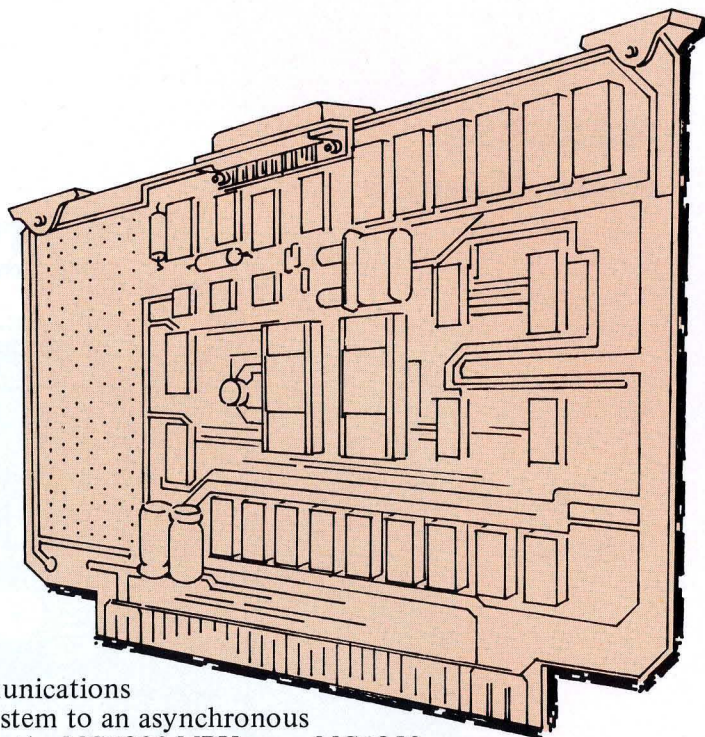




**MOTOROLA**

# MEX6850 ACIA Module



- Eight or nine-bit transmission
- Program-selectable odd, even, or no parity
- TTY and RS-232C data terminal interface capability
- Program-selectable divide-by 16 and 64 clock modes
- Program-selectable one or two stop bits
- Eight switch-selectable baud rates between 110 and 9600 baud

The MEX6850 ACIA Module (Asynchronous Communications Interface Adapter) interfaces the EXORciser base system to an asynchronous data communications device. This module appears to the MC6800 MPU as an MC6850 ACIA. In preparing a program for this module, the designer determines parity, the number of stop bits and the ACIA's clock mode. The user can select one or two stop bits; odd, even, or no parity; the clock mode; and the number of data bits to be transferred.

The user, in setting up this module, selects one of the eight standard switch selectable baud rates between 110 and 9600. He has the option of interfacing directly with a TTY (20 mA neutral current loop), and an RS-232C compatible terminal, or of constructing a custom interface circuit for some other peripheral. The module can be configured to appear as a data terminal or modem to an external communications device. It has provisions for standard 14, 16, and 24 pin wirewrap sockets to allow for the construction of customized circuits.

The EXORciser's MPU addresses the ACIA as if it were two locations in memory. By proper setting of the base memory address switches, the user can select the base memory address for the ACIA. The address enable/disable switches activate or de-activate individual address lines. This allows the EXORciser to emulate systems not using all 16 address lines. The address decoder determines when the MPU is addressing its ACIA and enables the control logic to decode its inputs. The control logic, by decoding of the MPU timing and control signals, controls the flow of data through the EXORciser bus buffer. The EXORciser bus buffer interfaces the ACIA Module with the EXORciser bus.

