

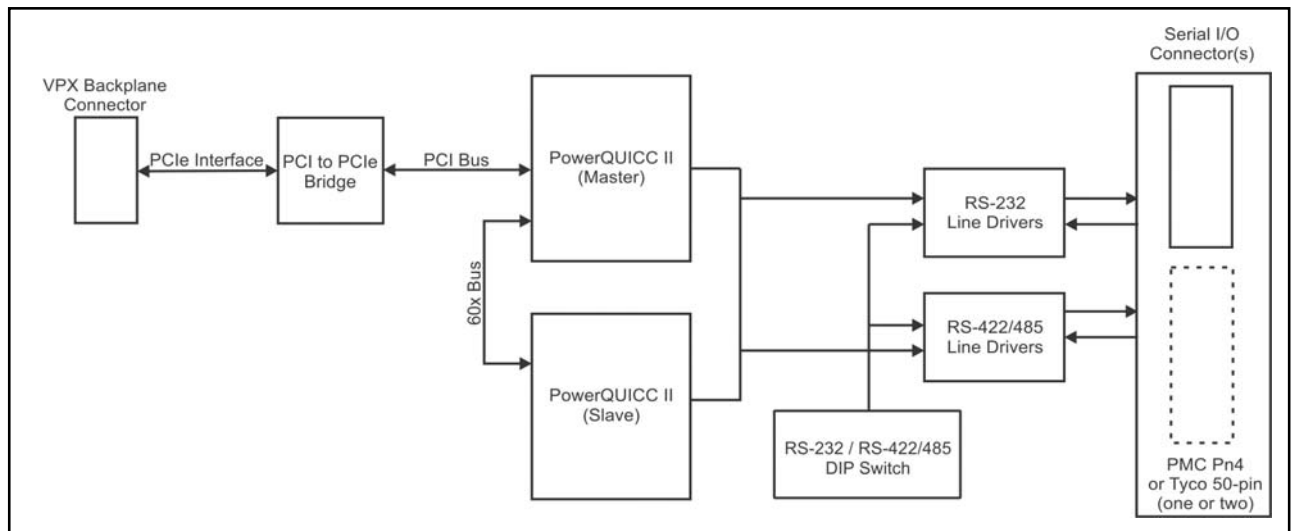
## ► 8-Channel and 4-Channel Ultra High-Speed Serial I/O 3U VPX Board

The 8-Channel Ultra High-Speed Serial I/O 3U VPX Board provides eight channels of simultaneous, high-speed (>20 Mbit/s), bi-directional serial communications. All channels are jumper configurable as RS232/422/485. This adapter also supports a number of UART (Universal Asynchronous Receiver/Transmitter) (<1 Mbit/s) channels.

The 3U VPX 4-Channel Ultra High-Speed Serial I/O Board is a reduced cost version of the 8-Channel board.

The board design complies with the VPX specification (ANSI/VITA 60.0-2007) and is available in commercial, industrial, ruggedised and conduction-cooled versions with front panel or backplane I/O.

The board is also available with a 6U VPX formfactor bezel.



**8-Channel and 4-Channel UHS 3U VPX Board Block Diagram**

### Architecture

The 8-Channel and 4-Channel Ultra High-Speed Serial I/O 3U VPX Board is an intelligent I/O board designed with NXP PowerQUICC II Integrated PowerPC Microprocessors as communication controllers. The PowerQUICC II processor can easily be configured to implement different serial protocols, thus allowing the boards 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 a large number of high-speed, real-time communication links as well as some low-speed serial links
- Offers independent I/O processing offboard the host

