Signal	ITU G.703	Jitter	ITU G.823

### Clock Source

Primary Clock	Any one of E1 line, external, internal
Secondary Clock	Any another of E1 line, external, internal

### Diagnostics Test

Loopbacks	Line Loopback, Payload Loopback, and Local Loopback
Remote Loopbackfs	Line Loopback, and Payload Loopback

### Performance Monitor

Performance Store	Last 24 hours performance in 15-minute intervals and last 7 days in 24-hour summary line, user, and remote site
Performance Reports	Date & Time, Errored Second, Unavailable Second, Bursty Errored Second, Severe Errored Second, Controlled Slip Second, and Loss of Frame Count
Monitor Registers	Line, User, and Remote Site
Alarm History	Date & Time, Alarm Type (i.e. Master Clock Loss, RAI, AIS, LOS, BPV, ES, CSS)
Alarm Queue	Maximum 40 alarm records which record the latest alarm type, location, and date & time
Alarm Threshold	Bursty seconds, severely errored second,degrade minutes

## Ethernet

Connector RJ45  
Protocol Telnet and embedded SNMP  
Speed 10 or 100 BaseT, auto-detect

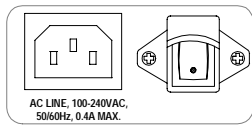
## Physical

Dimensions 432 x 44 x 255 cm (WxHxD)  
Power Source (AC) 100-240V, 50/60 Hz AC  
Power Source (DC) 24Vdc: 18-36 Vdc, dual DC hot swappable  
48Vdc: 42-72 Vdc, dual DC hot swappable  
Temperature 0 -50°C  
Humidity 0-95% RH (NON-CONDENSING)  
Mounting Desk-top stackable, wall mount

## Front Panel

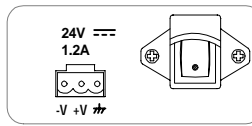


1



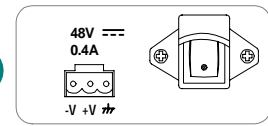
AC plug-in power supply

2

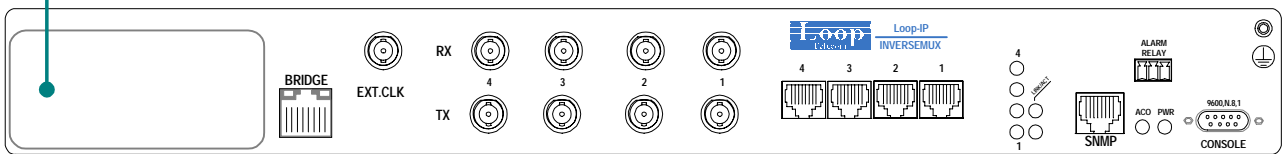


24V DC plug-in power supply

3

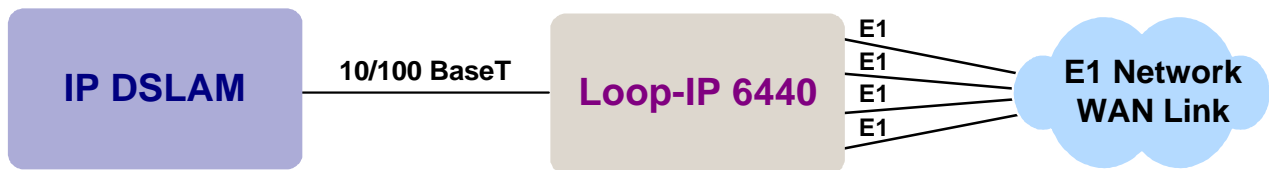


48V DC plug-in power supply



## Rear Panel

## Application Illustration



LoopTelecom.com

## LOOP TELECOMMUNICATION INTERNATIONAL, INC.

### Worldwide

8F, No. 8, Hsin Ann Road,  
Science-Based Industrial Park  
Hsinchu, Taiwan 300  
Tel:+886-3-578-7696  
Fax:+886-3-564-6272  
www.LoopTelecom.com  
sales@loop.com.tw

### Taipei, Taiwan

2F, No. 40, Section 2,  
Tuan-Hwa S. Road,  
Taipei, Taiwan 106  
Tel:+886-2-2784-4000  
Fax:+886-2-2754-2325

### North America

8 Carrick Road  
Palm Beach Gardens  
Florida 33418, U.S.A.  
Tel:+1-561-627-7947  
Fax:+1-561-627-6615  
jimber561@aol.com

### Suzhou China

Tel:+86-512-6252-0456  
Fax:+86-512-6252-7641  
www.looptech.com.cn  
Info@looptech.com.cn  
Sales@looptech.com.cn

### Tianjin China

Tel:+86-22-8789-2753  
Fax:+86-22-8789-0344  
Loop@loop-tj.com