




Connect Tech

Product Guide

SPRING 2011



Single Board Computers
FPGA & Digital I/O
Qseven Carrier Boards
CAN Controllers
Solid State Drives
Ethernet-to-Serial
FeaturePak
Wireless Radio Modems
Multi-Port Serial
Adapters & Development Tools
Modified COTS Solutions

25th

ANNIVERSARY
1985 - 2010

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Powerful, cost-effective connectivity solutions to meet product development requirements

Connect Tech delivers high performance connectivity solutions for embedded and industrial technology applications. For 25 years, Connect Tech has built a solid reputation for expertise in providing professional design services, delivering unsurpassed technical support and developing innovative products that improve design efficiency and cost effectiveness.

Connect Tech's Product Portfolio

Commercial off-the-shelf and modified solutions for PC/104, PC/104-Plus, PCI/104-Express, PCI, PCI Express, FeaturePak, Qseven, Ethernet, CompactPCI and ISA:

SBCs • FPGA & Digital I/O • Qseven • CAN Controller Cards • Solid State Drives • Ethernet-to-Serial Devices • FeaturePak • Wireless Radio Modems • Multi-Port Serial Cards • Adapters & Development Tools



Professional Design Services

At Connect Tech, we recognize the unique requirements of every application. We are dedicated to delivering the right solution - from troubleshooting compatibility issues to finding solutions for legacy systems and improving existing designs. Our professional design services can be applied at any stage of a project, and our experience ensures that we can deliver cost-effective, custom solutions within a narrow timeline. You can count on us for product quality, expert advice and services that will enhance your business value. We offer expertise in design consulting, project consulting and management, computing platforms, hardware and software development, operating systems and FPGA design.

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Table of Contents

New Products	4	FeaturePak	23
Single Board Computers	7	Qseven Carrier Boards	25
FPGA	10	Ethernet-to-Serial	28
FreeForm/PCI-104	10	Blue Heat/Net 2	28
FreeForm/104.....	10	Blue Heat/Net 4 or 8 DB-9.....	28
FreeForm/104 Daughter Board	10	Blue Heat/Net 4 or 8 RJ-45	28
Xtreme I/O Opto	10	Blue Heat/Net 16	28
FreeForm/Express S6	10	Blue Heat/Net Sync	28
PCI/104-Express & PCIe/104	12	Ethernet-to-Synchronous Serial	29
Xtreme/104-Express.....	12	PCI Express Serial & FPGA	30
Xtreme/104-Express Opto	12	BlueStorm/Express	30
PCI Express to PCIe/104 Adapter.....	12	BlueStorm/Express Opto	30
PCIe/104 to PCI Express Adapter-Bottom & Top Stacking... 12		BlueStorm/Express Opto (1KV)	30
PCIe/104 Qseven Carrier Board	12	BlueStorm/Express LP	30
Xtreme/SBC PCIe/104 Single Board Computer	12	BlueStorm/Express LP Opto	30
PCI/104-Plus & PCI-104 Serial	14	BlueStorm/Express Isolated	30
Xtreme/104-Plus	14	FreeForm/Express S6	30
Xtreme/104-Plus 16 Port.....	14	Universal PCI Serial	32
Xtreme/104-Plus Opto	14	BlueStorm/SP	32
Xtreme/PCI-104 Opto12 Port.....	14	BlueStorm/SP RJ-11	32
PCI-104	16	BlueStorm/SP Opto	32
Xtreme/PCI-104 Opto 12 Port.....	16	BlueStorm/LP RS-232	32
ComSync/PCI-104	16	BlueStorm/LP RS-422/485	32
FreeForm/PCI-104	16	Compact PCI	34
Xtreme I/O Opto Digital I/O	16	USB-to-Serial	34
Xtreme/SBC PCI-104 Single Board Computer.....	16	ISA	35
PCI-104 Qseven Carrier Board.....	16	Development Tools	36
PC/104	18	PCI Express to PCIe/104 Adapter.....	36
Xtreme/104.....	18	PCIe/104 to PCI Express Adapter - Bottom Stacking.....	36
Xtreme/104 RS-232	18	PCIe/104 to PCI Express Adapter - Top Stacking.....	36
Xtreme/104 Opto	18	PCI Express to FeaturePak Adapter	36
Xtreme/104 Isolated 12 Port	18	PCI to PC/104-Plus Adapter.....	37
ComSync/104	18	ISA to PC/104 Adapter.....	37
FreeForm/104.....	18	PC/104-Plus to Mini PCI Adapter	37
FreeForm/104 Daughter Board	18	PCI Dump Switch Card	37
CAN Controller Cards	20	PCIe/104 to Mini-PCIe Card Adapter.....	37
CANpro/104 Opto	20	PCI Express Dump Switch Card.....	38
CANpro/104-Plus Opto.....	20	PCI-104 to PMC Adapter.....	38
Solid State Drives	22	PCI Express Burn-in Rack Adapter	38
PCI/104 Wireless Radio Modems	22	PCI to CompactPCI Adapter.....	38

NOTE: Specifications found in this guide are subject to change without notice.

New Connect Tech Products

Single Board Computers

Xtreme/SBC PCIe/104 Single Board Computer



Xtreme/SBC PCIe/104 Single Board Computer utilizes the PCIe/104 form factor with 4 x1 PCIe lanes. Processor options include **Intel Atom**, **Freescale i.MX51**, **TI OMAP** and **NVIDIA Tegra**.

Form Factor	PCIe/104, 4x PCIe Lanes
Interfaces	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS & VGA Video, 2x RS-232, 2x RS-422/485
Power	ATX Supply Input or +5V/+12V only
Dimensions	PC/104 Compliant

Xtreme/SBC PCI-104 Single Board Computer



Xtreme/SBC PCI-104 Single Board Computer utilizes the PCI-104 form factor and supports up to 4 PCI-104 peripherals. Processor options include **Intel Atom**, **Freescale i.MX51**, **TI OMAP** and **NVIDIA Tegra**.

Form Factor	PCI-104
Interfaces	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS & VGA Video, 2x RS-232, 2x RS-422/485
Power	ATX Supply Input or +5V/+12V only
Dimensions	PC/104 Compliant

Xtreme/104-Plus 16 Port



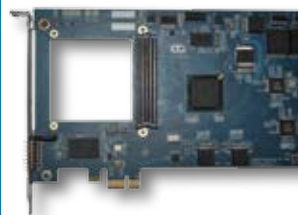
Xtreme/104-Plus 16 Port offers 16 ports of switchable RS-232/422/485 on a single PC/104-Plus card.

Form Factor	PC/104-Plus
Interfaces	RS-232/422/485
Power	Requires 5V bus power, board makes its own 3.3V +5V 400mA maximum
Dimensions	Length: 9.5885cm (3.775") Width: 9.017cm (3.550")

PC/104-Plus

Xilinx Spartan-6

FreeForm/Express S6



FreeForm/Express S6 is a reconfigurable computing platform based on the **Xilinx Spartan-6 FPGA**. FreeForm/Express S6 includes an industry-standard FPGA Mezzanine Card (FMC) connector, which provides a flexible I/O interface for future scaling and customization.

Form Factor	PCIe x1 Lane
Bus Interface	Spartan-6 PCIe Gen 1 Endpoint
Power	+3.3V and +12V
Dimensions	Length: 16.76cm (6.6") Height: 11.11cm (4.375")

Development Tools

PCIe/104 to Mini-PCIe Card Adapter



The **PCIe/104 to Mini-PCIe Card Adapter** board allows users to install and operate a Mini-PCIe (PCI Express Mini Card) in a PCIe/104 (PC/104-Express) card stack.

Form Factor	PCIe/104 (PC/104-Express)
Power	<ul style="list-style-type: none"> • 3.3V (at 3A) and 1.5V (at 1A) DC power (for the Mini-PCIe card) is supplied by the adapter • Power is drawn from the PCIe/104 Bus connector
Dimensions	Length: 9.02cm (3.55") Width: 9.60cm (3.78")

Qseven Carrier Boards

PCIe/104 Qseven Carrier Board



PCIe/104 Qseven Carrier Board is a small embedded carrier board that allows complete integration with any industry standard **Qseven** module.

Form Factor	PCIe/104, 4 x1 PCIe Lanes
Interfaces	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS & VGA Video, 2x RS-232, 2x RS-422/485
Power	ATX Supply Input or +5V/+12V only
Dimensions	PC/104 Compliant

PCI-104 Qseven Carrier Board



PCI-104 Qseven Carrier Board is a small embedded carrier board that allows complete integration with any industry standard **Qseven** module.

