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Find the *General Standards PMC66-SIO4BXR-SYNC-256K* at our website: *Click HERE*

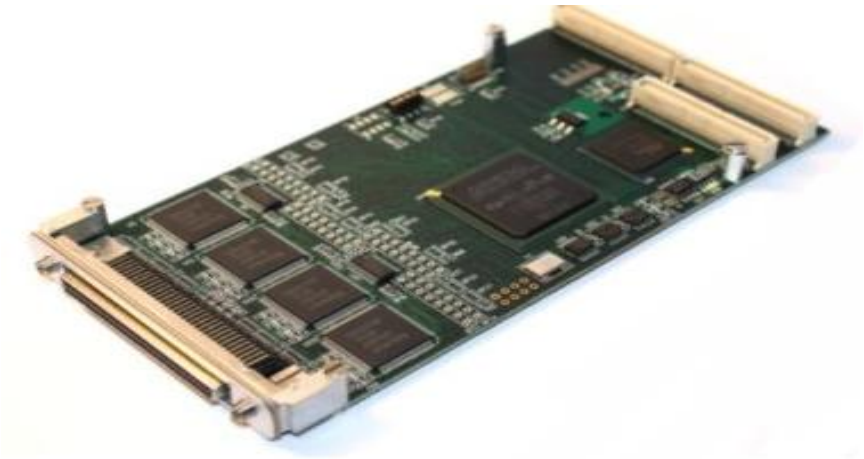
General Standards Corporation

High Performance Bus Interface Solutions

PMC66-SIO4BXR-SYNC

Four Channel High Performance Serial I/O PMC Card

Featuring RS422/RS485/RS232/RS423 Software Configurable Transceivers and 32K Byte FIFO Buffers (256K Byte Total)



The PMC66-SI04BXR-SYNC is a four channel synchronous serial interface card which provides high speed, full-duplex, multi-protocol serial capability for PMC applications. The PMC66-SIO4BXR-SYNC combines a flexible serial interface, deep external FIFOs, and software selectable multi-protocol transceivers to provide four fully independent synchronous serial channels. These features, along with a high performance 66MHz PCI interface engine, give the PMC66-SIO4BXR-SYNC unsurpassed performance in a synchronous serial interface card.

Features:

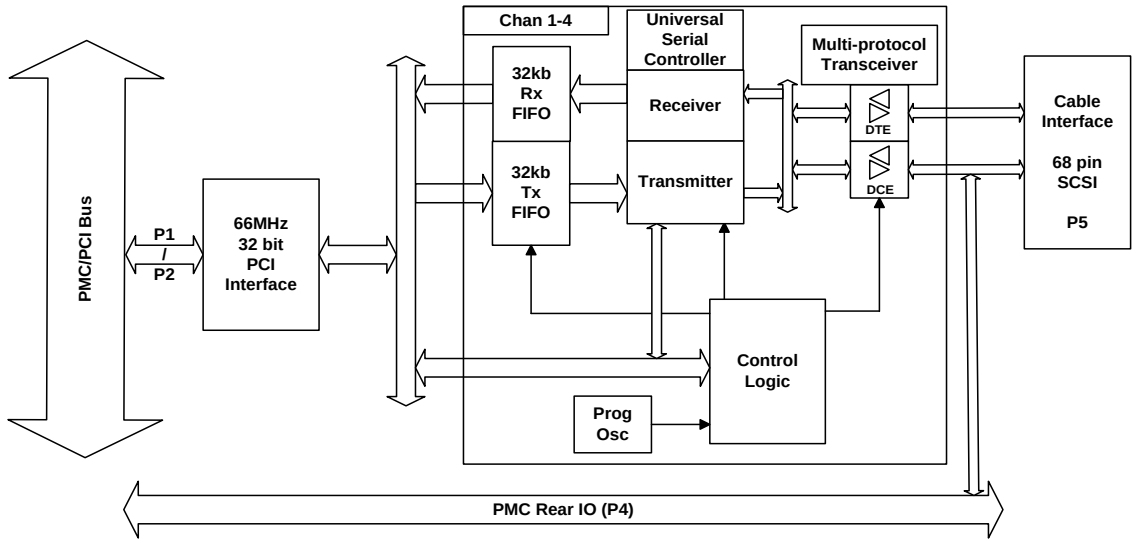
- Four Independent Multi-Protocol Serial Channels
- Independent Transmit and Receive FIFOs for each Serial Channel – 32K byte each
- Multi-protocol Transceivers support RS422/RS485, RS232, RS423
- Fast RS422/RS485 Differential Cable Transceivers Provide Data Rates up to 10Mbps
- RS423 and RS232 Cable Transceivers Provide Data Rates up to 230kbps
- Two Signal (Clock/Data) or Three Signal modes (Clock/Data/Data Valid)
- Programmable Oscillators provide increased flexibility for Baud Rate Clock generation
- Programmable Transmit Bit Counts allow for various transmit word lengths
- Programmable Transmit Gap Bit Counts allow for variable gap between words
- Fully Programmable Polarity on all signals
- Eight signals per channel, configurable as either DTE or DCE:
  3 Serial Clocks (TxC,RxC,AuxC), 2 Serial Data (TxD,RxD), 2 Data Valid (TxE,RxE), plus Spare
- Unused signals may be reconfigured as General Purpose IO
- SCSI type 68 pin front edge I/O Connector
- Standard Cable to four DB25 connectors and Custom Cables available
- Interchangeable 120Ω Termination Resistors (RS422/RS485 Mode)
- Available drivers include VxWorks, WinNT, Win2k, WinXP, Linux, and Labview
- Industrial Temperature Option Available
- May be mounted on various adapters to fit PCI, PCIe, PXI, and cPCI form factors

