



Loop-H3308

Ethernet over Bonded G.SHDSL.bis Standalone



Features:

- 1U height, full front access(ETSI) unit or front and back access(ANSI) unit
- Point to point application
- WAN Ports
 - 2, 4 or 8 pairs G.SHDSL.bis
 - Line rate 5.704 Mbps each G.SHDSL pair
 - Sealing current
 - STU-C (master) or STU-R (slave) mode selectable
 - G.SHDSL.bis using 16-TCPAM and 32-TCPAM
 - Supports auto-adaptive rate
- Tributary Ports
 - One 10/100M fast Ethernet, one V.35 and one asynchronous RS232
- Power supply
 - Single fixed AC power supply
 - Hot swappable single/dual AC or DC power supply
- Bonding
 - Bonding protocol IEEE 802.3ah 2Base-TL
 - Line cut resilience within 50ms
 - Supports manual addition or removal of pair (s) without disrupting the service bandwidth
 - Ratio between the highest and lowest G.SHDSL.bis line rates can be up to 4:1
- Built in self-test and BERT functions
- Alarm relay
- Log in and password security protection
- Firmware download
- Configuration upload and download
- Management port and interface
 - LCD with keypad
 - RS232 console port with VT-100 menu
 - 10/100M fast Ethernet SNMP port
 - SNMP v1 with 5 trap IP
 - Telnet with Secure Shell (SSH) protocol
 - Access Control List (ACL)
 - GUI EMS: LoopView, LoopView Plus
- Standards compliance
 - -ITU-T G.991.2 (G.SHDSL.bis Annex F) and G.994.1
 - -IEEE 802.3ah 2Base-TL
- RoHS compliant

Description

The Loop-H3308 is a standalone device which provides high speed digital transport for Ethernet, V.35 and RS232 point to point applications. The device converts Ethernet, V.35 and RS232 ports over multiple twisted copper pairs by using the 16-TCPAM, 32-TCPAM (G.SHDSL.bis) technology and the IEEE 802.3ah 2Base-TL bonding protocol.

There are 2, 4 or 8 pairs configuration for the G.SHDSL.bis interface. The total bonded bandwidth is dependant on the number of copper wires.

The Loop-H3308 works as a pair (as master and slave). The slave unit is usually located at the customer's premises. The distance that this technology can span without repeaters is dependent on the data rate.

The Loop-H3308 supports configuration and diagnostics by using a local terminal or a remote Telnet or SNMP manager. This allows execution of diagnostics and fault isolation.

The bonding method ensures line cut resilience by removing failed pair(s) from an aggregation group within 50ms. This removal decreases service bandwidth. When the failed pair(s) has recovered, the aggregation bandwidth will become normal without disrupting the service.

For user maintenance, the Bonding G.SHDSL.bis system supports manual addition or removal of pair(s) without disrupting the service bandwidth of the remaining pair(s).

G. SHDSL.bis supports different line rates. The ratio between the highest and lowest line rates can be up to 4:1.

Note: * Future Option

Ordering Information

To order specify:

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

Model	Description	Note
Main Unit		
Loop-H3308-S-AD-n-pp1-pp2-dte-add1-G	1U height ANSI (rear & front access) shelf with DB37 connector	where n , pp1 , pp2 , dte and add1 are defined in the tables below
Loop-H3308-S-AT- n-pp1-pp2-dte-add1-G	1U height ANSI (rear & front access) shelf with Telco connector	
Loop-H3308-S-AR- n-pp1-pp2-dte-add1-G	1U height ANSI (rear & front access) shelf with RJ48C connector	
Loop-H3308-S-ED-n-pp1-dte-G	1U height ETSI (fully front access) shelf with DB37 connector	where n , pp1 and dte are defined in the tables below
Loop-H3308-S-ET- n-pp1-dte-G	1U height ETSI (fully front access) shelf with Telco connector	
Loop-H3308-S-ER- n-pp1-dte-G	1U height ETSI (fully front access) shelf with RJ48C connector	
Loop-H3308-S-AD-n-AC-dte-add1-G	1U height ANSI (rear & front access) shelf with DB37 connector	This unit is equipped with a fixed AC power module. Please choose appropriate power cord. Where n , dte and add1 are defined in the tables below
Loop-H3308-S-AT- n-AC-dte-add1-G	1U height ANSI (rear & front access) shelf with Telco connector	
Loop-H3308-S-AR- n-AC-dte-add1-G	1U height ANSI (rear & front access) shelf with RJ48C connector	
Loop-H3308-S-ED-n-AC-dte-G	1U height ETSI (fully front access) shelf with DB37 connector	This unit is equipped with a fixed AC power module. Please choose appropriate power cord. Where n and dte are defined in the tables below
Loop-H3308-S-ET- n-AC-dte-G	1U height ETSI (fully front access) shelf with Telco connector	
Loop-H3308-S-ER- n-AC-dte-G	1U height ETSI (fully front access) shelf with RJ48C connector	

