

Connect Tech Product Catalogue

WHATEVER THE CHALLENGE

Creative Technologies Enabling Communications

COTS - Prototyping - SWaP

2025

ABOUT US

THE JUNCTION is a distributor of professional IT infrastructure and data connectivity products. We offer an extensive range of reliable, high-quality serial connectivity devices and embedded boards for both commercial and ruggedized applications. Our suppliers rank amongst the world's technology leaders in each of their fields.

We cater for wide variety hardware platforms from legacy and standard PCs to PC/104 derivatives and Small Form Factor technologies, to CompactPCI and OpenVPX, and others yet to come. The areas of deployment cover the entire gamut of commercial and industrial applications. These range from relatively straightforward serial I/O wired connections to complex industrial and maritime applications. These include PLC automation, alarm systems, medical journaling, industrial flow control, rail and road signalling, voice recording, PBX, sewerage, oil & gas, UAVs, AUVs, ROVs, ATC, Space Research, aeronautics, and more.

Our portfolio incorporates regular commercial products as well as industrial equipment for rugged environments where there is a requirement for wide temperature ranges and in some cases consideration for vibration.

Several of our engineering partners offer custom design facilities. Among such clients to whom we have delivered equipment in recent years are [SAAB](#) (devices for monitoring UAVs and other aircraft as part of the EADS MIDCAS project), [Kongsberg Maritime](#) and [Kapsch TrafficCom](#).

CONNECT TECH

Connect Tech is a hardware design and manufacturing company that specializes in rugged, small form factor solutions. They have a nimble engineering team ready to engage in Custom Design when “off-the-shelf” is not an option. Innovative design is not all they do – the company is driven by the belief that custom satisfaction is as important as a quality product. It is their goal to continue this tradition in the future development of innovative designs and to exceed the expectations of all customers with whom they come into contact.

AUTHORIZED DISTRIBUTOR / RESELLER

The Junction AS

☎ +47 40 40 34 02

✉ Sales@TheJunction.eu

www.TheJunction.eu

PUBLISHER

The Junction



CONCEPT AND DESIGN

Digital Office s.r.l.

www.design-office.ro

ARTWORK

www.shutterstock.com

Table of Contents

PRODUCT CATEGORIES

CAN Controllers
Cellular/Satellite M2M - RoadWarrior
COM Express®
COM Express® Type 7 + GPU Embedded System
COM HPC®
Development Tools & Adapter
Edge Devices - The Kube
Embedded Ethernet Devices - LINQ/GbE
Embedded Ethernet Switches & NICs
Ethernet Switches & NICS
M.2
Mini PCIe

Multiport Asynchronous
Multiport Synchronous
PCI Express
PMC/XMC
Qseven
SMARC
VPX



LEGACY PRODUCTS

COM Express® + GPU Embedded System
ComSync/PCI-104
Blue Heat/Net Sync
Blue Heat - Ethernet to Serial
FPGA
PCI

PART NUMBER OVERVIEW

PRODUCT CHANGE NOTIFICATIONS (PCN)

Click on the URL to join Connect Tech's BSP Mailing List:

<https://connecttech.com/resource-center/l4t-board-support-packages/>

Part Number Overview

ADG001	ADG054	BFG005	CCG002	DXG204	M2G202	PSG004	PXG308	VPG102	XDG020
ADG003	ADG061	BLG006	CCG003	DXG301	M2G203	PSG005	PXG309	VPG103	XDG021
ADG004	ADG075	BLG008	CCG007	DXG302	M2G204	PSG006	PXG310	VPG201	XDG022
ADG005	ADG077	BLG010	CCG008	ESG301	M2G205	PSG013	PXG311	VPG202	XDG023
ADG006	ADG078	BLG012	CCG010	ESG302	M2G206	PXG101	PXG312	VPG301	XDG024
ADG010	ADG080	BLG018	CCG011	ESG401	M2G207	PXG102	QCG001	VXG201	XDG025
ADG013	ADG087	BLG020	CCG012	ESG701	MPG001	PXG103	QCG002	VXG202	XDG032
ADG016	ADG092	BLG022	CCG013	ESG702	MPG002	PXG104	QCG005	VXG203	XDG033
ADG017	ADG093	BLG024	CCG016	ESG703	MPG003	PXG105	QCG006	VXG204	XDG101
ADG018	ADG094	BLG026	CCG017	ESG704	MPG004	PXG106	QCG011	VXG301	XDG201-01
ADG021	ADG095	BLG028	CCG018	ESG705	MPG013	PXG107	QCG015	VXG302	XDG202-01
ADG028	ADG097	BLG033	CCG020	ESG706	MPG014	PXG108	QKG201	XBG101	XDG205-01
ADG034	ADG098	BLG035	CCG022	ESG710	MPG101	PXG109	QKG202	XBG102	XEG005
ADG036	BBG001	BLG037	CCG030	ESG711	MPG102	PXG110	QKG203	XBG301	XEG006
ADG038	BBG003	BLG039	CCG060	ESG712	MPG110-01	PXG111	QKG204	XBG305	XFG001
ADG039	BBG008	BLG041	CCG070	FBG001	MPG201	PXG112	QKG205	XBG601	XFG002
ADG040	BCG001	BLG043	CNG001	FBG006	MPG202	PXG201	QKG206	XDG004	XIG011
ADG041	BCG003	BLG049	CNG004	FCG001	MPG203	PXG202	RDG001	XDG005	XIG013
ADG042	BCG004	BLG051	CPG001	FCG002	MPG204	PXG203	RDG002	XDG006	XIG014
ADG043	BDG001	BMG006	CPG004	FCG003	MPG205	PXG204	RDG003	XDG007	XIG015
ADG044	BEG001	BNG004	CRG001	FCG004	MPG206	PXG205	RDG004	XDG008	XIG016
ADG046	BEG002	BNG006	CSG001	FCG005	MPG207	PXG206	SRG001	XDG009	XIG017
ADG047	BEG005	BNG008	CSG005	FCG006	MPG208	PXG301	SRG002	XDG010	XIG018
ADG048	BEG006	BNG009	DAG001	FDG001	MPG209	PXG302	SRG004	XDG012	XMG001
ADG049	BEG011	BNG010	DAG002	FDG002	MPG210	PXG303	VPG001	XDG013	XPG002
ADG050	BEG012	BNG022	DBG002	HPC001	MPG401	PXG304	VPG003	XDG016	XPG003
ADG051	BEG013	BSG001	DXG201	HPC002	PSG001	PXG305	VPG004	XDG017	
ADG052	BFG001	BTG001	DXG202	M2G101	PSG002	PXG306	VPG101	XDG018	
ADG053	BFG002	CCG001	DXG203	M2G201	PSG003	PXG307	VPG101	XDG019	



SMARC Products



The SMARC carrier boards from Connect Tech are incredibly tiny, making them excellent for low-power applications.