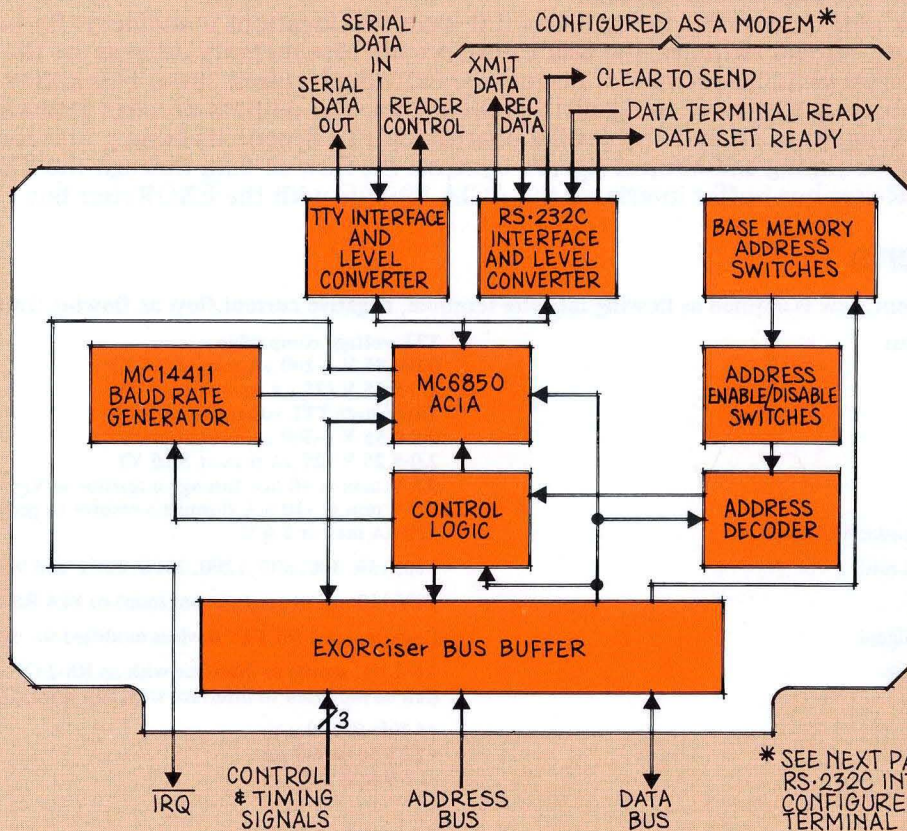
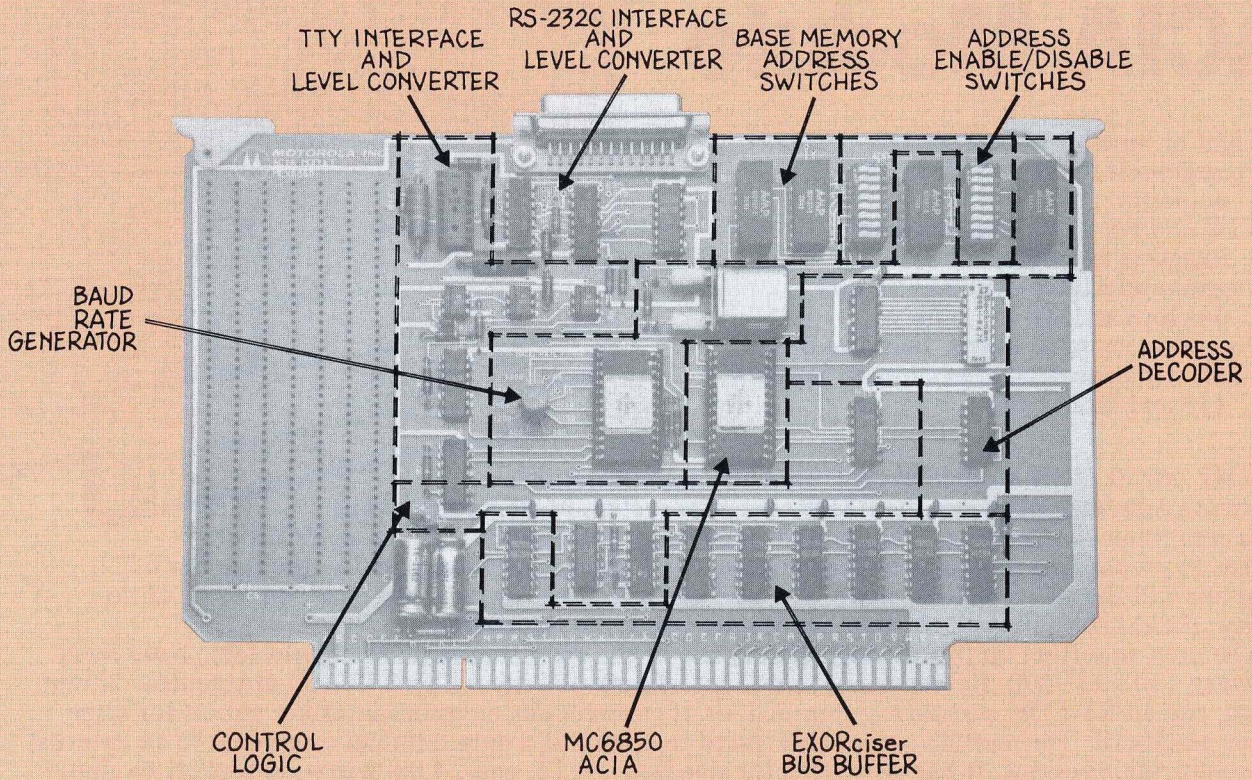
## Specifications

(Note: Positive current flow is defined as flowing into the terminal, negative current flow as flowing from the terminal.)

Address and Control Bus	TTL voltage compatible
Logic "0"	0.0-0.85 V (-200 $\mu$ A max at 0.4 V)
Logic "1"	2.0-5.25 V (25 $\mu$ A max at 5.25 V)
Data Bus	Three-state TTL voltage compatible
Input Logic "0"	0.0-0.85 V (-200 $\mu$ A max at 0.4 V)
Input Logic "1"	2.0-5.25 V (25 $\mu$ A max at 5.25 V)
Output Logic "0"	0.5 V max at 40 mA through a resistor to $V_{CC}$
Output Logic "1"	2.6 V min at -10 mA through a resistor to ground
Output Off-State Leakage Current	100 $\mu$ A max at 2.6 V
Switch selectable baud rates	110, 150, 300, 600, 1200, 2400, 4800, and 9600
Signal Characteristics	TTY (20 mA neutral current loop) or EIA RS-232C compatible
TTY Reader Control Signal	Control signal for TTY devices modified for external control
RS-232 Interface Signals	RS-232C signals to interface with an RS-232C data terminal. Can be modified to interface with any RS-232C modem.
Power Requirements	+5 Vdc @ 750 $\mu$ A +12 Vdc @ 500 $\mu$ A -12 Vdc @ 500 $\mu$ A
Physical Dimensions W x H x T	9.75 x 5.75 x 0.062 in.

