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# 4-Channel High-Speed Serial I/O PMC Adapter (Not recommended for new designs)

The 4-Channel High-Speed Serial I/O PMC (PCI Mezzanine Card) Adapter provides four channels of simultaneous, high-speed (>10 Mbps), bi-directional serial communications, plus two UART (Universal Asynchronous Receiver/Transmitter) (<1 Mbps) channels. All channels are configurable as RS232/422/485. The adapter is available in both conduction-cooled (CC) and air-cooled versions : ruggedised, industrial and commercial.

## Architecture

The 4-Channel High-Speed Serial I/O PMC and CCPMC Adapters are intelligent adapters with onboard CPU and use the Motorola MPC860 PowerQUICC Integrated PowerPC Microprocessor as a communication controller. The PowerQUICC processor can easily be configured to implement different serial protocols, thus allowing the adapter to keep up with technological advances.

## Features

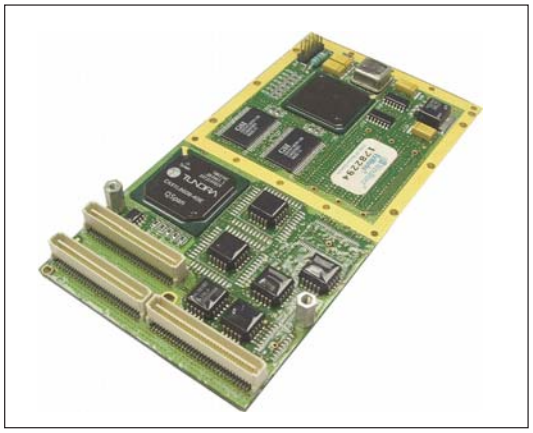
- Cost-effective and flexible option for systems that require both high-speed, real-time communication links as well as some low-speed serial links.
- Offers independent I/O processing offboard the host

## Conduction-Cooling

The conduction-cooled 4-Channel High-Speed Serial I/O PMC Adapter conforms to the CCPMC (Conduction-Cooled PCI Mezzanine Card) Standard, namely VITA 20-199x and is currently implemented in accordance with VITA 20-199x, Draft 1.8.

## Applications

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



**4-Channel High-Speed Serial I/O CCPMC Adapter**




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# 4-Channel High-Speed Serial I/O PMC Adapter (Not recommended for new designs)

| Specifications | |
|---|---|
| **Bus Interface** | 32-bit, 33 MHz PCI-bus<br>Electrically : 5 V signaling, PCI Rev. 2.2<br>Mechanically : Single CMC formfactor IEEE P1386 |
| **Serial Interface** | RS232/422/485 configurable |
| **Serial Channels** | 4 x SCCs (Serial Communication Controllers) for high-speed serial links<br>- Synchronous or Asynchronous<br>2 x SMCs (Serial Management Controllers) for UART serial links<br>- Asynchronous only |
| **CPU** | 1 x Motorola MPC860 PowerQUICC - Integrated PowerPC Microprocessor |
| **EEPROM** | EEPROM for board ID (Plug-and-Play) and configuration options |
| **Bit Rates** | User-programmable up to 4 Mbps |
| **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 |
| **Power Requirements** | +5 V at 0,8 A |
| **Software Drivers** | Various software drivers offered including for VxWorks, Windows NT, Windows 2000* and Windows XP* operating systems as standard; others are costed options. (*Standard PC HAL only) |
| **Protocols** | HDLC<br>SDLC<br>Async<br>BiSync |
| **Supporting Software** | Sample driver usage software (C/C++ source code) |
| **Options** | Solaris, QNX, AIX Drivers<br>SS7, ISDN Protocol (Basic Rate and Primary Rate)<br>Ethernet / Fast Ethernet Option |

## Characteristics

| Grade | Dimensions | Weight |
|---|---|---|
| Air-cooled | 149,00 mm x 74,00 x 9,80 mm | 80 g ± 10 g |
| Conduction-cooled | 143,65 mm x 74,00 x 13,50 mm | 80 g ± 10 g |





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# 4-Channel High-Speed Serial I/O PMC Adapter (Not recommended for new designs)

## Reliability

| | | | | |
|---|---|---|---|---|
| **MTBF** | Figures according to MIL-HDBK-217F, Parts Stress Method | | | |
| | Ground, Mobile<br>Naval, Sheltered<br>Airborne, Inhabited Cargo | $T_j$ = 65 C<br>$T_j$ = 60 C<br>$T_j$ = 75 C | $T_a$ = 45 C<br>Ta = 40 C<br>Ta = 55 C | 32 000 hrs<br>47 000 hrs<br>31 000 hrs |

## Environmental Specifications

| | Commercial Grade | Industrial Grade | Ruggedised/Conduction-Cooled Grade |
|---|---|---|---|
| **Temperature**<br>**- Operating**<br>**- Storage** | 0 C to +55 C<br>-40 C to +85 C | -15 C to +75 C<br>-40 C to +85 C | -40 C to + 85 C<br>-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**<br>**- Sine**<br>**- Random** | 2 g (peak) 10 Hz to 100 Hz<br>0,04 g²/Hz at 15 Hz to 2 kHz | 10 g (peak) 5 Hz to 2 kHz<br>0,1 g²/Hz at 15 Hz to 2 kHz | 10 g (peak) 5 Hz to 2 kHz<br>0,1 g²/Hz at 15 Hz to 2 kHz |

## Specifications

| Part Designation | Grade | I/O Options | Serial Interface |
|---|---|---|---|
| CCII/SIO/PMC/4P/FP/COM | Commercial | Front-panel or Backplane I/O | RS422/485/232 |
| CCII/SIO/PMC/4P/FP/IND | Industrial | Front-panel or Backplane I/O | RS422/485/232 |
| CCII/SIO/PMC/4P/FP/RGD | Ruggedised | Front-panel or Backplane I/O | RS422/485/232 |
| CCII/SIO/PMC/4P/BP/CC/**xx** | Conduction-Cooled | Backplane I/O | RS422/485/232 |

**Note :**

| xx = | 4 x SCC | 2 x SMC |
|---|---|---|
| 22 | 232 | 232 |
| 42 | 422/485 | 232 |
| 44 | 422/485 | 422/485 |
| Standard oscillator is 39,3216 MHz. Other oscillator frequencies (to support non-standard baud rates) indicated by an additional /yy at the end of the part number | | |
| SCC = Serial Communication Controllers<br>SMC = Serial Management Controllers | | |





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