Plug-in Power Module

Loop-H3308-SD24-G	Single DC power supply (-24Vdc: -18 to -36 Vdc)	For power redundancy, order extra power supply
Loop-H3308-SD48-G	Single DC power supply (-48Vdc: -36 to -72 Vdc)	
Loop-H3308-SA-G	Single AC power supply (100 to 240 Vac, 50/ 60 Hz). Please choose an appropriate power cord.	

Accessories

Power Cord

Loop-ACC-PC-USA-G	AC power cord for Taiwan/USA	
Loop-ACC-PC-EU-G	AC power cord for Europe	
Loop-ACC-PC-UK-G	AC power cord for UK	
Loop-ACC-PC-AUS-G	AC power cord for Australia	
Loop-ACC-PC-CH-G	AC power cord for China	

User's Manual (All User's Manuals are RoHS compliant)

Loop-H3308-S-UM	User's Manual (optional, paper copy). A CD version of the manual is already included as standard equipment.	
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■ where **n** is used to select on-board G.SHDSL.bis

n =	Description	Note
2	2 pairs G.SHDSL.bis	Future option
4	4 pairs G.SHDSL.bis	
8	8 pairs G.SHDSL.bis	

■ where **pp1** is used to select 1st power supply:

pp1 =	Description	Note
SA	Single AC power supply (100 to 240 Vac, 50/ 60 Hz)	Please choose appropriate power cord for SA version.
SD24	Single DC power supply (-24Vdc: -18 to -36 Vdc)	
SD48	Single DC power supply (-48Vdc: -36 to -72 Vdc)	

■ where **pp2** is used to select 2nd power supply for **ANSI shelf** only:

pp2 =	Description	Note
SA	Single AC power supply. (100 to 240 Vac, 50/ 60 Hz). Please choose an appropriate power cord.	Please choose appropriate power cord for SA version.
SD24	Single DC power supply (-24Vdc: -18 to -36 Vdc)	
SD48	Single DC power supply (-48Vdc: -36 to -72 Vdc)	

■ where **dte** must be used to select one of the following factory-installed daughter boards. (Choose one only.)

dte =	Description	Note
ETH	Single Ethernet port on-board daughter card	Factory installed option
V35	Single V.35 port on-board daughter card	Factory installed option
EV	Single Ethernet port and single V.35 port on-board daughter card. (Ethernet/V.35 choice is software selectable)	Factory installed option
EVR	Single Ethernet port, single V.35 port, and single Async. RS232 port on-board daughter card. (Ethernet/V.35 choice is software selectable)	Factory installed option

■ where **add1** is used to select a LCD display. If a LCD display is not required leave this field blank.

add1 =	Description	Note
LCD	LCD (2 x 16) front panel display	LCD is supported for ANSI shelf only

Loop-H3308™ Ethernet over Bonded G.SHDSL.bis-Standalone Product Specifications

WAN-G.SHDSL. bis Line Interface

Number of copper pairs	2, 4 or 8
Line Rate (per pair)	8K+n x 64 Kbps, n =3,4,5...89
Bonding protocol	IEEE802.3ah 2Base-TL
Standard	ITU-T G.991.2 (G.SHDSL.bis Annex F) and G.994.1
Clock Mode	Plesiochronous
Line code	16-TCPAM and 32-TCPAM, full duplex with adaptive echo cancellation over unconditioned 19-26 AWG twisted pair
Connector	RJ48C, DB37, Telco 50 (optional)