SMARC 2.0 allows users to take advantage of the integrated on-board wireless capabilities found on the SMARC 2.0 modules.

SMARC/SL is able to use both +3.3V and +1.8V SMARC Modules, a single Mini-PCIe/mSATA with External SATA switching, Gigabit Ethernet, HDMI Video, and MIPI CSI Camera interface.

SMARC (SMART MOBILITY ARCHITECTURE)

As defined by [SGeT](#) the [SMARC](#) ("Smart Mobility ARChitecture") is a versatile small form factor computer Module which specifically targets applications that require low power, low costs, and high performance. You can learn more about this specification in Wikipedia:

https://en.wikipedia.org/wiki/Smart_Mobility_Architecture

SMARC Products

SMARC 2.0 Carrier

SMARC S/L



SMARC 2.0 Carrier

SRG004

- Feature Packed (HDMI, SATA, 2x MIPI CSI-2 Camera Interfaces)
- 2x USB 3.0, 2x USB 2.0, 2x USB 2.0 to miniPCle
- External SATA/mSATA Switching
- Input Voltage +5V DC only
- Temperature Range: -40 to +85 C
- Dimensions: 105,8 x 82,4 mm



Connect Tech's **SMARC 2.0 carrier** is an incredibly compact SMARC carrier board perfect for low power IoT applications, as customers can take advantage of the SMARC 2.0 modules' integrated on-board wireless capabilities using Apollo Lake and beyond.

The **SMARC 2.0 carrier** board from Connect Tech supports the newest generation Apollo Lake x86 low-power processors and exposes next-generation connections (USB 3.0, DDI, MIPI-CSI-2).

SMARC 2.0 has a temperature range of -40 to +85 C and a very small footprint, making it appropriate for mobile or stationary applications.



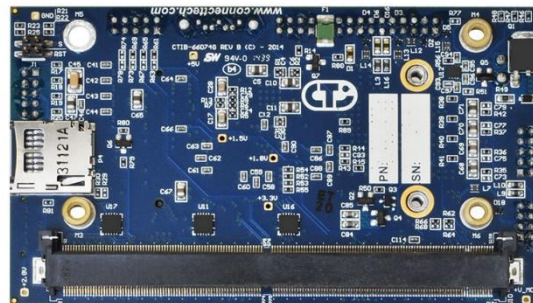
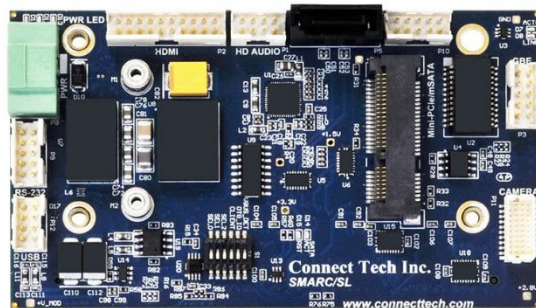
SMARC/SL

SRG001 SRG002

- Super Small Form Factor
- Feature Packed (HDMI, SATA, 2-Lane MIPI CSI Camera Interface)
- External SATA/mSATA Switching Circuitry
- Single Wide Range Input Voltage +6V to +36V DC
- Extended Temperature Range -40 to 85 C

The **SMARC/SL** from Connect Tech is an extremely compact SMARC carrier board suited for your low power application. **SMARC/SL** may employ both +3.3V and +1.8V SMARC Modules, as well as a single Mini-PCIe/mSATA with External SATA switching, Gigabit Ethernet, HDMI Video, and MIPI CSI Camera interface.

SMARC/SL has an extended temperature range of -40 to +85 C and a very small footprint, making it suited for mobile or fixed applications.



Mini PCIe Products



Mini PCIe Serial
Mini PCIe GbE
Mini PCIe GPS
Mini PCIe ADC

The Connect Tech line of Mini PCIe cards come with a variety of forms and features.

Connect Tech offers rugged Mini PCIe serial modules, single and dual Mini-PCIe carriers, Mini PCIe GPS, Gigabit Ethernet Mini PCIe modules, and Mini PCIe ADC analogue to digital converter.

WHAT IS A MINI PCIe BUS?

Briefly stated, the Mini PCI Express Bus is a compact form factor board used to implement the PCI Express interface on laptop computers and in embedded system architecture adding additional capabilities. It uses a 52-pin edge connection.

Mini-PCIe Products

Mini PCIe Carrier
PCI-104 to Mini-PCIe Card Adapter
PCI/104-Express to Single/Dual Mini-PCIe
PCIe/104 Quad Mini PCIe/mSATA



Mini PCIe Serial

MPG001 MPG002 MPG013 (MPG003) MPG014 (MPG004)

- PCIe x1 Lane or USB-2 Host Bus Interface
- 2 ports individually isolated or non-
- Switchable RS-232/422/485
- Supports full duplex (4 wire), half duplex (2 wire) with auto TxD echo cancellation modes in RS-422/485
- Bi-directional data speeds up to 20Mbps (optional) (RS-422/485)
- Port settings can be set up by software (on certain models)
- Slow Slew Rate capability (on certain models)
- Operating temperature range: -40 to +85 C

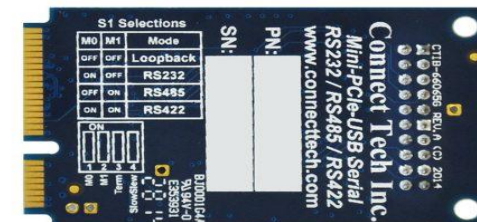
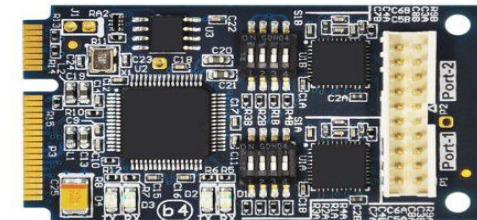
Rugged Mini PCIe modules from Connect Tech's MPG00x line are perfect for adding additional serial port functionality to any system while consuming less power overall. Select between a USB-2 host bus interface and a PCI Express x1 lane.

Connect Tech offers a variety of modules each of which provide full modem control signals, switchable RS-232/422/485, and optional isolation. The modules are suitable for use in tough environments thanks to their extended temperature range, latching connector, and cabling solution.

These boards can be quickly integrated into a variety of new and current systems due to their compatibility with a wide range of common operating systems.

