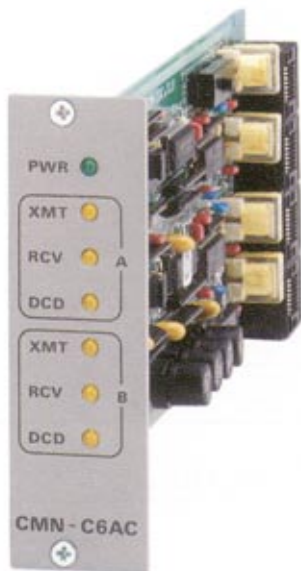


# CMN-C6AC/C6ACU



## Async Short Range Modem Card



### DESCRIPTION

- CMN-C6AC/C6ACU, Asynchronous Short Range Modem Cards, each consisting of two short range modems, is designed for mounting in the CMN-16 rack. The modems are suitable for local data distribution, connecting full or half duplex terminals to computers operating over unconditioned 4-wire dedicated lines.
- CMN-C6AC operates at distances up to 5.5 km (3.4 miles) and CMN-6ACU at distances up to 20 km (12.5 miles), depending on the wire gauge and data rate (see *Table 1* and *Table 2*). The modems ensure integrity of data transmission at data rates up to 19.2 kbps.
- CMN-C6ACU is equipped with an internal filter for high noise immunity. The internal filter is designed to overcome both radiated and conducted interference, and is recommended for noisy environments, such as industrial locations.
- The carrier on each modem can be strapped to be Constantly On or controlled by the Request-to-Send signal (Circuit 105). Operation with controlled carrier enables each modem to be connected in a multipoint configuration. Controlled carrier may be used in applications requiring passing of a control signal end-to-end (RTS on CMN-C6AC is passed to DCD on the remote SRM-6AC and vice versa).
- Each modem features a switch-selectable DCE/DTE option. This allows the modems to operate as DTEs, for connection to a DCE (such as a multiplexer port), without the need for a cross cable.
- The low transmit signal 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.

### FEATURES

- Two independent modems per card
- Compatible with SRM-6AC
- Asynchronous transmission up to 19.2 kbps
- Transmission range:
  - Up to 5.5 km (3.4 miles) for CMN-C6AC
  - Up to 20 km (12.5 miles) for CMN-6ACU
- Full or half duplex
- Point-to-point or multipoint
- DCE/DTE switch for each modem
- Transformer isolated
- Seven LEDs monitoring status
- Internal filter for high noise immunity and surge protection (CMN-C6ACU only)

**Table 1. Approximate Range**

Data Rates (kbps)	19 AWG (0.9 mm)		24 AWG (0.5mm)		26 AWG (0.2 mm)	
	km	miles	km	miles	km	miles
<b>CMN-C6AC</b>						
9.6-19.2	4.0	2.5	1.25	0.8	1.3	0.8
4.8	5.5	3.4	2.5	1.5	1.9	1.1
1.2-2.4	3.8	2.3	1.75	1.0	1.3	0.8
<b>CMN-C6ACU</b>						
19.2	3.5	2.0	1.5	1.0	1.0	0.6
9.6	9.0	5.6	4.0	2.5	3.0	1.8
4.8	9.0	5.6	4.0	2.5	3.0	1.8
2.4	11.0	6.8	5.0	3.0	3.8	2.3
1.2	20.0	12.5	9.0	5.6	6.5	4.0

# CMN-C6AC/C6ACU

## Async Short Range Modem Card

- The modems are coupled to the dedicated lines via isolation transformers which, in conjunction with other circuitry, protect against AC or DC overvoltages. The transformers are rated at over 1500V RMS, which allows the modem cards to be connected to the local circuits provided by most national telephone administrations (P.T.T.s).

