

## Loop-V4200-9 MuxMaster/ Wideband IAD CSU/DSU, E1/T1 Converter, & DACS

*The truly Integrated Access Device can support, control, and multiplex a wide variety of devices.*



### Features

- 9 hot plug-in capable slots
- Available plug-in types :
  - T1, E1 interface cards
  - V.35, EIA530, RS232, X.21 interface cards
  - QFXS, QFXO, PLAR, E&M interface cards
  - MDSL, G.shdsl interface cards
  - T1/ E1 ATM Frame Relay interface cards
  - Router interface card with Subnet management (SNMC)
  - G.703 (co-directional) interface card
  - OCU DP interface card
  - Terminal Server interface card
  - Fiber Optical Interface Card
- Usable as a CSU/DSU, E1 to T1 converter, multiple CSUs, or a DACS.
- Full TSI capability among all slots in main unit.
- Remote diagnostic capabilities.
- 2-line by 40-character LCD display for maintenance, performance monitoring, and administration.
- Management through Console port, Ethernet port, and SNMP agents.
- Inband Subnet Management facility for remote management through national networks.
- LED indicators for power, test, alarm, and each of 9 ports.
- Field changeable AC power supply, or dual feed dual DC power supply.
- Software field upgradeable through download.
- Optional GUI NMS with LoopView.

### Description

The Loop-V4200-9 is a versatile 9-port device. Depending on the plug-in cards selected, this unit can be configured (a) as a CSU/DSU with drop and insert and voice capabilities, (b) as a 4 E1 to 5 T1 converter or fractions of them, (c) as a digital cross-connect system (DACS), (d) as sets of ICSU combined in one box, and (e) as a channel bank. As a CSU/DSU, data from the V.35 or X.21 port can occupy any fraction of an E1 or T1 port. As an E1 to T1 converter, A to  $\mu$  law and coding and signaling conversions are correctly handled. For both E1 and T1 ports, continuous error checking, performance polling, and in-service diagnostics are provided. In any of the above combinations, full time slot interchange (TSI) among the ports are possible, making the Loop-V4200-9 a small DACS (digital access cross-connect system). The ports can further be used in pairs as ICSUs (intelligent CSU) at lower cost and smaller space than individual ICSUs. Lastly, the Loop-V4200 can be configured as a channel bank.

The Loop-V4200-9 supports local control and diagnostics by using a 2-line by 40-character LCD display and keypads on the front panel, or by using a VT-100 terminal connected to the console port. The Loop-V4200-9 also supports Ethernet, Telnet, and SNMP, so it can be controlled and diagnosed from remote locations. The Loop-V4200-9 also supports inband Management, where management data is carried the same way as user data, traversing national networks.

In addition to the LCD display, 12 multicolor LEDs provide status indication for power, test condition, alarm, and each of the 9 ports. Internal firmware is stored in flash memory so that future software upgrades can be downloaded.

**CERTIFIED  
ISO-9001**

## Ordering Information

To specify options, choose from list below:

Model	Description	Note
<b>Main Unit</b>		
Loop-V4200-9	Main unit w/ CPU and DCS, w/o power	Basic Chassis
<b>Low Speed Module</b> (Select 1 to 9 cards.)		
Loop-V4200-T1	T1 interface card	
Loop-V4200-E1	E1 interface card	
Loop-V4200-E1-MON	E1 interface card (MON.)	
Loop-V4200-V35	V.35/DB25 interface card	
Loop-V4200-E530	EIA530 interface card	
Loop-V4200-RS232	RS232 interface card	
Loop-V4200-X21	X.21 interface card	
Loop-V4200-QFXS-x	Quad FXS voice card	
Loop-V4200-QFXS-M-x	Quad FXS with MP 16KHz voice card	■ GS = Ground Start
Loop-V4200-QFXS-M12-x	Quad FXS with MP 12KHz voice card	■ MP = Metering Pulse TX 12K/16KHz
Loop-V4200-QFXS-G-x	Quad FXS with GS	■ For AC, -48Vdc power supply only.
Loop-V4200-QFXS-GM-x	Quad FXS with GS and MP voice card	
Loop-V4200-QFXO-x	Quad FXO voice card	■ GS = Ground Start
Loop-V4200-QFXO-M-x	Quad FXO with MP 16KHz voice card	■ MP = Metering Pulse RX 12K/16KHz
Loop-V4200-QFXO- M12-x	Quad FXO with MP 12KHz voice card	
Loop-V4200-QFXO-G-x	Quad FXO with GS	
Loop-V4200-QFXO-GM-x	Quad FXO with GS and MP voice card	■ For AC, -24Vdc, -48Vdc power supply only.
Loop-V4200-Q2EM-m-Tn-x	Quad 2 Wire E&M voice card	■ For AC, -24Vdc, -48Vdc power supply only.
		■ Where
		m = B for normal E&M, or TO
		= A for tandem operation
		n = 1 to 5 of E&M Signaling Type
		= O for TO(transmission only)
Loop-V4200-Q4EM-m-Tn-x	Quad 4 Wire E&M voice card	
Loop-V4200-PLAR	PLAR voice card	
Loop-V4200-PLM(A)	Phone Line Monitor card (A)	■ For AC, -24Vdc, -48Vdc power supply only.
Loop-V4200-PLM(B)	Phone Line Monitor card (B)	
Loop-V4200-MDSL	Multi-rate SDSL interface card	
Loop-V4200-GH	G.SHDSL interface card	
Loop-V4200-AFRT	T1 Frame Relay to ATM inter-working or Frame Relay to Frame Relay concentration	
Loop-V4200-AFRE	E1 Frame Relay to ATM inter-working or Frame Relay to Frame Relay concentration	
Loop-V4200-RT	Dual LAN port (10 & 10/100 BaseT) Router card, w/ Subnet management (SNMC)	
Loop-V4200-TS	Terminal Server interface card	
Loop-V4200-CD	Co-directional interface card	
Loop-V4200-ODP	OCU DP interface card	
Loop-V4200-SNMP	SNMP module	Optional
Loop-V4200-FOM-OPT	Fiber Optical Interface	
<b>Power Module</b> (Select one.)		
Loop-V4200-SD24	Single DC supply (24 Vdc)	Select one.
Loop-V4200-SD48	Single DC supply (48 Vdc)	
Loop-V4200-DD24	Dual feed dual DC supply (24 Vdc)	
Loop-V4200-DD48	Dual feed dual DC supply (48 Vdc)	

