

ORDERING

SRM-5A/*/+/NEW

Async Short Range Modem,
transformer isolated

SRM-5D/*/+/NEW

Async Short Range Modem

- * Specify:
 - F** for female 25-pin connector
 - M** for male 25-pin connector
- + Specify line interface:
 - RJ-12** for RJ-12 and terminal block connectors
 - RJ-45** for RJ-45 and terminal block connectors
 - (Default is RJ-45 and terminal block connectors)

Specifications are subject to change without prior notice.



data communications

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SRM-5A, 5D



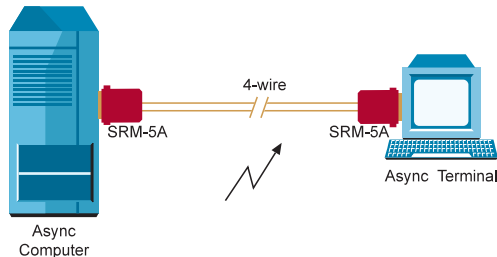
*Miniature Async
Short Range Modems*



FEATURES

- Asynchronous transmission rate up to 19.2 kbps
- Transmission range:
SRM-5A: up to 12 km (7.5 miles)
SRM-5D: up to 27.5 km (17 miles)
- No AC power required
- Transformer isolated (SRM-5A only)
- V.24/RS-232-C interface
- Compact, lightweight, easy to install
- DCE/DTE switch
- Internal filter protection against conducted or radiated noise
- Two line connectors: terminal block plus RJ-45 or RJ-12 connector

APPLICATION



DESCRIPTION

- SRM-5A and SRM-5D are Miniature Asynchronous Short Range Modems for local data distribution, connecting full duplex asynchronous DTEs to computers.
- SRM-5A and SRM-5D operate at distances up to 12 km (7.5 miles) and 27.5 km (17 miles), respectively, depending on the wire gauge and data rate (see *Table 1*). Both modems ensure integrity of data transmission, using unconditioned 4-wire dedicated lines at data rates up to 19.2 kbps. An internal filter overcomes both radiated and conducted noise, and provides surge protection.

Table 1. Approximate Range

Data Rate kbps	19 AWG (0.9 mm)		24 AWG (0.5 mm)		26 AWG (0.4 mm)	
	km	miles	km	miles	km	miles
SRM-5A						
19.2	5.0	3.0	2.0	1.0	1.5	1.0
9.6	10.0	6.0	4.5	2.5	3.0	2.0
4.8	11.5	7.0	5.0	3.0	4.0	2.5
2.4	12.0	7.5	5.5	3.5	4.0	2.5
1.2	12.0	7.5	5.5	3.5	4.0	2.5
SRM-5D						
19.2	13.0	8.0	5.5	3.5	4.0	2.5
9.6	14.5	9.0	6.5	4.0	4.5	3.0
4.8	16.0	10.0	7.0	4.5	5.0	3.0
2.4	19.5	12.0	8.5	5.5	6.5	4.0
1.2	27.5	17.0	12.0	7.5	9.0	5.5

- Innovative circuitry allows the modems to operate without connection to the mains supply, by using ultra low power from the V.24/RS-232 data and control signals. The modems will operate even if only Transmit Data is connected, i.e. without any control signals. Both positive and negative signals are generated, irrespective of constantly high or constantly low Transmit Data.

- The low transmit level minimizes crosstalk onto adjacent circuits within the same cable. Data is transmitted and received at a balanced interface, ensuring high immunity to circuit noise.
- SRM-5A and 5D feature a switch-selectable DCE/DTE option. This allows the modems to operate as DTE for connection to a DCE (such as a multiplexer port) without the need for a cross cable.
- The SRM-5A model is coupled to the dedicated line via isolation transformers rated at over 1,500 VRMS. The transformers, together with other circuitry, protect against AC or DC overvoltages. This makes SRM-5A suitable for connection to local circuits provided by most national telephone administrations (P.T.T.s).
- Two connectors are provided for the line interface: a five-screw terminal block, and either an RJ-45 or RJ-12 connector (see *Ordering*).

Note: RJ-12 is an RJ-11 connector with pins 1 and 6 grounded.

