Router/Bridge

E1/DS1/DTE Loop-IP6610 Router/Bridge Box

Description

The Loop-IP6610 Router/Bridge provides connectivity from 10/100 BaseT LAN to E1/ DS1/ DTE WAN in a small metal box.

Loop-IP6610 Router/Bridge support DB9S console port, which allows users to execute in-service diagnostics and fault isolation from a local or remote terminal. Loop-IP6610 Router/Bridge also allow remote site to Telnet via Ethernet or WAN port. The IP6610 Router/Bridge series also provides multicolor LED indicators on the front panel and ACO (Alarm Cut-Off) button.

Features

- Support 1 or 4 Ethernet LAN ports

- Support 1 WAN port for multiple interfaces: E1/ DS1/ DTE (V.35, V.36, EIA530, RS449, RS232, X.21, RS422)

- Support 10/100 BaseT speed auto-sensing and half/ full duplex auto-negotiation.

- Support Router or Bridge mode

- Multicolor LED indicators.

- Local control and diagnostic via DB9S console port.

- Local/ remote management through local console, LAN, or WAN

- Support CLI (command line interface)

- Support SNMP management

**CERTIFIED
ISO-9001**

Ordering Information

To specify options, choose from list below:

Note: RoHS compliant units are identified by the letter **G** appearing immediately at the end of ordering code.

Model (non RoHS compliant)	Model (RoHS compliant)	Description
For E1 WAN port：		
Loop-IP6610-E75-1ETH-BR-**pp**	Loop-IP6610-E75-1ETH-BR -**pp**-**G**	75 ohm E1 WAN port and 1 Ethernet port w/ Bridge function only
Loop-IP6610-E75-4ETH-BR-**pp**	Loop-IP6610-E75-4ETH-BR -**pp**-**G**	75 ohm E1 WAN port and 4 Ethernet ports w/ Bridge function only
Loop-IP6610-E75-1ETH-RT-**pp**	Loop-IP6610-E75-1ETH-RT-**pp**-**G**	75 ohm E1 WAN port and 1 Ethernet port w/ Router & Bridge function
Loop-IP6610-E75-4ETH-RT-**pp**	Loop-IP6610-E75-4ETH-RT-**pp**-**G**	75 ohm E1 WAN port and 4 Ethernet ports w/ Router & Bridge function
Loop-IP6610-E120-1ETH-BR-**pp**	Loop-IP6610-E120-1ETH-BR-**pp**-**G**	120 ohm E1 WAN port and 1 Ethernet port w/ Bridge function only
Loop-IP6610-E120-4ETH-BR-**pp**	Loop-IP6610-E120-4ETH-BR-**pp**-**G**	120 ohm E1 WAN port and 4 Ethernet ports w/ Bridge function only
Loop-IP6610-E120-1ETH-RT-**pp**	Loop-IP6610-E120-1ETH-RT-**pp**-**G**	120 ohm E1 WAN port and 1 Ethernet port w/ Router & Bridge function
Loop-IP6610-E120-4ETH-RT-**pp**	Loop-IP6610-E120-4ETH-RT-**pp**-**G**	120 ohm E1 WAN port and 4 Ethernet ports w/ Router & Bridge function
For DS1 WAN port：		
Loop-IP6610-T-1ETH-BR-**pp**	Loop-IP6610-T-1ETH-BR-**pp**-**G**	DS1 WAN port and 1 Ethernet port w/ Bridge function only
Loop-IP6610-T-4ETH-BR-**pp**	Loop-IP6610-T-4ETH-BR-**pp**-**G**	DS1 WAN port and 4 Ethernet ports w/ Bridge function only
Loop-IP6610-T-1ETH-RT-**pp**	Loop-IP6610-T-1ETH-RT-**pp**-**G**	DS1 WAN port and 1 Ethernet port w/ Router & Bridge function
Loop-IP6610-T-4ETH-RT-**pp**	Loop-IP6610-T-4ETH-RT-**pp**-**G**	DS1 WAN port and 4 Ethernet ports w/ Router & Bridge function
For DS1 WAN port with In-band Management：		
Loop-IP6610-T-IM-1ETH-BR-**pp**	Loop-IP6610-T-IM-1ETH-BR-**pp**-**G**	DS1 WAN port w/ In-band management and 1 Ethernet port w/ Bridge function only
Loop-IP6610-T-IM-4ETH-BR-**pp**	Loop-IP6610-T-IM-4ETH-BR-**pp**-**G**	DS1 WAN port w/ In-band management and 4 Ethernet ports w/ Bridge function only
Loop-IP6610-T-IM-1ETH-RT-**pp**	Loop-IP6610-T-IM-1ETH-RT-**pp**-**G**	DS1 WAN port w/ In-band management and 1 Ethernet port w/ Router & Bridge function
Loop-IP6610-T-IM-4ETH-RT-**pp**	Loop-IP6610-T-IM-4ETH-RT-**pp**-**G**	DS1 WAN port w/ In-band management and 4 Ethernet ports w/ Router & Bridge function
For DTE WAN port：		
Loop-IP6610-**DTE**-1ETH-BR-**pp**	Loop-IP6610-**DTE**-1ETH-BR-**pp**-**G**	DTE WAN port and 1 Ethernet port w/ Bridge function only
Loop-IP6610-**DTE**-4ETH-BR-**pp**	Loop-IP6610-**DTE**-4ETH-BR-**pp**-**G**	DTE WAN port and 4 Ethernet ports w/ Bridge function only
Loop-IP6610-**DTE**-1ETH-RT-**pp**	Loop-IP6610-**DTE**-1ETH-RT-**pp**-**G**	DTE WAN port and 1 Ethernet port w/ Router & Bridge function
Loop-IP6610-**DTE**-4ETH-RT-**pp**	Loop-IP6610-**DTE**-4ETH-RT-**pp**-**G**	DTE WAN port and 4 Ethernet ports w/ Router & Bridge function

