# P104-COM232-8 - Port Serial RS-232 Communication Board

FEATURES

- **High Performance Octal PCI UART**
- **16550 Compatible Register Set**
- **Up to 460kb/s Serial Data Rate**
- **Global Interrupt Source Register**
- **Data Transfer in Byte, Word, and Double-Word**
- **64-Byte Transmit and Receive FIFOs per each of eight UARTs**
- **Transmit and Receive FIFO Level Counters**
- **Programmable Transmit and Receive FIFO Trigger Level**

FACTORY OPTIONS

- **Extended operating temperature -40 to +85°C**
- **PCI-104 (no ISA connector)**
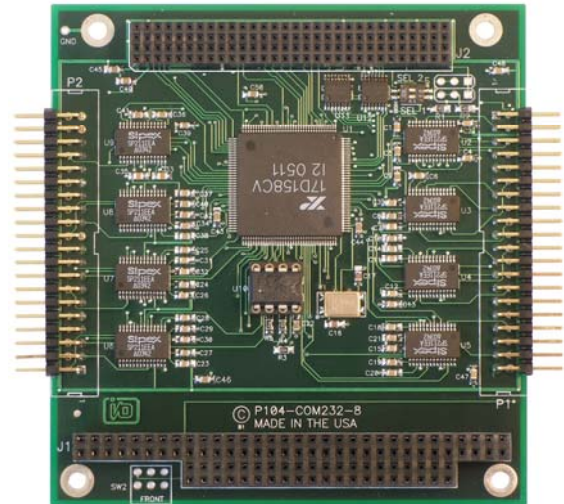
FUNCTIONAL DESCRIPTION

This communications card interfaces to the CPU through a 33MHz 32bit PCI (Peripheral Component Interconnect, specification revision 2.3) local bus. While it is technically a PC/104-plus card, the ISA bus connector does not connect to any circuit.

This card is an eight channel RS-232 communication instrument. Based on the XR17D158, the card has eight enhanced 16550 UARTs, each with a set of modem signals (CTS, RTS, RI, DTR, DSR CD). A 460Kb/s is guaranteed for all channels with up to 3K Ohm 1000pF loads. All interrupts may be monitored at a 32-bit status register. Each UART has both a 64 byte transmit and a 64 byte receive FIFO.

The typical quiescent current draw from the user's 5V supply is less than 50mA (with P1 and P2 disconnected). If every transmitter line is loaded with 3K Ohm, current draw should still be less than 150mA.

ACCESSORIES

Available accessories include flat ribbon cables and DIN-rail mountable screw terminal boards.

Advanced Digital Logic, Inc.; 4411 Morena Blvd., Suite 101; San Diego, CA 92117-4345
Ph. 858 490-0597 F. 858 490-0599; e-mail: sales@adl-usa.com; web: www.adl-usa.com

advanced digital logic™

SOFTWARE

This board is supported for use in most operating systems and includes a free Linux and Windows 2000/XP/2003 compatible software package. This package contains sample programs and source code in Visual Basic, Delphi and Visual C++ for Windows. Also incorporated is a graphical setup program in Windows. Third party support includes a Windows standard DLL interface usable from the most popular application programs and includes example LabView VIs. Embedded OS support includes Windows XPe.