Tributary-Ethernet Interface

Ethernet functions	10/100 BaseT, IEEE802.3 Auto-negotiation (10/100M) Auto MDI/MDIX Full or half duplex IEEE802.1d self learning, up to 2K MAC addresses
Connector	RJ45

Tributary-V.35 Interface

Data rate	Up to 8.704 Mbps
Connector	DB25 DCE

Tributary-RS232 Interface

Data rate	Asynchronous, up to 19200 bps
Connector	DB9 DCE

Bonding Function

Protocol	IEEE 802.3ah 2Base-TL.
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System Clock

Clock Source	Internal clock V.35 port clock G.SHDSL.bis port clock
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Management

LCD	2 line by 16 character LCD with keypad
Console port	Electrical: RS232 Connector: DB9S (DCE) Protocol: Menu driven VT-100
Telnet	Telnet with SSH
Access Control List	ACL
SNMP	SNMPv1 with 5 trap IP
GUI EMS	LoopView, LoopView Plus

Diagnostics Test

BERT	Test pattern $2^{23}-1$ (per G.SHDSL.bis pair)
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Performance Monitor

Performance Reports	Performance parameters of G.SHDSL.bis line: -Errored Second(ES), Severe Errored Second(SES), Cyclic Redundancy Check (CRC), LOSWS (Loss of Sync Word Second), Unavailable Second(UAS) -96 fifteen minute periods report -Ten 24 hour periods report
Alarm History	Controller Alarm: Alarm Cut Off, Master Clock Loss, Working Loss, Power Loss G.SHDSL Alarm: LOS, Loop Attenuation, SNR Margin, ES, SES, CRC, LOSWS, UAS
Alarm Queue	Contains up to 500 alarm records which record the latest alarm type, alarm severity, and date & time

Electrical

Power	100 to 240 Vac, 50/ 60 Hz -24Vdc: (-18 to -36 Vdc) -48Vdc: (-36 to -72 Vdc)
Power consumption	4 ports: 12.8 Watts maximum (without sealing current) 8 ports: 18.4 Watts maximum (without sealing current)

Physical and Environmental

Dimensions	432 x 44 x 290 mm (W x H x D)
Temperature range	0 – 50 °C
Humidity	0 – 95% RH (non-condensing)
Mounting	Desk-top, mounted in 19" or 23" standard rack

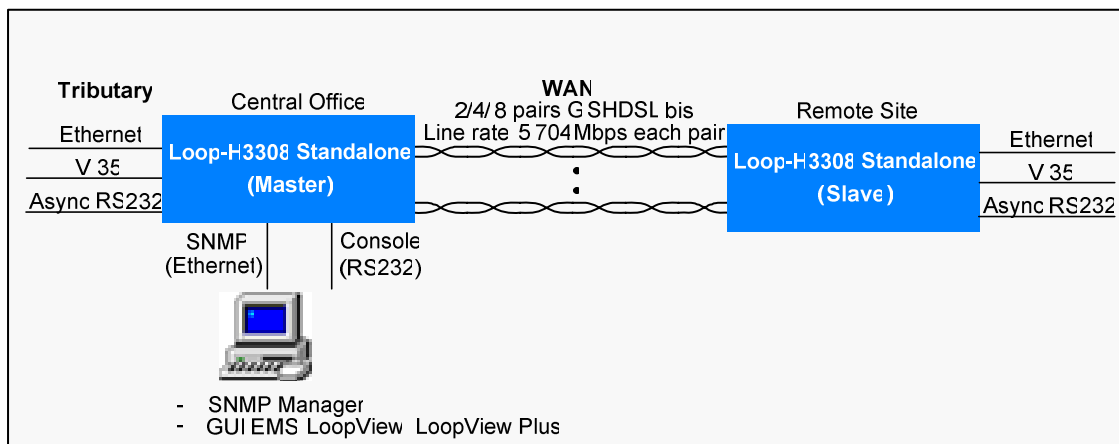
Certification

EMI/EMC	EN55022 Class A, EN55024, FCC Part 15 Subpart B Class A
Safety	EN60950-1

Standards Compliance

ITU	ITU-T G.991.2 (G.SHDSL.bis Annex F) and G.994.1
IEEE	802.3 10/100 BaseT 802.3ah 2Base-TL

