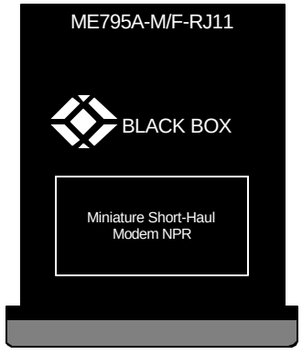

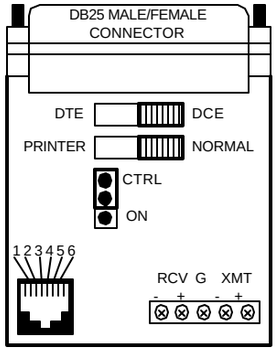

ME795A-M/F-RJ11

SPECIFICATIONS:

Data Rates: Up to 19,200 bps

Transmission Format: Asynchronous

Transmission Line: 4-wire unconditioned line. (two twisted-pairs)

Transmission Mode: Full- or Half-Duplex 4-wire operation.

Transmission Controls: DSR turns ON immediately after DTE raises DTR;
DCD turns ON after recognizing the receive signal from the line;
CTS turns ON 40 msec. after DTE raises RTS.

Carrier Control: The carrier is strap-selectable for either Continuous operation or switched operation, controlled by RTS.

Transmission Level: 0 dBm

Transmission Range: Up to 4.2 miles (6.8 km) [see Table]

DTE Interface: EIA RS-232/ITU V.24, integral 25-pin connector, choice of male or female.

Line Interface: 5-screw (4-wire and ground terminal block, together with RJ-11 jack.

Power: For proper operation, at least two of the following digital interface connector (DB25) pins must be active:
DCE: 2, 4, 20, 24
DTE: 3, 6, 8
The typical power that is drawn from DTE is 40 mW (at least +6V signal level)

DATA RATE (bps)	19 AWG (.9 mm)		24 AWG (.5 mm)		26 AWG (.4 mm)	
	Miles	km	Miles	km	Miles	km
1,200 to 19,200	4.2	6.8	1.9	3	1.4	2.3

INTRODUCTION:

The Mini Short-Haul Modem NPR is used for local data distribution, connecting full- or half-duplex asynchronous DTE's to DTE's operating over unconditioned 4-wire lines (two twisted pairs). The SHM ensures integrity of data transmission for distances up to 4.2 miles (6.8 km), depending on wire gauge and data rate. The SHM is equipped with an internal filter for high noise immunity. The internal filter overcomes both radiated and conducted interference, and is recommended for noisy environments, such as industrial locations.

The SHM features a switch-selectable DTE/DCE interface, and a switch-selectable printer-support mode. It also features strap-selection for carrier Constantly ON or Controlled by RTS. When set to DCE, the modem carrier can be strapped to be Constantly ON, or Controlled by the RTS signal. When the carrier is controlled by RTS, the SHM can be connected in a multipoint configuration. Controlled carrier can also be used in applications requiring passing of a control signal end-to-end (RTS on on SHM is passed to DCD on the other unit). The SHM also has an LED to indicate carrier detection. When set to DTE, the SHM operates as a DTE for connection to another DCE (such as a multiplexor port), without the use of a cross-pinned cable.

When set to printer-support mode, the SHM supports printer flow control, by transmitting DTR on the printer side (busy signal) to CTS on the other side. As a result, CTS at the computer side will drop when the printer becomes busy.

Innovative circuitry allows the SHM to operate without connection to the mains supply, by using ultra-low power from the data and control signals. The modem will operate even if only TD, RD and RTS are connected. The low transmit level minimizes crosstalk onto adjacent circuits within the same cable. Data is transmitted and received using a balanced interface, ensuring high immunity to circuit noise.

The SHM is coupled to the line through isolation transformers, which, in conjunction with additional circuitry, protect against AC or DC overvoltages. As the transformers are rated at over 1,500 v RMS, the modem is suitable for connection to local circuits provided by most national telephone administrations.

Two connectors are available for connection to the line: a 5-screw terminal block and modular socket for RJ-11.

INSTALLATION:

Connect the 4-wire line to the terminal block or to the RJ connector: transmit pair to ***XMT*** and receive pair to ***RCV***.

Observe the correct polarities:

1. XMT+ on the local SHM must be connected to RCV+ on the remote SHM.
2. XMT- on the local SHM must be connected to RCV- on the remote SHM.
3. RCV+ on the local SHM must be connected to XMT+ on the remote SHM.
4. RCV- on the local SHM must be connected to XMT- on the remote SHM.

When using RJ-11 cables, make sure that the correct polarity (as indicated above) is maintained throughout the cabling system.

When operating in a noisy environment, use shielded cables and connect one end of the cable shield to "Ground". Ground is provided on the line connector (terminal block or RJ connector) for optional connection of the cable shield.

Set the DTE/DCE switch to either DTE or DCE. The SHM is factory set for DCE operation.

Set the CARRIER strap to either ON (carrier constantly on) or CTRL (carrier controlled by RTS). The factory setting is carrier Constantly ON.

Set the Normal/Printer switch to either Normal or Printer operation. The factory setting is Normal operation. (should be set to the same setting)

Plug the modem directly into the 25-pin connector of the DTE or computer port.

Signal	Pin#		Pin#	Signal
GND	1	——	6	GND
RCV-	2	——	3	XMT-
XMT-	3	——	2	RCV-
XMT+	4	——	5	RCV+
RCV+	5	——	4	XMT+
GND	6	——	1	GND