Block Diagram
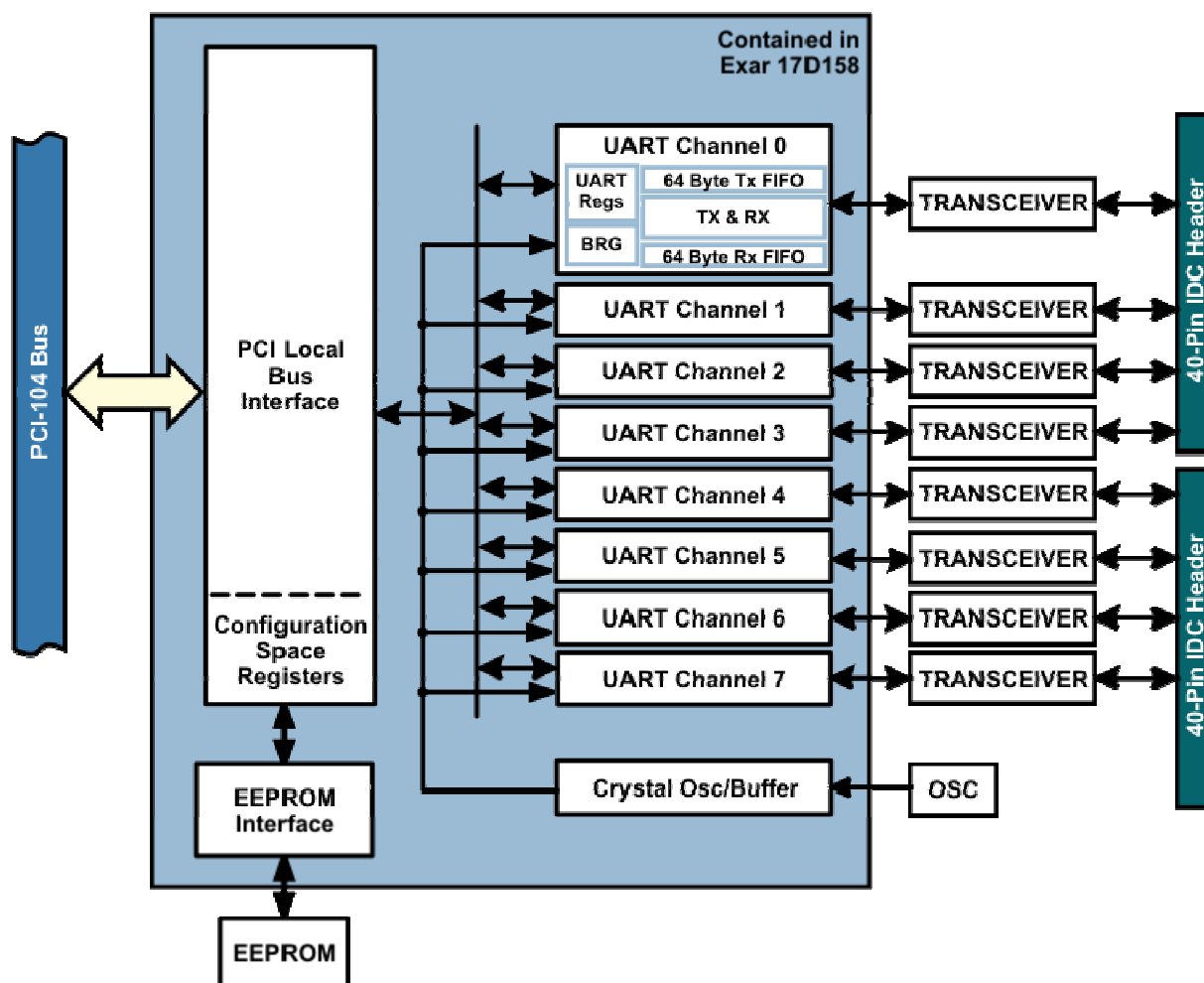
Specifications

PCI Bus: Rev. 2.3
PC/104 Bus: Feed-through only
I/O Space: Requires 4k

16550 Compatible
Data Size: 5, 6, 7 or 8 bits
Stop bit length: 1, 1.5 or 2 bits
Parity: Odd, even, none, forced to 1 or to 0
Break condition: On or off
Max Baud Rate: 460.8kb/s (transceiver limit w/ full load)

Full Duplex Operation: Eight 64 Byte Transmit FIFO, 64 Byte Receive FIFO (16C550 FIFO = 16 Bytes), S/W programmable FIFO trigger levels (16C550 trigger levels are fixed) 12 standard registers for UART monitoring and control plus special registers: Loopback mode, Scratch pad register

Transceiver I/O Characteristics
Receiver Input Resistance: 3K to 7K ohm
Receiver Input Sensitivity: ±3V
Receiver Input Voltage: ±15V

Driver Slew Rate: 30V/FS
Driver Load Impedance: 3K to 7K ohm
Driver Output Signal Level: Loaded ±5V, Unloaded ±15V
ESD Characteristics: ±15KV Human Body Model
±15KV Air Discharge
±8KV Contact Discharge
I/O Connectors: Eight channels split between two 40 pin male headers
Meets or exceeds the IEEE RS-232 standard

Environmental
Operating Temp.: -40 C to +85 C
Humidity: 5% to 95%, non-condensing
Storage Temp.: -65 C to +125 C
Power Required: 50mA quiescent, 150mA maximum
Size: PC/104-Plus format, 3.5" x 3.75"

Ordering Information
P104-COM232-8   PC/104 Plus Eight-port RS-232 board

Model Options
-T   Extended operating temperature -40˚C to +85˚C

Accessories
STB-40   Screw terminal board
CAB40F-6   6' flat ribbon cable female 40-pin connectors
MP104-DIN   DIN rail mounting provision