

## H3300-3S SERIES G.SHDSL.bis CPE



### Features

- 1-pair/2-pair/1+1 mode selectable
- STU-C(master) or STU-R(slave.) mode selectable
- Built in self-test, loopback and QRSS functions
- E1/T1/V.35/Ethernet network interface hybrid
- Co-existence in one chassis
- Log-in and password security protection
- VT100 Firmware Download
- Remote Firmware Download (*Future Option*)
- Multi-color LED indicators
- Optional front panel keys and 2-line by 16-character LCD display.
- Support Telnet (*Future Option*)
- Inband Management
- Firmware upgradeable to Enhanced SHDSL for data rate up to 11.392 Mbps (*Future Option*)
- Standard compliance:
  - G.SHDSL : ITU-T G.991.2 Annex A,B
    - Transmission rate up to 2.304 Mbps on 1-pair
    - Transmission rate up to 4.608 Mbps on 2-pair
  - Enhanced SHDSL : ITU-T G.991.2 (*Future Option*)
  - Support of Annex A, B, E, F
    - Transmission rate up to 5.696 Mbps on 1-pair
    - Transmission rate up to 11.392Mbps on 2-pair

The Loop-H3300-3S is an addition to our H3300 family of CPE products that are based on the G.shdsl transmission standard. They use the standard 16-TCPAM line format over twisted copper pairs to provide digital transport for a variety of data formats and data rates.

The distances that this technology can span without repeaters are dependent on the data rate. Loop-H3300-3S provides high speed transport for a T1/E1 link plus an additional Ethernet bridge, V.35 data transport over one (1) or two (2) twisted copper pairs.

The H3300 works as a pair (as master and slave) or as slave unit to the either one of the two master units: AM3440's G.shdsl card, H3300 rack and H3300 SA versions.

The Loop-H3300-3S can be configured as master or slave, or as the slave side of the G.shdsl link with the other master being the AM3440's G.shdsl card, H3300 rack card or H3300 standalone unit. The master unit is usually located in central offices and is usually a rack-mounted model. The slave unit is usually located at customer's premises and is usually a stand-alone model.

**CERTIFIED  
ISO-9001**

## Ordering Information

To specify options, choose from list below:

Models	Description
Loop-H3300-3C-Port1-Port2-Port3- Port4-SP-PP	Stand Alone with LCD & LED display
Loop-H3300-3E-Port1-Port2-Port3- Port4-SP-PP	Stand Alone with LED display only

Where

### Port1:

0 : None  
 ERJ : E1 with RJ48C  
 BNC : E1 with BNC  
 TRJ : T1

### Port2:

0 : None  
 11 : V.35 with M34 Connector

### Port3:

S : SNMP (Future Option)  
 BG : BR & SNMP (Future Option)  
 RT : BR & Route & SNMP (Future Option)

### Port4: (Future Option)

0 : None  
 22 : V.35 with DB25 Connector  
 55 : Multi-protocol DTE with DB25 Connector

### SP=

kk for 1-pair line rate Nx64Kbps (G.shdsl N=3,4,.. 36)  
 ke for 1-pair line rate Nx64Kbps (Enhanced shdsl N=3,4,.. 89)  
 (Future Option)  
 mm for 2-pair line rate Nx64Kbps (G.shdsl N=3,4,.. 36)  
 me for 2-pair line rate Nx64Kbps (Enhanced shdsl N=3,4,.. 89)  
 (Future Option)

### PP=

P1 for -48 Vdc  
 P2 for 100-240 Vac  
 P3 for DC power with line power source (Future Option)  
 P4 for DC power from line (Future Option)  
 P7 for 100-240 Vac with sealing current looped  
 P9 for 100-240 Vac and-48 Vdc selectable

TRJ : T1  
 ERJ : E1 with RJ48C  
 BNC : E1 with BNC  
 HBG : High Speed Bridge Card  
 FXS : Voice Card

