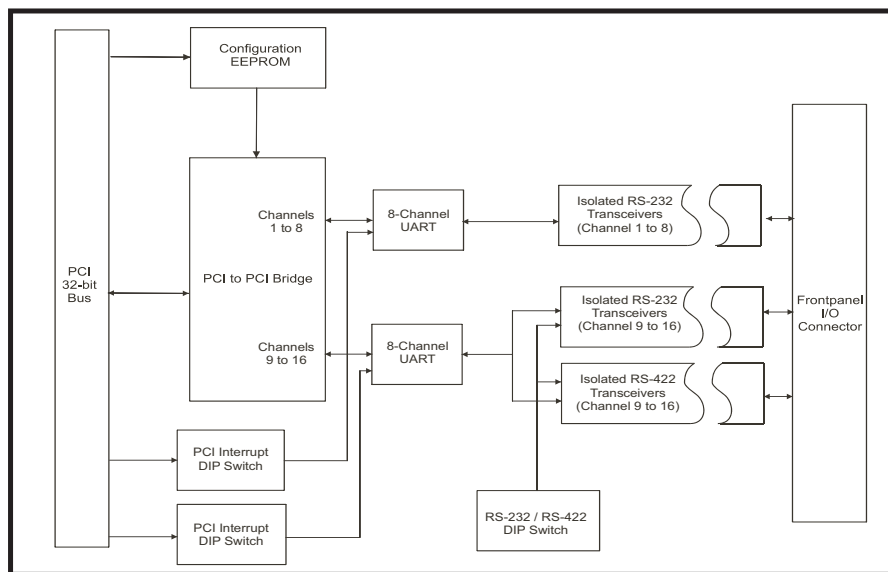


## ► 16-Channel Isolated Serial I/O CompactPCI Board

The 16-Channel Isolated Serial Input / Output (I/O) CompactPCI Board provides sixteen channels of simultaneous, bidirectional Universal Asynchronous Receiver / Transmitter (UART) serial communications on a CompactPCI formfactor. Eight of these channels are individually configurable as RS-232 or RS-422 by means of a DIP switch. The other eight RS-232 channels offer full modem control. The board conforms to the PCI Local Bus Specification Rev. 2.3.

All serial I/O lines have voltage isolation to 2 500 Volts.

The board is available with a 6U CompactPCI formfactor bezel as well as with only 8 channels, the latter so as to offer a lower cost version. An equivalent in PMC formfactor with 8 channels is also available.



**Functional Block Diagram : 16-Channel Isolated Serial I/O CompactPCI Board**

### Architecture

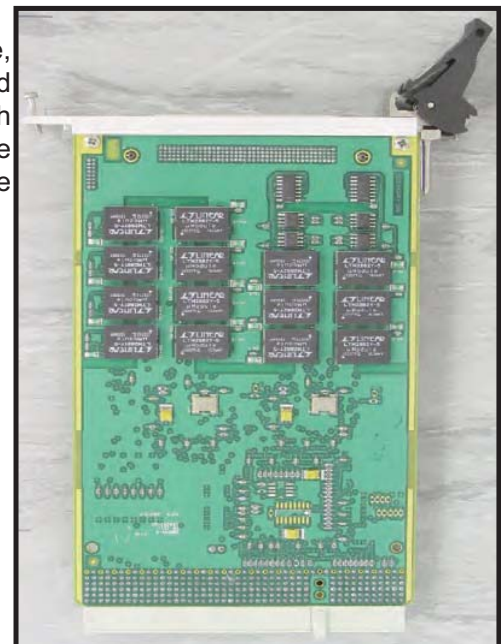
The Serial I/O Board employs two high performance, industry standard 16550 compatible, 8-channel PCI-based UARTs. The UART serial channels are connected to both RS-232 and RS-422 transceivers. The transceivers are enabled or disabled by a configuration DIP (Dual In-line Package) switch.

### Features

- Very large number of UART compatible serial I/O channels
- Direct low-level control of the serial communication channels
- Supports many different combinations of RS-232 and RS-422 communications interfaces simultaneously
- Voltage isolation on all serial I/O lines

