

# ASMi-24



## Sync Short Range Modem with Remote Management



### FEATURES

- Extended range, baseband modem - up to 10 km (6 miles) at 64 kbps
- Full management of local and remote modems via front panel
- Remote out-of-band management for all line conditions
- Real-time alarm indication for local and remote units
- Selectable data rates: 48 kbps up to 144 kbps
- Fully compatible with ASM-24
- Full or half duplex on 4-wire lines
- V.54 and built-in BER tester diagnostics
- Carrier control option
- Supports digital interfaces: V.24/RS-232, V.35, X.21, V.36/RS-449, RS-530 or G.703 Codirectional
- A special built-in Ethernet bridge for LAN to LAN connectivity
- Card version available for ASM-MN-214 19" rack and LRS-12 19" rack with central SNMP management

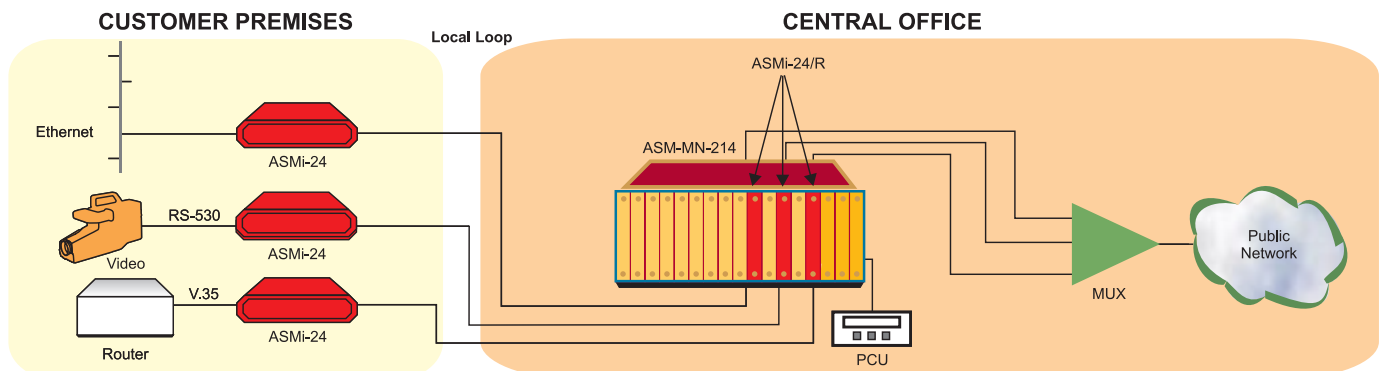
# ASMi-24

## Sync Short Range Modem with Remote Management

### DESCRIPTION

- The ASMi-24, Sync Short Range Modem with Remote Management, operates full or half duplex over twisted pair, 4-wire unconditioned lines. It has a transmission range of up to 10 km (6 miles) and operates at user-selectable rates from 48 to 144 kbps.
- The modem uses PR4 line code (Partial Response Class IV), which provides immunity to background noise, eliminates normal line distortion, and enables efficient transmission over 4-wire twisted pair cables. Transmit timing is either provided internally, or recovered from the received signal (user-selectable). Alternatively, the transmit timing can be derived externally from the digital interface, enabling tail-end applications. The carrier may be continuous or controlled by RTS for passing control signals end-to-end (user-selectable).
- The modem's front panel provides real-time indication on application status.
- The modem uses an out-of-band management channel for controlling and monitoring the remote unit. Both data and management are transmitted over the same wires, simultaneously.
- Menu-driven software allows soft-select monitoring and adjustment of local and remote unit parameters via the control keys and LCD.
- ASMi-24 is available as a standalone unit in both ASMi-24/M "Master" and ASMi-24/S "Slave" versions. The Master version has a front panel LCD and control switches. The Slave unit has a blank panel, which prevents unauthorized changes to link parameters. ASMi-24 is also available as a card for central solutions:
  - ASMi-24/R – card for the ASM-MN-214 19" rack
  - ASMi-24C – card for the LRS-12 19" rack with central SNMP management.
- Management of the local and remote modems for the ASMi-24/S and ASMi-24/R card versions is carried out via a standalone Portable Control Unit (PCU), through a special 20-pin connector on the modem front panel. The PCU is ordered separately (see *Ordering*).
- All management functions, except for clock source and clock rate, can be initiated from the Slave unit PCU. The PCU, provided with a protective casing, can be stored in a technician's tool kit.
- The following Master and Slave modem parameters are monitored and controlled via the front panel:
  - Baud rate
  - RTS, CTS delay
  - Carrier detection
  - Clock source
  - Carrier mode
  - V.54 loops enable
  - Built-in system configuration-saver in the event of power failure
  - TX LEVEL
  - RX SENSE.
- The ASMi-24C card for the LRS-12 rack can be managed from an ASCII terminal or via an SNMP UNIX station connected to the rack. RADview, an SNMP application, is available for managing ASMi-24C cards and other RAD products. RADview enables management of a large number of links, system infrastructure, and presentation of statistical information on link availability. It is a user friendly system, utilizing a graphical presentation of all network elements.

