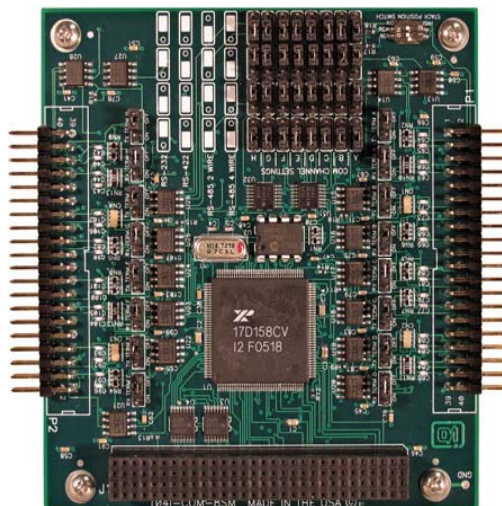# 104I-COM-8SM Family
PCI-104 Multi-Port Serial Boards

FEATURES

- 8, 4, and 2-port PCI-104 serial communication
- Field selectable RS-232, RS-422 and RS-485 jumper configured per port
- High performance octal PCI UART
- 16550 compatible register set with 64-byte FIFO for each TX and RX
- Auto-RTS feature makes half-duplex RS-485 communications effortless
- Speeds up to 1.8432Mbps in RS-422 & 485 modes (460.8k standard model RS-232)
- Bias and jumper selectable termination provided on each RS-422/485 transmit and receive channel
- ESD protection +/-15kV on all RS-232 signal pins
- Full modem control signals in RS-232 mode
- Software compatible with all operating systems
- RS-232 only models also available

FACTORY OPTIONS

- Extended temperature operation (-40 to +85°C)
- Fast RS-232 version up to 921.6k
- RoHS compliant version

FUNCTIONAL DESCRIPTION

The 104I-COM-8SM Series (PCI-104) multi-port, multi-protocol, serial communication boards deliver eight, four, or two high-speed serial communication ports for use in a wide variety of applications. The boards were developed for use by system integrators and manufacturers in the design of industrial and commercial systems. Based on the XR17D158, the boards have eight enhanced 16550 UARTs, each with a set of modem signals (CTS, RTS, RI, DTR, DSR, DCD) in RS-232 mode. Each UART has both a 64 byte transmit and a 64 byte receive FIFO. The boards are feature-rich and allow for the connection of multiple serial devices—ideal for a variety of applications such as POS, gaming systems, retail, hospitality, automation, kiosks, defense industries, high-density networking, or any other application requiring the connection of RS-232/422/485 serial devices to a PCI-104 compatible system.

