IOS Modules

IOS-521 Octal Serial 422/485 Communication Module
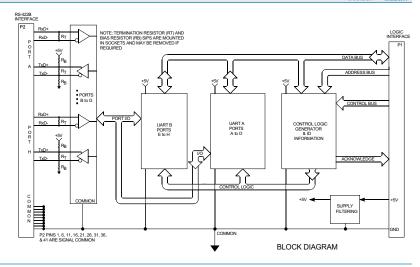
BLOCK DIAGRAM

RS-422B INTERFACE — P2 — PORT A — RxD+, RxD-, R_T, +5V, R_B, TxD+, TxD-, R_T, R_B

NOTE: TERMINATION RESISTOR (RT) AND BIAS RESISTOR (RB) SIPS ARE MOUNTED IN SOCKETS AND MAY BE REMOVED IF REQUIRED

PORTS B to G

PORT H — RxD+, RxD-, R_T, +5V, R_B, TxD+, TxD-, R_T, R_B

COMMON — P2 PINS 1, 6, 11, 16, 21, 26, 31, 36, & 41 ARE SIGNAL COMMON

PORT I/O · UART B PORTS E to H · UART A PORTS A to D · CONTROL LOGIC GENERATOR & ID INFORMATION · I/O · CONTROL LOGIC · COMMON

LOGIC INTERFACE — P1 — DATA BUS · ADDRESS BUS · CONTROL BUS · ACKNOWLEDGE · SUPPLY FILTERING · +5V · GND

High-density serial communication ◆ 8 EIA/TIA-488/485 ports

Description

IOS Modules plug into the 4-slot carrier card that is integrated within the I/O Server. Different modules can mix or match in any combination to meet the I/O requirements.

IOS-521 modules provide eight asynchronous serial communication ports from a single 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.

Key Features & Benefits

- 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
- High-density design lowers per-port costs and saves carrier card slots for other functions.
- 64-byte FIFO buffers minimize CPU interaction for improved system performance.
- -40 to 85°C operating temperature range

Ordering Information

IOS Modules

IOS-521
Eight RS422B serial ports.

I/O Servers

See www.acromag.com for more information.

IOS modules plug into an I/O Server's integrated carrier

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Performance Specifications

■ RS422B Serial Ports

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

Data rate
20M bits/second, maximum.

Maximum 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.

■ Data Transfer

Data transfer cycle types supported:
Input/output (IOSel*), ID read (IDSel*).

Meets IP specifications per ANSI/VITA 4-1995 (R2002).

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).

■ Environmental

Operating temperature
-40 to 85°C.

Storage temperature
-55 to 125°C.

Relative humidity
5 to 95% non-condensing.

Power
+5V (±5%): 340mA maximum.

Approvals
CE; UL/cUL Class 1 Division 2 Groups A, B, C, D.

MTBF
Contact the factory..