SPECIFICATIONS

- **Data Rate**
Up to 19.2 kbps
- **Transmission Line**
4-wire, unconditioned dedicated line (two twisted pairs)
- **Transmission Mode**
Asynchronous, full duplex
- **Transmission Controls**
DSR (Circuit 107) turns on immediately after the DTE raises DTR (Circuit 108/2); **CTS** (Circuit 106) and **DCD** (Circuit 109) turn on immediately after the DTE raises RTS (Circuit 105).
- **Transmission Level**
SRM-5A: 0 dBm
SRM-5D: -6dBm
- **Transmission Range**
SRM-5A: up to 12.2 km (7.5 miles)
SRM-5D: up to 27.5 km (17.0 miles)
(See *Table 1*)
- **Digital Interface**
ITU V.24/EIA RS-232 25-pin, male or female integral connector
- **Line Interface**
5-screw terminal block and either an RJ-45 or an RJ-12 socket
- **Protection (SRM-5A only)**
AC/DC overvoltage protection circuits are connected via isolation transformers rated at 1,500 VRMS

- **Power**
None required; uses ultra low power from the V.24/RS-232 data and control signals
- **Physical**
Length: 52 mm / 2.1 in
Width: 53 mm / 2.1 in
Height: 18 mm / 0.7 in
Weight: 38 g / 1.3 oz
- **Environment**
Temperature: 0-50°C / 32-122°F
Humidity: up to 90%, non-condensing

Declaration of Conformity

Mfr. Name: RAD Data Communications Ltd.
Mfr. Address: 12 Hanechoshet St.
Tel Aviv 69710
Israel

declares that the product:

Product Name: SRM-5A / SRM-5D

Conforms to the following standard(s) or other normative document(s):

EMC: EN 55022 (1987): Limits and methods of measurement of radio interference characteristics of information technology equipment.
EN 50082-1 (1992):
Electromagnetic compatibility - Generic immunity standard for residential, commercial and light industry.

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 89/336/EEC.
The product was tested in a typical configuration.

Tel Aviv, November 28th/November 26th 1995



Haim Karshen
Quality Manager

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GmbH, Lyoner Strasse 14, 60528 Frankfurt am
Main, Germany

INSTALLATION

Caution. *This is a delicate instrument. Be careful when setting jumpers or performing any actions within the product so that you do not break or shake any components.*

Installation of the modems is simple and straightforward, just follow these instructions:

1. Connect the dedicated line to the modem line connector.
 - If using the terminal block:
Connect the 4-wire dedicated line to the line connector; transmit pair to XMT and receive pair to RCV.
 - Verify that the pin polarity between the local modem and the remote modem is as follows:
 - Local +XMT connected to remote +RCV
 - Local -XMT connected to remote - RCV
 - Local +RCV connected to remote +XMT
 - Local -RCV connected to remote - XMT

See *Figure 1*.

 - If using the RJ-12 or RJ-45 connector:
Verify that the cable matches the polarity detailed in the Pin Assignment figures.
Plug the cable into the RJ socket
(see *Figures 2 and 3*).
2. Connect the modem directly to the 25-pin connector of the DTE or the computer

and fasten with the 2 screws (one on each side of the modem connector).

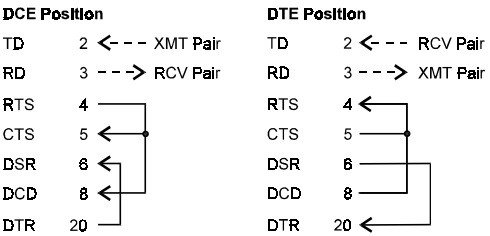


Figure 1. DCE/DTE Switch Configuration

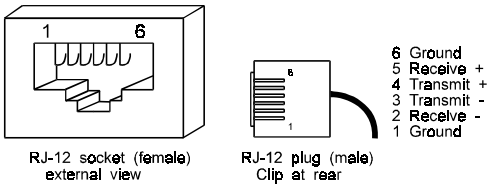


Figure 2. RJ-12 Pin Assignment

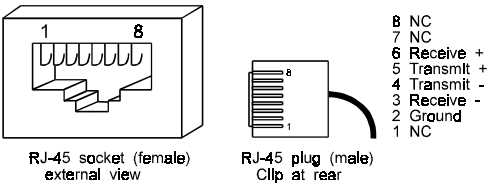


Figure 3. RJ-45 Pin Assignment