## Accessories

<b>User's Manual</b>		
Loop-V4200-9-UM	User's Manual (paper hard copy--optional). A CD version of the manual is already included as standard equipment.	
<b>Tapping Bridge Box</b>		
Loop-ACC-TB	T1/E1 Tapping Bridge	
<b>Cables</b>		
	For Terminal Server Card	
Loop-ACC-CAB-EXT-003	100cm conversion cable. One DSUB-44 pin Male splits off to two DSUB-25 pin Females and one DSUB-9 pin Female.	For Terminal Server Card only
<b>Power Cord</b>		
	90 to 240 Vac, 50/60 Hz, 2A Max.	
Loop-ACC-PC-USA	AC power cord for Taiwan/USA	
Loop-ACC-PC-EU	AC power cord for Europe	
Loop-ACC-PC-UK	AC power cord for the UK	
Loop-ACC-PC-AUS	AC power cord for Australia	
Loop-ACC-PC-CH	AC power cord for China	
<b>Blank Panels</b>		
30.000112.A00	Dummy Panel for V4200-9	

For example:

Loop-V4200-9	1 each
Loop-V4200-T1	4 each
Loop-V4200-E1	5 each
Loop-V4200-SAU	1 each

For model 4200 with 4 T1 cards, 5 E1 cards and single AC power with AC power cord for the UK, no SNMP.

■ where **OPT** is used to select optical module type:

OPT =	Description	Note
<b>SAA</b>	single optical module with dual uni-directional fiber, 1310 nm, SC optical connector, 30 km reach (20dB) - <b>S1.1 physical layer*</b>	<ul style="list-style-type: none"> <li>• Use 2 fibers</li> <li>• Units delivered</li> <li>* ITU-T Rec G.957 application code</li> </ul>
<b>SBB</b>	single optical module with dual uni-directional fiber, 1310 nm, SC optical connector, 50 km reach (30dB) - <b>L1.1 physical layer*</b>	
<b>SCC</b>	single optical module with dual uni-directional fiber, 1310 nm, FC optical connector, 30 km reach (20dB) - <b>S1.1 physical layer*</b>	
<b>SDD</b>	single optical module with dual uni-directional fiber, 1550 nm, SC optical connector, 20 km reach (12dB) - <b>S1.2 physical layer*</b>	
<b>SEE</b>	single optical module with dual uni-directional fiber, 1550 nm, SC optical connector, 100 km reach (40dB) - <b>L1.2 physical layer*</b>	
<b>SSM</b>	single optical module with single bi-directional fiber (master), 1310 nm transmit and 1550 receive, SC optical connector, 30 km reach (20dB) - <b>S1.1/ S1.2 physical layer*</b>	<ul style="list-style-type: none"> <li>• 1310 nm from master to slave</li> <li>• Order <b>SSM</b> to use with <b>SSS</b></li> <li>• Use 1 fiber</li> <li>* ITU-T Rec G.957 application code</li> </ul>
<b>SSS</b>	single optical module with single bi-directional fiber (slave), 1310 nm receive and 1550 transmit, SC optical connector, 30 km reach (20dB) - <b>S1.1/ S1.2 physical layer*</b>	<ul style="list-style-type: none"> <li>• 1550 nm from slave to master</li> <li>• Order <b>SSS</b> to use with <b>SSM</b></li> <li>• Use 1 fiber</li> <li>* ITU-T Rec G.957 application code</li> </ul>

■ where **x** is used to select version type:

x =	Description	Note
<b>E</b>	follows ETSI signaling bits	
<b>A</b>	follows ANSI signaling bits	
<b>S</b>	follows customer's special bits assignment	
<b>T</b>	trunk condition OFF-HOOK	
<b>AT</b>	follows ANSI signaling bits w/ trunk condition OFF-HOOK	■ <b>T, AT, ST</b> are for QFXO,Q2EM,Q4EM
<b>ST</b>	follows customer's special bits assignment w/ trunk condition OFF-HOOK	

## Loop-V4200-9 MuxMaster/ Wideband IAD Product Specifications

### Time Slot Interchange

Less than 400  $\mu$ s delay

One active map, one user stored map

### Voice Channel Conversion

A-law to  $\mu$ -law G.711

CAS Signaling Transparent, (A=0 from E1 becomes A=0 to T1, etc.)

