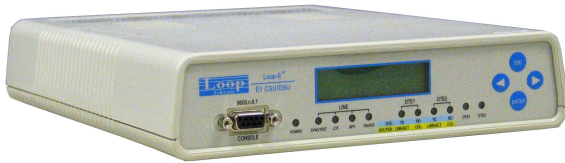




# LOOP-E™1500 CSU/DSU SERIES STAND ALONE



## Description

Loop Telecom's Loop-E1500 CSU/DSU product series provide an economic solution to E1 network access cost, when only a partial of 31 DS0 channels is needed. Clear channel (32 DS0 channels) is also available. This product series support HDB3 (High Density Bipolar 3) coding and provide continuous error checking, performance polling, and in-service diagnostics. Customer equipment interface include E1 ICSU, serial DTE, Co-directional DTE, and router. With DTE port operating from 56 Kbps to 2048 Kbps, Loop-E1500 CSU/DSU allows users to interconnect LANs and WANs, CAD and CAM, video conference, mainframe hosts, and others. With router interface, users can connect LAN to WAN directly without additional bridge/router.

Loop-E1500 CSU/DSU series support local control and diagnostics using 2-line by 16-character LCD display and keypads or RS232 console port. This allows users to execute in-service diagnostics and fault isolation. An in-band management channel with GUI are available. The Loop-E1500 CSU/DSU also provides multicolor LED indicators on the front panel. Using SNMP Network Management Systems and Telnet connection, users can remotely control and diagnose Loop-E products from anywhere.

## Features:

- DSU functionality integrated with an intelligent CSU in a compact package.
- Support up to 2 customer equipment interfaces includes E1 ICSU, serial DTE, router, and G.703 (co-directional).
- Up to 31 WAN ports with aggregate data rate of 2.048M bps
- Support SNMP Network Management Systems.
- Support In-band Management
- Connection to LAN/WAN, CAD/CAM, or Hosts to E1 Network Services.
- Local control and diagnostic via RS232 port or 2-line by 16-character LCD & keypad.
- Router - 10/100 BaseT auto selection. Multicolor LED indicators.

## 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
Loop-E1500-2S- <b>port-ww</b> -SNMP- <b>pp</b>	Loop-E1500-2S- <b>port-ww</b> -SNMP- <b>pp-G</b>	Base Unit with Inband, 1-Interface port, and SNMP
Loop-E1500-2S- <b>port-port-ww</b> -SNMP- <b>pp</b>	Loop-E1500-2S- <b>port-port-ww</b> -SNMP- <b>pp-G</b>	Base Unit with Inband, 2-Interface ports, and SNMP
<b>Accessories</b>		
<b>User's Manual (All User's Manuals are RoHS compliant)</b>		
Loop- E1500-2S-UM	Loop- E1500-2S-UM	User's Manual (paper, hard copy-optional). A CD version of the manual is already included as standard equipment.
<b>Tray</b>		
61.000015.A00	61.000015.A00- <b>G</b>	19" Tray (One tray for two base units)
81.TRAY23.000	81.TRAY23.000- <b>G</b>	23" Tray (One tray for two base units)
<b>Power Cord (All power cords are RoHS compliant)</b>		
Loop-ACC-PC-USA	Loop-ACC-PC-USA	AC power cord for Taiwan/USA
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 Europe
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

Where

**port** =

	non RoHS compliant	RoHS compliant	Description
<b>11</b>	Available	Available	V.35 DTE interface with M34 connector <b>NOTE:</b> With M34 connector, only one interface port allowed.
<b>22</b>	Available	Available	V.35 DTE interface with DB25 connector
<b>33</b>	Available	Available	EIA530 DTE interface
<b>44</b>	Available	Available	X.21 DTE interface
<b>55</b>	Available	Available	RS232 DTE interface
<b>66</b>	Available	Available	RS449 DTE interface via conversion cable
<b>E1</b>	Available	Available	E1 interface
<b>RT</b>	Available	Available	Router interface <b>NOTE:</b> Two Router interfaces for one base unit is available on special order.
<b>CD</b>	Available	Not available	Co-directional interface with RJ48 connector
<b>BR</b>	Available	Available	Bridge interface

**ww** = For E1 option only

	non RoHS compliant	RoHS compliant	Description	Note
<b>75</b>	Available	Available	75 ohm BNC E1 interface	<b>NOTE:</b> All 75 ohm BNC E1 interface and 120 ohm Twisted Pair RJ48C E1 interface are RoHS compliant.
<b>120</b>	Available	Available	120 ohm Twisted Pair RJ48C E1 interface	
<b>RF</b>	Available	Not available	75 ohm RF-coaxial E1 interface	

**pp**= **DC** for 20 to 60 Vdc power source

**AC** for 90-250, 50/ 60 Hz Vac (For AC choose an appropriate power cord)

Example:

Loop-E1500-2S-22-RT-75-SNMP-DC=

V.35 DTE interface with DB25 connector, Router interface, 75 ohm BNC, and SNMP. Power is DC.