Form Factor	PCI-104
Interfaces	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS & VGA Video, 2x RS-232, 2x RS-422/485
Power	ATX Supply Input or +5V/+12V only
Dimensions	PC/104 Compliant



Connect Tech

PCIe/104 & PCI-104 Single Board Computers

On-board connectors for connection
to SATA, USB, Ethernet, LVDS & VGA Video,
and RS-232 & RS-422/485



Processor Options:
Intel Atom, Freescale i.MX51,
TI OMAP & NVIDIA Tegra



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Single Board Computers for PCIe/104 and PCI-104

Connect Tech's **Xtreme/SBC Single Board Computers** offer a variety of embedded processor options including **Intel Atom**, **Freescale i.MX51**, **TI OMAP** and **NVIDIA Tegra**.

Xtreme/SBC solutions are modular and completely scalable, with access to current embedded processors that are easily upgradable to accommodate future generations of Intel Atom processors, such as **Intel Atom E6xx**, or ARM based processors, such as **Cortex A8**.

The on-board connectors of our Xtreme/SBC products provide access to SATA, USB, Ethernet, LVDS and VGA Video, and RS-232 & RS-422/485.



TEXAS
INSTRUMENTS



CTI Off-the-Shelf and Modified Solutions

Xtreme/SBC products are ideal off-the-shelf solutions for a broad range of applications. Achieve rapid proof of concept and deploy systems for field trials with off-the-shelf hardware.

Through our engineering services, customers will benefit from our modified designs. The Connect Tech engineering team is skilled at creating customer-specific products that ensure both time to market and price targets are met.

Xtreme/SBC PCIe/104



Xtreme/SBC PCIe/104 Single Board Computer utilizes the PCIe/104 form factor with 4 x1 PCIe lanes. Instantly access a variety of features using the SBCs on-board connectors. Embedded processor options include **Intel Atom, Freescale i.MX51, TI OMAP** and **NVIDIA Tegra**.

Form Factor	PCIe/104
Interfaces	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS & VGA Video, 2x RS-232, 2x RS-422/485
Power	ATX Supply Input or +5V/+12V only
Dimensions	PC/104 Compliant

Xtreme/SBC PCI-104



Xtreme/SBC PCI-104 Single Board Computer utilizes the PCI-104 form factor, supporting four peripheral boards. Instantly access a variety of features using the SBCs on-board connectors. Embedded processor options include **Intel Atom, Freescale i.MX51, TI OMAP** and **NVIDIA Tegra**.

Form Factor	PCI-104
Interfaces	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS & VGA Video, 2x RS-232, 2x RS-422/485
Power	ATX Supply Input or +5V/+12V only
Dimensions	PC/104 Compliant

INTEL PROCESSOR

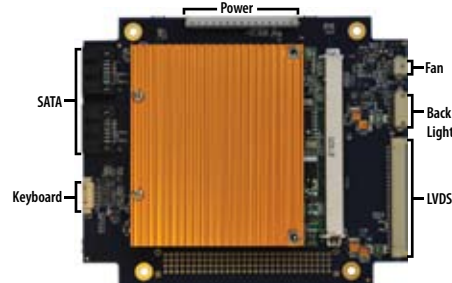
ARM PROCESSOR

	Atom Z500	Atom E600 (Tunnel Creek)	Freescale i.MX51	TI OMAP	NVIDIA Tegra
Speed	1.1 to 1.6 GHz	600 MHz to 1.6 GHz	Up to 800 MHz	Up to 600 MHz	Up to 1.0 GHz
PCIe/104	4 x1	4 x1	-	-	4 x1
PCI-104	4	4	-	-	4
Memory	1 GB	Up to 2 GB	256-512 MB	128 MB – 256 MB	Up to 1GB
On-Board Flash Disk	Up to 4GB	Up to 32GB	Up to 4GB	256-512MB	Up to 16GB
Graphics	Intel GMA 500	Intel GMA 500	OpenGL/OpenVG	POWERVR SGX	NVIDIA ULP
Display Interface	VGA, LVDS	VGA, LVDS	LVDS, DVI	LVDS	LVDS
External Storage	1x SATA	2x SATA	N/A	N/A	N/A
USB	4x USB 2.0	4x USB 2.0	2x USB 2.0, 1x USB OTG	2x USB 2.0, 1x USB, OTG	4x USB 2.0
Ethernet	10/100/1000	10/100/1000	10/100	10/100	10/100
Other	-	-	Micro SD, Video Input	Video Input	-
Temperature	-20°C - 70°C/-4°F - 158°F	-20°C - 70°C/-4°F - 158°F	0°C - 60°C/32°F - 140°F	-20°C - 70°C/-4°F - 158°F	0°C - 60°C/32°F - 140°F
Serial Interface	2x RS-232, 2x RS-485, PS/2 keyboard & mouse			2x RS-232, 2x RS-485, PS/2 keyboard & mouse	
Accessories	Optional Cable Kit	Optional Cable Kit	Optional Cable Kit	Optional Cable Kit	Optional Cable Kit
Warranty	Lifetime	Lifetime	Lifetime	Lifetime	Lifetime
Technical Support	Free Technical Support	Free Technical Support	Free Technical Support	Free Technical Support	Free Technical Support

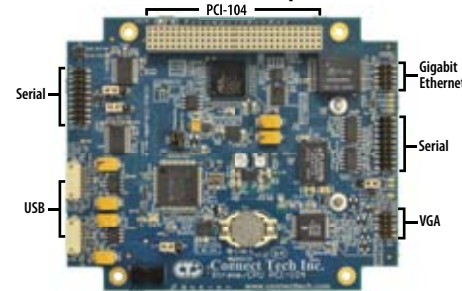
Xtreme/SBC (Top)



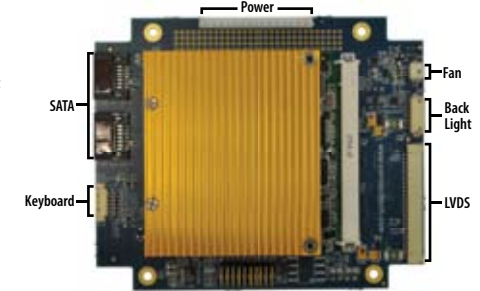
Xtreme/SBC (Bottom)



Xtreme/SBC (Top)



Xtreme/SBC (Bottom)





FreeForm/PCI-104



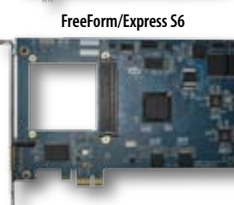
FreeForm/104



FreeForm/104 Daughter Board



Xtreme I/O Opto



FreeForm/Express S6

Xilinx and Actel FPGAs

Connect Tech's FPGA products are based on the **Xilinx Virtex-6, Virtex-5, Spartan-6, Spartan-3E** or **Actel ProASIC3** FPGAs.



FreeForm/Express S6 is based on the **Xilinx Spartan-6** FPGA. This reconfigurable FPGA utilizes the PCIe x1 lane form factor and takes advantage of the high bandwidth capabilities of the PCIe bus, while communicating with various high speed interfaces.

FreeForm/104 and **FreeForm/PCI-104** feature a reconfigurable FPGA for digital I/O and control applications. Customized FPGA configurations can easily be developed using the free Xilinx ISE WebPACK software. **FreeForm/104 Daughter Board**, an adapter for the FreeForm/104 board, allows users to capture and process synchronous and asynchronous RS-232 or RS-485/RS-422 serial data with customizable FPGA implementations.

At a Glance

Product	FPGA Features	Form Factor	Board Features/Peripherals
FreeForm/PCI-104	Xilinx Virtex-5 (LX30T, LX50T or FX30T) Up to 5 million Gates, PowerPC 440 core (optional)	PCI-104	8MB Flash for embedded code storage, 128MB DDR2-400 memory, User I/O - 64 single ended or 32 LVDS pair, 2 x 10Base-T, 100Base-TX Ethernet, 2 x RS-485 serial interface
FreeForm/104	Xilinx Spartan-3E, 500,000 Gates, 360K RAM	PC/104	96 digital I/O (8255 compatible), 6 x 8254 counter/timers, FPGA configurable through JTAG or SPI flash (4Mb), external 5V power connection for standalone usage, 4 configurable LEDs, on-board reset switch, 8 position rotary switch
FreeForm/104 Daughter Board	Serial interfacing adapter board for Spartan-3E FreeForm/104	PC/104	Two switchable RS-232, RS-422 or RS-485 channels, configurable to be fully synchronous or asynchronous, pass-through PC/104 connector
Xtreme I/O Opto	Actel ProASIC3 FPGA (PCI IP Core)	PCI-104	24 optically isolated inputs (24-bits), 24 optically isolated outputs (24-bits), wide input voltage range from +0 up to +40V DC, 2kV of Isolation on all I/O
FreeForm/Express S6	Xilinx Spartan-6 LX45T FPGA with FPGA Mezzanine Card (FMC)	PCIe	integrated PCI Express® blocks, advanced memory support, and 3.125 Gbps low-power transceivers, 128MB DDR3 RAM, low pin count FMC connector, 2x 10/100/1000 Ethernet, RS-232 port

NEW FreeForm/Express S6



FreeForm/Express S6 is a reconfigurable computing platform based on the **Xilinx Spartan-6 FPGA**. FreeForm/Express S6 includes an industry-standard FPGA Mezzanine Card (FMC) connector, which provides a flexible I/O interface for future scaling and customization.