### Electrical Power

Field changeable 30W 24Vdc or 30W 48Vdc power supply module

DC : 24Vdc, 3A Max.

48Vdc, 1.6A Max.

AC : 90 to 240 Vac, 50/60 Hz, 2A Max.

### Physical

Dimensions 428.8 x 43.5 x 331.3 mm. (WxHxD)

Temperature Range 0 – 50 °C

Humidity 0 – 95% RH (non-condensing)

Mounting Desk-top stackable, 19/23 inch rack mountable

Weight 7.7 lb., (3.5Kg) without plug-in cards

### Performance Monitor

Performance Store The last 24 hours performance in 15-minute intervals

Monitor Registers Line, user

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, CS)

Threshold Bipolar Violation, Error Second, Unavailable Second, Controlled Slip Second

### Network Management

Connector DB9 at front panel

Electrical RS232 interface

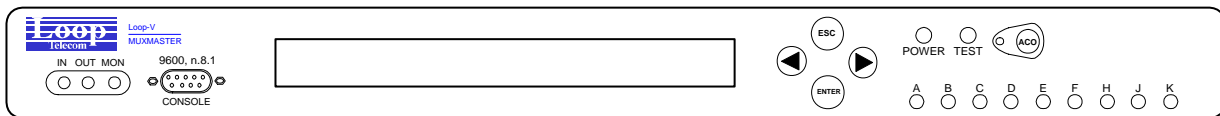
Protocol Menu driven VT-100 terminal

### Ethernet Port (optional)

Connector RJ45 in rear

Protocol Telnet and Embedded SNMP

### Front Panel



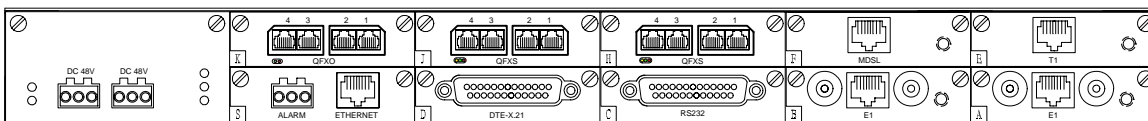
Keypads 5 keys, ACO (alarm cut-off), left and right arrows, ESC, and ENTER

LCD 2 lines by 40 characters LCD display

LED 12 - one for each of 9 plug-in slots, power, test, and alarm

Bantam Jacks Network IN, OUT, and Monitor

### Rear Panel

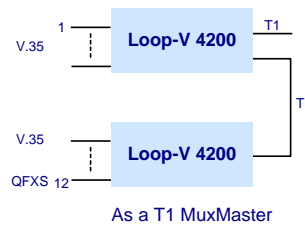
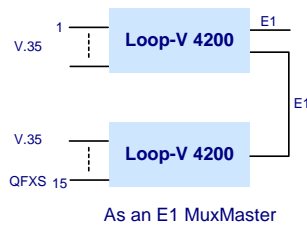
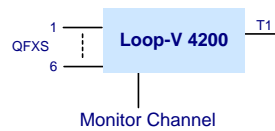
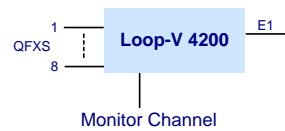
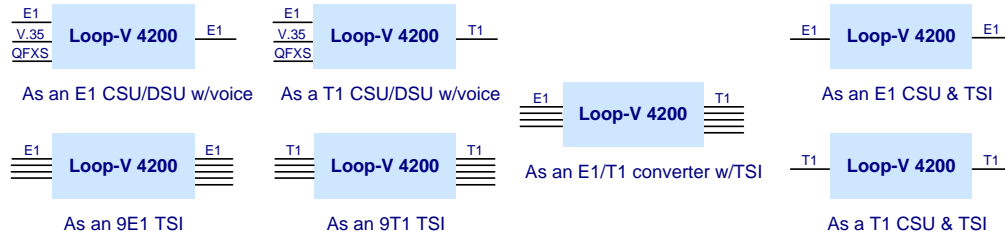


Power module slot, Ethernet slot, and 9 signal slots.

### Compliance

CISPR 22 Class A, EN55022 Class A, EN50081, EN50082, FCC Part 15, FCC Part 68, CS-03 Issue 8, CE168X, NTR4, UL1950, CSA22.2 No.950, EN60950, NEBS Level 3: GR-1089-CORE, GR-63-CORE

## Applications Illustrations



### 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  
Sales@looptech.com.cn

#### Tianjin China

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