

► 8-Channel High-Speed Serial I/O PMC Adapter

The 8-Channel High-Speed Serial I/O PMC (PCI Mezzanine Card) Adapter provides eight channels of simultaneous, high-speed (>16 Mbps), bi-directional serial communications. All channels are jumper configurable as RS232/422/485. The front-panel 8-Channel High-Speed Serial I/O PMC Adapter also supports four UART (Universal Asynchronous Receiver/Transmitter) (<1 Mbps) channels. The adapter is available in both conduction-cooled (CC) and air-cooled versions : ruggedised, industrial and commercial.

Architecture

The 8-Channel High-Speed Serial I/O PMC and CCPMC Adapters are intelligent adapters with onboard CPUs and use dual Motorola PowerQUICC II Integrated PowerPC Microprocessors as communication controllers. The PowerQUICC II processors can easily be configured to implement different serial protocols, thus allowing the adapter to keep up with technological advances.

Features

- Cost-effective and flexible option for systems that require both high-speed, real-time communication links as well as some low-speed serial links.
- Offers independent I/O processing offboard the host.

Conduction-Cooling

The conduction-cooled 8-Channel High-Speed Serial I/O PMC Adapter conforms to the CCPMC (Conduction-Cooled PCI Mezzanine Card) Standard, namely ANSI/VITA 20-2001.

Applications

- Distributed real-time applications in harsh environments
- Mission-critical applications
- Avionics
- Vetronics
- High-speed sensor integration



8-Channel High-Speed Serial I/O CCPMC Adapter

Environmental Specifications

	Commercial	Industrial	Ruggedised/Conduction-Cooled
Temperature			
- Operating	0 C to +55 C	-15 C to +75 C	-40 C to + 85 C
- Storage	-40 C to +85 C	-40 C to +85 C	-55 C to +125 C
Humidity	0% - 90%	0% - 95%	0% - 95%
Shock	N/A	30 g peak for 11 ms	40 g peak for 11 ms
Vibration			
- Sine	2 g (peak) 10 Hz to 100 Hz	10 g (peak) 5 Hz to 2 kHz	10 g (peak) 5 Hz to 2 kHz
- Random	0,04 g ² /Hz at 15 Hz to 2 kHz	0,1 g ² /Hz at 15 Hz to 2 kHz	0,1 g ² /Hz at 15 Hz to 2 kHz



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8-Channel High-Speed Serial I/O PMC and CCPMC Adapter Specifications

Bus Interface	32-bit, 33/66 MHz PCI-bus Electrically : 3,3 V and 5 V signaling, PCI Rev. 2.2 (some versions only 3,3 V) Mechanically : Single CMC formfactor IEEE P1386-2001			
Serial Interface	RS232/422/485 (all ports individually configurable with jumpers)			
	RS232	TxD, RxD, RTS, CTS, CD, CLK_IN, CLK_OUT		
Serial Channels	RS422/485	TxD, RxD, CLK_IN, CLK_OUT		
	8 x SCCs (Serial Communication Controllers) for high-speed serial links - Synchronous or asynchronous 4 x SMCs (Serial Management Controllers) for UART serial links - Front-panel, asynchronous, RxD and TxD only, no flow control			
CPU	2 x Motorola PowerQUICC II Integrated PowerPC Microprocessors			
EEPROM	EEPROM for board ID (Plug-and-Play) and configuration options			
Bit Rates	User-programmable up to :	RS232 Mode	RS422/485 Mode	
	Synchronous Mode	1 Mbps	16 Mbps	
	Asynchronous Mode	1 Mbps	6,25 Mbps	
Termination	100 Ohm (all ports individually switchable with jumpers) for RS422/485			
I/O Addresses	Automatic assigned to the slot by PCI Rev. 2.2 Plug-and-Play			
I/O Options	Front-panel and rear connector I/O options with various rear connector PMC Jn4 I/O pin assignments. Conduction-cooled version has rear connector I/O only.			
Interrupts	PCI INT A			
DMA	Automatic depending on PCI slot			
Dimensions	Air-cooled	: 149,00 mm x 74,00 mm with envelope according to CMC specification		
	Conduction-cooled	: 143,65 mm x 74,00 mm (VITA 20) with envelope according to VITA 20 specification		
	Outside Dimensions	: 160,00 mm x 75,00 mm x 15,00 mm		
Mass	90 g ± 10 g			
Power Requirement	+3,3 V at 1,3 A			
	+5 V at 1 mA (5 V PCI versions only)			
	+12 V at 1 mA			
MTBF	Figures according to MIL-HDBK-217F, Parts Stress Method :			
	Ground, Mobile	T _j = 65 C	T _a = 45 C	21 700 hrs
	Naval, Sheltered	T _j = 60 C	T _a = 40 C	35 800 hrs
	Airborne, Inhabited Cargo	T _j = 75 C	T _a = 55 C	26 200 hrs
Software Drivers	Various software drivers offered including for VxWorks, Linux, Windows NT, Windows 2000* and Windows XP* operating systems as standard; others are costed options. (*Standard PC HAL (Hardware Abstraction Layer) only)			
Protocols	<ul style="list-style-type: none"> • HDLC • SDLC • Async • BiSync 			
Supporting Software	Sample driver usage software (C/C++ source code)			
Options	<ul style="list-style-type: none"> • Solaris, QNX, AIX Drivers • SS7, ISDN Protocol (Basic Rate and Primary Rate) • Ethernet / Fast Ethernet Option 			

Designations

CCII/SIO/PMC/8P/FP/COM	Commercial	Front-panel I/O	RS422/485/232	3,3 V PCI
CCII/SIO/PMC/8P/FP/IND	Industrial	Front-panel I/O	RS422/485/232	3,3 V PCI
CCII/SIO/PMC/8P/FP/RGD	Ruggedised	Front-panel I/O	RS422/485/232	3,3 V PCI
CCII/SIO/PMC/8P/BP/CC	Conduction-Cooled	Backplane I/O	RS422/485/232	3,3 V PCI
CCII/SIO/PMC/8P/FP1/COM	Commercial	Front-panel I/O	RS422/485/232	3,3/5 V PCI
CCII/SIO/PMC/8P/FP1/IND	Industrial	Front-panel I/O	RS422/485/232	3,3/5 V PCI
CCII/SIO/PMC/8P/FP1/RGD	Ruggedised	Front-panel I/O	RS422/485/232	3,3/5 V PCI

A 4-channel version of this product is also available (New Generation 4-Channel High-Speed Serial I/O PMC).