Form Factor	PCIe x1 Lane
Bus Interface	Spartan-6 PCIe Gen 1 Endpoint
Power	+3.3V and +12V
Dimensions	Length: 16.76cm (6.6") Height: 11.11cm (4.375")

Xtreme I/O Opto offers digital I/O with isolation and high voltage capabilities, with the main control and configuration handled by **Actel ProASIC3**. Users can configure Xtreme I/O to meet their needs using the free Actel Libero IDE software suite.

Custom FPGA Design Services

Need assistance with a custom FPGA design? We can help at any stage of a project!

Connect Tech's Engineering Team would be happy to discuss your unique requirements. Our team of highly skilled engineers are dedicated, knowledgeable and experienced. They offer several years of experience in custom FPGA designs and will work with you to implement a solution that will meet your needs.

PCI/104-Express & PCIe/104

Building on a wealth of PCI Express knowledge and experience with PC/104 form factor boards, Connect Tech's PCI/104-Express and PCIe/104 products offer the best of both worlds. With the PCI Express bus and PC/104 architecture, these products provide a high performance solution built on a rugged, compact form factor.

To add even more options for your PCI/104-Express and PCIe/104 communications, Connect Tech has added associated bus adapter cards which allow users to incorporate a PCI Express card into a PCI/104-Express stack, or plug a PCI/104-Express board into a PCI Express adapter for development in a desktop PCI Express slot.

Xtreme/SBC PCIe/104



Xtreme/SBC PCIe/104 Single Board Computer utilizes the PCIe/104 form factor with 4 x1 PCIe lanes. Instantly access a variety of features using the SBCs on-board connectors. Embedded processor options include **Intel Atom, Freescale i.MX51, TI OMAP** and **NVIDIA Tegra**.

Form Factor	PCIe/104, 4x PCIe Lanes
Interfaces	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS & VGA Video, 2x RS-232, 2x RS-422/485
Power	ATX Supply Input or +5V/+12V only
Dimensions	PC/104 Compliant

Connect Tech's PCI/104-Express and PCIe/104 solutions are standards compliant and provide scalability and reliability for critical applications. PCI/104-Express solutions provide longevity for military, aerospace, medical, instrumentation, marine and industrial control applications.

At a Glance

Serial	Ports	Line Interface	Control Signal / Connectors	Baud	UART
Xtreme/104-Express	8	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,SG	RS-232: 50 bps to 921.6 Kbps	Octal PCI Express, 128 Byte FIFO
		RS-232 or RS-422/485	RS-422/485: TxD±,RxD±,CTS±,RTS±,SR	RS-422/485: up to 15.625 Mbps	
Xtreme/104 Express Opto	4/8	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,SG	RS-232: 50 bps to 1 Mbps	Quad/Octal PCI Express, 256 Byte FIFO
		RS-232 or RS-422/485	RS-422/485: TxD±,RxD±,CTS±,RTS±,SR	RS-422/485: up to 7.8125 Mbps	
Adapters & Carriers	Host Bus	Expansion Bus	Additional Features / Connections		
PCIe/104 Qseven Carrier Board	Qseven	PCIe/104	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS, VGA Video, 2x RS-232, 2x RS-422/485		
PCIe to PCIe/104 Adapter	PCIe	PCIe/104	ATX power in		
PCIe/104 to PCI Express Adapter	PCIe/104	PCIe	Custom support bracket		
<i>Bottom Stacking Model</i>					
PCIe/104 to PCI Express Adapter	PCIe/104	PCIe	Custom support bracket, 2x USB, SM Bus		
<i>Top Stacking Model</i>					
Single Board Computers	Available Processors	Interfaces		Expansion Bus	
Xtreme/SBC PCIe/104 Single Board Computer	Intel Atom, Freescale i.MX51, TI OMAP, NVIDIA Tegra	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS, VGA Video, 2x RS-232, 2x RS-422/485		PCIe/104	



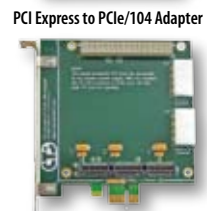
Xtreme/104-Express



Xtreme/104-Express Opto



Xtreme/SBC PCIe/104 Single Board Computer



PCI Express to PCIe/104 Adapter



PCIe/104 to PCI Express Adapter - Bottom & Top Stacking



PCIe/104 Qseven Carrier Board

Xtreme/104-Plus



PC/104-Plus

Connect Tech's PC/104-Plus products combine the best of the PCI bus and the rugged compact form factor of PC/104. PC/104-Plus products are ideal for sophisticated embedded applications that require high speed I/O and reliable data transfer.

Xtreme/104-Plus 16 Port



PCI-104

Connect Tech's PCI-104 multi-port serial cards can be used in PC/104 or PC/104-Plus stacks. In addition to power, speed and reliability, our PCI-104 products offer flexible, quality options for embedded applications.

Xtreme/104-Plus Opto



At a Glance

Xtreme/PCI-104 Opto 12 Port



NEW Xtreme/104-Plus 16 Port



Connect Tech's **Xtreme/104-Plus 16 Port** offers 16 ports of switchable RS-232/422/485 on a single PC/104-Plus card. This provides the highest port density and most flexible PC/104-Plus serial port solution available.

Form Factor	PC/104-Plus
Interfaces	RS-232/422/485
Power	Requires 5V bus power, board makes its own 3.3V +5V 400mA maximum
Dimensions	Length: 9.5885cm (3.775") Height: 9.017cm (3.550")

FEATURED PRODUCT

Product	Ports	Isolation	Interface	Control Signal	Baud	UART
Xtreme/104-Plus	2/4	-	2/4 ports RS-423	TxD-,TxDRef,RxD±,RTS-,RTSRef,CTS±	50 bps to 115.2 Kbps/Custom	Dual/Quad, 64 Byte FIFO
	4/8	-	4/8 ports switchable RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,SG RS-422/485: TxD±,RxD±,CTS±,RTS±,SR	RS-232: 50 bps to 921.6 Kbps RS-422/485: 50 bps to 1.8432 Mbps/Custom	Quad/Octal, 64 Byte FIFO
	8	-	8 ports switchable RS-232/422/485/TTL	RS-232/TTL: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,SG,+5V RS-422/485: TxD±,RxD±,SR,+5V	RS-232/TTL: 50 bps to 921.6 Kbps/Custom RS-422/485: 50 bps to 1.8432 Mbps	Octal, 64 Byte FIFO
Xtreme/104-Plus Opto	16	-	16 ports switchable RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,SG RS-422/485: TxD±,RxD±,CTS±,RTS±,SR	RS-232: 50 bps to 1.0 Mbps RS-422/485: 50 bps to 4.16 Mbps/Custom	Octal, 64 Byte FIFO
	2	3kV	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,SG RS-422/485: TxD±,RxD±,RTS±,CTS±,SR	RS-232: 50 bps to 921.6 Kbps RS-422/485: 50 bps to 1.8432 Mbps	Quad, 64 Byte FIFO
	4	3kV	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,SG RS-422/485: TxD±,RxD±,RTS±,CTS±,SR	RS-232: 50 bps to 921.6 Kbps RS-422/485: 50 bps to 1.8432 Mbps	Quad, 64 Byte FIFO
Xtreme/PCI-104 Opto 12 Port	12	1kV	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,SG RS-422/485: TxD±,RxD±,CTS±,RTS±,SR	RS-232: 50 bps to 1.0 Mbps RS-422/485: 50 bps to 4.16 Mbps	Quad/Octal, 64 Byte FIFO

Xtreme/PCI-104 Opto 12 Port



ComSync/PCI-104



FreeForm/PCI-104



Xtreme I/O Opto Digital I/O



Xtreme/SBC PCI-104 Single Board Computer



PCI-104 Qseven Carrier Board



PCI-104 Products

To meet the unique requirements of the ever-expanding embedded application marketplace, Connect Tech offers a range of cost-effective, high performing PCI-104 compliant products that can be used in *PC/104-Plus* stacks.

