

ASMi-31



2-wire Sync/Async IDSL Modem with Remote Management



FEATURES

- 2-wire IDSL modem with remote management, extending data transmission to 7.0 km (4.3 miles)
- Supports multiple data rates between 1.2 kbps and 128 kbps
- Utilizes 2B1Q line coding for extended range and improved quality
- Provides full duplex inband management of the remote unit over the D-channel
- Supports variety of data interfaces, as well as built-in Ethernet bridge and router
- Operates with internal external or receive timing, providing automatic rate detection in external clock mode
- Operates opposite ASMi-31, ASMi-31CQ, SRM-31, HS-U modules of Megaplex, U-RPT repeater
- Supports V.54 diagnostics and BER testing
- Provides real time alarm indication for local and remote units
- Available as single modem cards for the LRS-24 modem rack with SNMP management and for the ASMi-MN-214 modem rack

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2-wire Sync/Async IDSL Modem with Remote Management

DESCRIPTION

- ASMi-31, IDSL modem with remote management, operates at full duplex over 2-wire line, extending data transmission to 7.0 km (4.3 miles) irrespective of data rate.
- ASMi-31 supports synchronous or asynchronous operation at user-selectable data rates from 1.2 kbps to 128 kbps
- The modem uses 2B1Q line code and adaptive equalizers, which provide immunity to background noise, eliminate normal line distortion and enable efficient transmission over 2-wire twisted pair cables.
- ASMi-31 is available as “master” or “slave” standalone units. The master version includes front panel LCD and control buttons. The slave unit has a blank front panel with a special 20-pin connector for a portable control unit (PCU) connection.
- The master modem provides full duplex inband management of the remote unit. The management data is transmitted over the D-channel to ensure simultaneous configuration of the local and remote units, activation of real-time alerts on system faults, initiation of the diagnostic tests.
- ASMi-31 supports a wide range of digital interfaces: V.24/RS-232, V.35, X.21, RS-530, V.36/RS-449 and G.703 Codirectional (64 kbps). In addition, the modem supports built-in Ethernet bridge (IR-ETH), Ethernet bridge with VLAN support (IR-ETH/Q) and IP router (IR-IP), which allow LAN-to-LAN connectivity using IDSL technology.
- ASMi-31 can be managed via a front panel buttons and LCD of the master unit. The single modem card, installed into the LRS-24 rack can be managed via an SNMP-based network management station.
- The ASMi-31 clock source depends on the modem's functional mode (master or slave):
 - Master clock: INT, derived from internal oscillator, or EXT, derived from the DTE interface
 - Slave clock: RCV (recovered from line signal).
- The carrier may be continuous or controlled by RTS, for passing control signals end-to-end (user-selectable).
- ASMi-31 has wide diagnostics capabilities that include the following test options:
 - V.54 local analog and remote digital loopbacks
 - BER testing as per V.52.
- Line interface circuitry protects against lightning and power surges.

APPLICATIONS

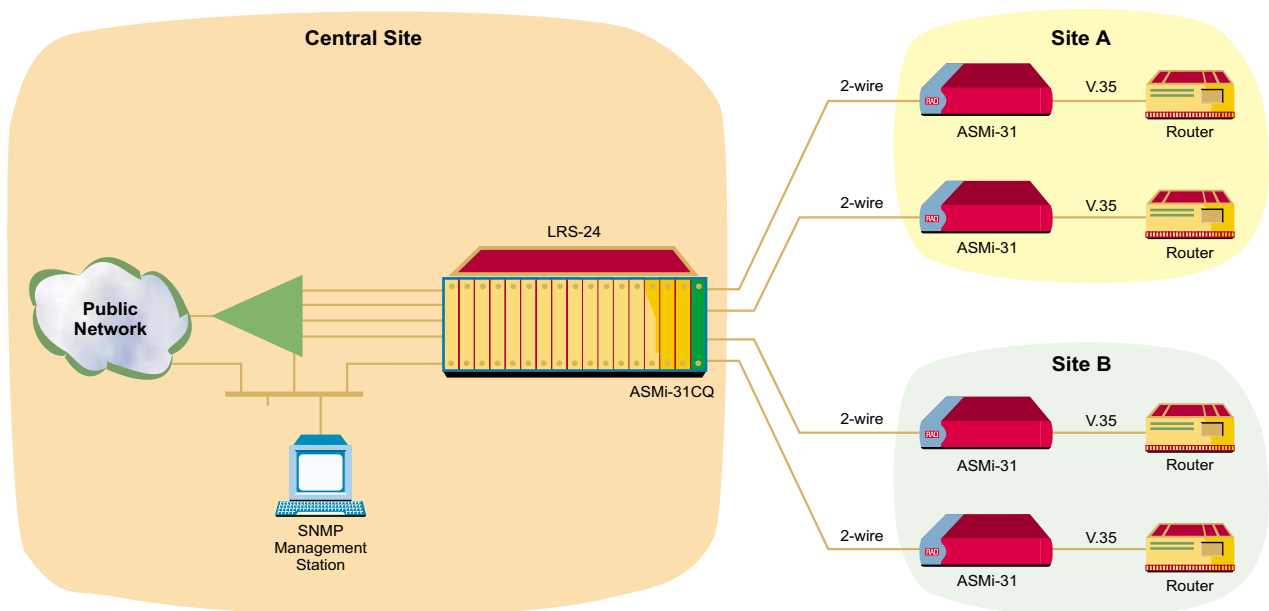


Figure 1. Standalone ASMi-31 units operate opposite ASMi-31CQ quad modem card installed into the LRS-24 modem rack.

