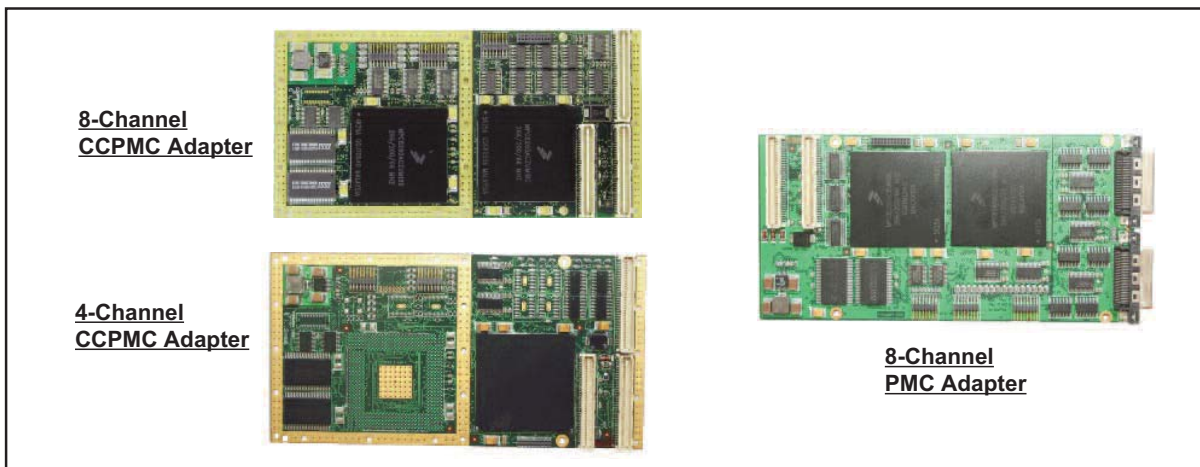


► 8-Channel and New Generation 4-Channel High-Speed Serial I/O Adapters

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 RS232/422/485. 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)



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**

| | | | |
|--|--|---------------------------------|---------------------|
| 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 | | |
| 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 | | |
| EEPROM | EEPROM for board ID (Plug-and-Play) and configuration options | | |
| Protocols | <ul style="list-style-type: none"> - HDLC - SDLC - Async - BiSync | | |
| Power | 3,3 V at 1,3 A; 5 V at 1 mA (5V PCI version only); 12 V at 1 mA | | |
| 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 | 80 000 hours |
| | | Naval, Sheltered, 40 C | 190 000 hours |
| Airborne, Inhabited Cargo, 55 C | | 86 000 hours | |
| Ruggedised and Conduction-Cooled Grades, 8-Channel Adapter | Ground, Mobile, 45 C | 52 000 hours | |
| | Naval, Sheltered, 40 C | 126 000 hours | |
| | Airborne, Inhabited Cargo, 55 C | 56 000 hours | |
| CPU | Motorola PowerQUICC II Intergrated PowerPC Microprocessor | | |
| 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 |
| 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). | | |
| Special Optional Services | Synchronous Bandwidth Allocation (SBA) and End Station Support (ESS), Built-in Test (BIT), Network Time Protocol (NTP), Network Time Services (NTS). | | |

8 & 4-Channel HS Serial Board-Level



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

| 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 | | |
| 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 | |
| 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 | 0 | 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 | 0 | 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 |

Board-Level 8 & 4-Channel HS Serial