Compact in form but sacrificing nothing in power, speed and reliability, our customizable, full featured PCI-104 products offer quality options for your industrial and embedded communications needs.

Xtreme I/O Opto



Connect Tech's **Xtreme I/O Opto** is a 48-bit isolated digital input/output board with 24 optically isolated inputs and 24 optically isolated outputs. The flexibility of the FPGA technology enables integration and customization to meet application requirements.

Form Factor	PCI-104 or PC/104-Plus
Connectors	2 x 25 (50 position) 0.1" (DIL) pin headers
Isolation	2kV isolation on all channels
Inputs	24 optically isolated inputs (24-bits) Input voltage range +0 up to +40V DC
Outputs	24 optically isolated outputs (24-bits) Output voltage range +0 up to +40V DC
Dimensions	9.5885cm (3.775") x 9.017cm (3.550")

FEATURED PRODUCT

At a Glance

Serial	Features	Interface	Connectors/Control Signal	Baud
Xtreme/PCI-104 Opto 12 Port	12 optically isolated serial ports	RS-232/422/485	10-pin R/A locking connectors RS-232: 50 bps to 921.6 Kbps, RS-422/485: TxD+/-, RxD+/-, RTS+/-, CTS+/-, SR	RS-232: 50 bps to 921.6 Kbps RS-422/485: 50 bps to 2.06 Mbps
ComSync/PCI-104	2 synchronous/asynchronous serial	-	Two 26-pin 0.100" right angle pitch headers SP508 & SP509: RS-232, RS-422, RS-449, V.35, X.21, EIA-530, EIA-530A; LTC1687CS: RS-422/485	Up to 20 Mbps
FPGA	FPGA Features	Board Features/Peripherals		
FreeForm/PCI-104	Xilinx Virtex-5 (LX30T, LX50T or FX30T) Up to 5 million Gates, PowerPC 440 core (optional)	8MB Flash for embedded code storage, 128MB DDR2-400 memory, User I/O - 64 single ended or 32 LVDS pair, 2 x 10Base-T, 100Base-TX Ethernet, 2 x RS-485 serial interface		
Xtreme I/O Opto	Actel ProASIC3 FPGA (PCI IP Core)	24 optically isolated inputs (24-bits), 24 optically isolated outputs (24-bits), wide input voltage range from +0 up to +40V DC, 2kV of Isolation on all I/O		
Single Board Computers	Available Processors	Interfaces	Expansion Bus	
Xtreme/SBC PCI-104 Single Board Computer	Intel Atom, Freescale i.MX51, TI OMAP, NVIDIA Tegra	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS, VGA Video, 2x RS-232, 2x RS-422/485	PCI-104	
Adapters & Carriers	Host Bus	Expansion Bus	Additional Features / Connections	
PCI-104 Qseven Carrier Board	Qseven	PCIe/104	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS, VGA Video, 2x RS-232, 2x RS-422/485	



PC/104

To meet the unique requirements of the ever-expanding embedded application marketplace, Connect Tech offers a range of cost-effective, high performance multi-port serial cards that are fully PC/104 compliant.

Compact in form but sacrificing nothing in power and reliability, our PC/104 products offer flexible, quality options for your embedded communications needs.

At a Glance

Serial	Ports	Isolation	Line Interface	Control Signal	Baud	UART/Controller
Xtreme/104	4	-	RS-232 or RS-422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD	RS-232: 50 bps to 230 Kbps/Custom	Quad, 64 Byte FIFO
	8	-	RS-232 or RS-422/485	RS-422/485: TxD±,RxD±,CTS±,RTS±	RS-422/485: 50 bps to 460.8 Kbps/Custom	
Xtreme/104 RS-232	4	-	RS-232	Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD	50 bps to 230 Kbps/Custom	Quad, 64 Byte FIFO
	8	-	RS-232	Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD	50 bps to 230 Kbps/Custom	
Xtreme/104 Opto	2	3kV AC,3kv DC,2.1kVAC RMS	RS-232 or RS-422/485	RS-232: Tx,Rx,RTS,CTS	RS-232: 50 bps to 230 Kbps/Custom	Dual, 128 Byte FIFO
				RS-422/485: TxD±,RxD±,CTS±,RTS±	RS-422/485: 50 bps to 460.8 Kbps/Custom	
	4	3kV AC,3kv DC,2.1kVAC RMS	RS-232 or RS-422/485	RS-232: Tx,Rx,RTS,CTS	RS-232: 50 bps to 230 Kbps/Custom	Dual, 128 Byte FIFO
				RS-422/485: TxD±,RxD±,CTS±,RTS±	RS-422/485: 50 bps to 460.8 Kbps/Custom	
Xtreme/104 Isolated 12 Port	12	1.4kV AC RMS	4 RS-232,8 RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,ISOGND	RS-232: 50 bps to 115.2 Kbps/Custom	Dual, 128 Byte FIFO
				RS-422/485: TxD±,RxD±,CTS±,RTS±,ISOGND	RS-422/485: 50 bps to 460.8 Kbps/Custom	
ComSync/104	2 Sync/Async Serial	-	RS-232,RS-422,RS-449,	Tx±,Rx±,DCD±,RTS±,CTS±,DSR±,DTR±,	Up to 4.9 Mbps	Zilog 85230 ESCC
			EIA-530,EIA-530/A,V.35 & X.21	SYNC±,TRxC±,RTxC±		
FPGA	FPGA Features		Form Factor	Board Features/Peripherals		
FreeForm/104	Xilinx Spartan-3E, 500,000 Gates, 360K RAM		PC/104	96 digital I/O (8255 compatible), 6 x 8254 counter/timers, FPGA configurable through JTAG or SPI flash (4Mb), external 5V power connection for standalone usage, 4 configurable LEDs, on-board reset switch, 8 position rotary switch		
FreeForm/104 Daughter Board	Serial interfacing adapter board for Spartan-3E FreeForm/104		PC/104	Two switchable RS-232, RS-422 or RS-485 channels, configurable to be fully synchronous or asynchronous, pass-through PC/104 connector		

Xtreme/104 Isolated 12 Port



Xtreme/104 Isolated 12 Port is a high density adapter which offers 12 asynchronous serial ports and complies with PC/104 form factor standards. It features eight jumper selectable RS-232/422/485 ports with support for all three RS-485 modes, and includes four dedicated RS-232 ports.

Ports	12
Control Signals	RS-232: TxD, RxD, RTS, CTS, ISOGND RS-422/485: (TxD, RxD, CTS, RTS) ±, ISOGND
Connectors	10-pin connectors for RS-232/422/485 ports 6-pin connectors for RS-232 ports
Temperature	-40° C to 85° C (-40° F to 185° F)
Power	+5V DC 500mA (typical), 1A (maximum)

FEATURED PRODUCT

CANpro/104 Opto



CANpro CAN Controller Cards with 3kV Optical Isolation

Connect Tech's CAN controller cards offer two powerful NXP SJA1000 CAN controllers, along with network control capabilities and 3kV optical isolation to ensure maximum protection for your applications.

Robust CAN Interface

CANpro CAN controller cards provide secure implementation of a data-link layer resulting in faster, more robust communications. CANpro's data-link layer ensures that priority messages get transferred first.

Optical Isolation

CANpro was designed with up to 3kV optical isolation for each port. Optical isolation increases noise immunity, while protecting your data and system from electrical spikes that may potentially harm your embedded system.

Application Areas

A streamlined design provides increased dependability and high data rates to make CANpro the ideal choice for your control applications. Use CANpro for automotive, medical, military, aerospace and industrial control applications.

At a Glance

Product	Ports	Bus	Isolation	CAN Interface	CAN Controllers	Connectors	Baud
CANpro/104 Opto	2	PC/104	3kV	T1 ISO1050 Dominant State Timeout	2 x NXP SJA1000, CAN 2.0B compliant	Standard: 10-pin right angled header Optional: DB-9	1.0Mbps
CANpro/104-Plus Opto	2	PC/104-Plus PCI-104	3kV	T1 SN65HVD251 Supports 110 nodes	2 NXP SJA 1000, CAN 2.0B compliant	Standard: 2 x 10-pin right angled headers Optional: DB-9	1.0Mbps, supports 110 nodes

CANpro/104-Plus Opto



CANpro/104-Plus is based on the PC/104-Plus bus and includes two powerful NXP SJA1000 CAN controllers, along with 3kV optical isolation.