# **LOOP-E1500 CSU/DSU SERIES PRODUCT SPECIFICATIONS (Stand Alone)**

## **Network & Customer Interface (E1)**

Line Rate	2.048 Mbps $\pm$ 50 ppm
Line Code	AMI / HDB3 (selectable)
Framing	ITU G.704, Unframed clear channel
Input Signal	ITU G.703
Output Signal	ITU G.703
Jitter	ITU G.823
Electrical	75 $\Omega$ coax/120 $\Omega$ twisted pair
Connector	BNC/RJ48C (specify on order)

## **Data Port Interface**

Data Port	Single port per card, DCE
Data Rate	n * (56 or 64) Kbps ( n = 1 - 31)
Connector	M34 for V.35 DB25S for V.35, RS232, and EIA530 DB15S for X.21 DB37 for RS449 via conversion cable

## **Co-directional Interface**

Interface	ITU G.703 64 Kbps co-directional interface
Line Distance	Up to 500 meters
Loopback	DTE Payload Loopback, DTE to Line Loopback
Impedance	120ohm
Connector	RJ48

## **Router Interface**

Number of port	1
Physical Interface	10/100 BaseT
Routing Protocol	RIP-I, RIP-II
Data Rates	n x 64 Kbps up to E1 capacity (n=1 to 31)
Supporting Protocols	TCP/IP, PPP, NAT
Management	VT-100, SNMP, LCD Panel
Connector	RJ45
Function	Natural Mask/ Non-natural Mask

## **WAN Interface**

Number of ports	Up to 31 WAN ports
Date Rate	Each WAN port has data rate nX64K bps, 1 $\leq$ n $\leq$ 32
Protocol	Layer-two protocol: HDLC, PPP
Functions	The total bandwidth of all 31 WAN ports is up to 2.048Mbps Each interface can be configured as a bridge port or router port

## **Bridge Interface**

Number of port	1
Physical Interface	10/100 BaseT; IEEE802.3
Bridge protocol	HDLC encapsulation without Ethernet FCS
Data Rates	N x 64 Kbps up to full E1 capacity (N = 1..32)
Ethernet functions	Auto MDI/MDIX Auto-negotiation (10/100M) Full/half duplex IEEE802.1d self learning, up to 4K MAC addresses
VLAN	Transparent and extended frame size of 1532bytes
Connector	RJ45

### **DS0 Mapping**

Maps	2 sets of DS0 maps with provision for timed automatic switching between the 2 maps
Remote Send	Send active DS0 maps to remote site

### **Inband Management**

Management Protocols	HDLC, PPP
Channel	Channel selectable

### **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, Degraded Minutes, Unavailable Second, Bursty Errored Second, Severe Errored Second, Controlled Slip Second, and Loss of Frame Count
Alarm History	Date & Time, Alarm Type (i.e. Master Clock Loss, RAI, AIS, LOS, BPV, ES, CSS), and Location (i.e. line, DTE)
Alarm Queue	Maximum 40 alarm records which record the latest alarm type, location, and date & time
Threshold	Bursty Seconds, Severely Errored Second, Degraded Minutes

### **System Configuration Parameters (All in non-volatile memory)**

Active Configuration	Current working configuration
Stored Configuration	User stored configuration
Default Configuration	Manufacture default configuration (permanent)

### **Console Port**

Connector	DB9S at front panel
Electrical	RS232 interface
Protocol	Menu driven VT-100 terminal, or Embedded SNMP (optional)
Baud Rate	1200, 2400, 4800, 9600, 19200, 38400

### **Diagnostics Test**

Loopbacks	Line Loopback, Payload Loopback, Local Loopback, DTE Loopback, and Router Loopback
Test Pattern	15-bit PRBS, 3-in-24, 1-in-8, 2-in-8, 1:1 patterns
Idle Channel	Use of idle channel to perform PRBS diagnostic test
Remote Loopback	Line Loopback, Payload Loopback, and DTE Channel Loopback (V.54 or Loop proprietary)