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8302A Whitesburg Drive · Huntsville, AL 35802
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Functional Diagram:

The PMC66-SIO4BXR-SYNC is a high performance, four channel serial board from the SIO4BX-SYNC product line from General Standards Corporation. The PMC66-SIO4BXR-SYNC has a 66MHz PCI interface, multi-protocol transceivers, and supports PMC Rear IO. This card may also be mounted on various adapters to fit PCI, PCIe, PXI, and cPCI form factors.



Serial Interface:

The flexible synchronous interface may be configured as a three signal interface - Clock, Data, and Envelope (Data Valid), or an even simpler two signal interface – Clock and Data. The PCIe4-SIO8BX-SYNC allows the serial interface to be further customized with the following user configurable options:

- Clocking Data on either rising or falling edge of the clock
- Active Hi or Active Lo polarity for the Envelope Signal
- NRZ (Level) or NRZB (Inverted Level) Data Encoding
- Clock and/or Data may be configured high or low while idle
- Transmit Word Size may be configured from 1 to 64k bits (consecutive bit count)
- Transmit Gap Size (clocks between words) can be configured from 0 to 64k bits
- Data may be transmitted MSB first or LSB first (8-bit or less word size).
- Transmit Clock may be configured from 10MHz down to 50Hz on a per channel basis
- Auxiliary Clock input from cable may be used as Transmit Clock
- Transmit and Receive direction may be defined as DTE or DCE for each channel

Serial Signals:

- TxC - (Out) Transmit Clock
- TxD - (Out) Transmit Data
- TxE - (Out) Transmit Envelope (Data Valid)
- RxC - (In) Receive Clock
- RxD - (In) Receive Data
- RxE - (In) Receive Envelope (Data Valid)
- AuxC - (In/Out) Auxiliary Clock
- Spare - (In/Out) Spare General Purpose IO (May also be used as interrupt input)

The location of the transmit signals (TxC/TxD/TxE) and receive signals (RxC/RxD/RxE) on the cable may be swapped via software by setting DTE/DCE mode.

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Power Requirements (@25° C):