Clock	16MHz CAN controller clock
Connector	Standard: 10-pin, right angled header Optional: DB-9
Controllers	Two NXP SJA1000 CAN controllers
CAN Interface	T1 SN65HVD251
Temperature	-40°C to 85°C (-40°F to 185°F)
Power	+5V DC 500mA (maximum)

Protection for your embedded networking applications

CANpro products combine the power of two NXP SJA1000 CAN controllers with the compact size and rugged stability of PC/104 and PC/104-Plus

**1 Mbps Operation • Fail-Safe Transceivers
Optical Isolation • Industrial Temperature**



FlashDrive/104



✓RoHS

FlashDrive/104 is a flash based, solid state storage module designed as a drop-in replacement for magnetic hard drives. High density memory chips provide immense storage capabilities to ensure reduced latency and faster data transfer. Requires no drivers.

Form Factor	PC/104 - Supports all platforms and operating systems
Capacity	4, 8, 16 or 32GB
Connector	Standard 40-pin, 100" and 2.5" - 44-pin, 2mm
Hard Disk	ATA/IDE
Current	Idle: 5 mA Read/Write Cycles: 150 mA
Temperature	-40°C to 85°C (4, 8, 16 or 32GB models)
Power	+5V DC (± 5%)

PC/104 WIRELESS RADIO MODEMS

Xtreme/104 Radio Modem



✓RoHS

Xtreme/104 Radio Modem is cost-effective and reliable provides wireless, long range communications for embedded PC/104 applications. This card incorporates Cirronet's WIT910 900 MHz frequency hopping spread spectrum technology which provides immunity to jamming and multipath fading, ensuring transparent, robust communications.

Bus	PC/104
Power	Powered via PC/104 bus - requires only 5V DC
Temperature	Operating temperature: 0°C to 70°C (32°F to 158°F)
Dimensions	Width: 9.1 cm (3.6 inches) Length: 9.7 cm (3.8 inches) Height: 1.1 cm (0.44 inches)
Warranty	One year limited

At a Glance

Product	Cirronet Model	Frequency Range	Operating Range	I/O Data Rate	Bandwidth	UART
Xtreme/104 Radio Modem	WIT910	900 MHz	Up to 20 miles	Up to 86.4 Kbps	460 KHz	16 Byte FIFO
	WIT2450	2.4 GHz	Up to 5 miles	Up to 230.4 Kbps	864 KHz	16 Byte FIFO
	WIT2410	2.4 GHz Roaming	Up to 6 miles	Up to 230.4 Kbps	750 KHz	16 Byte FIFO

What is FeaturePak?

FeaturePak is a mezzanine-style standard designed to work with existing standards such as PC/104, SUMIT, Qseven, ETX, XTX, COM Express, etc. FeaturePak modules are smaller than a credit card at 42mm x 65mm in size and make use of a low-cost connector to integrate all host and external I/O interfaces. FeaturePak allows users to reconfigure system designs using off-the-shelf modules based on an open standard that will ensure a strong eco-system.

Connect Tech's FeaturePak products include **Xtreme/FP**, a 4 port multi-port serial and digital IO FeaturePak module, and **PCI Express to FeaturePak Adapter** which converts any FeaturePak Module to PCI Express.

Xtreme/FP

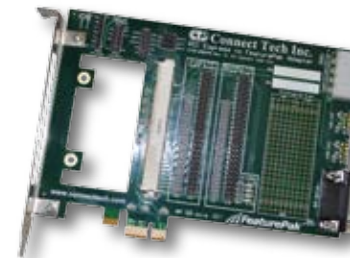


✓RoHS

Xtreme/FP is a 4 port multi-port serial and digital/IO FeaturePak Module designed to add four high speed serial ports and 16-bits of GPIO to any FeaturePak compatible base board or single board computer.

Ports	4 Ports RS-232
Connectors	IO connected to FeaturePak IO Pins
Temperature	-40°C to 85°C (-40°F to 185°F)
Power	500mA
UART	PCI Express UART, 256 Byte FIFO
Baud	1 Mbps
Dimensions	2.550" x 1.7"

PCI Express to FeaturePak Adapter



✓RoHS

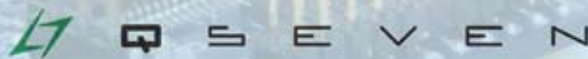
PCI Express to FeaturePak Adapter converts any FeaturePak Module to PCI Express. This adapter supports any x1, x4, x8 or x16 lane PCI Express slot. Simply mount the FeaturePak module to the adapter and install the adapter into any PCI Express slot.

Connectors	2mm + .1" FeaturePak IO headers, 2x Micro B USB, JTAG, ATX Power, DB-9
Temperature	-40°C to 85°C (-40°F to 185°F)
Features	Custom prototyping area x1 lane PCI Express card edge allows installation in any slot width (x1, x4, x8, x16)
Dimensions	4.350" x 6.000"

PCIe/104 & PCI-104 Qseven Carrier Boards

*Integrates with any industry
standard Qseven module*



 Q S E V E N

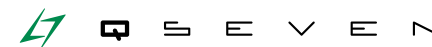


PCI Express
USB 2.0
Serial ATA
VGA Display
Serial Interfaces
Gigabit Ethernet
LVDS Display Interface

Qseven Carrier Boards for PCIe/104 and PCI-104

Connect Tech's **PCIe/104 Qseven Carrier Board** and **PCI-104 Qseven Carrier Board** solutions are small embedded carrier boards that allow complete integration with industry standard Qseven modules. Using any off-the-shelf Qseven module provides a variety of embedded processor options including Intel Atom, Freescale i.MX51, TI OMAP and NVIDIA Tegra. This modular approach easily accommodates future generations of Intel Atom processors, such as Intel Atom E6xx, or ARM based processors, such as Cortex A8. The on-board connectors of our Qseven products provide easy access to SATA, USB, Ethernet, LVDS and VGA Video, and RS-232 & RS-422/485.

What is Qseven?



Qseven is an off-the-shelf, multi-vendor, Computer-on-Module that integrates the core components of a common PC, and mounts onto an application specific carrier board. Qseven modules have a standardized form factor of 70mm x 70mm and have specified pin-outs utilizing a low cost, high-speed MXM connector system with a standardized pin-out, regardless of the vendor. Qseven module functions can include, but are not limited to, graphics, sound, mass storage, network, and multiple USB ports. A single ruggedized MXM connector provides the carrier board interface to carry all the I/O signals to and from the Qseven module.

CTI Off-the-Shelf and Modified Solutions

PCIe/104 and PCI-104 Qseven Carrier Boards are ideal off-the-shelf solutions for a broad range of applications. Achieve rapid proof of concept and deploy systems for field trials with off-the-shelf hardware.

Through our engineering services, customers will benefit from our modified designs. The Connect Tech engineering team is skilled at creating customer-specific products that ensure both time to market and price targets are met.

PCIe/104 Qseven Carrier Board



The **PCIe/104 Qseven Carrier Board** is a small embedded carrier board that allows complete integration with any industry standard Qseven module. The PCIe/104 Qseven Carrier Board utilizes the PC/104 form factor with 4 x1 PCIe lanes and the PCIe/104 bus.