## LOOP-H3300-3S G.SHDSL PRODUCT SPECIFICATION (Stand Alone)

### E1 Interface

Line Rate	2.048 Mbps ± 50 PPM	Framing	ITU G.704 or Unframe
Line Code	HDB3, AMI	Connector	BNC/RJ48C
Input Signal	ITU G.703	Output Signal	ITU G.703
Compatible with ISDN PRI NTUs		Electrical	75Ω Coax/120Ω twisted pair
Data Rate	N x 64 Kbps, N =1,2,3....32 (2.048Mbps) for 1-pair and 2-pair G.SHDSL		

### T1 Interface

Line Rate	1.544 Mbps ± 32 bps	Framing	D4 / ESF/ Unframe (selectable)
Line Code	AMI / B8ZS	Connector	RJ48C
Input Signal	DS1 ABAM cable length up to 655 feet	Output Signal	DSX1
Data Rate	N x 64 Kbps, N =1,2,3....24 (1.536Mbps) for 1-pair and 2-pair G.SHDSL		
Electrical	100Ω twisted pair		

### DTE Interface

Data Port	Single DTE
Connector	M34 connector for V.35 interface

Data Rate	N x 64 Kbps, N =1,2,3.... 36 ( 2.304Mbps) for 1-pair G.SHDSL N x 64 Kbps, N =1,2,3.... 72 ( 2.304Mbps) for 2-pair G.SHDSL N x 64 Kbps, N =1,2,3.... 89 ( 5.696Mbps) for 1-pair enhanced SHDSL <i>(Future Option)</i> N x 64 Kbps, N =1,2,3...178 (11.392Mbps) for 2-pair enhanced SHDSL <i>(Future Option)</i>
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### Bridge Interface

Number of Ports	1
Physical Interface	10/100 Base-T
Connector	RJ45
Data Rate	N x 64 Kbps, N =1,2,3....72

### Router Interface *(Future Option)*

Number of Ports	1
Physical Interface	10/100 Base-T
Connector	RJ45
Supported Routing Protocol	RIP-I, RIP-II
Data Rate	N x 64 Kbps, N up to 72
Supported Protocols	TCP/IP, PPP, HDLC

### High speed Bridge Interface *(Future Option)*

Number of Ports	3
Physical Interface	10/100 Base-T
Connector	RJ45
Data Rate	N x 64 Kbps, N =1,2,3....36 ( 2.304Mbps) for 1-pair G.SHDSL N x 64 Kbps, N =1,2,3....72 ( 4.608Mbps) for 2-pair G.SHDSL N x 64 Kbps, N =1,2,3....89 ( 5.696Mbps) for 1-pair enhanced SHDSL N x 64 Kbps, N =1,2,3...178 (11.392Mbps) for 2-pair enhanced SHDSL

### Performance Monitor (E1/ T1)

Performance Store	The last 24 hours performance in 15-minute intervals and last 7 days in 24-hour summary
Monitor Registers	Network, E1/ T1/ DTE, and remote site
Performance Reports	Errored Second, Unavailable Second, Severe Errored Second
Alarm Status	Alarm Type, Loop1, Loop2, E1/ T1(LOS, ES, SES), and DTE Clock Loss
Alarm History	Contains 256 alarm records which record the latest alarm type, and date & time

### xDSL Line Interface

#### **SHDSL standard ITU-T G991.2 / G994.1**

Full duplex with adaptive echo cancellation 16PAM and 32 PAM (enhanced SHDSL ) line coding

One or two unconditioned 19-26 AWG twisted pairs

Line Rate Available	8K+N x 64 Kbps, N =3,4....36 ( 2.304Mbps) for 1-pair G.SHDSL 8K+N x 64 Kbps, N =3,4....72 ( 4.608Mbps) for 2-pair G.SHDSL 8K+N x 64 Kbps, N =3,4....89 ( 5.696Mbps) for 1-pair enhanced SHDSL 8K+N x 64 Kbps, N =3,4...178 (11.392Mbps) for 2-pair enhanced SHDSL <i>(Future Option)</i>
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Clock xDSL looped, Internal, or E1/ T1/ DTE

