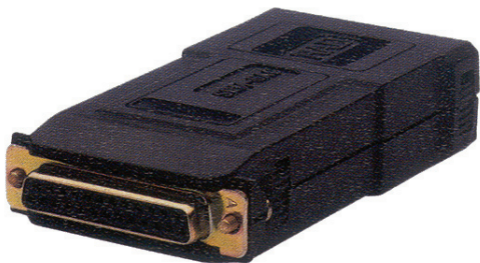


SRM-6AC

Short-Range Multipoint
Asynchronous Modem

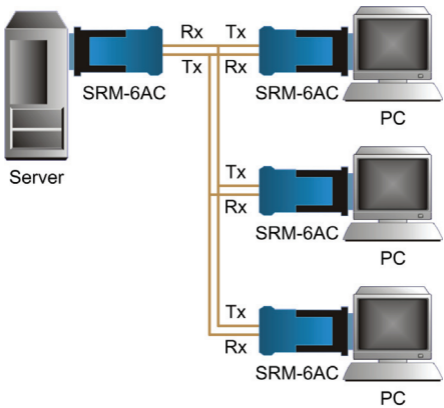


data communications

The Access Company

Features

- Asynchronous transmission
- Data rates up to 19.2 kbps
- Full- or half-duplex operation
- Point-to-point or multipoint applications
- Transmission range up to 7.5 km (4.7 mi)
- Carrier control



SRM-6AC is an asynchronous short range modem used for local data distribution, and for connecting full- or half-duplex asynchronous DTEs to DTEs over unconditioned 4-wire twisted pair lines.

SRM-6AC ensures integrity of data transmission for distances of up to 7.5 km(4.7 mi), depending on the wire type and data rate (see Table 1).

The carrier can be configured to be constantly ON, or controlled by the RTS signal (Circuit 105). Operation with controlled carrier enables connection of SRM-6AC in a multipoint configuration (see Application). Controlled carrier can also be used for passing a control signal end to end (RTS on one SRM 6AC is passed to DCD on the other unit).

A DTE/DCE switch allows the modem to operate as a DTE when connected to a DCE (such as a multiplexer port), without the use of a cross cable.

Table 1. Typical 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
1.2-9.6	7.5	4.7	3.5	2.1	2.5	1.6
19.2	3.5	2.0	1.5	1.0	1.0	0.6

SRM-6AC operates without connection to the mains supply. The low transmit level minimizes cross-talk onto adjacent circuits within the same cable. Data is transmitted and received using a balanced interface, ensuring high immunity to circuit noise.

SRM-6AC is coupled to the dedicated line through isolation transformers to protect against AC or DC over voltages. As the transformers are rated at over 1,500V RMS, the modem is suitable for connection to local circuits provided by most national telephone administrations (PTTs).

The modem is available as a standalone unit, or as a card for mounting in the CMN-16 modem rack. (For more information, see the *CMN-16* and *CMN-C6AC data sheets*.)

SPECIFICATIONS

LINE INTERFACE

Transmission Format

Asynchronous

Line Type

4-wire unconditioned dedicated line (two twisted pairs)

Transmission Mode

Full- or half-duplex

Range

See *Table 1*

Control Signals

DSR (Circuit 107) turns on immediately after terminal raises DTR (Circuit 108)

DCD turns on after recognizing the receive signal from the line

CTS (Circuit 106) turns on 33 msec after terminal raises RTS (Circuit 105)

Carrier Control

Jumper-selectable to be constantly ON or controlled by RTS (Circuit 105)

Transmission Level

0 dBm

Connector

5-clip terminal block

RJ-11 socket

RJ-45 socket

RJ-45 plug on a 2m (6 ft) cable

DTE INTERFACE

Type

V.24 (RS-232)

Data Rate

Up to 19.2 kbps

Connector

DB-25, male or female

GENERAL

Power

For proper operation, at least two of the following signals should be active:

DCE mode: 2, 4, and 20

DTE mode: 3, 6, and 8

The typical power consumption drawn from the DTE is 36 mV (at the +6V signal level).

Physical

Height: 2.2 cm (0.9 in)

Width: 5.3 cm (2.1 in)

Depth: 11.0 cm (4.2 in)

Weight: 78g (2.8 oz)

Environment

Temperature: 0° to 50°C (32° to 122°F)

Humidity: Up to 90%, non-condensing

DECLARATION OF CONFORMITY

Mfr. Name: RAD Data Communications Ltd.