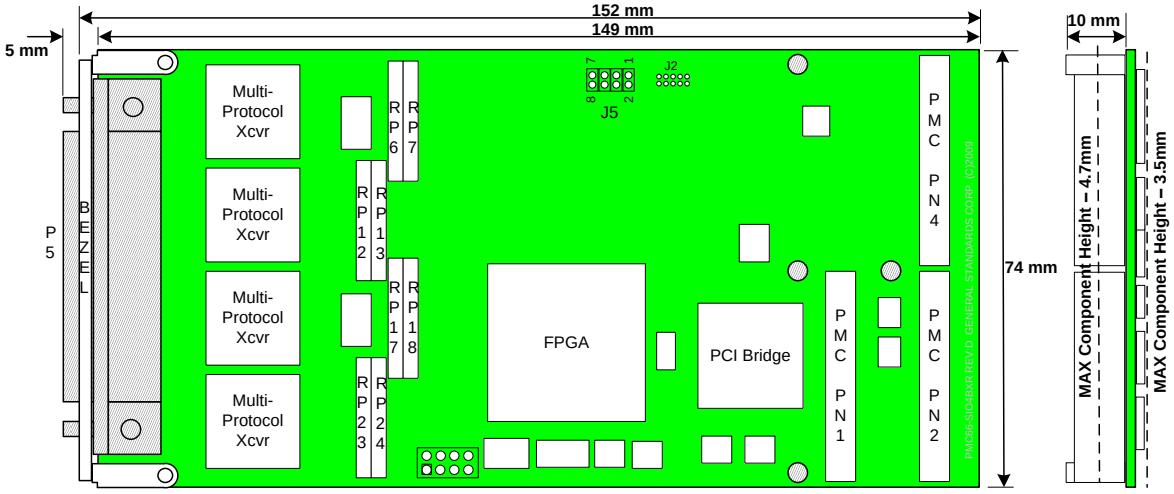
- +5VDC ±0.2 VDC at 1.5 Amps Max(typical 1.0 Amps)
- +12VDC ±0.2 VDC at 0.03 Amps Max(typical 0.02 Amps)
- Typical Total Power Dissipation: ~5.5W

PMC Compatibility:

- 32bit / 66MHz PCI r2.2 Compliant
- Direct master DMA transfer
- Provides a single multifunction interrupt (INTA)
- 3.3V IO / 5V tolerant PCI bus interface

Physical Characteristics:

Conforms to PMC Mezzanine Specification
Length: 149 mm
Width: 74 mm



Environmental Specifications:

Ambient Temperature Range:	Operating:	0° to +70° C (Commercial Option)
		-40° to +85° C (Industrial Option)
	Storage:	-40° to +85° C
Relative Humidity:	Operating:	0 to 80%, non-condensing
	Storage:	0 to 95%, non-condensing
Altitude:	Operation to 10,000 ft	

Cooling Requirements:

Conventional air-cooling, 200 LPFM (typical mezzanine environment)

Ordering Information:

PMC66 – SIO4BXR - SYNC - <*FIFO Size*> - <*Temperature*>

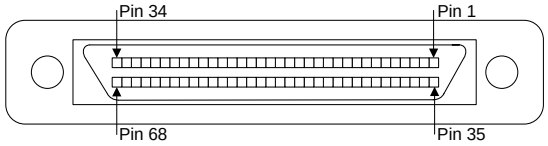
Option	Valid Selections	Description
FIFO Size	48KLC	(software selectable) 4K byte Tx / 8K byte Rx FIFO or 8K byte Tx / 4K byte Rx FIFO
	64K	software selectable) 8K byte Tx / 16K byte Rx FIFO or 16K byte Tx / 8K byte Rx FIFO
	256K	32K byte Tx / 32K byte Rx FIFO
Temperature	<blank>	0°C to +70°C – Commercial (Standard)
	I	-40°C to +85°C – Industrial

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System I/O Connections:

User I/O Connector:: 68-pin SCSI connector (female) - P5
Part Number: AMP/TYCO 787170-7
Mating Connector: AMP/TYCO 749111-6 (or equivalent)



Note: Protocol Mode is set on a per channel basis.