Accessories

User's Manual (All User's Manuals are RoHS compliant)		
Loop-IP6610-UM	Loop-IP6610-UM	User's Manual (paper hard copy-optional). A CD version of the manual is already included as standard equipment.
Power Cord (All power cords are RoHS compliant)		
Loop-ACC-PC-USA	Loop-ACC-PC-USA	AC power cord for Taiwan/America
Loop-ACC-PC-EU	Loop-ACC-PC-EU	AC power cord for Europe
Loop-ACC-PC-UK	Loop-ACC-PC-UK	AC power cord for UK
Loop-ACC-PC-AUS	Loop-ACC-PC-AUS	AC power cord for Australia
Loop-ACC-PC-CH	Loop-ACC-PC-CH	AC power cord for China
Tray		
81.TRAY19.000	81.TRAY19.000-**G**	19" tray. one tray for two units
Software (All software are RoHS compliant)		
Loop-IP6610-UPGR-RT	Loop-IP6610-UPGR-RT	Activation code for upgrading Bridge function to Router function

NOTE: When ordering activation code for existing units, please include the units' serial numbers on the order form.

- where **pp** is used to select power supply:

pp =	Description	Note
AC	Fixed AC power supply (90~264 Vac)	
DC	Fixed DC power supply (For 24Vdc and 48Vdc: 20-60 Vdc)	· **For AC choose an appropriate power cord**
DC24	Fixed DC power supply (For 24Vdc: 18-36 Vdc)	
DC48	Fixed DC power supply (For 48Vdc: 36-72 Vdc)	

- where **DTE** is used to select DTE WAN port:

DTE =	Description	Note
22	V.35 WAN port	with DB25 connector
33	EIA530 WAN port	with DB25 connector
44	X.21 WAN port	with DB15 connector
55	RS232 WAN port	with DB25 connector
66	V.36 / RS449 WAN port	via DB25P to DB37S (1-feet) conversion cable
77	RS422 / V.11 WAN port	with DB25 connector

Loop-IP6610 Router Box Product Specification

E1 Line Interface

Line Rate	2.048 Mbps ± 50 ppm	Connector	BNC (75 ohm), RJ48C (120 ohm)
Data Rate	n x 64Kbps (n=1 to 31)	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		

