

## SPECIFICATIONS:

**Transmission Mode:** Asynchronous, full- or half-duplex

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

**Data Rates:** Up to 19,200 bps

**Transmission Level:** -6 dBm

**Transmission Controls:** DCD turns on after recognizing the receive signal from the line; CTS turns on 1 or 12 msec (selectable) after the terminal raises RTS.

**Transmission Range:** 2 miles (3.2 km) on 24 AWG wire at all speeds up to 19,200 bps

**Terminal Interface:** EIA RS-232C/CCITT V.24, integral 25-pin connector, choice of male or female.

**Telephone Line Interface:** (1) RJ-45 modular jack

**Power:** None required, uses ultra-low power from the EIA RS-232C/CCITT V.24 data and control signals

## INTRODUCTION:

The Async SHM-NPR is used for local data distribution, connecting full- or half-duplex asynchronous terminals to computers. A pair of modems ensures integrity of data transmission, over unconditioned 4-wire telephone lines, for distances of up to 2 miles (3.2 km)

The SHM-NPR is a high-speed synchronous modem operating at 76.8 Kbps. The async-to-sync conversion is performed by over-sampling, allowing for asynchronous data transmission at data rates up to 19,200 bps. This design results in a unit that is insensitive to polarity of wiring (no need to observe "+" and "-" on the twisted pairs), and is therefore simple to install and maintain.

The SHM-NPR features a DCE/DTE switch. This allows it to operate as a DTE in order to connect to another DCE, such as a multiplexor port, without requiring a cross-over cable. The carrier can be strapped for either continuous operation (point-to-point applications) or for switched operation, controlled by the RTS signal (multi-point applications). Delay between RTS and CTS is strap-selectable to 1 or 12 msec.

The low transmit level minimizes crosstalk onto adjacent circuits within the same cable. Data is transmitted and received at a balanced impedance, ensuring excellent immunity to circuit noise. Additionally, the SHM-NPR is coupled to the telephone line through isolation transformers which, in conjunction with electronic circuitry, protect against AC or DC overvoltages.

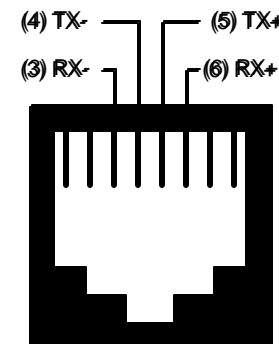
Innovative circuitry design allows the SHM-NPR to operate without connection to the main supply, by using ultra-low power from the standard EIA RS-232/CCITT V.24 data and control signals. To ensure proper operation, the equipment connected to the SHM-NPR should provide at least one of the following signals: RTS or DTR.

## INSTALLATION:

Installation of the Async SHM-NPR is simple and straightforward. Follow these steps:

1. Separate the two parts of the plastic cover by pressing the marked places on the side, starting at the cable end.
2. Connect 4-wire telephone line to the RJ-45 modular jack: transmit pair to "XMIT" and receive pair to "RCV".
3. Strap the modem according to the strapping diagram above and the strap-selection table.
4. To close the unit, simply press the two halves of the cover together.
5. Plug the mode directly into the 25-pin connector of the terminal or computer port, and fasten with the screws on each side of the connector.

STRAP/SWITCH IDENTITY	FUNCTION	POSITION	FACTORY SETTING
DCE/DTE	Selects SHM-NPR interface	DCE DTE	DCE
CARRIER	Selects carrier constantly ON or switched by RTS	ON Controlled	ON
RTS/CTS DELAY	Selects RTS/CTS Delay	1 msec. 12 msec.	1 msec.



RJ-45

# ME6102A-M/F