The MPG003 and MPG004 have been replaced by the MPG013 and MPG014 as detailed in the Product Change Notice:

<https://connecttech.com/ftp/pdf/CTIU-00047.pdf>



Single Port Mini PCIe GbE

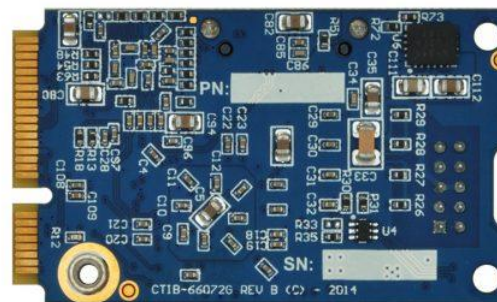
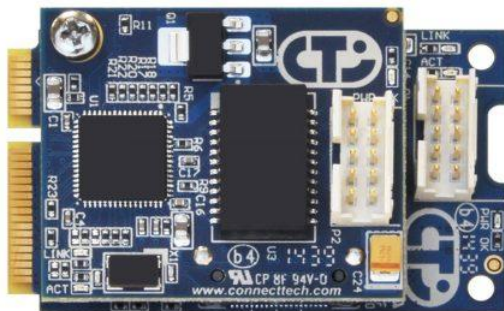
MPG101 MPG102

- Ideal for adding extra Ethernet capabilities to any system with minimal increase in overall system size
- Used in any Mini PCIe socket that supports PCIe
- Compatibility with a large variety of popular operating systems
- Easily integrated into a wide array of new and existing systems
- Extended Temperature Range -40 to +85 C



Mini PCIe GbE boards from Connect Tech are reliable, low cost Gigabit Ethernet Mini PCIe modules that are perfect for adding additional Ethernet capabilities to any system with little to no increase in total system space or power usage. It is possible to use the modules in any Mini PCIe socket that supports PCIe because they make use of PCIe signaling. These modules can be used in hostile settings due to their extended temperature range, latching Ethernet connector, and cable solution.

These boards can be quickly integrated into a variety of new and current systems due to their compatibility with a wide range of common operating systems. '



Dual Port Mini PCIe GbE

MPG110-01

- Ideal for expanding the Ethernet capabilities of any system while maintaining a small overall system footprint.
- Used in any Mini PCIe socket that supports PCIe with available Z-height
- Connector is compatible with Board-to-Board or Cable-to-Board mating
- CTI thermal solution available for off-the-shelf use with this module

Cable CBG510



The **Dual Port Mini PCIe GbE** board from Connect Tech is a tough, low-cost Gigabit Ethernet Mini PCIe module. This board is suitable for expanding any system's Ethernet capabilities while reducing overall system size and power consumption.

Since the module uses PCIe signaling, it can be used in any Mini PCIe socket that supports PCIe and has enough Z-height to accommodate the module. Because of its wide operating temperature range, latching Ethernet connector, and cabling solution, these modules can be used in demanding settings.

Because the boards are compatible with a broad range of standard operating systems, they can be simply integrated into a wide selection of new and current systems.

Note: The MPG110-01 replaces MPG104 which is now EOL.



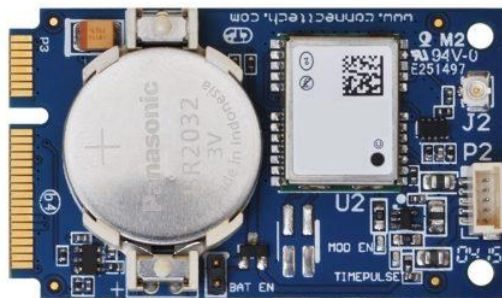
Mini PCIe GPS

MPG201 MPG202 MPG203 MPG204 MPG205
MPG206 MPG207 MPG208 MPG209 MPG210

- Used in any Mini PCIe socket that supports USB
- Compatibility with Windows & Linux operating systems
- Easily integrated into a wide array of new and existing systems
- Extended Temperature Range -40 to +85 C

The Mini PCIe GPS from Connect Tech is a ruggedized GPS module based on the industry standard Mini PCIe "Full" module type, which is exceptionally compact. This Mini PCIe GPS device, which interacts with a computer over the USB bus, provides global positioning and time stamp data while occupying minimal room and draining little power from the system.

The module works with both Windows and Linux operating systems.

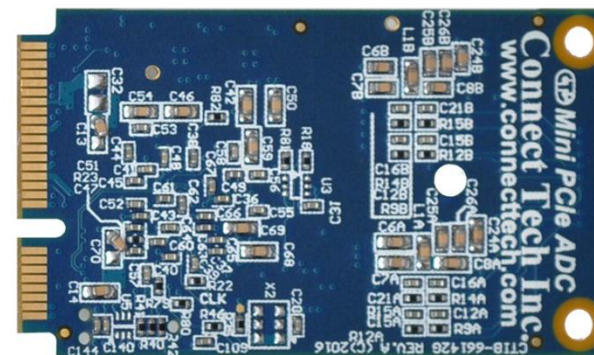
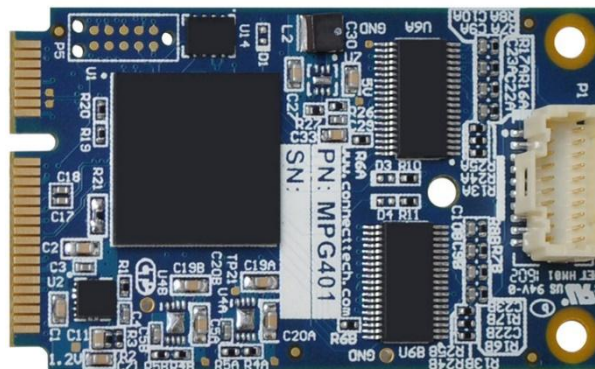


Mini PCIe ADC

MPG401

- 16 ADC input channels
- 500kSPS
- 16-bit resolution
- Extended Temperature Range -40 to +85 C

The Mini PCIe ADC from Connect Tech is an analogue to digital converter peripheral board for the embedded market. This product is appropriate for data collection, measurement, and control applications thanks to its 16 ADC input channels and 16-bit resolution..



Mini PCIe Carrier

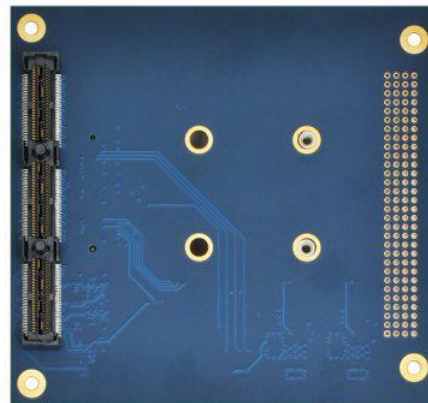
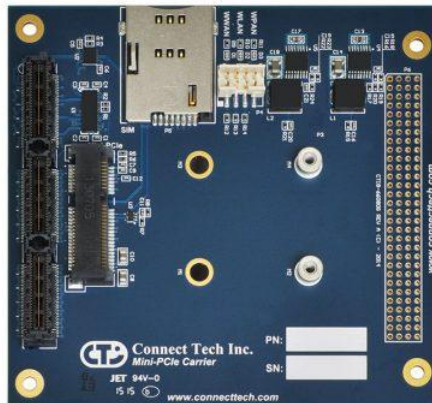
ADG075 ADG077 ADG097 ADG098

- PCIe/104 Compliant
- On-Board USB Switching
- Extended Temperature Range -40 to +85 C

Connect Tech's Single and Dual Mini-PCIe Carriers easily enable the integration of a Mini-PCIe Card into a PCIe/104 or PCI/104-Express System. Since they are fully compatible with Mini-PCIe peripheral they may be easily deployed in testing and development of any Full or Half-sized Mini-PCIe Card. A 3 bank PCIe/104 connector allows Top or Bottom PCIe/104 stacking.