### SPECIFICATIONS

- Data Rates**  
Up to 19.2 kbps
- Transmission Line**  
4-wire unconditioned dedicated line (two twisted pairs)
- Transmission Mode**  
Asynchronous, full or half duplex
- Transmission Controls**  
**DCD** (Circuit 109) turns ON immediately after recognizing the receive signal  
**CTS** (Circuit 106) turns ON 30 msec after terminal raises RTS
- Carrier Control**  
The carrier is strap-selectable for either continuous operation or switched operation controlled by RTS (Circuit 105)
- Transmission Level**  
0 dBm
- Transmission Range**  
See Tables 1 and 2

- Indicators**  
PWR (green): On when unit is powered  
XMT (A and B) (yellow): On when data is transmitted  
RCV (A and B) (yellow): On when data is received  
DCD (A and B) (yellow): On when Data Carrier is detected
- Terminal Interface**  
ITU V.24/EIA RS-232-C via two RJ-45 sockets, one per modem
- Line Interface**  
Two RJ-45 sockets, one per modem (see Table 3)
- Power Supply**  
Derived from the CMN-16: 0.45 VA
- Physical**  
Length: 177 mm / 6.9 in  
Width: 67 mm / 2.6 in  
Height: 15 mm / 0.6 in  
Weight: 85g / 3.0 oz
- Environment**  
Temperature: 0–50°C/32–122°F  
Humidity: Up to 90%, non-condensing

Table 2. Approximate Range for Multipoint Connections on 24 AWG (0.5 mm line)

Number of Slaves	Data Rate			
	1.2-9.6 kbps		19.2 kbps	
	km	miles	km	miles
3	3.2	2.0	1.6	1.0
5	2.4	1.5	1.2	0.7
7	1.6	1.0	0.8	0.5
8	1.6	1.0	–	–
10	0.8	0.5	–	–

# CMN-C6AC/C6ACU

## Async Short Range Modem Card

### INSTALLATION

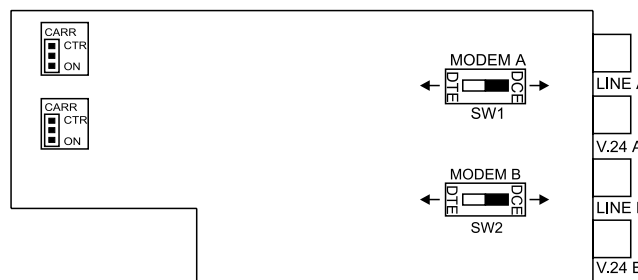
- Note the following polarity for each card:
  - +XMT on the CMN-C6AC must be connected to +RCV on the remote SRM-6AC
  - XMT on the CMN-C6AC must be connected to -RCV on the remote SRM-6AC.
 Reverse this procedure for the second pair of wires.
- The modem is factory set to DCE operation. For DTE operation, move the DCE/DTE switches to the DTE position (see *Figure 1* and *Figure 2*).
- Set the carrier strap to either ON (carrier continuously ON), or CTRL (carrier controlled by RTS) (see *Figure 1*). The modem is factory strapped to ON.
- Remove the blank panel (if supplied), insert the card into the slot and secure it with the screws provided.
- Connect the V.24 / RS-232 cables to the RJ-45 sockets, marked V.24 (see *Table 3*).
- Connect the line cables to the RJ sockets, marked LINE (see *Table 3*).

**Table 3. DTE/Line Connections (RJ-45)**

Pin No.	Name	Description
<b>DTE (V.24) Connections</b>		
1	CH.GND	Chassis Ground
2	RTS	Request To Send
3	RD	Receive Data
4	DCD	Data Carrier Detect
5	TD	Transmit Data
6	DTR	Data Terminal Ready
7	SIG. GND	Signal Ground
8	CTS	Clear To Send
<b>LINE Connections</b>		
2	GND	Ground
3	RCV -	Receive -
4	XMT -	Transmit -
5	XMT +	Transmit +
6	RCV +	Receive +

DCE Position	DTE Position
TD 2 - → XMT Pair	TD 2 ← - RCV Pair
RD 3 ← - RCV Pair	RD 3 → XMT Pair
RTS 4 delay	RTS 4 ← DCD CIRCUIT
CTS 5 + V	CTS 5
DSR 6 ← DCD CIRCUIT	DSR 6
DCD 8	DCD 8 + V
DTR 20	DTR 20

**Figure 1. DCE/DTE Switch Configuration**



**Figure 2. Strapping Diagram**

# CMN-C6AC/C6ACU

## Async Short Range Modem Card



### ORDERING

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#### CMN-C6AC

Asynchronous Short Range Modem  
Card for CMN-16 Rack (2 modems)

#### CMN-C6ACU

Asynchronous Short Range Modem  
Card, with internal filter, for CMN-16  
Rack (2 modems)



**data communications**

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