### Console Port

Connector	DB9S at front panel
Electrical	RS232 interface (DCE)
Protocol	Menu driven VT-100 terminal

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

Active Configuration	Current working configuration
Default Configuration	Manufacture default configuration

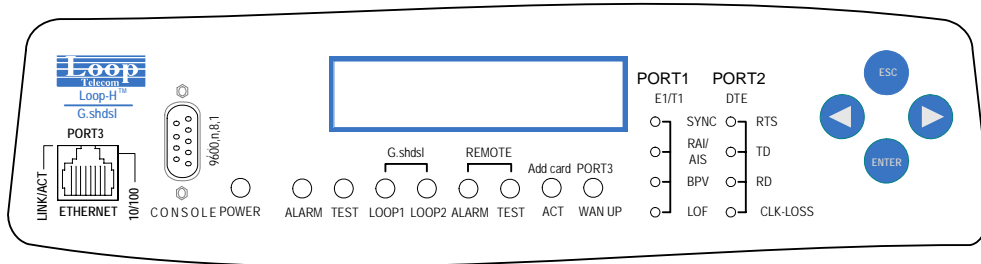
### Diagnostics Test

xDSL Loopback	To-DTE, To-LINE
DTE Loopback	To-DTE, To-LINE
E1 Loopback	To-E1, To-LINE
T1 Loopback	To-T1, To-LINE
Slave Loopback	DTE-Side, Line-Side (through EOC and V.54)

**Front Panel**

Keypad 4 keys  
 LCD  
 LED Indicators

left arrow, right arrow, ESC, and ENTER  
 2-line by 16-character



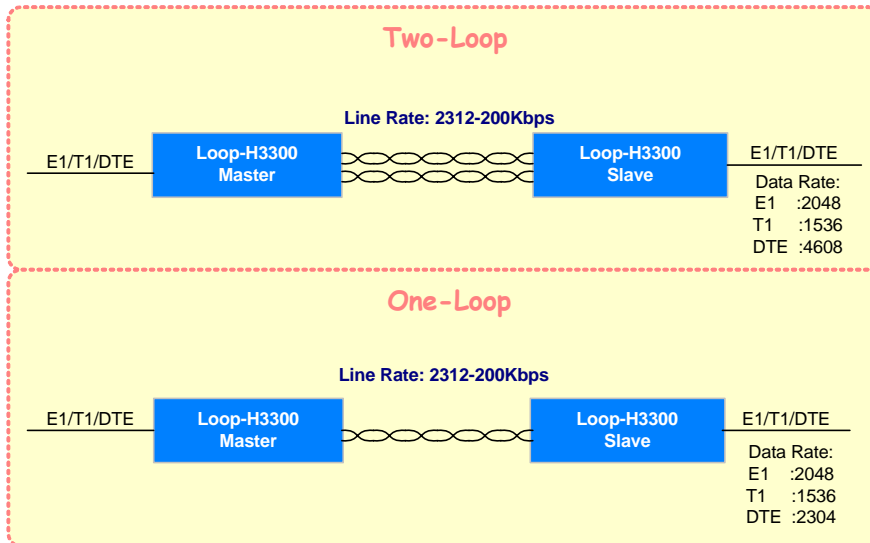
**Physical/Electrical**

Dimensions: 29 x 6 x 22 cm (WxHxD)  
 Power: 8 Watts max without line power  
 Temperature Range: 0 – 50 °C  
 Humidity: 0 – 95% RH (non-condensing)  
 Mounting: Desk-top stackable  
 Rack Mount tray available

**Compliance**

EMI/EMC	EN55022	EN50081-1	EN50082-1
Safety	EN60950		
G.SHDSL	G.991.2, G.994.1		

**Application Illustrations**



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