These Carriers expand the capabilities of an existing PCIe/104 or PCI/104-Express System, with the ability to add features such as WiFi, GPS, Bluetooth, CAN Bus, and/or Serial Interfaces. The Mini-PCIe Carriers excel in rugged environments and handle a wide Temperature Range of -40 to +85 C.

Note: The ADG075, ADG097 and ADG098 adapter cards may no longer be available in smaller quantities – contact us for further information.



PCI-104 to Mini-PCIe Card Adapter

ADG046 ADG047 ADG048

- Adapter supplies 3.3V and 1.5V DC power to the Mini-PCIe card
- Power is drawn from the PCI-104 Bus connector
- SIM card support
- Half-Mini and Full-Mini PCIe cards supported
- 3x mini-PCIe status LEDs
- Optional PCI Express Mini-Card Specification Revision 2.0 which adds a DisplayPort connection

Connect Tech's PCI-104 to Mini-PCIe Card Adapter easily enables integration of a Mini-PCIe (PCI Express Mini) card into a PCI-104 system.

The PCI-104 to Mini-PCIe Card Adapter is fully compatible with any Mini-PCIe peripheral, expanding the capabilities of an existing PCI-104 system. Add features such as WiFi, GPS, Bluetooth, storage, and broadband communications.

The Mini-PCIe Card Adapter can also support optional Mini-PCIe features such as USB and SIM Card usage for WLAN applications.



PCI-104 to Mini-PCIe Card Adapter - Board Comparison

Specifications	ADG046	ADG047	ADG048
Mini-PCIe Module Slots	1 Slot (52 pin)	1 Slot (76 pin)	1 Slot (76 pin)
Client USB to Mini-PCIe	Yes	Yes	Yes
SIM Card for WLAN	Yes	Yes	Yes
DisplayPort	—	Yes (DMC-Sink)	Yes (DMC-Source)
Diagnostic LEDs	Yes	Yes	Yes



PCI/104-Express to Single/Dual Mini-PCIe (PCIe Mini Card) Adapter

ADG028 ADG034 ADG036 ADG044 ADG049 ADG050 ADG051

- Adapter supplies 3.3V and 1.5V DC power to the Mini-PCIe card
- Power is drawn from the PCIe/104 bus connector
- SIM card support
- Mini-PCIe status LEDs
- USB client connectors for Mini-PCIe USB connections

Connect Tech's PCIe/104 to Single/Dual Mini-PCIe Card Adapters easily enable integration of a Mini-PCIe (PCI Express Mini) card into a PCIe/104 or PC/104-Express system.

Expand the Capabilities of an Existing PCIe/104 or PC/104-Express System

PCIe/104 to Single/Dual Mini-PCIe Card Adapters are fully compatible with any Mini-PCIe peripheral, expanding the capabilities of an existing PCIe/104 or PC/104-Express system. Add features such as WiFi, GPS, Bluetooth, storage, and broadband communications.



Comparison Chart

Part Number	ADG028	ADG034	ADG036	ADG044	ADG049	ADG050	ADG051
miniPCIe module slots	1	1	1	2	2	2	2
PCIe/104 1-Bank / 3-Bank	x1	x3	x3	x3	x3	x1	x1
PCI-104 (pass through)	N	N	Y	Y	N	Y	N
Client USB to miniPCIe	N	N	Y	Y	Y	Y	Y
Host USB from PCIe/104	N	N	Y	Y	Y	Y	Y
SIM Card for WLAN	Y	Y	Y	Y	Y	Y	Y
Diagnostic WLAN LEDs	Y	Y	Y	Y	Y	Y	Y

Note: The ADG034, ADG044, ADG049, ADG050 and ADG051 adapter cards may no longer be available in smaller quantities – contact us for further information.



PCIe/104 Quad Mini PCIe/mSATA

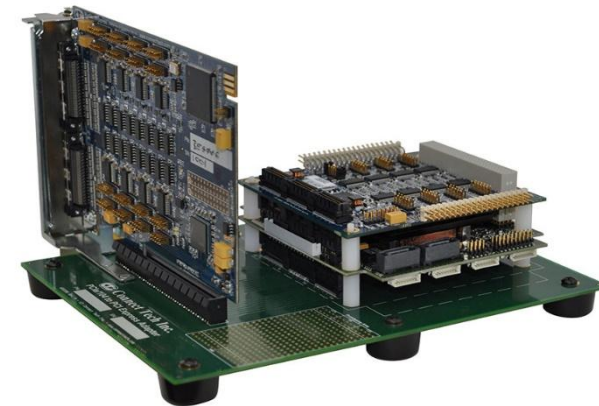
ADG078 ADG080 ADG087

- Supports up to four Mini PCIe modules simultaneously
- Supports any Mini PCIe/mSATA product
- Maximum flexibility keeps the PCIe/104 stack small

Connect Tech's Quad Mini PCIe/mSATA board supports up to four mini PCIe modules simultaneously for applications in the PCIe/104 small form factor embedded marketplace.

This product is ideal for a wide array of applications. The ADG078 and ADG080 support any "Half" or "Full" Mini PCIe/mSATA product on the market, while the ADG087 supports any "Full" Mini PCIe/mSATA. This allows for maximum flexibility while keeping the PCIe/104 stack as small as possible.

The ADG087 is now EOL and no longer available.



Comparison Chart

Support Features	ADG078	ADG080	ADG087
Mini PCIe sockets	4x "Full" or "Half" size	4x "Full" or "Half" size	4x "Full" size
Top Stacking	Uses all four PCIe x1 Lanes	-	Uses only one PCIe x1 Lane with onboard PCIe switch
Bottom Stacking	-	Uses all four PCIe x1 Lanes	-
PCIe	Support for all four sockets	Support for all four sockets	Support for all four sockets
SATA	Support for all four sockets	Support for all four sockets	Support for all four sockets
USB	Support for all four sockets	Support for all four sockets	Support for all four sockets
SMBus	Support for all four sockets	Support for all four sockets	Support for all four sockets



M.2 Products

Connect Tech offers two M.2 form factor solutions:

- The M.2 GPS, a GNSS receiver based on the very small industry standard M.2 Type-2242-S3-B form factor.
- The PCIe/104 to M.2 Adapter, allowing for the implementation of two M.2 next generation form factor expansion slots.