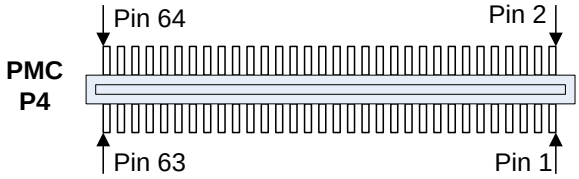
Pin #	RS422/RS485 V.35		RS232		RS423		Pin #	RS422/RS485 V.35		RS232		RS423	
	DTE	DCE	DTE	DCE	DTE	DCE		DTE	DCE	DTE	DCE	DTE	DCE
1	AUXC1+		Unused		TXC1	RXC1	35	AUXC3+		Unused		TXC3	RXC3
2	AUXC1-		AUXC1		RXC1	TXC1	36	AUXC3-		AUXC3		RXC3	TXC3
3	SPARE1+		Unused		TXD1	RXD1	37	SPARE3+		Unused		TXD3	RXD3
4	SPARE1-		SPARE1		RXD1	TXD1	38	SPARE3-		SPARE3		RXD3	TXD3
5	RXE1+	TXE1+	Unused		Unused		39	RXE3+	TXE3+	Unused		Unused	
6	RXE1-	TXE1-	RXE1	TXE1	RXE1	TXE1	40	RXE3-	TXE3-	RXE3	TXE3	RXE3	TXE3
7	RXD1+	TXD1+	Unused		Unused		41	RXD3+	TXD3+	Unused		Unused	
8	RXD1-	TXD1-	RXD1	TXD1	Unused		42	RXD3-	TXD3-	RXD3	TXD3	Unused	
9	RXC1+	TXC1+	Unused		Unused		43	RXC3+	TXC3+	Unused		Unused	
10	RXC1-	TXC1-	RXC1	TXC1	Unused		44	RXC3-	TXC3-	RXC3	TXC3	Unused	
11	TXE1+	RXE1+	Unused		Unused		45	TXE3+	RXE3+	Unused		Unused	
12	TXE1-	RXE1-	TXE1	RXE1	TXE1	RXE1	46	TXE3-	RXE3-	TXE3	RXE3	TXE3	RXE3
13	TXD1+	RXD1+	Unused		Unused		47	TXD3+	RXD3+	Unused		Unused	
14	TXD1-	RXD1-	TXD1	RXD1	Unused		48	TXD3-	RXD3-	TXD3	RXD3	Unused	
15	TXC1+	RXC1+	Unused		Unused		49	TXC3+	RXC3+	Unused		Unused	
16	TXC1-	RXC1-	TXC1	RXC1	Unused		50	TXC3-	RXC3-	TXC3	RXC3	Unused	
17	SGND1		SGND1		SGND1		51	SGND3		SGND3		SGND3	
18	SGND2		SGND2		SGND2		52	SGND4		SGND4		SGND4	
19	RXE2+	TXE2+	Unused		Unused		53	RXE4+	TXE4+	Unused		Unused	
20	RXE2-	TXE2-	RXE2	TXE2	RXE2	TXE2	54	RXE4-	TXE4-	RXE4	TXE4	RXE4	TXE4
21	RXD2+	TXD2+	Unused		Unused		55	RXD4+	TXD4+	Unused		Unused	
22	RXD2-	TXD2-	RXD2	TXD2	Unused		56	RXD4-	TXD4-	RXD4	TXD4	Unused	
23	RXC2+	TXC2+	Unused		Unused		57	RXC4+	TXC4+	Unused		Unused	
24	RXC2-	TXC2-	RXC2	TXC2	Unused		58	RXC4-	TXC4-	RXC4	TXC4	Unused	
25	TXE2+	RXE2+	Unused		Unused		59	TXE4+	RXE4+	Unused		Unused	
26	TXE2-	RXE2-	TXE2	RXE2	TXE2	RXE2	60	TXE4-	RXE4-	TXE4	RXE4	TXE4	RXE4
27	TXD2+	RXD2+	Unused		Unused		61	TXD4+	RXD4+	Unused		Unused	
28	TXD2-	RXD2 -	TXD2	RXD2	Unused		62	TXD4-	RXD4-	TXD4	RXD4	Unused	
29	TXC2+	RXC2+	Unused		Unused		63	TXC4+	RXC4+	Unused		Unused	
30	TXC2-	RXC2-	TXC2	TXC2	Unused		64	TXC4-	RXC4-	TXC4	RXC4	Unused	
31	SPARE2+		Unused		TXD2	RXD2	65	SPARE4+		Unused		TXD4	RXD4
32	SPARE2-		SPARE2		RXD2	TXD2	66	SPARE4-		SPARE4		RXD4	TXD4
33	AUXC2+		Unused		TXC2	RXC2	67	AUXC4+		Unused		TXC4	RXC4
34	AUXC2-		AUXC2		RXC2	TXC2	68	AUXC4-		AUXC4		RXC4	TXC4

Table 1- Front Panel (P5) IO Connections

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System I/O Connections (cont):



Note: Protocol Mode is set on a per channel basis.