Application Illustration



Panel Views

ANSI Front Panel View

1 U Height Chassis with LCD Display



1 U Height Chassis without LCD Display

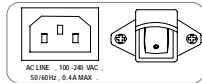


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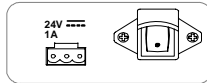
Blank Panel

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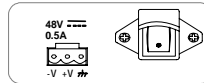
AC plug-in
power supply

3

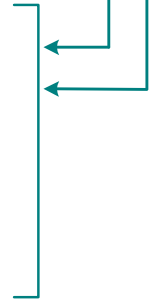


DC (24V) plug-in
power supply

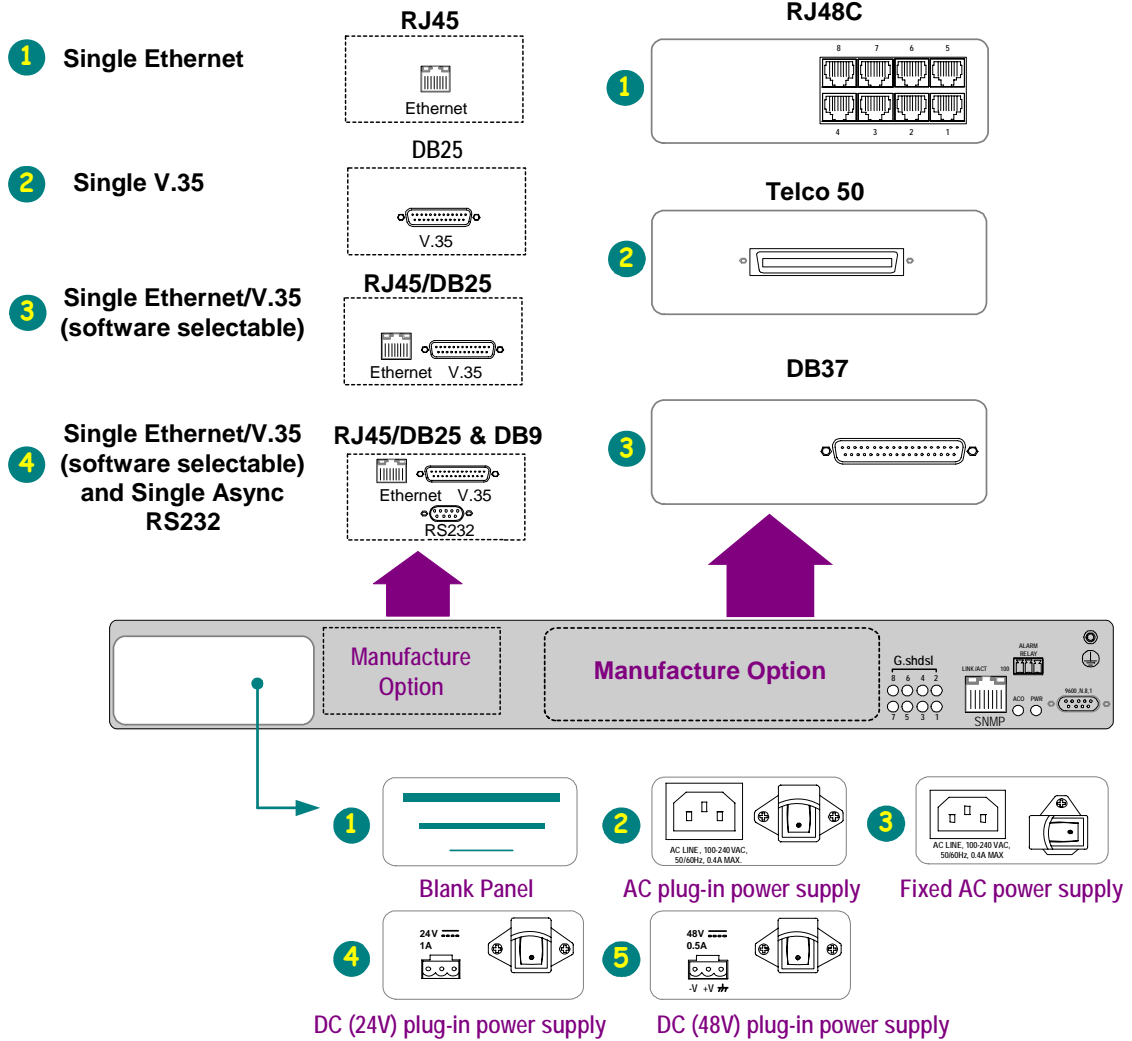
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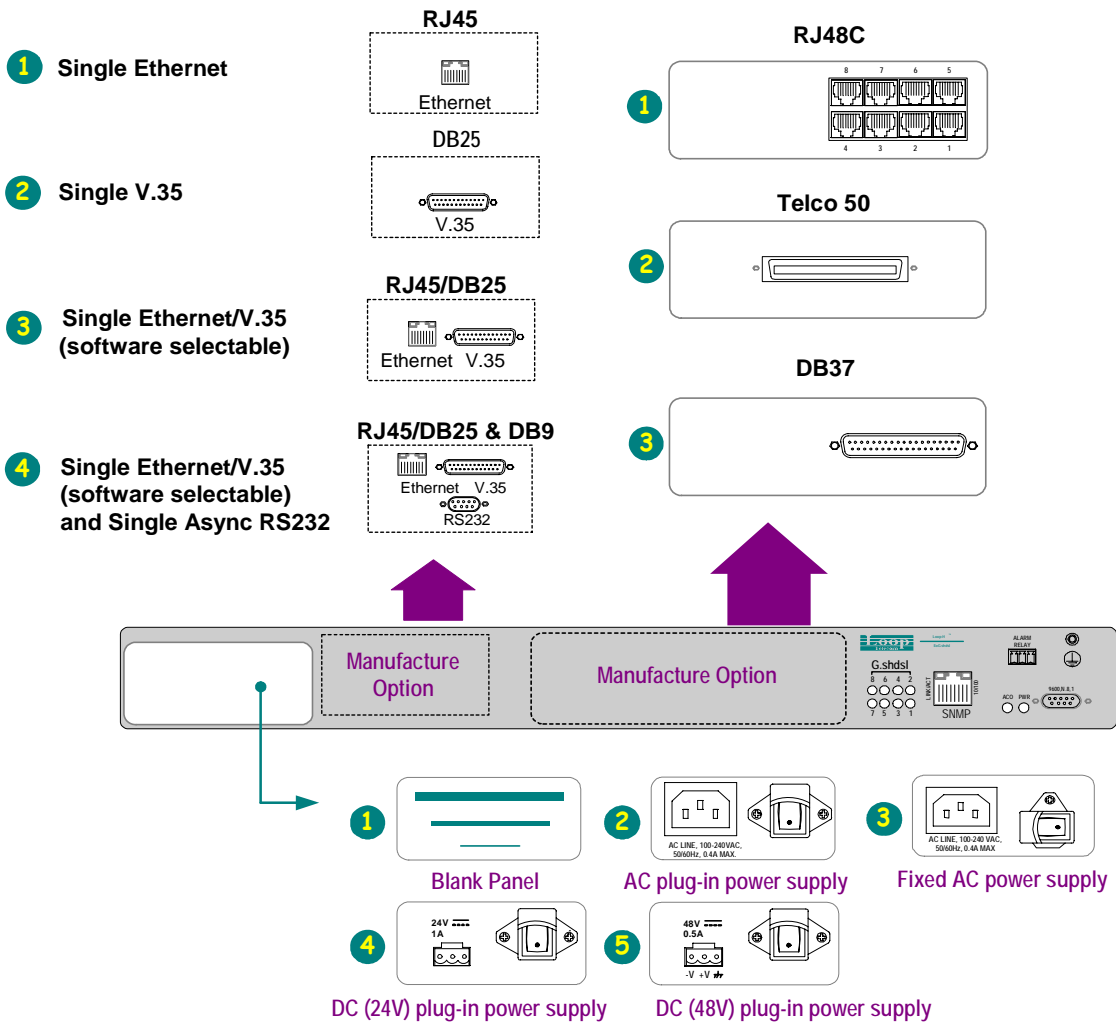
DC (48V) plug-in
power supply



ANSI Rear Panel View



ETSI Front Panel View



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