

## ORDERING

### SRM-6A/\*/+

Async Short Range Modem, transformer isolated

### SRM-6AU/\*/+

Async Short Range Modem, transformer isolated, with built-in noise filter

### SRM-6D/\*/+

Async Short Range Modem

\* Specify 25-pin connector type:

**F** for female

**M** for male

+ Specify line interface:

**RJ-11** for RJ-11 jack

**RJ-45S** for RJ-45 jackf

**RJ-45** for RJ-45 plug on 2m / 6 ft cable  
(Default is Terminal Block)

Specifications are subject to change without prior notice.

**RAD**

data communications

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100-100-05/99

# SRM-6A, 6D

**RAD**

*Asynchronous  
Short Range Modems*

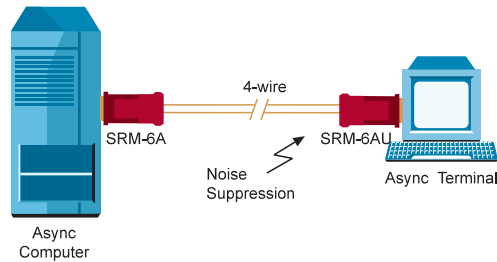


## FEATURES

- Asynchronous, full duplex
- Data rates up to 19.2 kbps
- Transmission range (for 24 AWG):  
SRM-6A: up to 8 km (5.0 miles)  
SRM-6D: up to 8 km (5.0 miles)
- No AC power required
- Transformer isolated  
(SRM-6A and SRM-6AU only)
- DCE/DTE switch
- Plugs directly into V.24/RS-232 connector
- Compact, lightweight, easy to install
- Available as a standalone unit or as a card for mounting in a 19" modem rack
- Internal filter for high noise immunity and noise suppression  
(SRM-6AU only)

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## APPLICATION



Ph:727-398-5252/Fax:727-397-9610

## DESCRIPTION

- The SRM-6A and SRM-6D, Asynchronous Short Range Modems, are used for local data distribution, connecting full duplex asynchronous DTEs to computers or controllers.
- A pair of modems will ensure integrity of data transmission, using unconditioned 4-wire twisted pair lines at data rates up to 19.2 kbps. SRM-6A and SRM-6D operate over distances up to 8 km (5 miles), depending on the wire gauge and data rate (see *Table 1*).
- SRM-6A and SRM-6D are available as standalone units or as rack-mount cards for mounting in the CMN-16 modem rack (see the *CMN-16 folder* for further information).
- SRM-6A is supplied with an isolating transformer. (SRM-6D is supplied without one.) This transformer, in conjunction with other circuitry, protects against AC or DC overvoltages. As the transformers are rated at over 1,500 VRMS, SRM-6A modems are suitable for connection to local circuits provided by most national telephone administrations (P.T.T.s).
- SRM-6AU is equipped with an internal filter (see *Ordering*). The internal filter of SRM-6AU is designed to overcome both radiated and conducted interference for high noise immunity, and is recommended for noisy environments such as industrial locations. SRM-6A is available without an internal filter.

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**Table 1. Approximate Range**

Data Rate	19 AWG (0.9 mm)		24 AWG (0.5 mm)		26 AWG (0.4 mm)	
	km	miles	km	miles	km	miles
<b>SRM-6A</b>						
19.2	4.5	2.5	2.0	1.0	1.5	1.0
9.6	13.5	8.0	6.0	3.5	4.5	2.5
4.8	16.8	10.5	7.5	4.5	5.6	3.5
2.4	18.0	11.0	8.0	5.0	6.0	3.5
1.2	18.0	11.0	8.0	5.0	6.0	3.5
<b>SRM-6AU</b>						
19.2	2.0	1.0	1.0	0.5	0.5	0.5
9.6	6.4	4.0	3.5	2.0	2.5	1.5
4.8	6.4	4.0	3.5	2.0	2.5	1.5
2.4	6.4	4.0	3.5	2.0	2.5	1.5
1.2	6.4	4.0	3.5	2.0	2.5	1.5
<b>SRM-6D</b>						
19.2	12.0	7.5	5.0	3.0	3.5	2.0
9.6	13.0	8.0	6.0	3.7	4.5	2.5
4.8	14.0	8.5	7.0	4.4	5.0	3.0
2.4	14.5	9.0	8.0	5.0	6.0	3.5
1.2	14.0	8.5	8.0	5.0	6.0	3.5

Order from: Cutter Networks

- Innovative circuitry allows the modems to operate without connection to the mains supply, by using ultra-low power from the data and control signals.
- The low transmit level of 0 dBm minimizes cross-talk onto adjacent circuits within the same cable. Data is transmitted and received using a balanced interface. This ensures high immunity to circuit noise.
- The modems feature a switch-selectable DCE/DTE option. This permits them to operate as DTE for connection to another DCE (such as a multiplexer port), without the use of a cross-cable.