ABOUT THE M.2 FORM-FACTOR

The M.2 form factor arose from the need for multiple options for small form factor cards, including SSDs in different sizes and capacities, as well as options for further capacity expansion. M.2 offers higher performance while minimising module space requirements.

Formally known as the “Next Generation Form Factor” (NGFF) it is a specification for internally mounted expansion cards. It replaces the mSATA standard which is based on the physical layout and edge connectors of the Mini PCI Express card.



M.2 CARDS

M.2 GbE
M.2 GPS
PCIe/104 to M.2 Adapter



M.2 GbE

M2G101

[Request Manual](#)

- Industrial Temp Range: -40 to +85 C
- Utilizes an I210 network controller
- Easily integrates into any existing system using an M.2 Type-2230 Key A or E expansion slot
- Dimensions L x W: 22 x 30 mm

The M.2 GbE expansion board adds an additional ethernet connection to any existing carrier board through the M.2 A or E key expansion slot. Ideal for customers needing to add wired network connections within space-constrained applications, this industrial grade expansion board utilizes an Intel I210 controller for optimized performance and trusted reliability.



M.2 GPS

M2G201 M2G202 M2G203 M2G204 M2G205 M2G206 M2G207

- Provides global positioning and time-stamp information
- Uses little space and power within a system
- Easily integrated into any existing system
- Extended Temperature Range -40 to +85 C

Connect Tech's M.2 GPS is a GNSS receiver. The M2G201–M2G206 are based on the very compact industry standard M.2 Type-2242-S3-B form factor. The M2G207 has an E-key, making it compatible with Connect Tech's NVIDIA Jetson Carrier boards.

The M.2 GPS uses the USB bus to give global location and timestamp information while taking up little space and power in a device. Also, with current support for Windows and Linux, the M.2 GPS may be simply incorporated into any existing system as well as new ones. All M.2 GPS Receivers are designed to work with u-Blox NEO-7 GPS modules. Alternative GPS units cannot be used.

DeLock offers an extremely good overview over the various types of M.2 keys. It can be found at this URL:

https://www.delock.de/infothek/M.2/M.2_e.html

Note: These boards may no longer be available in smaller quantities – contact us for further information.

M2. GPS Receiver

Part Number	GPS Module	Battery	M.2 key
M2G201	NEO-7N	Not included	M.2 2242 B-key
M2G202	NEO-7N	Included	M.2 2242 B-key
M2G203	NEO-M8N	Not included	M.2 2242 B-key
M2G204	NEO-M8N	Included	M.2 2242 B-key
M2G205	NEO-M8L	Not included Supports Automotive Dead Reckoning	M.2 2242 B-key
M2G206	NEO-M8L	Included Supports Automotive Dead Reckoning	M.2 2242 B-key
M2G207	NEO-7N	Included	M.2 2230 E-key



PCIe/104 to M.2 Adapter

ADG092 ADG093 ADG094

- Wireless disable switches
- Extended Temperature Range -40 to +85 C
- Additional connectors include 2 SIM card slots for cellular applications and 2 wireless status signal headers to aid with integration in custom enclosures

Connect Tech's PCIe/104 to M.2 Adapter allows for the implementation of two M.2 next generation form factor expansion slots. Supported cards are, based on configuration, B, B&M, E, and A&E key type.



Note: The ADG092 adapter card may no longer be available in smaller quantities – contact us for further information.

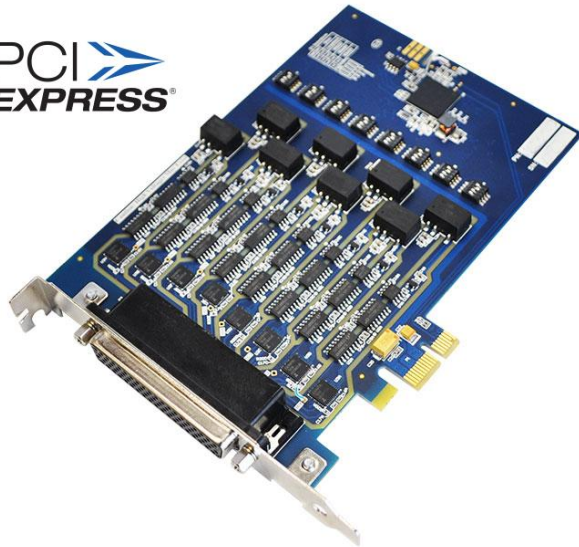
PCIe/104 to M.2 Adapter

Part Number	Slot A		Slot B	
	Accepted Keys	Typical Usage	Accepted Keys	Typical Usage
ADG092	B, B&M	SATA, SSD, or Cellular Devices	B, B&M	SATA, SSD, or Cellular Devices
ADG093	E, A&E	WiFi or PCIe x1 Devices	E, AE	WiFi or PCIe x1 Devices
ADG094	B, B&M	SATA, SSD, or Cellular Devices	E, A&E	WiFi or PCIe x1 Devices



PCI Express Products

PCI
EXPRESS®



PCI Express offers the next generation in computer backplane standards. PCI Express is built around bidirectional, dedicated point-to-point "lanes", eliminating the need to rely on a shared parallel bus architecture. This lane topology centralizes resource management and routing functions, increasing scalability and the overall speed of the communications protocol.

Current PCI systems can be converted easily to PCI Express by changing the physical layer, without any change to the existing application software. Use Connect Tech's BlueStorm/Express PCI Express serial cards to take advantage of the performance enhancements PCI Express.

PCI Express offers robust, high-performance, high-speed communications for the multiple serial devices your industry relies on every day. Our PCI Express cards are suited for point of sale/retail applications, transportation stations, lottery terminals, automated teller machines and self-service kiosks, among others.

All Connect Tech PCI Express products are FCC certified and CE marked.

The format specifications are maintained and developed by the [PCI-SIG](#) (PCI Special Interest Group), a group of more than 900 companies that also maintain the traditional PCI specifications.