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SPECIFICATIONS

LINE INTERFACE

- **Line Type**
Unconditioned telephone line (twisted pair), 19 AWG to 26 AWG
- **Line Coding**
2B1Q
- **Range**
Up to 7.0 km (4.3 miles) over 24 AWG line, irrespective of data rate
- **Level**
Up to 14 dBm
- **Impedance**
135Ω, high
- **Return Loss**
Greater than 15 dB
- **Standard**
Line code and transmission specifications comply with ANSI T1.601, 1988
- **Carrier**
Constantly ON or controlled by RTS
- **Connector**
3-clip terminal block and RJ-45 jack

DTE INTERFACE

- **Type**
 - RS-530: 25-pin D-type, female
 - V.35: 34-pin, female
 - V.35A: 25-pin D-type, female
 - X.21: 15-pin, D-type, female
 - V.36/RS-449: via adapter cable converting between the RS-530 connector and a 37-pin, D-type, female connector
 - G.703 Codirectional: RJ-45 or terminal block
 - IR-ETH (Ethernet bridge): RJ-45 or BNC coax
 - IR-ETH/Q (Ethernet bridge with VLAN support): RJ-45
 - IR-IP (IP router): RJ-45
- **Data Rate**
 - Synchronous: 1.2, 2.4, 4.8, 9.6, 16, 19.2, 32, 38.4, 48, 64 or 128 kbps
 - Asynchronous: 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6 or 115.2 kbps
- **Control Signals**
 - DCD:
 - ON when two modems are synchronized
 - Local unit DCD follows remote unit RTS
 - DSR:
 - Always ON
 - Remote unit DSR follows local unit DTR

GENERAL

- **Timing**
 - Receive clock: recovered from the line signal
 - Transmit clock:
 - Internal – supplied by the internal oscillator
 - External – received from the DTE
 - Receive – recovered from the line signal
- **Diagnostics**
 - V.54 local analog and remote digital loopbacks
 - V.52 BER testing

Note: The loopbacks are initiated by the management software or via the DTE interface pins. Activation via the DTE interface pins is not available for X.21, G.703 or Ethernet interfaces.

- **Indicators**
 - PWR (green) – Power
 - RTS (yellow) – Request to Send
 - DCD (yellow) – Data Carrier Detect
 - TD (yellow) – Transmit Data
 - RD (yellow) – Receive Data
 - ERR (red) – Bit Error
 - TEST (red) – Test
 - LOS (red) – Loss of Sync

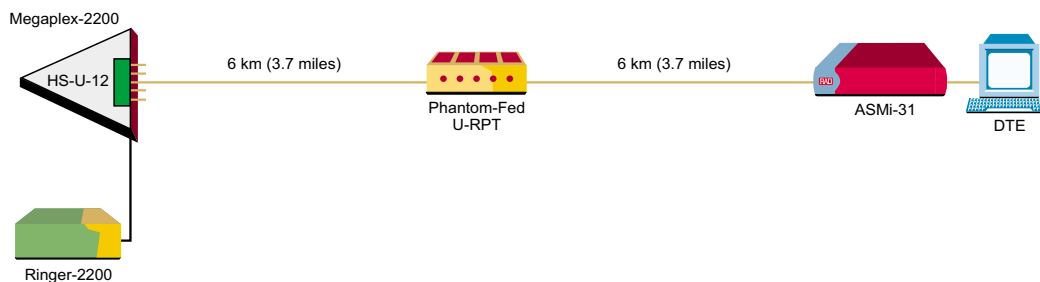


Figure 2. ASMi-31 working opposite the HS-U-12 module of Megaplex.

The HS-U-12 ISDN data module provides power feeding for remote U-RPT repeater, increasing the IDSL operation range for up to 12 km (7.4 miles)

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- **Physical**

Height: 4.4 cm / 1.7 in
Width: 21.5 cm / 8.5 in
Depth: 24.3 cm / 9.6 in
Weight 1.5 kg / 3.2 lb

- **Power**

AC: 115 or 230 VAC (±10%),
50 or 60 Hz
DC: 24 VDC (18 to 36 VDC), ±10%
or -48 VDC (-36 to -72 VDC),
±10%

- **Power Consumption**

- Standalone ASMi-31: 5W
- ASMi-31/R, ASMi-31C: 2.2W

- **Line Protection**

AC/DC overvoltage protection circuits are connected via transformers to the transmit and receive lines

- **Environment**

Temperature: 0–50°C/32–122°F
Humidity: Up to 90%,
non-condensing

ORDERING

ASMi-31-2/M*/#

2-wire sync/async IDSL modem with remote management, master unit

ASMi-31-2/S*/#

2-wire IDSL modem with remote management, slave unit

ASMi-31-2/R/#

Single modem card for ASM-MN-214 rack

ASMi-31-2CF/#

Single modem card for LRS-24 rack, ETSI version

ASMi-31-2CB/#

Single modem card for LRS-24 rack, ANSI version

* Specify power supply:

115 for 115 VAC

230 for 230 VAC

48 for -48 VDC

24 for 24 VDC

Specify DTE interface:

V24 for V.24/RS-232 interface

V35 for V.35 interface

V35A for V.35 interface with DB-25 connector

V36 for V.36/RS-449 interface

530 for RS-530 interface

X21 for X.21 interface

G.703/TB for G.703 Codirectional (64 kbps) interface with terminal block connector

G.703/RJ for G.703 Codirectional (64 kbps) interface with RJ-45 connector

G.703 for G.703 Codirectional (64 kbps) interface with RJ-45 connector for ASM-MN-214 cards

UTP for IR-ETH module with RJ-45 connector

BNC for IR-ETH module with BNC connector

UTP/Q for IR-ETH/Q module

IP for IR-IP module

PCU

Portable control unit with protective casing for the slave ASMi-31 unit or ASMi-31/R card



data communications

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