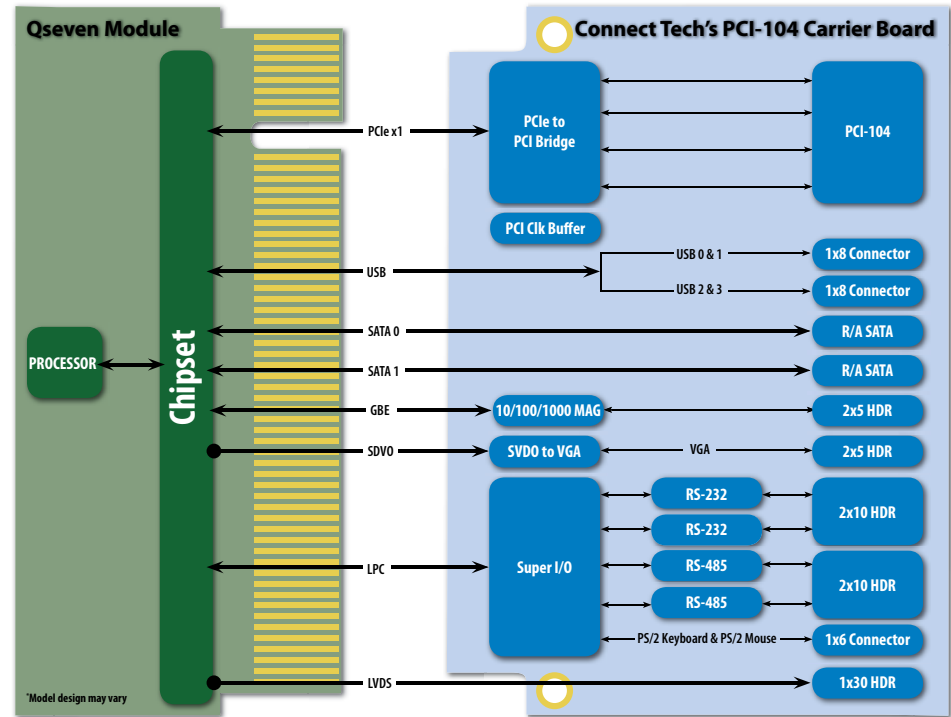
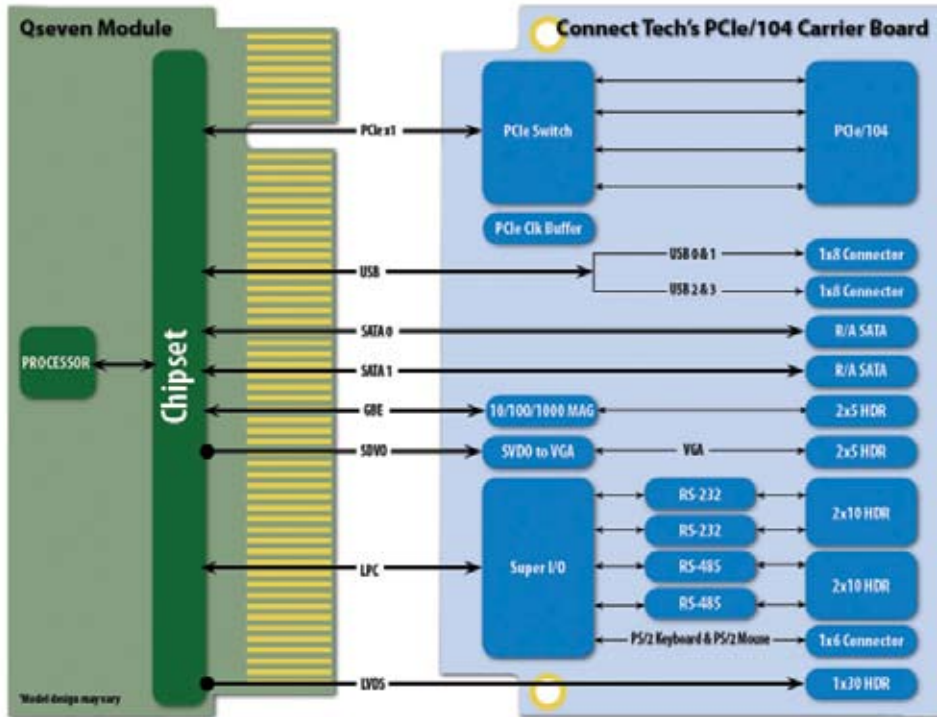
Form Factor	PCIe/104, 4x1 PCIe lanes
Interfaces	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS & VGA Video, 2x RS-232, 2x RS-422/485
Power	ATX Supply Input or +5V/+12V only
Temperature	-20°C to 70°C (-4°F to 158°F)
Dimensions	PC/104 Compliant

PCI-104 Qseven Carrier Board



The **PCI-104 Qseven Carrier Board** is a small embedded carrier board that allows complete integration with any industry standard Qseven module. PCI-104 Qseven Carrier Board utilizes the PC/104 form factor and the PCI-104 bus, and allows installation of up to 4 PCI-104 boards.

Form Factor	PCI-104
Interfaces	2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS & VGA Video, 2x RS-232, 2x RS-422/485
Power	ATX Supply Input or +5V/+12V only
Temperature	-20°C to 70°C (-4°F to 158°F)
Dimensions	PC/104 Compliant



Blue Heat/Net 2



Blue Heat/Net 4 or 8 DB-9



Blue Heat/Net 4 or 8 RJ-45



Blue Heat/Net 16



Blue Heat/Net Sync



Blue Heat/Net Ethernet-to-Serial Solutions

Connect Tech's **Blue Heat/Net Ethernet-to-Serial** solutions offer network-enabling capabilities for serial devices, including legacy systems. Add virtual serial ports as required, and instantly access, configure and control these devices remotely from any workstation that is connected to an Ethernet LAN or the Internet.

Blue Heat/Net is one of the most flexible Ethernet-to-serial products on the market and offers superior performance and reliability to ensure that your critical data communications remain error free. Network enable your serial devices with Connect Tech's Blue Heat/Net.

For custom applications, a free development kit is available.

At a Glance

Product	Ports	LAN Interface	Line Interface	Control Signal	Baud
Blue Heat/Net 2	2	Auto sensing 10Base-T,100Base-TX Ethernet	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: (Tx,Rx,RTS,CTS)±,SR	50 bps to 460.8 Kbps/Custom
Blue Heat/Net 4 or 8 DB-9	4/8	Auto sensing 10Base-T,100Base-TX Ethernet	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: (Tx,Rx,RTS,CTS)±,SR	50 bps to 460.8 Kbps/Custom
Blue Heat/Net 4 or 8 RJ-45	4/8	Auto sensing 10Base-T,100Base-TX Ethernet	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,DTR,DSR,DCD,GND RS-422/485: (Tx,Rx,RTS,CTS)±,SR	50 bps to 230.4 Kbps/Custom
Blue Heat/Net 16	16	Auto sensing 10Base-T,100Base-TX Ethernet	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: (Tx,Rx,RTS,CTS)±,SR	50 bps to 460.8 Kbps/Custom
Blue Heat/Net Sync	4	Auto sensing 10Base-T,100Base-TX Ethernet	RS-232/422/423/449	Single Ended: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,RxClock,TxClock Differential: (Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,RxClock,TxClock)±	Synchronous: up to 10 Mbps Asynchronous: up to 230.4 Kbps

Blue Heat/Net Sync



Blue Heat/Net Sync offers a synchronous Ethernet-to-serial solution for data communications.

- Four synchronous/asynchronous serial ports
- Bipolar reference clock input accepts sine/square wave signals
- uClinux embedded operating system

Ports	4
Control Signals	Single ended: TxD, RxD, CTS, RTS, DTR, RI, DCD, DSR, RxClock, TxClock Differential: (TxD, RxD, CTS, RTS, DTR, DCD, DSR)±, RxClock, TxClock
LAN Interfaces	V.28, V.10, V.11, V.35, EIA-530, V.36
Protocols	SDLC, HDLC, MonoSync, BiSync, Transparent BiSync, Async Ethernet Protocols: IP, TCP, UDP, ARP, RARP, TFTP, DHCP, BootP, HTTP, Telnet, ICMP, PPP
Power	5VDC (2.5A) - 28VDC (450 mA) using DC barrel or Phoenix screw terminal connector
Temperature	0 °C to 60 °C (32 °F to 140 °F)

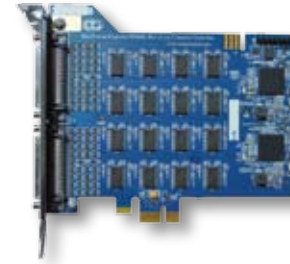
FEATURED PRODUCT



Multi-Port Serial Products

BlueStorm Express products are robust, reliable, and enable high speed data transfer, along with scalability for future advances in high-performance computing. These multi-port asynchronous serial cards allow 2 to 16 ports of RS-232/422/485 connectivity for PCI Express applications, and are compatible with any x1, x4, x8 or x16 PCIe slot.

BlueStorm Express 8/16 Port RS-232



BlueStorm/Express 8/16 Port RS-232 is a standard profile PCI Express serial card offering 8 or 16 ports of RS-232 connectivity, compatible with any PCI Express slot.

