

IP500A Serial 232 Communication

These modules provide asynchronous serial and parallel communication interfaces for your system. Software-configuration helps you quickly set baud rates, character-sizes, stop bits, and parity. Full signal support for modem control is also included.

For more efficient data processing, each serial port is equipped with 16-character FIFO buffers on the transmit and receive lines.

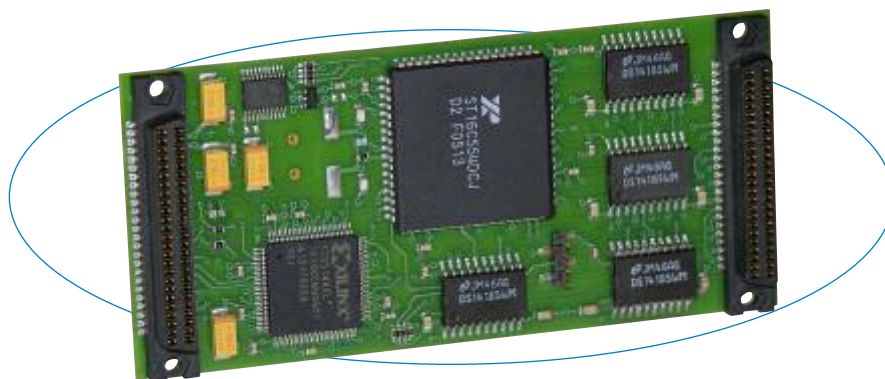
The data ports generate individually controlled transmit, receive, line status, and data set interrupts. Since unique interrupt vectors may be assigned to each port, it is easy for you to identify and locate the interrupt source. Also, a priority shifting scheme prevents continuous interrupts from one port from blocking interrupts from another.

Features

- Four RS232E serial ports
- 16-byte FIFO buffers
- Interrupts with unique vectors for each port
- Programmable baud rate (up to 128Kbps) (Consult factory for custom rates up to 512Kbps)
- Individual modem control signals on each channel
- Handshake lines (RTS, CTS, DTR, DSR, DCD, RI)
- Line-break and false start-bit detection
- Industry-standard 16C550 family UART includes software-compatible 16C450 mode

Benefits

- 16-byte FIFO buffers minimize CPU interaction for improved system performance.
- Each serial channel provides full handshake support to simplify interfacing with modems.



The IP500A provides four 232 communication ports with FIFO buffers for reliable data transfer across serial communication lines.

Specifications

RS232E Serial Ports

Configuration: Independent, non-isolated serial ports with a common single return connection and configured as a DTE device.

Data rate: Programmable up to 128K bits/second using internal baud rate generator. Consult factory for custom baud rates up to 512K baud.

Max. cable length: 15 meters (50 feet) typical, limited to a cable capacitive load of 2500pF.

Character size: 5 to 8 bits, software-programmable.

Parity: Odd, even, or no parity; software-programmable.

Stop bits: 1, 1-1/2, or 2 bits; software-programmable.

Data register buffers: 16-byte receive FIFO buffer and 16-byte transmit FIFO buffer.

Interrupts: Receiver line status (overrun, parity, framing error, or break interrupt); received data available (FIFO level reached) or character time-out; transmitter holding register empty; or modem status (CTS, DSR, RI, or DCD).

IP Compliance (ANSI/VITA 4)

Meets IP specifications per ANSI/VITA 4-1995.

IP data transfer cycle types supported:
Input/output (IOSel*), ID read (IDSel*), Interrupt select (INTSel*).

Access times (8MHz clock):

ID PROM read: 0 wait states (255nS cycle).

Channel register read/write: 1 wait state (375nS cycle).

Interrupt select cycle: 2 wait states.

Environmental

Operating temperature: 0 to 70°C.

Storage temperature: -55 to 125°C.

Relative humidity: 5 to 95% non-condensing.

Power:

+5V (±5%): 300mA maximum.

±12V (±5%) from P1: 75mA maximum.

MTBF: 3,055,730 hrs at 25°C, MIL-HDBK-21F, Notice 2.

Ordering Information

Industry Pack Modules

IP500A

Four RS232E serial ports.

Acromag offers a wide selection of [Industry Pack Carrier Cards](#).

Customized Industry Pack Modules

† 4860-x

Modified IP500A with user-specified crystal/baud rate.

† Specify x = crystal frequency when ordering.

3.686MHz or 14.745MHz models may be purchased as single units, other frequencies require a min. qty. per order of two units.

Acromag offers a wide selection of [Industry Pack Carrier Cards](#).

Software (see [software documentation](#) for details)

IPSW-API-VXW

VxWorks® software support package

IPSW-API-WIN

Windows® DLL driver software support package

IPSW-API-LNX

Linux example libraries for Industry Pack modules and PCI/CompactPCI carrier cards.

See [accessories documentation](#) for additional information.