PCI EXPRESS PRODUCTS

BlueStorm/Express
BlueStorm/Express 8/16 RS-232
BlueStorm/Express Opto
BlueStorm/Express Isolated

BlueStorm/Express LP
BlueStorm/Express LP Opto
Burn-in Rack Adapter - PCI Express (PCIe)
PCIe Dump Switch Card

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



PCI Express (PCIe) Burn-in Rack Adapter

ADG010

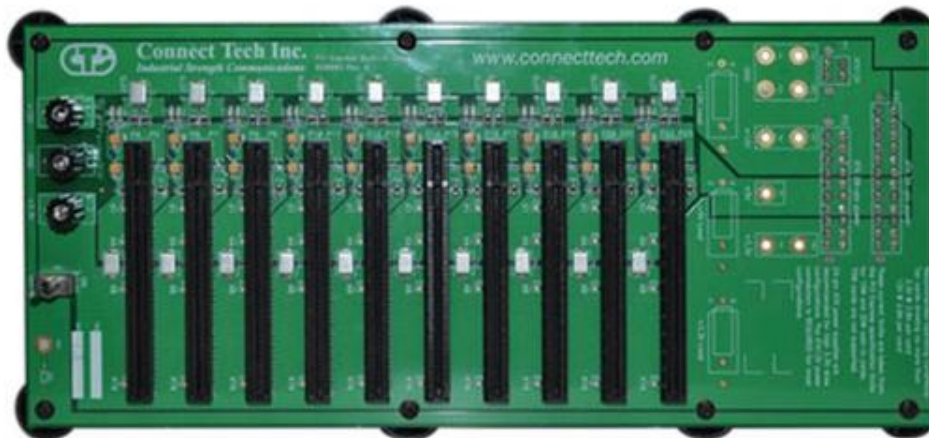
[Request Manual](#)**EOL**

- Burn-in ten PCI Express cards with lane widths from x1 to x16 in any combination
- Front-located test points for easy measurement of both +3.3V and 12V rails
- Quick verification of power conditions and lane widths via on board LEDs
- ATX power – 20 and 24 pin options (on/off switch control), as well as binding posts to allow the connection of a bench power supply
- Dimensions L x W: 315 x 139,7mm

This circuit board allows the burn-in of up to 10 15W or 25W PCI Express cards simultaneously without the need for a dedicated computer system.

Thick copper construction maintains low temperatures even for very high loads, while individually fused and filtered slots protect boards from surges.

Binding posts are included to allow the connection of monitoring equipment, bench power supplies or a DMM.



Note: This adapter card may no longer be available in smaller quantities – contact us for further information.



| PCIe Dump Switch Card

ADG018



- x1 lane PCIe (PCI Express 1.1 compliant)
- Push button generation of Non-Maskable Interrupt (NMI)
- Transparent PCIe to PCI bridge
- Small PCB footprint (6,53 cm)
- Compatible with all Windows, Linux and QNX operating systems

The PCIe Dump Switch card debugs system hangs with ease to save time and frustration. It is essential hardware for every developer.

When systems freeze during development or testing, a hardware reset results in loss of crucial information that could be used to analyse the root problem. Instead of spending hours of valuable time sourcing the cause of the system hang, the PCIe Dump Switch identifies bugs at the push of a button. The button on the PCIe Dump Switch triggers a Non-Maskable Interrupt (NMI), enabling a crash dump or drops execution into your operating system's debugger. This dump action preserves information that would normally be lost during a reset.

STANDARD USAGE

Click to download the [General Usage Notes](#), including notes for Windows, Linux and QNX4 as well as general operating instructions.

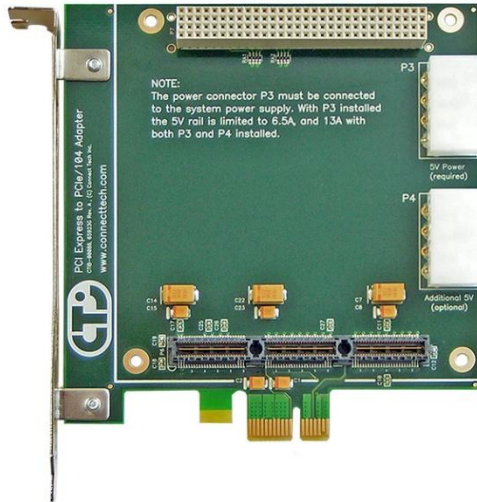


PCIe to PCIe/104 Adapter

ADG016

 [Request Manual](#)

EOL



- PCIe/104 and PCI/104-Express compatible
- Industrial temperature range of -40 to +85 C
- PCIe/104 156-pin connector
- PCI-104 120-pin connector
- +5V input for PCIe/104 add-in card
- x1 lane PCI Express card edge allows installation in any slot width
- Complies with PCI Express 1.1 electromechanical requirements
- Dimensions WxL: 10,29 x 11,11 cm

This convenient adapter board allows users to install either a PCIe/104 or a PCI/104-Express card into a standard PCI Express system slot.

The adapter features both a PCIe/104 and a PCI-104 connector. The passive PCI-104 connector has all critical PCI input signals tied off to safe levels to avoid damaging a dual-bus card, while at the same time provides extra mechanical stability for PCI/104-Express cards.

STANDARD USAGE

This adapter supports any x1 lane PCI/104-Express or PCIe/104 add-in card. Simply mount the add-in card to the adapter and install the adapter in a PCI Express slot. Most PCI/104-Express and PCIe/104 cards will require the connection of an IDE power cable to the P3 connector on the card. This cable provides the 5V rail to the add-in card.

Once everything is connected, you may begin using the add-in card just as you would any other PCI Express add-in card. No additional configuration is required.

Note: This adapter card may no longer be available in smaller quantities – contact us for further information.



PCI Express: BlueStorm/Express

BEG001 BEG002 BEG005 BEG006 BEG012 BEG013

 Compare Boards

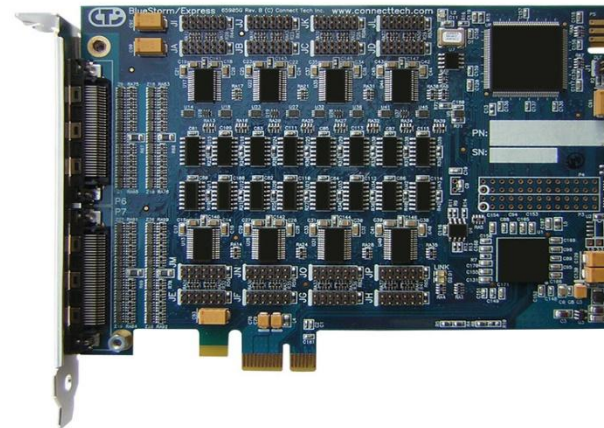
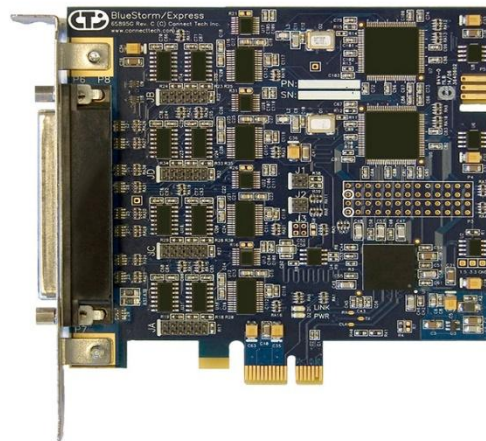


- Flexibility: x1 Lane PCI Express card compatible with any available x1, x4, x8 or x16 PCI Express slot.
- Speed: Bidirectional data communication speeds up to 1,8432 Mbps (RS-422/485) and 921.8Kbps (RS-232)
- Performance: Each port has up to 64 bytes of transmit and receive FIFO buffers, automatic hardware and software 0
- flow control for your PCI Express applications
- Protection: Surge suppression and optical isolation options

BlueStorm/Express provides reliable, high speed data transfer for PCI Express systems. These x1 lane PCI Express serial cards offer two, four, eight or 16 ports of RS-232/422/485 connectivity and are compatible with any PCI Express slot. Bidirectional data speeds up to 1.8432 Mbps (RS-422/485) ensure fast communications for your industrial and embedded applications.