Ports	8/16
Control Signals	TxD, RxD, RTS, CTS, RI, DTR, DSR, DCD
Baud	50 bps to 1 Mbps
Temperature	-40 °C to 85 °C (-40 °F to 185 °F)
Power	+3.3V DC @ 300 mA maximum

FEATURED PRODUCT

At a Glance

Serial	Ports	Low Profile	Isolation	Line Interface	Control Signal	Maximum Baud Rate	UART
BlueStorm/Express	2	-	-	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: (Tx,Rx,CTS,RTS)±,GND	RS-232: 1 Mbps RS-422/485: 7.8 Mbps	Dual PCIe 256 Byte TX and RX FIFOs
	4	-	-	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: (Tx,Rx,CTS,RTS)±,GND	RS-232: 1 Mbps RS-422/485: 7.8 Mbps	Quad PCIe 256 Byte TX and RX FIFOs
	8	-	-	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: (Tx,Rx,CTS,RTS)±,GND	RS-232: 921.6 Kbps RS-422/485: 1.843 Mbps	Octal PCI 64 Byte TX and RX FIFOs
	16	-	-	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: (Tx,Rx,CTS,RTS)±,GND	RS-232: 921.6 Kbps RS-422/485: 1.843 Mbps	2x Octal PCI 64 Byte TX and RX FIFOs
BlueStorm/Express Opto	4	-	3kV	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,GND RS-422/485: (Tx,Rx,RTS,CTS)±,GND	RS-232: 921.6 Kbps RS-422/485: 1.843 Mbps	2x Dual PCI 64 Byte TX and RX FIFOs
	8	-	1kV (4 Ports)	RS-232/422/485	RS-232: Isolated: Tx,Rx,RTS,CTS,GND Non-Isolated: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: Isolated: (TxD,RxD,RTS,CTS)±,GND Non-Isolated: (TxD,RxD,RTS,CTS)±,GND	RS-232: 921.6 Kbps RS-422/485: 1.843 Mbps	Octal PCI 64 Byte TX and RX FIFOs
*BlueStorm/Express LP	8	✓	-	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: (Tx±,Rx±,CTS±,RTS±)±,GND	RS-232: 1 Mbps RS-422/485: 7.8 Mbps	Octal PCI 64 Byte TX and RX FIFOs
	2	✓	-	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,GND RS-422/485: (Tx,Rx,CTS,RTS)±,GND	RS-232: 1 Mbps RS-422/485: 7.8 Mbps	Dual PCIe 265 Byte TX and RX FIFOs
BlueStorm/Express Isolated	8	-	2kV	RS-232	Tx,Rx,RTS,CTS,DCD,DTR	RS-232: 1 Mbps	Octal, 256 Byte FIFO 265 Byte TX and RX FIFOs
	8	-	-	RS-232	Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD	50 bps to 1 Mbps	Octal, 256 Byte FIFO
BlueStorm/Express 8/16 Port RS-232	8	-	-	RS-232	Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD	50 bps to 1 Mbps	Octal, 256 Byte FIFO
	16	-	-	RS-232	Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD	50 bps to 1 Mbps	Octal, 256 Byte FIFO
FPGA	FPGA Features			Form Factor	Board Features/Peripherals		
FreeForm/Express S6	Xilinx Spartan-6 LX45T FPGA with FPGA Mezzanine Card (FMC)			PCIe	integrated PCI Express® blocks, advanced memory support, and 3.125 Gbps low-power transceivers, 128MB DDR3 RAM, low pin count FMC connector, 2x 10/100/1000 Ethernet, RS-232 port		

*Low profile models are available with standard height brackets.



BlueStorm/Express



BlueStorm/Express Opto



BlueStorm/Express Opto (1KV)



BlueStorm/Express LP



BlueStorm/Express LP Opto



BlueStorm/Express Isolated



FreeForm/Express S6

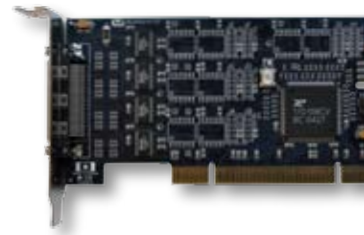
Universal PCI Bus

Connect Tech's Universal PCI multi-port serial cards offers the most flexibility for your dollar while ensuring quality and reliability. We offer a wide range of options so that you can select the best possible fit for your application. Our Universal PCI cards include options such as multiple electrical interfaces, standard height and low profile models, optical isolation and a variety of connector and cabling options. All Connect Tech Universal PCI cards can be used in either a 5 volt or 3.3 volt PCI slot.

At a Glance



BlueStorm/LP RS-232 & RS-422/485



BlueStorm/LP is ideal for high density chassis or low profile PCs. It can be installed in either a 3.3V or 5V system, and fits into low profile and standard height PCI computers. Universal PCI 2.3 compliant.

Ports	2, 4 or 8
Control Signals	RS-232: TxD, RxD, CTS, RTS, DTR, RI, DCD, DSR, SG RS-422/485: (TxD, RxD, CTS, RTS) \pm , SR
Baud	RS-232: 50 bps to 921.6 Kbps RS-422/485: 50 bps to 1.8432 Mbps
Temperature	0°C to 70°C (32°F to 158°F)

Product	Ports	Low Profile	Line Interface	Control Signal	Baud	UART
BlueStorm/SP	8	-	RS-232/422/485	RS-232: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND RS-422/485: (Tx,Rx,CTS,RTS) \pm ,GND	RS-232: 50 bps to 921.6 Kbps RS-422/485: 50 bps to 1.8432 Mbps	Octal, 64 Byte FIFO
BlueStorm/SP RJ-11	8	-	RS-232 6 RJ-11 connectors/2x10 pin headers	Tx,Rx,RTS,DSR,GND,DC Power 10 Pin Header: Tx,Rx,RTS,CTS,DTR,DSR,DCD,RI,SG	50 bps to 921.6 Kbps	Octal, 64 Byte FIFO
BlueStorm/SP Opto	4	-	RS-232/422/485, 3kV optical isolation	RS-232: Tx,Rx,RTS,CTS,GND RS-422/485: TxD \pm ,RxD \pm ,RTS \pm ,CTS \pm ,GND	RS-232: 50 bps to 921.6 Kbps RS-422/485: 50 bps to 1.8432 Mbps	Dual, 64 Byte FIFO Dual, 64 Byte FIFO
*BlueStorm/LP RS-232	2	✓	RS-232	Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND	50 bps to 921.6 Kbps/Custom	Dual/Quad/Octal, 64 Byte FIFO
	4	✓	RS-232 2+2 Ports RS-232+RS-422/485	Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND	50 bps to 921.6 Kbps/Custom	Dual/Quad/Octal, 64 Byte FIFO
	8	✓	RS-232 4+4 Ports RS-232+RS-422/485	Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND	50 bps to 921.6 Kbps/Custom	Dual/Quad/Octal, 64 Byte FIFO
*BlueStorm/LP RS-422/485	2	✓	RS-422/485	TxD \pm ,RxD \pm ,RTS \pm ,CTS \pm ,GND	50 bps to 1.8432 Mbps/Custom	Dual/Quad/Octal, 64 Byte FIFO
	4	✓	RS-422/485 2+2 Ports RS-232+RS-422/485	TxD \pm ,RxD \pm ,RTS \pm ,CTS \pm ,GND	50 bps to 1.8432 Mbps/Custom	Dual/Quad/Octal, 64 Byte FIFO
	8	✓	RS-422/485 4+4 Ports RS-232+RS-422/485	TxD \pm ,RxD \pm ,RTS \pm ,CTS \pm ,GND	50 bps to 1.8432 Mbps/Custom	Dual/Quad/Octal, 64 Byte FIFO

*Low profile models are available with standard height brackets.

Titan/cPCI (Rear & Front I/O)



✓RoHS

Titan/cPCI (Rear & Front I/O) Adapters offer 2 or 4 asynchronous RS-232 and/or RS-422/485 serial ports. This flexible adapter board includes 2 or 4 ports of jumper selectable RS-232 or RS-485 configuration, the option for front or rear I/O, and support for many popular operating systems.

Ports	2 and 4 asynchronous RS-232 and/or RS-422/485
Bus	CompactPCI Bus
Signals	RS-232: DTR, DSR, RTS, CTS, TxD, RxD, RI, DCD, GND RS-422/485: (TxD, RxD, CTS, RTS) \pm , Signal Reference
Dimensions	CompactPCI PICMG 2.0, version 3.0 compliant
Temperature	Operating: 0°C to 70°C (32°F to 158°F)
Power	+5V DC \pm 5% @ 300 mA (typical)
Isolation	Optional 3kV (Rear I/O)
Baud	RS-232: 50 bps to 230.4 Kbps RS-422/485: 50 bps to 1.8342 Mbps
UART	16C950 quad UARTs with 128 byte TxD/RxD FIFO buffers

Echo/ISA



✓RoHS

Echo/ISA is an 8 port serial card designed for users who require continued support for ISA bus based systems. Multiple Echo boards can reside in a system to accommodate large multi-channel I/O requirements. This flexible solution enables independent configuration of each port's baud rate, parity, data and stop bits, and supports many popular operating systems.

Ports	8 asynchronous serial ports
Bus	ISA Bus
Signals	RS-232: RTS, CTS, TxD, RxD, DCD, DTR, DSR, RI, GND RS-422/485: (TxD, RxD, CTS, RTS) \pm , Signal Reference
Connectors	DB-9 or DB-25 male cable or connector box (custom connectors offered)
Temperature	Operating: 0°C to 70°C (32°F to 158°F)
Power	RS-232: +5V \pm 5% @ 100 mA+12V \pm 10% @ 5 mA (no driver loads) @ 100 mA (all drivers loaded) -12V \pm 10% @ 4 mA (no driver loads) @ 100 mA (all drivers loaded) RS-422/485: +5V \pm 5% @ 125mA (no driver loads) @ 445mA (all drivers loaded)

USB-TO-SERIAL

WhiteHEAT/USB



✓RoHS

WhiteHEAT/USB is a low profile adapter that allows users to connect serial peripherals to a computer. Affordable, reliable, and fast, WhiteHEAT/USB supports data communications speeds up to 460.8 Kbps and offers convenient Plug and Play capabilities.