Mfr. Address: 24 Raoul Wallenberg St.
Tel Aviv 69719, Israel

declares that the product:

Product Name: SRM-6AC

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

EMC: EN 55022:1998 + A1:2000 + A2:2003

EN 55024:1998 + A1:2001 + A2:2003

EN61000-3-2:2000 + A2:2005

EN61000-3-3:1995 + A1:2001

Safety: EN 60950-1:2001

Supplementary information:

The products herewith comply with the requirements of the Low Voltage Directive 2006/96EC and R&TTE Directive 99/5/EC for wired equipment. The products were tested in a typical configuration.

Tel Aviv, 12 November 2007



Haim Karshen

Quality Manager

European Contact: RAD Data Communications
GmbH, Otto-Hahn-Str. 28-30, 85521
Ottobrunn-Riemerling, Germany

Installation

Caution. When setting the jumpers or performing any actions inside the open product, be careful not to bend or break any components.

1. Open the unit by separating the two parts of the plastic cover. Start at the cable end and firmly press the marked places on the sides.
2. Configure SRM-6AC to operate as DCE or DTE by setting the DCE/DTE switch (see *Figure 1* and *Figure 2*).
3. Select the carrier to be constantly on (ON) or controlled by RTS (CTR) by setting the carrier jumper (see *Figure 1*).

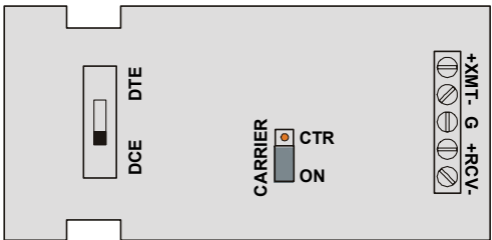


Figure 1. SRM-6AC PCB Layout

DCE	Position		DTE	Position
TD	2	----->	TD	2 <-----
		XMT Pair		RCV Pair
RD	3	<-----	RD	3 ----->
		RCV Pair		XMT Pair
RTS	4	┌───┐	RTS	4 ←
		└───┘		DCD CIRCUIT
CTS	5	<───┐	CTS	5
		└───┘		
DSR	6 + V		DSR	6
DCD	8	←	DCD	8
		DCD CIRCUIT		
DTR	20		DTR	20 + V

Figure 2. DCE/DTE Configuration

4. If using the terminal block, connect each lead of the 4-wire line to the appropriate screw on the terminal block.
5. Close the unit by pressing the two halves of the cover together.
6. If using the RJ-11 or RJ-45 connector, connect the cable to the RJ-11/45 socket. Observe polarity detailed in *Figure 3* and *Figure 4*.

Make sure that the local and remote modem are connected in the following manner:

- Connect local +XMT to the remote +RCV
- Connect local -XMT to the remote -RCV
- Connect local +RCV to the remote +XMT
- Connect local -RCV to the remote -XMT.

Caution

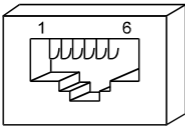
To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cords.

Attention

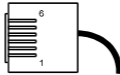
Pour réduire les risques d'incendie, utiliser seulement des conducteurs de télécommunications 26 AWG ou de section supérieure.

Note: *When operating in noisy environment, it is recommended to use shielded cables, and connect the cable shield to the connector's ground.*

7. Connect the modem directly to the 25-pin connector of the DTE or computer port.
8. Fasten the screws on each side of the modem's DTE connector.



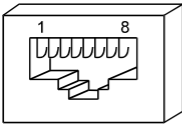
RJ-11 jack (female)
external view



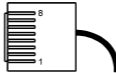
RJ-11 plug (male)
Clip at rear

- 6 Ground
- 5 Receive
- 4 Transmit
- 3 Transmit
- 2 Receive
- 1 Ground

Figure 3. RJ-11 Pin Assignment



RJ-45 jack (female)
external view



RJ-45 plug (male)
Clip at rear

- 8 NC
- 7 NC
- 6 Receive
- 5 Transmit
- 4 Transmit
- 3 Receive
- 2 Ground*
- 1 NC

* not connected in SRM-6SC

Figure 4. RJ-45 Pin Assignment

Ordering

SRM-6AC/*/+

- * DTE connector type:
 - F** female 25-pin
 - M** male 25-pin
- + Line connector type:
 - RJ-11** RJ-11 jack
 - RJ-45** RJ-45 plug on a 2m (6 ft) cable
 - RJ-45S** RJ-45 jack

(Leave blank for terminal block)

***Note:** For ordering information on the card version for the CMN-16 modem rack, see the CMN-C6AC data sheet.*

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The Access Company