BlueStorm/Express supports three RS-422/485 modes: full duplex (four wire) with RTS/CTS flow control, half duplex (two wire) with auto Tx/D echo cancellation and multi-drop (four wire) communications.

The above images show BEG002 on the left and BEG006 on the right.



PCIe/104 to PCI Express Adapter Bottom Stacking Model

ADG021

- PCIe/104 and PCI/104-Express compatible
- Industrial temperature range of -40 to +85 C
- PCIe/104 156-pin top connector
- x16 lane vertical PCI Express card edge connector (fits any x1, x4, x8 or x16 lane cards)
- Custom support bracket to ensure PCIe card stability
- Dimensions LxW: 19,3cm x 15,2cm

Connect Tech's PCIe/104 to PCI Express Bottom Stacking adapter allows users to install any x1, x4, x8 or x16 lane PCI Express card into a PCIe/104 or PCI/104-Express stack down configuration. This convenient adapter board enables the testing and development for standard PCI Express cards in the PCIe/104 or PCI/104-Express environment.

STANDARD USAGE

This adapter supports any x1, x4, x8 or x16 lane PCI Express add-in card. Simply mount the PCI Express stack to the adapter and install the PCI Express card into the slot. Once everything is connected, you may begin using the add-in card just as you would any other PCI/104-Express add-in card. No additional configuration is required.

Click [here](#) to view a list of compatible CPU boards with this adapter.

An ADG021 variant is now available to better support additional user configurations, specifically those who have one or more peripheral card installed between the SBC and adaptor. You may continue to use the ADG021 with all x1, x4, x8 and x16 PCIe cards, provided no PCIe/104 cards are inserted between the SBC and adaptor. Therefore, customers using PCIe/104 cards between the SBC and adaptor with only x4, x8 or x16 PCIe cards should continue to use the ADG021. For customers requiring one or more x1 PCIe/104 cards between the SBC and the PCIe/104 to PCIe adapter, but who are using ONLY x1 cards in the adaptor, the correct part number is ADG055. The ADG055 does not support x4, x8 or x16 PCIe cards except when they are able to function as an x1 card.

Note: This adapter card may no longer be available in smaller quantities – contact us for further information.



PCIe/104 to PCI Express Adapter Top Stacking Model

ADG017

- PCIe/104 and PCI/104-Express compatible
- Industrial temperature range of -40 to +85 C
- PCIe/104 156 pin bottom connector
- x16 lane vertical PCI Express card edge connector (fits any x1, x4, x8 or x16 lane cards)
- Custom support bracket to ensure PCIe card stability
- Dimensions: 9,01 x 9,59 cm

Connect Tech's PCIe/104 to PCI Express Top Stacking adapter allows users to install any x1, x4, x8 or x16 lane PCI Express card into a PCIe/104 or PCI/104-Express stack up configuration.

This convenient adapter board enables the testing and development for standard PCI Express cards in the PCIe/104 or PCI/104-Express environment.

STANDARD USAGE

This adapter supports any x1, x4, x8 or x16 lane PCI Express add-in card. Simply the add-in card to the adapter and install the adapter on the top of a PCIe/104 or PCI/104-Express stack.

Once everything is connected, you may begin using the add-in card just as you would any other PCI/104-Express add-in card. No additional configuration is required.

Click [here](#) to view a list of compatible CPU boards with this adapter.

Note: This adapter card may no longer be available in smaller quantities – contact us for further information.



mount



PCIe/104 to PCI Express Cable Adapter

ADG040 ADG041

- Compatible with PCIe/104 and PCI/104-Express
- PCI Express Cabling Specification 1.0 Compliant
- Optional configurable PCIe signal repeater to support longer cable lengths
- Operating Temperature:
- ADG040: -20 to +85 C
- ADG041: 0 to +70 C (with repeater)
- Dimensions: 9,02 x 9,59cm

Connect Tech's **PCIe/104 to PCI Express Cable Adapter** provides an interface from the PCIe/104 (PCI/104-Express) bus to a PCI Express cable connection. The adapter is completely transparent to the PCI Express bus and allows the use of a PCI Express device outside of the PCI/104-Express system stack.



PCIe/104 to PCI Express Cable Adapter

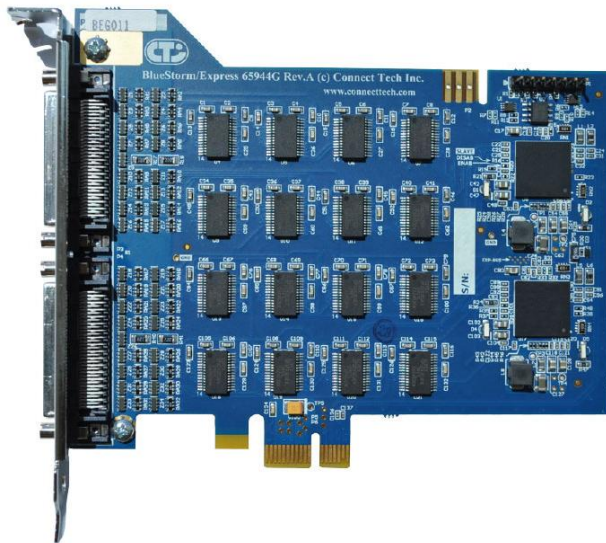
Specifications	Description
PCIe Lane Interconnect	x1 PCIe/104 lanes can be connected via PCI Express cable
Connectors	PCI-104 pass-through connector (optional) PCI-104/Express 156 pin top and bottom connectors PCIe Cable connector (Molex 74150-001)
Dimensions	90,17mm x 95,885mm
Temperature	ADG040: -20C to +85C ADG041: 0C to +70C (with repeater)



PCI Express: BlueStorm/Express 8/16 RS-232

BEG011

- Flexibility: PCI Express x1 lane serial card, 8 or 16 ports RS-232
- Speed: Bidirectional data communication speeds up to 921.8Kbps
- Performance: RS-232-line interface with 50 bps to 1 Mbps baud
- Protection: Surge suppression options



The BlueStorm/Express family offers reliable, high speed data transfer for your PCI Express system. These x1 lane, standard profile PCI Express serial cards offer 8 or 16 ports of RS-232 connectivity, compatible with any PCI Express slot.

