IP521
Octal Serial 422/485 Communication

These modules provide eight asynchronous serial communication ports from a single IP carrier slot. Software-configuration helps you quickly set baud rates, character-sizes, stop bits, and parity.

For more efficient data processing, each serial port is equipped with 64-character FIFO buffers on the transmit and receive lines.

The data ports generate individually controlled transmit, receive, line status, data set, and flow control 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

- Eight asynchronous, full duplex RS422B serial ports (supports RS485)

- 64-byte transmit FIFO buffers
  64-byte receive FIFO buffers

- Interrupts with unique vectors for each port

- Programmable baud rate (up to 921.6Kbps)

- Line-break and false start-bit detection

- Failsafe receivers

- Socketed termination and bias resistors

- Industry-standard 16C654 family UART includes software-compatible 16C450 mode

Benefits

- High-density design lowers per-port costs and saves IP carrier card slots for other functions.

- 64-byte FIFO buffers minimize CPU interaction for improved system performance.
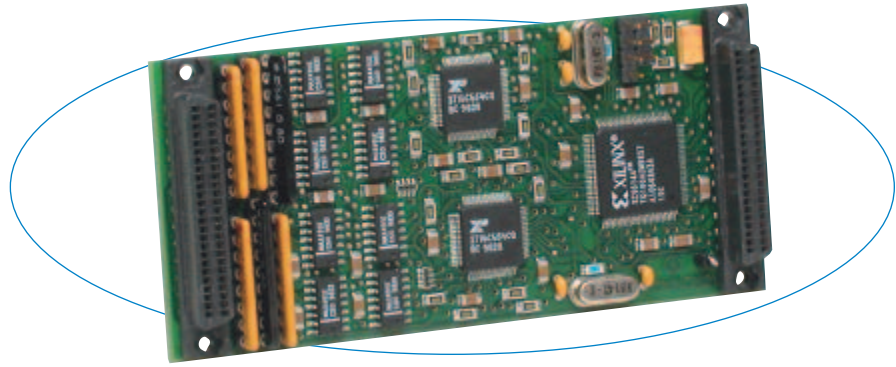
- Extended temperature ranges deliver dependable operation in extreme conditions.

With eight serial ports per module, the IP521 provides a high-density solution to reduce costs and use fewer card slots.

Specifications

RS422B Serial Ports

Configuration: Independent, non-isolated serial ports with a common single return connection.

Data rate: 921.6K bits/second, maximum.

Max. cable length: 1200 meters (4000 feet), typical.

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: Double buffered or 64-byte FIFO buffered, mode selectable.

Interrupts: Receiver line status (overrun, parity, framing error, or break interrupt); receive/transmit FIFO level reached or character time-out; Xon/Xoff or special character detected.

Environmental

Operating temperature: 0 to 70°C (IP521-64) or -40 to 85°C (IP521-64E/5028-xE).

Storage temperature: -55 to 125°C.

Relative humidity: 5 to 95% non-condensing.

Power: +5V (±5%): 340mA maximum.

MTBF: 3,532,745 hrs at 25°C, MIL-HDBK-217F, Notice 2.

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 state (250nS cycle).
Channel register read/write: 1 wait state (375nS cycle).
Interrupt register read/write: 2 wait states (500nS cycle).

Ordering Information

Industry Pack Modules
IP521-64
Eight RS422B serial ports.

IP521-64E
Same as IP521-64 plus extended temperature range.

Acromag offers a wide selection of Industry Pack Carrier Cards.

Customized Industry Pack Modules
† 5028-x
Modified IP521-64 with user specified crystal/baud rate.

† 5028-xE
Modified 5028-x with user specified crystal/baud rate.

† Specify x = crystal frequency when ordering.
3.686MHz or 14.745MHz models may be purchases as single units, other frequencies require a min. qty. per oder 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-QNX
QNX® software support package

IPSW-API-WIN
Windows® DLL driver software support package

See accessories documentation for additional information.

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