Pin #	RS422/RS485 V.35		RS232		RS423		Pin #	RS422/RS485 V.35		RS232		RS423	
	DTE	DCE	DTE	DCE	DTE	DCE		DTE	DCE	DTE	DCE	DTE	DCE
1	TXC1-	RXC1-	TXC1	RXC1	Unused		33	TXC3-	RXC3-	TXC3	RXC3	Unused	
2	TXC1+	RXC1+	Unused		Unused		34	TXC3+	RXC3+	Unused		Unused	
3	TXD1-	RXD1-	TXD1	RXD1	Unused		35	TXD3-	RXD3-	TXD3	RXD3	Unused	
4	TXD1+	RXD1+	Unused		Unused		36	TXD3+	RXD3+	Unused		Unused	
5	TXE1-	RXE1-	TXE1	RXE1	TXE1	RXE1	37	TXE3-	RXE3-	TXE3	RXE3	TXE3	RXE3
6	TXE1+	RXE1+	Unused		Unused		38	TXE3+	RXE3+	Unused		Unused	
7	AUXC1-		AUXC1		RXC1	TXC1	39	AUXC3-		AUXC3		RXC3	TXC3
8	AUXC1+		Unused		TXC1	RXC1	40	AUXC3+		Unused		TXC3	RXC3
9	SPARE1-		SPARE1		RXD1	TXD1	41	SPARE3-		SPARE3		RXD3	TXD3
10	SPARE1+		Unused		TXD1	RXD1	42	SPARE3+		Unused		TXD3	RXD3
11	RXC1-	TXC1-	RXC1	TXC1	Unused		43	RXC3-	TXC3-	RXC3	TXC3	Unused	
12	RXC1+	TXC1+	Unused		Unused		44	RXC3+	TXC3+	Unused		Unused	
13	RXD1-	TXD1-	RXD1	TXD1	Unused		45	RXD3-	TXD3-	RXD3	TXD3	Unused	
14	RXD1+	TXD1+	Unused		Unused		46	RXD3+	TXD3+	Unused		Unused	
15	RXE1-	TXE1-	RXE1	TXE1	RXE1	TXE1	47	RXE3-	TXE3-	RXE3	TXE3	RXE3	TXE3
16	RXE1+	TXE1+	Unused		Unused		48	RXE3+	TXE3+	Unused		Unused	
17	TXC2-	RXC2-	TXC2	TXC2	Unused		49	TXC4-	RXC4-	TXC4	RXC4	Unused	
18	TXC2+	RXC2+	Unused		Unused		50	TXC4+	RXC4+	Unused		Unused	
19	TXD2-	RXD2 -	TXD2	RXD2	Unused		51	TXD4-	RXD4-	TXD4	RXD4	Unused	
20	TXD2+	RXD2+	Unused		Unused		52	TXD4+	RXD4+	Unused		Unused	
21	TXE2-	RXE2-	TXE2	RXE2	TXE2	RXE2	53	TXE4-	RXE4-	TXE4	RXE4	TXE4	RXE4
22	TXE2+	RXE2+	Unused		Unused		54	TXE4+	RXE4+	Unused		Unused	
29	AUXC2-		AUXC2		RXC2	TXC2	55	AUXC4-		AUXC4		RXC4	TXC4
30	AUXC2+		Unused		TXC2	RXC2	56	AUXC4+		Unused		TXC4	RXC4
25	SPARE2-		SPARE2		RXD2	TXD2	57	SPARE4-		SPARE4		RXD4	TXD4
26	SPARE2+		Unused		TXD2	RXD2	58	SPARE4+		Unused		TXD4	RXD4
27	RXC2-	TXC2-	RXC2	TXC2	Unused		59	RXC4-	TXC4-	RXC4	TXC4	Unused	
28	RXC2+	TXC2+	Unused		Unused		60	RXC4+	TXC4+	Unused		Unused	
29	RXD2-	TXD2-	RXD2	TXD2	Unused		61	RXD4-	TXD4-	RXD4	TXD4	Unused	
30	RXD2+	TXD2+	Unused		Unused		62	RXD4+	TXD4+	Unused		Unused	
31	RXE2-	TXE2-	RXE2	TXE2	RXE2	TXE2	63	RXE4-	TXE4-	RXE4	TXE4	RXE4	TXE4
32	RXE2+	TXE2+	Unused		Unused		64	RXE4+	TXE4+	Unused		Unused	

Table 2- PMC (P4) Rear IO Connections

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