DS1 Line Interface

Line Rate	1.544 Mbps $\pm$ 32 ppm	Framing	D4/ESF
Line Code	AMI/B8ZS	Connector	DA15S or RJ48C
Input Signal	DSX-1 0dB to –30dB w/ALBO	Output Signal	DSX-1 w/0, -7.5, -15 dB LBO
Jitter	AT&T TR 62411	Pulse Template	AT&T TR 62411
Data Rate	n x 64Kbps (n=1-24)	Surge Protection	FCC Part 68 Sub Part D

DTE Interface- V.35

Connector	DB25
Data Rate	Up to 8.192 Mbps

DTE Interface-V.36

Connector	DB25
Data Rate	Up to 7.143 Mbps

DTE Interface- EIA530

Connector	DB25
Data Rate	Up to 8.192 Mbps

DTE Interface-RS232

Connector	DB25
Data Rate	Up to 128 Kbps

DTE Interface- X.21

Connector	DB15
Data Rate	Up to 8.192 Mbps

DTE Interface-RS449

Conversion Cable	DB25 to DB37 conversion cable
Data Rate	Up to 8.192 Mbps

LAN Interface

- Support SNMP management
- Physical interface 10/100 Mbps
- RJ45 connector
- One or four Ethernet ports
- Embedded Ethernet switch for four Ethernet ports

WAN Interface

- Layer 2 protocol: HDLC, PPP, Frame Relay, Cisco compatible HDLC
- Single WAN port
- Up to 10 Frame Relay PVCs
- Remote bridge support (padding/ un-padding Ethernet CRC checksum)
- In-band management channel

Physical Interface

- WAN: E1/FE1, DS1/FDS1 (Integrated CSU/DSU)
  DTE (V.35/ V.36/ X.21/ RS232/ EIA530/ RS449)
- LAN: 10/100 Base-T Ethernet port
  - Speed auto-sensing
  - Half/full duplex auto-negotiation
  - Auto MDI-X

Power Interface

- AC : Full range support 100 – 240V
- DC: 24V or 48V support
- Power consumption: Max. 6 watt

Routing Protocol

- Static Route
- RIP v1 & v2

NAT

- NAT
- NAPT

DHCP

- DHCP server support for LAN users (RFC2131, RFC2132
- BOOTP compatible

Port Forwarding

- Static/dynamic address/port forwarding table for NAT and NAPT

SNTP

- SNTP client support
- Sync with up to 4 time servers

Access Control & Firewall

- Packet filtering based on
  Inbound/outbound direction
  Source/destination IP address
  Protocol types (ICMP, TCP, UDP)
  Port number rang
- Up to 4 control lists

Remote Bridge

- PPP/BCP
- User configurable aging time
- Up to 16K MAC Table
- Cisco ISL packet transparent
- VLAN packet transparent

Management

- SNMP v1/v2
- MIB: MIBII,Transmission MIB
- Telnet
- HTTP Web-based management
- Serial console with CLI

- VLAN ID mapping (802.1q)
- Bridge with IP
- 802.1w Rapid Spanning Tree Protocol

- TFTP firmware download
- Configuration upload/ download
- SNMP/ Telnet via data channel/ In-band Management channel

Administration & Diagnostics
- Ping
- Trace route
- Loopback
- Telnet
- SSH

Console Port
Connector
Electric
Protocol   DB9S
              RS232

              CLI

Diagnostics Test

Loopbacks	For E1/ DS1: Line Loopback, Payload Loopback, Local Loopback, Router to Line Loopback
	For DTE: DTE to DTE Loopback
Test Pattern	For E1: 15-bit PRBS, 3-in-24, 1-in-8, 2-in-8, 1:1
	For DS1: 20-bit QRSS, 3-in-24, 1-in-8, 2-in-8, 1:1
Idle Channel	For E1: Use of idle channel to perform PRBS diagnostic test
	For DS1: Use of idle channel to perform QRSS diagnostic test

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
Alarm History	Date & Time, Alarm Type, and Location
Alarm Queue	Maximum 40 alarm records which record the latest alarm type, location, and date & time

Physical

Dimensions	210 x 41.5 x 140 mm. (WxHxD)
Temperature	0 -50°C
Humidity	0-95% RH (NON-CONDENSING)
Mounting	Desk-top stackable, wall mount

Compliance

EMC	FCC15 Class A EN300 386
Safety	UL60950 ETL/ETLC, IEC60950 CB
FCC	FCC68

Application Illustration