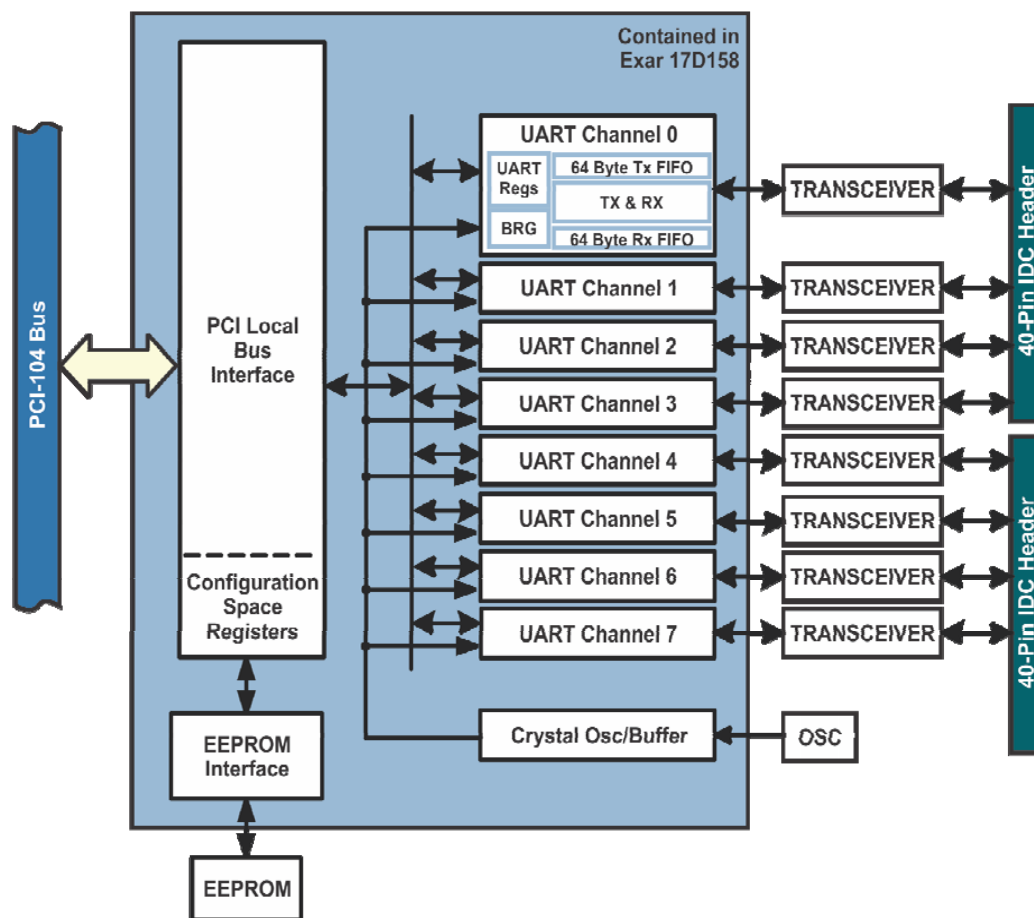## ACCESSORIES AND SPECIAL ORDER

Available accessories include a broad range of ribbon cables and screw terminal boards for quick and easy connectivity. Special order items such as conformal coating, latching and/or right-angle I/O connectors, RJ45 connectivity, longer breakout cables, custom baud rates, custom software, and more, are also available.

SOFTWARE

The 104I-COM-8SM family of boards are supported by all operating systems as standard serial ports. All boards include a free DOS, Linux and Windows XP/Vista/7 compatible software package with sample programs and source code in "C" and Pascal for DOS, and Visual Basic, Delphi, C#, and Visual C++ for Windows. Also provided is a graphical option configuration program in Windows. An easy-to-use Windows terminal program simplifies verification of proper operation. Linux support includes installation files and samples for register-level programming in "C".

ADDITIONAL INFORMATION

For additional information, please view the product webpage and manual for the new 104I-COM-8SM family by visiting www.accesio.com/104i-com-8sm.

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BLOCK DIAGRAM

SPECIFICATIONS

I/O connection:	40-pin headers 0.1" spacing x 2
Serial ports:	8, 4 (or 2) RS-232/422/485
Serial data rates:	RS-232 460.8kbps (-F option 921.6k)
	RS-422/485 up to 1.8432M
UART:	Octal type 16C550 with 64-byte transmit & receive FIFO, 16C550 compliant
Character length:	5, 6, 7, or 8 bits
Stop interval:	1, 1.5, or 2 bits
Parity:	Even, Odd, None, Space, Mark
Flow Control:	RTS/CTS and/or DSR/DTR, Xon/Xoff
Break condition:	On or off
Loop-back mode / Scratch pad register	

RS-232 Transceiver I/O Characteristics
   Receiver Input Resistance: 3 kΩ to 7 kΩ
   Receiver Input Sensitivity: ±3V
   Receiver Input Voltage Range: ±15V
   Driver Slew Rate: 24V/µS minimum
   Driver Load Impedance: 3 kΩ to 7 kΩ
   Driver Output Levels: Loaded ±5.4V typical
   Meets or exceeds the IEEE RS-232 standard
RS-422 Transceiver I/O Characteristics
   Receiver Input Sensitivity: ±200 mV differential input
   Common Mode Voltage Range: +12V to -7V
   Transmitter Output Drive: 60 mA w/thermal shutdown

Transceiver ESD Characteristics
   ±15kV Human Body Model
   ±15kV Air Discharge
   ±8kV Contact Discharge

Environmental

Operating temp:	
Commercial:	0°C to +70°C
Industrial:	-40°C to +85°C
Storage temp.:	-65°C to +125°C
Humidity:	5% to 95%, non-condensing
Power required:	+5VDC 50mA quiescent, 150mA maximum
Size:	PC/104-Plus format, 3.55" x 3.775"

ORDERING GUIDE

104I-COM-8SM	Eight-port RS-232/422/485 PCI/104 board
104I-COM-4SM	Four-port RS-232/422/485 PCI/104 board
104I-COM-2SM	Two-port RS-232/422/485 PCI/104 board
104I-COM-8S	Eight-port RS-422/485 PCI/104 board
104I-COM-4S	Four-port RS-422/485 PCI/104 board
104I-COM-2S	Two-port RS-422/485 PCI/104 board

Model Options

•	-T	Ext. temp. operation (-40° to +85°C)
•	-F	Fast RS-232 up to 921.6k
•	-RoHS	RoHS compliant version

Optional Accessories

PCI-P104-ADAP	Develop & test SW & HW in desktop PCI slot
C104-40F-D9M	Ribbon cable to four DB9M's, 12"
C104-40F/D37F	Ribbon cable to DB37F, 9"
C104-D37M/D9M	Round-wire external breakout
CAB40F-X	40-pin ribbon cable (X=length in feet)
STB-40	Screw terminal board, ships with standoffs but can mount on DIN-SNAP
More…	See product webpage

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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