### Applications

- Data concentrators
- Multiple modem control
- Intrinsically safe environments



**3U cPCI 16-Channel Isolated Serial I/O Board**



► **16-Channel Isolated Serial I/O CompactPCI Board**

<b>Bus Interface</b>	32-bit, 33/66 MHz Electrically : PCI Rev. 2.3; 3,3 V PCI signalling, 5 V tolerant			
<b>I/O Addresses</b>	Automatically assigned to the slot by PCI Rev. 2.2 Plug-and-Play			
<b>Interrupts</b>	Switch selectable, typically PCI INT A and PCI INT B			
<b>Termination</b>	120 Ohm for RS-422 for each serial I/O channel			
<b>Voltage Isolation</b>	2 500 V (channel to system)			
<b>Communications Controller</b>	2 x EXAR XR17D158 Octal PCI UARTs			
<b>Power</b>	5 V at < 1,0 A 5,0 W (typical) 5 V at < 1,5 A 7,5 W (maximum)			
<b>Serial I/O Interfaces</b>	Channels 1 to 8 : RS-232 : TxD, RxD, RTS, CTS, DTR, DSR, CD, RI Channels 9 to 16 : RS-232 : TxD, RxD, RTS, CTS Channels 9 to 16 : RS-422 : TxD+, RxD+, TxD-, RxD-			
<b>Bit Rates</b>	Serial I/O Clocking Mode	<b>RS-232</b>	<b>RS-422</b>	
	Asynchronous	921,6 kbit/s	1,8432 Mbit/s (up to 4 Mbit/s with custom oscillator)	
<b>MTBF</b>	Figures according to MIL-HDBK-217F, Parts Stress Method			
	Commercial and Industrial Grades, 8-Channel	Ground Benign, Controlled, 25 C	350 000 hours	
	Commercial and Industrial Grades, 16-Channel	Ground Benign, Controlled, 25 C	250 000 hours	
	Ruggedised Grade, 8-Channel	Ground, Mobile, 45 C	30 000 hours	
		Naval, Sheltered, 40 C	60 000 hours	
Airborne, Inhabited Cargo, 55 C		50 000 hours		
Ruggedised Grade, 16-Channel	Ground, Mobile, 45 C Naval, Sheltered, 40 C Airborne, Inhabited Cargo, 55 C	20 000 hours 35 000 hours 30 000 hours		
<b>Software Drivers</b>	VxWorks, Linux, Windows 7			
<b>Physical Characteristics</b>				
<b>Formfactor</b>		<b>Dimensions</b>		<b>Mass</b>
Compact PCI (cPCI) : 3U : 6U		100 mm x 160 mm 233,35 mm x 160 mm		200 g ± 30 g 350 g ± 60 g
<b>Environmental Specifications</b>				
<b>Grade</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Ruggedised</b>	
<b>Temperature</b> - Operating - Storage	0 C to +55 C -40 C to +85 C	-15 C to +75 C -40 C to +85 C	-40 C to + 85 C -55 C to +125 C	
<b>Humidity</b>	0% - 90%	0% - 95%	0% - 95%	
<b>Shock</b>	10 g peak for 11 ms	20 g peak for 11 ms	40 g peak for 11 ms	
<b>Vibration</b> - Sine - Random	2 g (peak) at 10 Hz to 100 Hz 0,04 g²/Hz at 15 Hz to 2 kHz	5 g (peak) at 5 Hz to 2 kHz 0,06 g²/Hz at 15 Hz to 2 kHz	10 g (peak) at 5 Hz to 2 kHz 0,1 g²/Hz at 15 Hz to 2 kHz	

16-Channel Isolated Serial I/O Board-Level

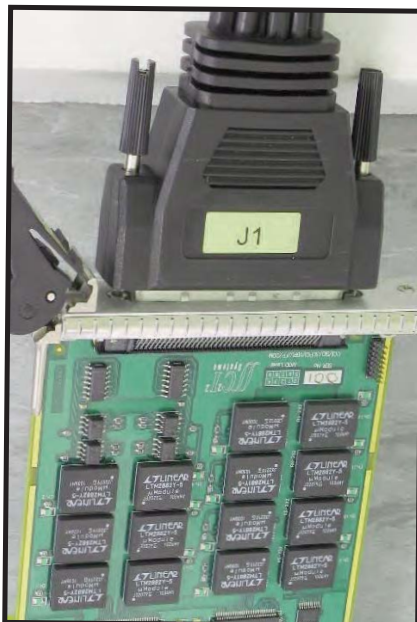
► **16-Channel Isolated Serial I/O CompactPCI Board**

Part Designations	Option			
	Formfactor	Serial I/O Channels	Cooling	Grade
CCII/SIO/3CPCI/8PU/FP/COM	3U cPCI	8 total	Air	Commercial
CCII/SIO/3CPCI/8PU/FP/IND	3U cPCI	8 total	Air	Industrial
CCII/SIO/3CPCI/8PU/FP/RGD	3U cPCI	8 total	Air	Ruggedised
CCII/SIO/3CPCI/8PU/BP/CC	3U cPCI	8 total	Conduction	Ruggedised
CCII/SIO/3CPCI/16PU/FP/COM	3U cPCI	16 total	Air	Commercial
CCII/SIO/3CPCI/16PU/FP/IND	3U cPCI	16 total	Air	Industrial
CCII/SIO/3CPCI/16PU/FP/RGD	3U cPCI	16 total	Air	Ruggedised
CCII/SIO/3CPCI/16PU/BP/CC	3U cPCI	16 total	Conduction	Ruggedised
CCII/SIO/6CPCI/8PU/FP/COM	6U cPCI	8 total	Air	Commercial
CCII/SIO/6CPCI/8PU/FP/IND	6U cPCI	8 total	Air	Industrial
CCII/SIO/6CPCI/8PU/FP/RGD	6U cPCI	8 total	Air	Ruggedised
CCII/SIO/6CPCI/8PU/BP/CC	6U cPCI	8 total	Conduction	Ruggedised
CCII/SIO/6CPCI/16PU/FP/COM	6U cPCI	16 total	Air	Commercial
CCII/SIO/6CPCI/16PU/FP/IND	6U cPCI	16 total	Air	Industrial
CCII/SIO/6CPCI/16PU/FP/RGD	6U cPCI	16 total	Air	Ruggedised
CCII/SIO/6CPCI/16PU/BP/CC	6U cPCI	16 total	Conduction	Ruggedised

**Connector/Cable Assemblies**

Optional 8-way or 16-way connector/cable assemblies available in 0,5; 1,0; 2,0; 3,0 metre or custom cable lengths.  
Board-side connector is 160-pin Molex connector with custom moulded hood.  
Screw-down board-side connector option available for industrial and ruggedised grades.  
Terminal equipment side connectors are D-type 15-pin connectors.

Part Designation	Description
CCII/CBC/3CPCI/16PU/FP/COM	3U cPCI Isolated 16-Channel Serial I/O Board + 16-Channel Serial I/O Cable Assembly, 2 m. CCII/SIO/3CPCI/16PU/FP/COM + CCII/LCP/40-CCM/020/IND.



**3U cCPI 16-Channel Isolated Serial I/O Board with Captive I/O Connector**

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