Data Sheet

ASM-31

2-Wire Multirate Short Range Modem

Multirate, short-range, synchronous and asynchronous modem operating in full-duplex over 2-wire lines

- Selectable data rates: 1.2 kbps to 128 kbps for sync and up to 38.4 kbps for async
- Operating range of up to 5.5 km (3.4 miles) at all specified data rates
- 2B1Q line coding
- Adaptive equalizer for noise immunity and high performance over low-quality lines
- Variety of DTE interfaces: RS-530, V.24, V.35, V.36, X.21, G.703 Codirectional, Ethernet bridge and Ethernet router

ASM-31 is a multirate sync/async short-range modem that operates in full-duplex mode over 2-wire twisted pair lines, at selectable data rates from 1.2 kbps to 128 kbps.

ASM-31 uses 2B1Q line coding and transmits data in full-duplex up to 5.5 km (3.4 miles), independently of the data rate. An adaptive equalizer provides noise immunity and high performance over low quality lines.

The ASM-31 DTE interface options include V.24/RS-232, V.35, RS-530, X.21, G.703 Codirectional (64 kbps), Ethernet bridge, and Ethernet router. The line connection is provided via an RJ-45 or a 3-screw terminal block connector. The unit is configured using internal jumpers and switches.

RAD data communications
Innovative Access Solutions

Order ASM-31 from:Cutter Networks Ph:727-398-5252/Fax:727-397-9610 www.bestdatasource.com

ASM-31
2-Wire Multirate Short Range Modem

ASM-31 can be ordered as a standalone unit or as a single modem card for the 19-inch ASM-MN-214 rack.

Diagnostics include local analog, local digital, and remote digital loopbacks.

Front panel LEDs indicate data receive and transmit, control signal status, loopback test state, and synchronization loss.

Line interface circuitry protects against lightning and power surges.

Specifications

LINE INTERFACE

Line Type
2-wire unconditioned twisted pair

Line Coding
2B1Q

Range
Up to 5.5 km (3.4 miles) over 26 AWG line, irrespective of data rate

Level
Up to 14 dBm over 135Ω

Compliance
ANSI T1.601, 1988

Connector
3-clip terminal block or RJ-45

DTE INTERFACE

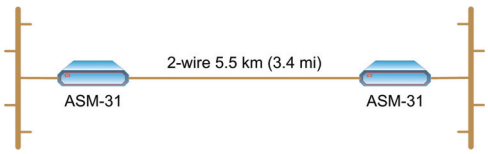
Connectors
V.24/RS-232: 25-pin D-type, female
RS-530: 25-pin D-type, female
V.35: 34-pin, female
X.21: 15-pin, D-type, female
V.36/RS-449: via adapter cable converting between the RS-530 connector and a 37-pin, D-type, female connector
IR-ETH (Ethernet bridge): RJ-45 or BNC coax
IR-IP (IP router): RJ-45
G.703 Codirectional: RJ-45 or terminal block

Note: *For G.703 codirectional interfaces, there is no end-to-end byte synchronization.*

Data Rate
Synchronous: 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 64, or 128 kbps

Asynchronous: 1.2, 2.4, 4.8, 9.6, 19.2, or 38.4 kbps

Control Signals
User-selectable:
DCD turns on when synchronized or follows the remote RTS
DSR turns on when powered on or follows the remote DTR



Point-to-Point Application

GENERAL

Timing

Master clock:

- Internal, supplied by the internal oscillator
- External, received from the DTE

Slave clock:

LBT, recovered from the line signal

Diagnostics

Local digital loopback (DIG), activated by the front panel pushbutton

Remote digital loopback (REM), activated by the front panel pushbutton or via the DTE interface pins

Local Analog loopback (ANA), activated by the front panel pushbutton or via the DTE interface pins

Note: *Activation of the local analog and remote digital loopbacks via the DTE interface pins is available only for the V.24/RS-232, V.35 and RS-530 interfaces.*

Indicators

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

Power (Standalone)

AC: 115 VAC or 230 VAC (±10%), 47 to 63 Hz, 5W
DC: 24 VDC or –48 VDC

Line Protection

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

Physical

Height: 4.4 cm (1.7 in)
Width: 21.5 cm(8.5 in)
Depth: 24.3 cm (9.6 in)
Weight: 1.15 kg (2.55 lb)

Environment

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

Table 2. Sync Modem Comparison Chart

Feature	SRM-5SC SRM-6SC	ASM-10/8	ASM-20	ASM-31 ASMi-31	ASM-40	ASMi-52	ASM-60	ASM-61
Max. data rate (kbps)	19.2	19.2	256	128	2048	2.3/4.6 Mbps	10 Mbps	10 Mbps
Interface	V.24	V.24	V.24. V.35, V.36, X.21, RS-530, Ethernet, UTP, UTP/Q, IP, G.703 Codirectional			V.35, RS-530, X.21, E1/T1, Ethernet	Router, Ethernet, HSSI	Ethernet
2W/4W	4	2/4	4	2	4	2/4	4	2
Approx range (km @ 24 AWG)	5.0	13.0	7.5	8.0	1.8	4	2.0	1.2
Rack option		✓	✓	✓	✓	✓		
Multipoint configuration	✓	✓	✓					

Data Sheet

ASM-31

2-Wire Multirate Short Range Modem

Ordering

ASM-31/~/+
2-wire multirate short range modem

ASM-31R/+
Card version for ASM-MN-214 rack

Legend

~ Power supply:
- **115** 115 VAC
- **230** 230 VAC
- **48** -48 VDC
- **24** 24 VDC

+ DTE interface:
- **V24** V.24/RS-232
- **V35** V.35
- **V36** V.36/RS-449
- **530** RS-530
- **X21** X.21
- **703/TB** G.703 Codirectional (64 kbps) interface with terminal block connector
- **703/RJ** G.703 Codirectional (64 kbps) interface with RJ-45 connector
- **UTP** IR-ETH module with RJ-45 connector
- **IP** IR-IP module

Note: *ASMi-31/R cards use the DB-25 DTE connector of the ASM-MN-214 modem rack.*

SUPPLIED ACCESSORIES

AC power cord (when AC power supply is ordered)
DC adapter (when DC power supply is ordered)

OPTIONAL ACCESSORIES

RM-17
Special hardware for mounting one or two ASM-31 units in a 19-inch rack

CIA/&
Connector interface adapter for ASM-MN-214 rack

Legend

& Adapter for ASM-31 card version:
- **V35/1** For adapting one 25-pin rack DTE connector to one V.35 34-pin connector
- **X21** For adapting two adjacent 25-pin rack DTE connectors to two X.21 15-pin connectors

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