Ports	4 asynchronous serial ports
Signals	RS-232: RTS, CTS, TxD, RxD, DCD, DTR, DSR, RI and Signal Ground
Protection	ESD Protection: \pm 8kV (IEC 1000-4-2, contact discharge) \pm 15kV (IEC 1000-4-2, air gap discharge)
Temperature	Operating temperature: 0°C to 70°C (32°F to 158°F)
Power	120 mA (bus powered device)
UART	Quad, 64 Byte FIFO
Baud	50 to 460.8Kbps

Simplify and Accelerate the Development Process

Development tools provided by Connect Tech allow users to simplify and accelerate the development process.

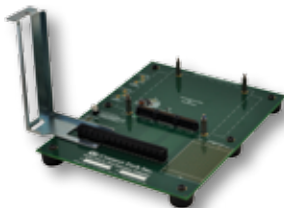
PCI Express to PCIe/104 Adapter

- Function:** Install a PCIe/104 or PCI/104-Express card into a standard PCI Express slot
- Bus:** PCIe/104 and PCI/104-Express compatible
- Size:** **Length:** 11.11cm (4.375") **Width:** 10.29cm (4.050")
- Connector:** PCIe/104 156-pin / PCI-104 120-pin
- Features:** x1 lane PCI Express card edge for installation in any slot width



PCIe/104 to PCI Express Adapter - Bottom Stacking

- Function:** Install a PCI Express card into a PCIe/104 or PCI/104-Express single board computer system in a stack down configuration
- Bus:** PCIe/104 and PCI/104-Express compatible
- Size:** **Length:** 19.3cm (7.6") **Width:** 15.2cm (6")
- Connector:** 156 pin PCIe/104 top connector; footprint for 2x USB Type B connector
- Features:** x16 lane vertical PCI Express card edge (supports x1, x4, x8 or x16)



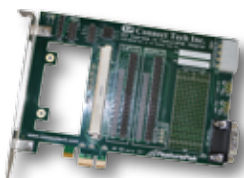
PCIe/104 to PCI Express Adapter - Top Stacking

- Function:** Install a PCI Express card into a PCIe/104 or PCI/104-Express single board computer system in a stack up configuration
- Bus:** PCIe/104 and PCI/104-Express compatible
- Size:** **Length:** 9.5885cm (3.775") **Width:** 9.017cm (3.550")
- Connector:** 156 pin PCIe/104 bottom connector
- Features:** x16 lane vertical PCI Express card edge (supports x1, x4, x8 or x16)



PCI Express to FeaturePak Adapter

- Function:** Converts any FeaturePak Module to PCI Express
- Bus:** PCI-Express
- Size:** **Length:** 11.05cm (4.350") **Width:** 15.2cm (6")
- Connector:** 2mm +.1" FeaturePak IO headers, 2x Micro B USB, JTAG, ATX Power, DB-9
- Features:** All 100 FeaturePak IO signals are brought out to vertical headers



PCI to PC/104-Plus Adapter

- Function:** Install a PCI-104 or PC/104-Plus serial card into a standard Universal PCI slot
- Bus:** PCI to PC/104-Plus
- Size:** **Length:** 10.69cm (4.2") **Width:** 12.48cm (4.913")
- Connector:** PCI-104 120 pin and PC/104 64 and 40 pin stack-through connectors
- Features:** Compatible with standard Universal 3.3V or 5V slot



ISA to PC/104 Adapter

- Function:** Install an 8 or 16-bit PC/104 card into a standard ISA system
- Bus:** ISA to PC/104 bus
- Size:** **Length:** 15.62cm (6.145") **Width:** 10.68cm (4.2")
- Connector:** PC/104 64 and 40 pin passive stack-through connectors
- Features:** 16x11 (.100" grid) breadboarding area for assembly and testing



PC/104-Plus to Mini PCI Adapter

- Function:** Install a Mini PCI card into a standard PCI/104-Plus stack
- Bus:** PCI/104-Plus to Mini PCI
- Size:** **Length:** 9.02cm (3.55") **Width:** 9.60cm (3.78")
- Connector:** PC/104-Plus 120 pin and PC/104 64 and 40 pin stack-through connectors
- Features:** 3.3V regulator delivers 2 watts of power to the Mini PCI card



PCI Dump Switch Card

- Function:** Allows debugging during system hang-ups
- Bus:** Universal PCI
- Size:** **Length:** 11.99cm (4.72") **Width:** 6.44cm (2.54")
- Connector:** Transparent PCI to PCI bridge
- Features:** Universal 32-bit PCI card (PCI 2.3 compliant)



PCIe/104 to Mini-PCIe Card Adapter

- Function:** Allows a Mini-PCIe (PCI Express Mini Card) to be operated in a PCIe/104 (PC/104-Express) card stack
- Bus:** PCIe/104 (PC/104-Express)
- Size:** **Length:** 9.02cm (3.55") **Width:** 9.60cm (3.78")
- Connector:** PCIe/104
- Features:**
- 3.3V (at 3A) and 1.5V (at 1A) DC power
 - Power is drawn from the PCIe/104 Bus connector
 - Half-Mini and Full-Mini PCIe card supported
 - SIM card support, USB, and PCI bus pass-through (all optional)



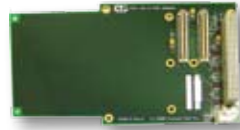
PCI Express Dump Switch Card

- Function:** Allows debugging during system hang-ups
Bus: PCI-Express
Size: **Length:** 6.7cm (2.64") **Width:** 6.8cm (2.68")
Connector: Transparent PCIe to PCI bridge
Features: x1 lane PCIe (PCI Express 1.0 compliant)



PCI-104 to PMC Adapter

- Function:** Easily install a PMC card into a PCI-104 or PC/104-Plus stack
Bus: PCI-104 and PC/104-Plus compatible
Size: **Length:** 9.02cm (3.550") **Width:** 16.58cm (6.526")
Connector: PCI-104 120 pin stack-through / 2x64 pin passive PMC connectors
Features: Operates multiple PMC cards in a PCI-104 stack with multiple adapters



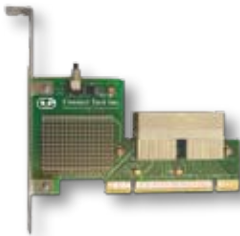
PCI Express Burn-in Rack Adapter

- Function:** Burns up to 10 15W or 25W PCI Express cards simultaneously with lane widths from x1 to x16 in any combination
Bus: PCI-Express
Size: **Length:** 31.5cm (12.4") **Width:** 13.97cm (5.5")
Connector: Standard ATX power supply connectors to power common components
Features: Quick verification of power conditions and lane widths via on board LEDs



PCI to CompactPCI Adapter

- Function:** Install a CompactPCI card into a standard Universal PCI system
Bus: PCI to CompactPCI bus
Size: **Length:** 12.00cm (4.721") **Width:** 6.40cm (2.525")
Connector: CompactPCI 110 pin male A connector for connection to host system
Features: 16x11 (.100" grid) breadboarding area for assembly and testing



Technical Support

Connect Tech upholds its reputation for providing exceptional customer service and support. Our highly trained technical support team is dedicated, knowledgeable and experienced. They are up to date on the latest in hardware and software technologies. We offer free technical support worldwide and are accessible Monday to Friday, 8:30 am to 5:00 pm EST by telephone, fax and email. Visit our web site for current product manuals, installation guides and software drivers. Connect Tech supports the most popular operating systems, including:



Connect Tech Satisfaction Guarantee

The key to our success: we're driven by the belief that customer satisfaction is as important as quality products. We build solid relationships with our customers by providing quality products around the world, backed by exceptional customer support.

Quality Assurance

Connect Tech Inc. is ISO 9001:2008 certified

All CTI products undergo critical testing and inspection programs to ensure product quality, performance and reliability. Connect Tech's commitment to quality is recognized globally through our ISO 9001:2008 certification. Visit our website to view our FCC, CE and UL approved products.

Global Service

Connect Tech acknowledges that being at arms length with customers enables the ability to provide faster quotes, shorter lead times and lower shipping costs. Connect Tech has made partnerships around the world to ensure you are served in a timely and cost-effective manner.

Lifetime Warranty

Connect Tech offers a Lifetime Warranty for our hardware products. We warrant each product to be in good working order for the product's life cycle. Visit our web site at www.connecttech.com for details.



Connect Tech Inc.