Ph:727-398-5252/Fax:727-397-9610

## SPECIFICATIONS

- **Data Rates**  
Up to 19.2 kbps
- **Transmission Line**  
4-wire, unconditioned line (two twisted pairs), 19-26 gauge
- **Transmission Mode**  
Asynchronous, full duplex, 4-wire operation
- **Transmission Controls**  
**DSR** (Circuit 107) and **DCD** (Circuit 103) turn on immediately after DTE activates DTR (Circuit 108/2).  
**CTS** (Circuit 106) turns on immediately after DTE activates RTS (Circuit 105).
- **Transmission Level**  
0 dBm
- **Transmission Range**  
For 24 AWG:  
**SRM-6A:** up to 8 km (5 miles)  
**SRM-6AU:** up to 3.5 km (2 miles)  
**SRM-6D:** up to 8.0 km (5.0 miles) (see *Table 1*)
- **Digital Interface**  
EIA RS-232/ITU V.24, integral 25-pin connector, male or female
- **Line Interface**  
5-screw (4-wire and ground) terminal block. Optional interface (see *Ordering*):
  - RJ-11 jack, mounted directly
  - RJ-45 plug, on a 2m / 6 ft cable
  - RJ-45 jack, mounted directly (see *Figures 1 and 2*)

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## • Power

For proper operation, at least one of the following digital interface connector (DB-25) pins must be active:

- DCE mode: 2, 4, 20 or 24
- DTE mode: 3, 6, or 8

The typical power consumption drawn from the DTE is 20 mW for SRM-6A and 12 mW for SRM-6D (at least +6V signal level).

## • Physical

Length: 110 mm / 4.3 in  
Width: 52 mm / 2.1 in  
Height: 22 mm / 0.9 in  
Weight: 85 g / 3.0 oz

## • Environment

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

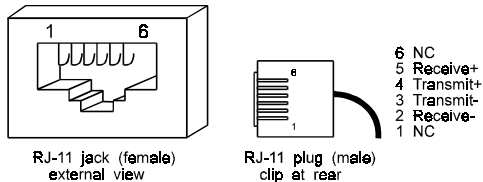


Figure 1. RJ-11 Pin Assignment

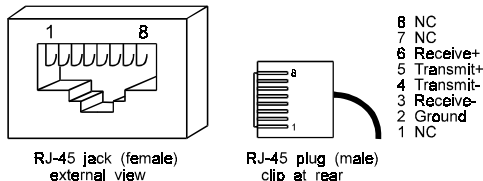


Figure 2. RJ-45 Pin Assignment

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## 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-6A, SRM-6D

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

**EMC:** EN 55022 (1987): Limits and methods of measurement of radio disturbance characteristics of information technology equipment.  
EN 50082-1 (1992): Electromagnetic compatibility - Generic immunity standards 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, December 28th, 1995

  
Haim Karshen  
Quality Manager

European Contact: RAD Data Communications GmbH,  
Lyoner Strasse 14, 60528 Frankfurt am Main, Germany

Ph:727-398-5252/Fax:727-397-9610

## 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. Follow these instructions:

1. Open the plastic cover by pressing on the places marked on the sides – start at the cable end.

2. Connect the 4-wire line to the modem line connector.

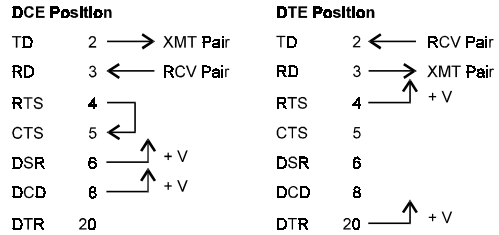
- If using the terminal block:  
Connect each lead of the 4-wire line to the appropriate screw connector on the terminal block.
- If using the RJ-11 or RJ-45 connector:  
Plug the cable into the RJ jack.  
Verify that the connection is as follows:
  - Local XMT connected to remote RCV
  - Local RCV connected to remote XMT.

**Caution:** Do not touch the transformer while connecting the terminal; it may brake under pressure.

**Note:** When operating in a noisy environment, use shielded cables and connect the cable shield to "Ground". Ground is provided on the line connector (terminal block or RJ-11/45 connectors) for this purpose (see Figures 1 and 2 for Pin Assignment).

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- The modem is factory strapped to DCE. For operation as DTE, set the DCE/DTE switch to DTE (see *Figure 3*).



**Figure 3. DCE/DTE Switch Configuration**

- To close the unit, press the two halves of the cover together.
- Connect the modem directly to the 25-pin connector of the DTE or the computer and fasten with both screws – one on each side of the modem connector.