### **Front Panel**

Keypad	4-key: left arrow, right arrow, ESC, and ENTER
LCD	2 lines by 16 characters
LED Indicators	

### **Physical/Electrical**

Dimensions	216 x 55 x 285 mm (WxHxD)
Power	100-240Vac, 20 to 60 Vdc, 50/60 Hz, 5 watts
Power consumption	15 Watts (maximum)
Temperature	0 -50°C
Humidity	0-95% RH (NON-CONDENSING)
Mounting	Desk-top stackable

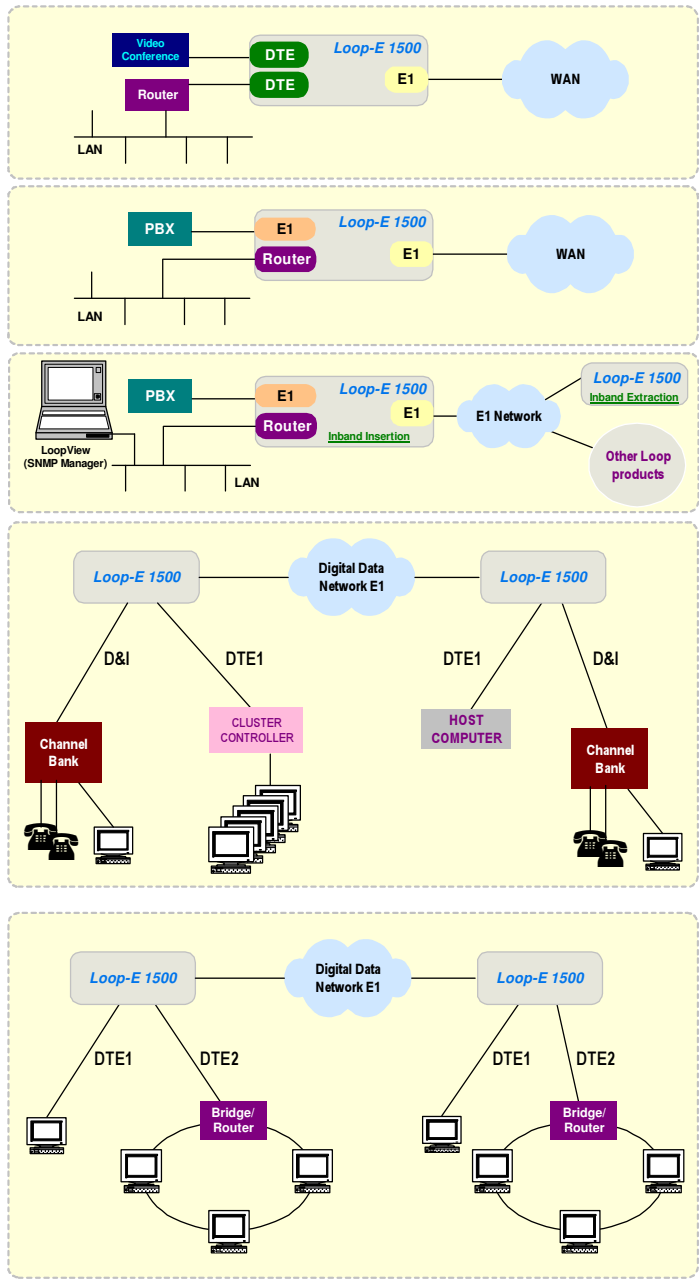
### **Standard Compliance**

ETSI	ETS 300420, ETS 300419
ITU	G.703, G.704, G.706, G.732, G.736, G.823, G.826

### **Certification Compliance**

EMI/EMC	EN55022 Class A, FCC 15 Class A, EN55024
Safety	EN60950

# Application Illustrations



**LOOP TELECOMMUNICATION INTERNATIONAL, INC.**  
**ISO 9001/ISO 14001**

**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**

6F, No. 36, Alley 38, Lane 358,  
 Rueiguang Road,  
 Neihu, Taiwan 11492  
 Tel: +886-2-2659-0399  
 Fax: +886-2-2659-2325  
 michael\_tzeng@loop.com.tw

**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

**Tianjin China**

No. 240 Baidi Road  
 Nankai District  
 Tianjin 300192 China  
 Tel: +86-22-8789-4027  
 Fax: +86-22-8789-0344  
 wym@loop-tj.com