### APPLICATION



## Sync Short Range Modem with Remote Management

- ASMi-24 features a built-in BERT, which complies with the V.52 standard, and can be activated and monitored via the front panel. This feature enables complete testing of the line.
- Tests which can be initiated via the Master front panel include activating local and remote loopbacks, and activating local BERT. Real-time link errors are displayed on the ERR LED, and BER RESULTS on the LCD screen.
- Real time alerts indicated via the Master front panel include disconnection of the modem link, remote modem power failure, and carrier loss. Remote and local LED indicators can be displayed on the front panel of the Master unit.
- The remote modem performs a Far Analog Loop self-check and displays real time errors on the LOCAL ERR LED, and BER RESULTS on the LCD screen.
- Diagnostics of the modem link include real error rate display and simultaneous activation of BERTs on the local and the remote units.
- Among many field interchangeable interfaces, ASMi-24 can be ordered with a built-in Ethernet (10BaseT) bridge interface. This option can be used for LAN to LAN connectivity over 4-wire extended range, using only a pair of ASMi-24 modems.

### SPECIFICATIONS

#### Transmission Line

- Type:  
Unloaded twisted pair  
19 to 26 AWG
- Range:  
Up to 10 km / 6 miles over  
24-AWG wire at 64 kbps  
(see *Table 1*)
- Level: 0 or -6 dBm, selectable  
Impedance: 150Ω, high  
Return loss: Greater than 15 dB  
Carrier:  
Controlled by RTS or  
constantly ON;  
For X.21, controlled by CONT

#### Digital Interface

- Type:
- V.24/RS-232 via 25-pin D-type, female connector
  - V.35 via 34-pin, female connector
  - V.36 via 37-pin D-type, female mechanical cable adaptor, provided with the product

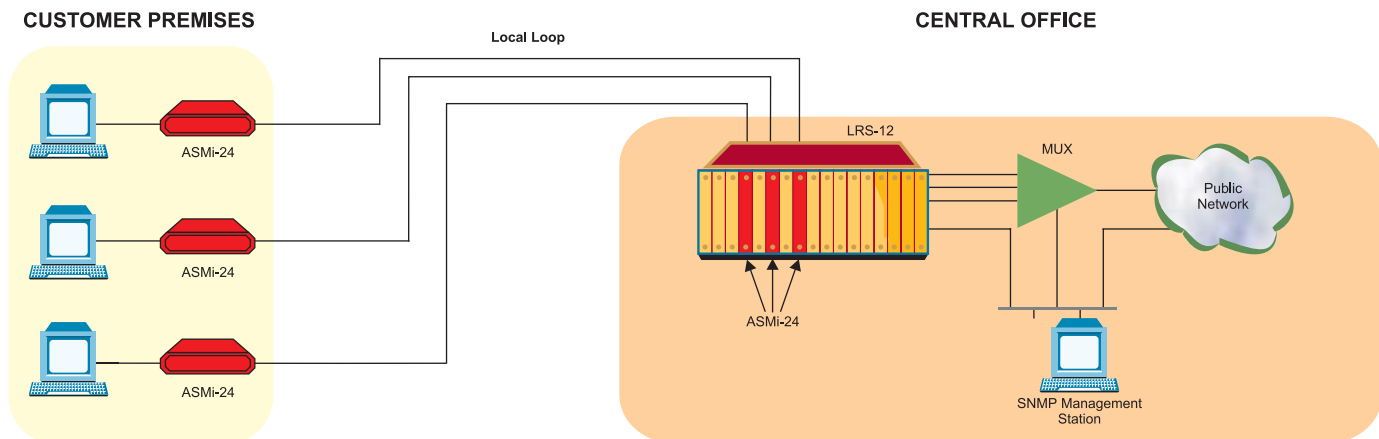
- X.21 via 15-pin D-type, female connector
  - RS-530 (V.11/RS-422) via 25-pin D-type, female connector
  - G.703 Codirectional (64 kbps) via terminal block or RJ-45
  - Ethernet Bridge via UTP/RJ-45 connector or via BNC connector
- Data rates:  
48, 56, 64, 72, 96, 112, 128, and 144 kbps, selectable  
RTS/CTS delay:  
8 or 70 msec, selectable