# MEX6850 ACIA Module

Option



\* SEE NEXT PAGE FOR RS-232C INTERFACE CONFIGURED AS A TERMINAL

# Terminal Interface Lines

The user has the option of interfacing the MEX6850 ACIA Module with a TTY (20 mA neutral current loop), an RS-232C compatible terminal, or of constructing a custom interface circuit. In interfacing an RS-232C communications device with the module, the user also has the option of configuring the module to appear as a terminal or as a modem.

## TTY Interface Signals

**Serial Data In** – This line accepts the input from a TTY terminal.

**Serial Data Out** – This line transfers data to a TTY terminal.

**Serial Data Common** – This line provides a return for the Serial Data In and Serial Data Out signals.

**Reader Control** – This signal provides the control required to operate the paper tape reader on a modified manual TTY data terminal.

**Reader Common** – This line is connected to EXORciser ground and provides a return for the Reader Control signal.

## RS-232C Interface Signals

**Transmit Data** – This line transfers data from a terminal to a modem.

**Receive Data** – This line transfers data from a modem to a terminal.

**Clear to Send** – This signal, when high, indicates that the modem is ready to transmit data.

**Request to Send** – This signal prepares the modem for data transfer. When high, this signal places the modem in the transmit mode; when low, in the receive mode.

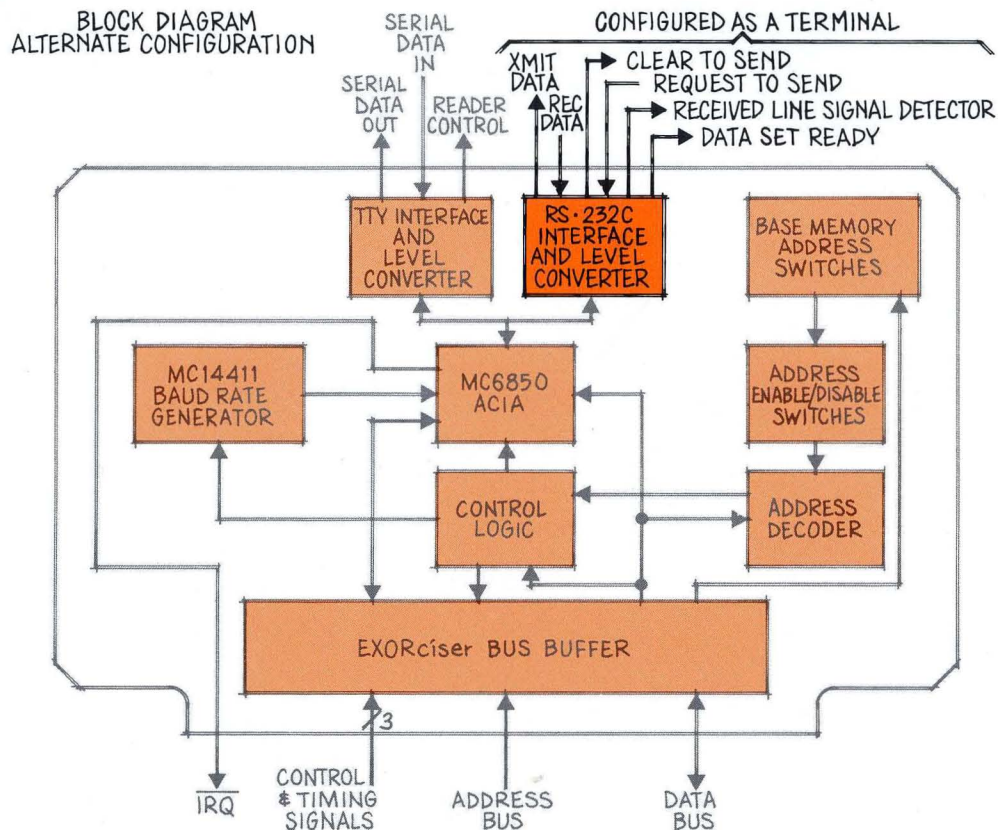
**Data Terminal Ready** – This line, when high, indicates to the modem that the terminal connected into the system is ready to receive or transmit data.

**Data Set Ready** – This signal is a high level when the modem is connected to the terminal and indicates to the terminal that the modem is ready.

**Received Line Signal Detector** – This signal, also called carrier detect, is a high level when the modem is receiving a signal meeting its criteria.

**Power Ground** – Common for the 12 volt source. This line provides a safety ground connection between the RS-232C compatible communications device and the EXORciser.

**Signal Ground** – This line provides a common signal connection to the RS-232C communications device.



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