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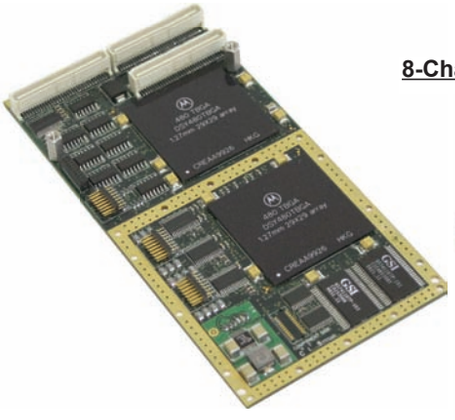
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8-Channel and New Generation 4-Channel High-Speed Serial I/O Adapters

The 8-Channel and New Generation 4-Channel High-Speed Serial I/O Adapters provide eight or four channels of simultaneous, high-speed (>16 Mbps), bi-directional serial communications. All channels are jumper configurable as RS-232/422/485. These adapters also support a number of UART (Universal Asynchronous Receiver/Transmitter) (<1 Mbps) channels. The adapters are available in the following industry standard compliant formfactors :

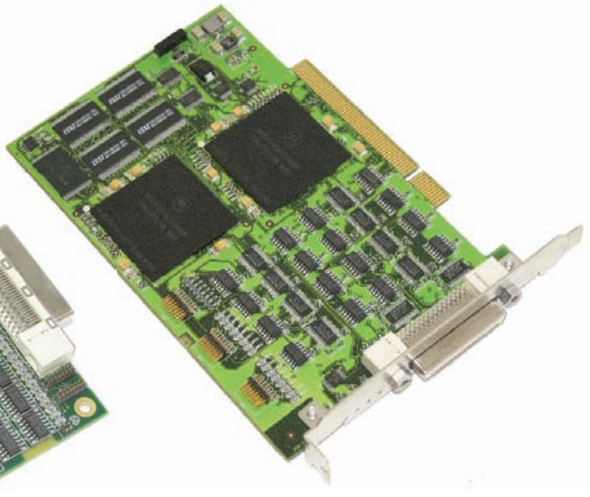
- PMC
  - Air-Cooled PMC adapter with frontpanel I/O (IEEE Std 1386.1-2001)
  - Conduction-Cooled PMC (CCPMC) adapter with backplane I/O (ANSI/VITA 20-2001)
  - Conduction-Cooled PMC adapter with frontpanel I/O (requires modification to host carrier)
- PCI-104 (PCI-104 v2.0)
- PCI (PCI Local Bus Specification Rev. 2.3)



8-Channel CCPMC Adapter



8-Channel PC-104 Adapter



8-Channel PCI Adapter

Architecture

The 8-Channel and New Generation 4-Channel High-Speed Serial I/O Adapters are intelligent adapters designed with Motorola PowerQUICC II Integrated PowerPC Microprocessors as communication controllers. The PowerQUICC II processor can easily be configured to implement different serial protocols, thus allowing the adapters to keep up with technological advances. All high-speed serial I/O channels are implemented using the PowerQUICC II.

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 and New Generation 4-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 and New Generation 4-Channel High-Speed Serial I/O Adapters

Specifications

Bus Interface	32 bit, 33 / 66 MHz Electrically : PCI Rev. 2.1, 3,3 V signalling (some versions 3,3 V and 5 V)		
I/O Addresses	Automatically assigned to the slot by PCI Rev. 2.1 Plug-and-Play		
EEPROM	EEPROM for board ID (Plug-and-Play) and configuration options		
Interrupts	PCI INT A		
DMA	Automatic depending on PCI slot		
Serial I/O Interface	**SCC Channels**	**SMC Channels**	
	RS-232 : TxD, RxD, RTS, CTS, CD CLK_IN, CLK_OUT	RS-232 : RxD, TxD	
	RS-422/485 : TxD, RxD, CLK_IN, CLK_OUT		
Termination	100 ohm (individually selectable for each SCC channel		
Bit Rates	**Serial I/O Clocking**	**RS-232**	**RS-422/485**
	Synchronous Mode	1 Mbps	16 Mbps
	Asynchronous Mode	1 Mbps	6,25 Mbps
	Maximum External Clock	500 kHz	8 MHz
Protocols	- HDLC - SDLC - Async - BiSync		
CPU	Motorola PowerQUICC II Intergrated PowerPC Microprocessor		
Power	- 3,3 V at 1,3 A - 5 V at 1 mA (5V PCI version only) - 2 V at 1 mA		
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)		
Supporting Software	Sample software driver usage (C/C++ source code)		