#### Diagnostics

- Comply with V.54 standard  
Digital loopback:  
Local (DIG), activated by a front panel switch  
Remote (REM), activated by front panel push-button or by a control signal from the digital interface

**Table 1. Approximate Range**

Data Rate (kbps)	19 AWG		22 AWG		24 AWG		26 AWG	
	km	miles	km	miles	km	miles	km	miles
144	15.5	9.5	11.0	6.5	8.0	5.0	5.5	3.0
128	17.5	10.5	12.0	7.5	8.5	5.0	5.5	3.0
112	19.0	11.5	12.5	7.5	9.0	5.5	6.0	3.5
96	20.0	12.5	13.0	8.0	9.0	5.5	6.0	3.5
72	22.5	14.0	14.0	8.5	9.5	6.0	6.5	4.0
64	24.0	15.0	14.5	9.0	10.0	6.0	6.5	4.0
56	26.0	16.0	15.0	9.0	10.5	6.5	7.0	4.0
48	28.0	17.5	16.0	10.0	11.0	6.5	7.5	4.5



# ASMi-24

## Sync Short Range Modem with Remote Management

### Test pattern:

Activated by front panel push-button and LCD. If the received pattern is different from the transmitted pattern, the ERR LED flashes

### ● Indicators

- TD** (yellow): ON when steady SPACE is transmitted; flickers when data is transmitted
- RD** (yellow): ON when steady SPACE is received; flickers when data is received
- RTS** (yellow): ON when terminal activates Request to Send
- DCD** (yellow): ON when a valid receive line signal is present
- TEST** (red): ON when the unit is in any of the three loopback modes
- PWR** (green): ON when the unit is powered
- ERR** (red): ON when the internal BER tester detects an error in the received data

### ● Timing Elements

- Receive clock:**  
Derived from receive signal
- Transmit clock:**  
Derived from 3 alternative sources:
- Internal oscillator
  - External from DTE
  - Loopback timing clock derived from receive signal

### ● Physical

#### ASMi-24 Standalone Modem:

Height: 4.4 cm / 1.7 in (1U)  
Width: 19.3 cm / 7.6 in  
Length: 24.0 cm / 9.6 in  
Weight: 1.4 kg / 3.1 lb

#### ASMi-24R Card:

Dimensions:  
Fits ASM-MN-214 modem rack  
Weight: 360 g / 0.73 lb

#### ASMi-24C Card:

Dimensions:  
Fits LRS-12 modem rack  
Weight: 375 g / 0.8 lb

### ● Power Supply

115 or 230 VAC ( $\pm 10\%$ )  
47 to 63 Hz; 5W or  
-48 VDC ( $\pm 10\%$ )  
Power consumption for  
LRS-12 card is 1.5W

### ● 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-24SA\*/#/+

Short Range Modem, standalone unit with internal power supply

### ASMi-24R/#

Short Range Modem card for the ASM-MN-214 19" rack

### ASM-MN-214\*/#&

19" rack for 14 modem cards

### ASMi-24CF/#

Short Range Modem Card for the ETSI LRS-12 rack

### ASMi-24CB/#

Short Range Modem Card for the ANSI LRS-12 rack

\* Specify standalone and rack main power supply:

**115** VAC for 115 VAC  
**230** VAC for 230 VAC  
**48** for -48 VDC

# Specify digital interface:

**V24** for V.24/RS-232  
**V35** for V.35  
**V36** for V.36/RS-449  
**530** for RS-530 (V.11/RS-422 on 25-pin)  
**X21** for X.21

**G.703/TB** for G.703

Codirectional (64 kbps) with terminal block connector

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

**G.703** for G.703 Codirectional (64 kbps) in rack card version

**UTP** for built-in Ethernet/802.3 bridge with RJ-45 connector

**BNC** for built-in Ethernet/802.3 bridge with BNC connector

Note: When using V.35 or X.21 interfaces, the CIA adapter is required.

+ Specify Master or Slave:

**M** for Master

**S** for Slave

& Specify redundant power supply for rack: (same options as main power supply).

## ACCESSORIES

### PCU

Portable Control Unit with protective casing

### CIA/&

Connector Interface Adapter for the ASM-MN-214 19" rack

& Specify CIA connector option:

**V35/1** for adapting one modem card's 25-pin connector into one V.35, 34-pin connector

**X21** for adapting two adjacent modem cards' 25-pin

connectors to two X.21, 15-pin connectors

data communications

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