

ASM-32

Dual Port 2-wire Short Range Modem



FEATURES

- Extended range, dual port, short range modem
- Full duplex operation over two wires using echo cancellation
- Two independent async/sync channels
- Wide selection of data rates
Sync: 1.2 up to 128 kbps
Async: 1.2 up to 38.4 kbps
- Operates in point-to-point applications or opposite MP-2000 HS-U module
- Operating range up to 8 km (5 miles) over 24 AWG cable, independent of data rate
- Supports digital interfaces: V.24/RS-232, V.35, V.36, RS-530, X.21, G.703 Codirectional, and IR/ETH
- Any combination of interfaces for the two ports
- Built-in pattern generator and six different V.54 diagnostic loops

DESCRIPTION

- The ASM-32, dual port, sync/async short range modem, operates full duplex over 2-wire twisted pair, at selectable data rates from 1.2 kbps to 128 kbps.
- Each port can operate sync or async, at data rates from 1.2 kbps up to 64 kbps, and has a digital interface independent from the second port. When operated at 128 kbps (sync), only one port can be used.
- Full duplex operation over 2-wires is achieved using an echo cancelling technique. ASM-32 uses 2B1Q line coding, and provides an operating range of up to 8 km (5 miles) over 24 AWG cable, independent of the data rate. The line interface includes an adaptive equalizer, which provides better noise immunity and high performance over low quality lines.
- Three clock modes are available:
 - Internal: ASM-32 generates the clock
 - Receive (loopback): the clock is recovered from the line
 - External: the clock received on port 1 is used as the system clock.

- An internal 511-bit test pattern generator is available in each port for diagnosing the ports and the main link connections. Six different V.54 loopbacks are available to check each port or main link integrity. The loopbacks are controlled by either a front panel switch or from each of the digital interfaces.
- Front panel indicators provide indication for TD, RD, RTS, DCD, local and remote loopbacks, general sync loss for each port, and power indication.
- Digital interfaces include V.24/RS-232, V.35, V.36/RS-449 (RS-530 version plus cable for DB-37 connector), RS-530, X.21, or G.703 Codirectional (64 kbps), and Ethernet.
- Two different analog line interface connectors are available: RJ-45 or 3-port terminal block (see *Ordering*).
- ASM-32 is supplied as a standalone unit. Special hardware (RM-17) for mounting one or two units in a 19" rack can be ordered separately (see *Ordering*).

SPECIFICATIONS

- **Line Interface**
Type: 2-wire, unconditioned line (twisted pair)
Line coding: 2B1Q
Range: up to 8 km (5 miles) over 24 AWG wire
Level: up to 14 dBm
Impedance: 135 Ω
Connector: 3-pin terminal block or RJ-45 jack
Standard: line code and transmission specifications comply with ANSI T1.601, 1988
- **Digital Interface (DCE)**
Type:
 - V.24/RS-232 via 25-pin D-type, female connector
 - V.35 via 34-pin, female connector

ASM-32

Dual Port 2-wire Short Range Modem

- V.36 via RS-530 interface and 37-pin D-type, female connector, provided via a cable adapter
- RS-530 via 25-pin D-type, female connector
- X.21 via 15-pin D-type, female connector
- G.703 Codirectional (64 kbps) via terminal block or RJ-45
- Ethernet bridge via UTP/RJ-45 connector or BNC connector

Data rates:

Selectable for each port:

Sync: 1.2, 2.4, 4.8, 9.6, 16, 19.2, 32, 38.4, 48 or 64 kbps
Async: 1.2, 2.4, 4.8, 9.6, 19.2 or 38.4 kbps

Port 1 only:

Sync: 128 kbps

• Diagnostics

Three types of local analog loopbacks and three types of remote loopbacks are available on remote ports 1 and 2, and on the main port. Internal pattern generator of pseudo-random data is activated via front panel switch.

• Timing Elements

Master unit:

Internal or external clock from port 1 (strap-selectable)

Slave unit:

Receive (loopback) clock derived from the receive signal

Note: The Master unit is automatically selected when setting the clock to internal or external.

• Control Signal

All control signals are passed in-band for each port. The DCD of each channel is switch-selectable to follow the remote RTS, or ON when the units are synchronized. The DSR of each channel is switch-selectable for following the remote DTR, or ON when the units are powered ON.

• Indicators

Port 1 and Port 2 LEDs:

TD (yellow): Transmit Data
RD (yellow): Receive Data
RTS (yellow): Request to Send
DCD (yellow): Data Carrier Detect

Main channel LEDs:

ERR (red): Pattern generator error
TST (yellow): Loopback or pattern generator mode
LOS (red): Loss of sync
PWR (green): Power

• Power Supply

115 or 230 VAC ($\pm 10\%$)
47 to 63 Hz; 7W or -48 VDC

• Protection

AC/DC over-voltage protection circuits are connected via transformer to transmit and receive lines.

• Physical

Height: 4.5 cm / 1.8 in
Width: 19.5 cm / 7.7 in
Depth: 25.0 cm / 9.7 in
Weight: 1.4 kg / 3.1 lb

• Environment

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

ORDERING

ASM-32*/##/+/&

Dual port, 2-wire standalone, short range modem

* Specify power supply:

115 for 115 VAC

230 for 230 VAC

48 for -48 VDC

Specify line connector:

TB for terminal block connector

RJ for RJ-45 connector

+ Specify Port 1 interface:

V24 for V.24/RS-232 interface

V35 for V.35 interface

X21 for X.21 interface

530 for RS-530 interface

703TB for G.703 Codirectional 64 kbps with terminal block

703RJ for G.703 Codirectional 64 kbps with RJ-45 connector

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

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

& Specify port 2 interface if different from port 1:
(Default is same interface)

RM-17

Hardware for mounting one or two standalone units in a 19" rack

APPLICATION

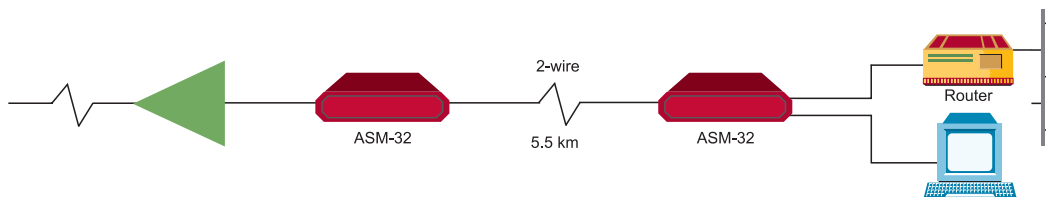


Figure 1. Point-to-point Application

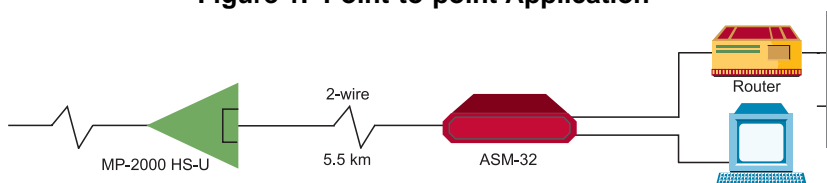


Figure 2. ASM-32 Working Opposite MP-2000

RAD

data communications

<http://www.rad.com>

• Corporate Headquarters

12 Hanechoshet Street
Tel Aviv 69710, Israel
Tel: (972) 3-6458181
Fax: (972) 3-6498250, 6474436
Email: rad@radmail.rad.co.il

• U.S. Main Office

900 Corporate Drive
Mahwah, NJ 07430
Tel: (201) 529-1100
Fax: (201) 529-5777
Email: market@radusa.com

663-110-0199