Reliability

MTBF	**Figures according to MIL-HDBK-217F, Parts Stress Method**		
	Commercial and Industrial Grades, 4-Channel Adapter	Ground Benign, Controlled, 25 C	790 000 hours
	Commercial and Industrial Grades, 8-Channel Adapter	Ground Benign, Controlled, 25 C	570 000 hours
	Ruggedised and Conduction-Cooled Grades, 4-Channel Adapter	Ground, Mobile, 45 C Naval, Sheltered, 40 C Airborne, Inhabited Cargo, 55 C	80 000 hours 190 000 hours 86 000 hours
	Ruggedised and Conduction-Cooled Grades, 8-Channel Adapter	Ground, Mobile, 45 C Naval, Sheltered, 40 C Airborne, Inhabited Cargo, 55 C	52 000 hours 126 000 hours 56 000 hours

8-Channel and New Generation 4-Channel High-Speed Serial I/O Adapters

Physical Characteristics

Formfactor	Dimensions	Mass
PMC (IEEE Std 1386.1-2001)	149,00 mm x 74,00 mm (+ 0,0 / -0,5 mm), conforming to CMC height envelope	90 g +/- 10 g
CCPMC (ANSI/VITA 20-2001)	143,75 mm x 74,00 mm (+ 0,0 / -0,5 mm), conforming to VITA 20 height envelope	80 g +/- 10 g
PCI-104 (PCI-104 v1.0)	95,89 mm x 90,17 mm x 23,80 mm (+ 0,0 / -0,5 mm)	85 g +/- 10 g
PCI (PCI Local Bus Specification Rev. 2.1)	175,26 mm x 106,68 mm x 15,24 mm (+ 0,0 / -0,5 mm)	125 g +/- 10 g

Environmental Specifications

Grade	Commercial	Industrial	Ruggedised
Temperature - 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
Humidity	0% - 90%	0% - 95%	0% - 95%
Shock	N/A	30 g peak for 11 ms	40 g peak for 11 ms
Vibration - Sine - Random	 2 g (peak) at 10 Hz to 100 Hz 0,04 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	 10 g (peak) at 5 Hz to 2 kHz 0,1 g²/Hz at 15 Hz to 2 kHz

Part Designations

Part Number	Formfactor	Grade	Nr of SCC	Nr of SMC	PCI VIO
CCII/SIO/PMC/8P/FP3/COM	PMC	Commercial	8 x RS-232/422/485	4 x RS-232	3,3 / 5,0 V
CCII/SIO/PMC/8P/FP3/IND	PMC	Industrial	8 x RS-232/422/485	4 x RS-232	3,3 / 5,0 V
CCII/SIO/PMC/8P/FP3/RGD	PMC	Ruggedised	8 x RS-232/422/485	4 x RS-232	3,3 / 5,0 V
CCII/SIO/PMC/8P/BP/CC	CCPMC	Conduction-Cooled	8 x RS-232/422/485	none	3,3 V
CCII/SIO/PMC/4PN/FP3/COM	PMC	Commercial	4 x RS-232/422/485	2 x RS-232	3,3 / 5,0 V
CCII/SIO/PMC/4PN/FP3/IND	PMC	Industrial	4 x RS-232/422/485	2 x RS-232	3,3 / 5,0 V
CCII/SIO/PMC/4PN/FP3/RGD	PMC	Ruggedised	4 x RS-232/422/485	2 x RS-232	3,3 / 5,0 V
CCII/SIO/PMC/4PN/BP/CC	CCPMC	Conduction-Cooled	4 x RS-232/422/485	none	3,3 V
CCII/SIO/PC104/8P/FP3/COM	PC104	Commercial	2 x RS-232/422/485 6 x RS-422/485	4 x RS-232	3,3 / 5,0 V
CCII/SIO/PC104/8P/FP3/IND	PC104	Industrial	2 x RS-232/422/485 6 x RS-422/485	4 x RS-232	3,3 / 5,0 V
CCII/SIO/PC104/8P/FP3/RGD	PC104	Ruggedised	2 x RS-232/422/485 6 x RS-422/485	4 x RS-232	3,3 / 5,0 V
CCII/SIO/PC104/4PN/FP3/COM	PC104	Commercial	2 x RS-232/422/485 2 x RS-422/485	2 x RS-232	3,3 / 5,0 V
CCII/SIO/PC104/4PN/FP3/IND	PC104	Industrial	2 x RS-232/422/485 2 x RS-422/485	2 x RS-232	3,3 / 5,0 V
CCII/SIO/PC104/4PN/FP3/RGD	PC104	Ruggedised	2 x RS-232/422/485 2 x RS-422/485	2 x RS-232	3,3 / 5,0 V
CCII/SIO/PCI/8P/FP3/COM	PCI	Commercial	8 x RS-232/422/485	4 x RS-232	3,3 / 5,0 V
CCII/SIO/PCI/8P/FP3/IND	PCI	Industrial	8 x RS-232/422/485	4 x RS-232	3,3 / 5,0 V
CCII/SIO/PCI/4PN/FP3/COM	PCI	Commercial	4 x RS-232/422/485	2 x RS-232	3,3 / 5,0 V
CCII/SIO/PCI/4PN/FP3/IND	PCI	Industrial	4 x RS-232/422/485	2 x RS-232	3,3 / 5,0 V

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