### Applications

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



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Specifications			
<b>Formfactor</b>	ANSI/VITA 46.0-2007 (R2013), VPX Base Standard ANSI/VITA 46.4-2012, PCI Express on VPX Fabric Connector		
<b>Host Interface</b>	Single Lane; 2,5 GHz PCIe Electrically : PCI Express Rev. 2.0		
<b>I/O Addresses</b>	Automatically assigned to the slot by PCI Rev. 2.1 Plug-and-Play		
<b>EEPROM</b>	EEPROM for board ID (Plug-and-Play) and configuration options		
<b>DMA</b>	Automatic depending on PCI slot		
<b>Serial I/O Interface</b>	<b>SCC Channels</b>		<b>SMC Channels</b>
	RS-232 : TxD, RxD, RTS, CTS, CD, CLK_IN, CLK_OUT		RS-232 : RxD, TxD
	RS-422/485 : TxD, RxD, CLK_IN, CLK_OUT		
<b>Termination</b>	100 ohm (individually selectable for each SCC channel)		
<b>Bit Rates</b>	<b>Serial I/O Clocking</b>	<b>RS-232</b>	<b>RS-422/485</b>
	Synchronous Mode	1 Mbps	20 Mbps
	Asynchronous Mode	1 Mbps	6,25 Mbps
	Maximum External Clock	500 kHz	16 MHz
<b>Protocols</b>	<ul style="list-style-type: none"> <li>- HDLC</li> <li>- SDLC</li> <li>- Async</li> <li>- BiSync</li> </ul>		
<b>CPU</b>	NXP PowerQUICC II Integrated PowerPC Microprocessor (one or two)		
<b>Power</b>	<ul style="list-style-type: none"> <li>- 3,3 V at 1,3 A</li> <li>- 5 V at 100 mA</li> <li>- 12 V at 1 mA</li> </ul>		
<b>Software Drivers</b>	Various software drivers offered including for VxWorks, Linux and basic Windows operating systems as standard; others are costed options. (*Standard PC HAL [Hardware Abstraction Layer] only)		
<b>Supporting Software</b>	Sample software driver usage (C/C++ source code)		
<b>MTBF</b>	Figures according to MIL-HDBK-217F, Parts Stress Method		
	Commercial and Industrial Grades	Ground Benign, Controlled, 25 C	350 000 hours
	Ruggedised Grade	Ground, Mobile, 45 C Naval, Sheltered, 40 C Airborne, Inhabited Cargo, 55 C	30 000 hours 60 000 hours 50 000 hours

Physical Characteristics		
Formfactor	Dimensions	Mass
VPX : 3U	100 mm x 160 mm	200 g ± 30 g
: 6U	233,35 mm x 160 mm	250 g ± 30 g

Serial I/O Connectors		
Air-Cooled	Front Panel I/O	Tyco 50-pin Connector (one for 4-channel, two for 8-channel)
Conduction-Cooled	Backplane I/O	PMC Pn4 Connector

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Board-Level



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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 Selector			
Part Number	Formfactor	Grade	Number of Channels
CCII/UHS/3UVPX/8P/FP/COM	3U VPX	Commercial	8 x RS-232/422/485 4 x RS-232
CCII/UHS/3UVPX/8P/FP/IND	3U VPX	Industrial	8 x RS-232/422/485 4 x RS-232
CCII/UHS/3UVPX/8P/FP/RGD	3U VPX	Ruggedised	8 x RS-232/422/485 4 x RS-232
CCII/UHS/3UVPX/8P/BP/CC	3U VPX	Conduction-Cooled	8 x RS-232/422/485 4 x RS-232
CCII/UHS/3UVPX/4P/FP/COM	3U VPX	Commercial	4 x RS-232/422/485 2 x RS-232
CCII/UHS/3UVPX/4P/FP/IND	3U VPX	Industrial	4 x RS-232/422/485 2 x RS-232
CCII/UHS/3UVPX/4P/FP/RGD	3U VPX	Ruggedised	4 x RS-232/422/485 2 x RS-232
CCII/UHS/3UVPX/4P/BP/CC	3U VPX	Conduction-Cooled	4 x RS-232/422/485 2 x RS-232
CCII/UHS/6UVPX/8P/FP/COM	6U VPX	Commercial	8 x RS-232/422/485 4 x RS-232
CCII/UHS/6UVPX/8P/FP/IND	6U VPX	Industrial	8 x RS-232/422/485 4 x RS-232
CCII/UHS/6UVPX/8P/FP/RGD	6U VPX	Ruggedised	8 x RS-232/422/485 4 x RS-232
CCII/UHS/6UVPX/8P/BP/CC	6U VPX	Conduction-Cooled	8 x RS-232/422/485 4 x RS-232
CCII/UHS/6UVPX/4P/FP/COM	6U VPX	Commercial	4 x RS-232/422/485 2 x RS-232
CCII/UHS/6UVPX/4P/FP/IND	6U VPX	Industrial	4 x RS-232/422/485 2 x RS-232
CCII/UHS/6UVPX/4P/FP/RGD	6U VPX	Ruggedised	4 x RS-232/422/485 2 x RS-232
CCII/UHS/6UVPX/4P/BP/CC	6U VPX	Conduction-Cooled	4 x RS-232/422/485 2 x RS-232

Board-Level 8-Channel and 4-Channel UHS 3U VPX Board