

### Four-channel Communication Interface

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#### FEATURES

- Four independent RS-232 ports
- 16 transmission speeds from 50 to 19,200 Baud
- Hardware handshaking signals
- Programmable XON/XOFF handshaking
- Software-selectable control character recognition
- Programmable configuration parameters
- 1024 by eight character buffers on input and output

#### APPLICATIONS

- Interface for a CRT terminal
- Interface for a modem communication link
- Data link between two CAMAC systems
- Interface to "smart" instruments
- Interface for character-oriented serial equipment

#### GENERAL DESCRIPTION

The Model 3344 is a single-width CAMAC module that interfaces the CAMAC Dataway to as many as four separate RS-232 serial ports. Sixteen data rates are available: 50, 75, 110, 134.5, 150, 300, 600, 1200, 1800, 2000, 2400, 3600, 4800, 7200, 9600, and 19,200 Baud. Data rates are programmable from the Dataway on a per channel basis, as are the number of data bits (from five to eight), the number of stop bits (one or two), parity error checking, and control character recognition capabilities.

Two 1024 character buffers are provided for each channel, one for input and one for output. These buffers provide elastic communications between the Dataway and remote devices. As a diagnostic aid, input can be echoed back to the output as well as sent to the computer. The echo feature is programmable.

On output block transfers, the buffer is filled by performing Write commands until a Q = 0 response is detected. A Q = 0 response indicates that the buffer is full. The module will continue to transmit the block of data at its selected Baud rate until the output buffer is empty.

On input block transfers, the input buffer is filled and a LAM is set. The LAM is detected by the computer, which reads the input buffer until a Q = 0 response is detected. A Q = 0 response means that either the input buffer is empty or that the End-of-Block character has been read. The software-selectable End-of-Block character allows the user to specify a single bit pattern or character (a carriage return, for example) which, when detected, can be used to generate a LAM. This LAM is defined by the user and can indicate a variety of things (as with the carriage return, that a line of text is available to be read by the host computer).

Data-Terminal-Ready (DTR) and Data-Set-Ready (DSR) control signals establish an automatic handshake with the remote RS-232 device. For incoming data streams, the DTR output signal is negated if the input buffer becomes full and cannot accept another character. DTR is reasserted once the input buffer is read and adequate storage space is available for more data. For outgoing data streams, data transmission is halted if the remote device negates the DSR signal and commences again (assuming there is still data to be transmitted) when DSR is reasserted. Additionally, the XON/XOFF protocol can be enabled and disabled from the Dataway. Once enabled, this protocol performs a software handshake similar to hardware DTR/DSR handshake and is transparent to the user.

#### FRONT-PANEL CONNECTORS AND INDICATORS

An N LED on the module's front panel flashes whenever the module is addressed. The L LED is on whenever a LAM is pending in the module. Connections to the remote RS-232 devices are made through four 9-pin "D" type connectors mounted on the front panel of the module.