Bidirectional data speeds up to 921.8Kbps ensures fast and reliable communications for your industrial and embedded applications in a cost-effective manner.

The Connect Tech BlueStorm/Express cards are compatible with x1, x4, x8 and x16 lane PCI Express slots. Upgrading a PCI system to the more efficient PCI Express requires a hardware change only – your new PCI Express system is backwards compatible with your PCI software

EOL

PCI Express: BlueStorm/Express Isolated

BDG001 BBG008 BCG004

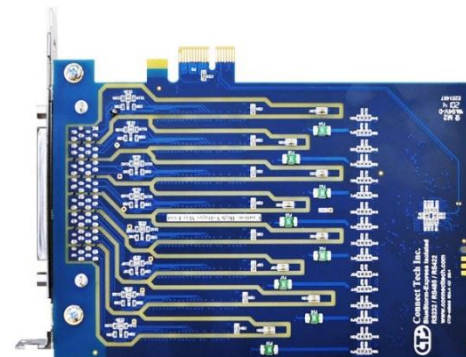
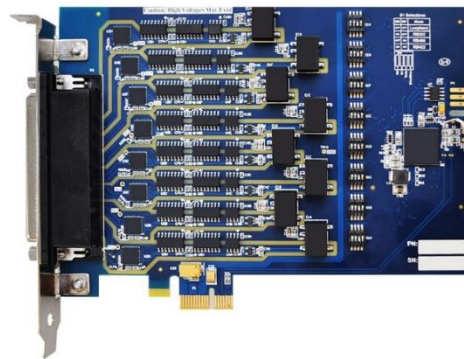
- PCI Express x1 Lane serial card
- 4 or 8 ports individually isolated
- 2kV isolation on all ports
- Switchable RS-232/422/485
- Bi-directional data speeds up to 7.8 Mbps (RS-422/485)
- Supports full duplex (4 wire), half duplex (2 wire) with auto TxD echo cancellation and multi-drop (4 wire) modes in RS-422/485
- Port settings can be set up by software
- Slow Slew Rate capability
- Operating temperature: -40 to +85 C

An extension to the BlueStorm/Express product family, the BlueStorm/Express Isolated offers dependability and high-speed data transfer rates along with 2kV isolation. This protection makes PCI Express cards ideal in environments where harsh conditions may disrupt communications.

Available with 4 or 8 ports of RS-232/422/485 connectivity, these BlueStorm/Express Isolated x1 lane cards are compatible with x1, x4, x8, x16 lane PCI Express slots. Bi-directional data speeds up to 7.8 Mbps (RS-422/485) ensure fast data acquisition and communications. Experience more responsiveness while reducing the load on your network.

 **Compare Boards**

EOL



Manual BDG001

Manual BBG008

Manual BCG008



PCI Express: BlueStorm/Express LP

BFG001 BFG002 BFG005

- Flexibility: x1 Lane PCI Express card compatible with any available x1, x4, x8 or x16 PCI Express slot.
- Speed: Bi-directional data communication speeds up to 1,8432 Mbps (RS-422/485) and 921,8Kbps (RS-232)
- Protection: IEC 61000-4 compatible on all signals, all ports
- Performance: Each port has up to 64 bytes of transmit and receive FIFO buffers, automatic hardware and software flow control

The BlueStorm/Express family offers reliable, high speed data transfer for your PCI Express system.

The BlueStorm/Express LP is a low profile x1 lane, PCI Express serial card offering eight ports of RS-232/422/485 connectivity, compatible with any PCI Express slot. Bi-directional data speeds up to 7.8 Mbps (RS-422/485) ensure your data acquisition, office automation, POS, self-service kiosk, or scientific/instrumentation applications communicate in a reliable, cost-effective manner.

BlueStorm/Express LP is compatible with x1, x4, x8 and x16 lane PCI Express slots. Upgrading a PCI system to the more efficient PCI Express requires a hardware change only – your new PCI Express system is backwards compatible with PCI software.

 Compare Boards

EOL



PCI Express: BlueStorm/Express LP Opto

BCG001 BCG003

- Protection: 3kV of optical isolation on each port
- Flexibility: x1 Lane PCI Express card compatible with any available x1, x4, x8 or x16 PCI Express slot.
- 7Speed: Bi-directional data communication speeds up to 1,8432 Mbps (RS-422/485) and 921,8Kbps (RS-232)
- Performance: Each PCI Express port has up to 64 bytes of transmit and receive FIFO-buffers, automatic hardware and software flow control



An extension of Connect Tech's PCI Express product family, the BlueStorm/Express LP Opto offers a low-profile solution for your PCI Express applications. Dependability and high-speed data transfer rates along with 3kV optical isolation make this PCI Express card ideal in environments where harsh conditions may disrupt communications.

Available with two ports of RS-232/422/485 connectivity, BlueStorm/Express LP Opto is compatible with x1, x4, x8, x16 lane PCI Express slots.

More efficient than PCI, PCI Express helps you experience faster data communications and more responsiveness while reducing the load on your network with bi-directional data speeds up to 1.8432 Mbps.



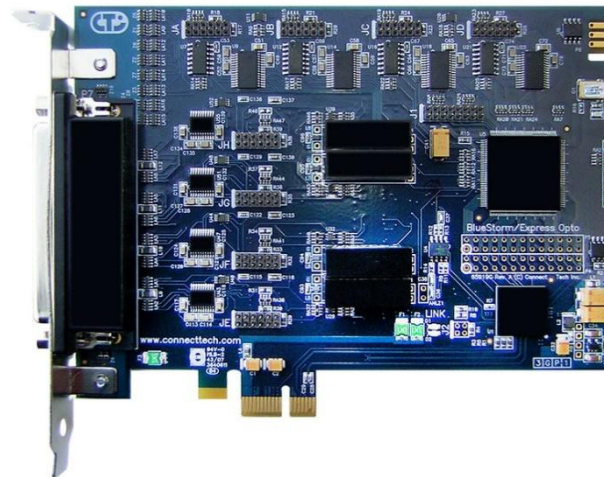
PCI Express: BlueStorm/Express Opto

BBG001 BBG003

- Flexibility: x1 Lane PCI Express card compatible with any available x1, x4, x8 or x16 PCI Express slot
- Speed: Bi-directional data communication speeds up to 1,8432 Mbps (RS-422/485) and 921,8Kbps (RS-232)
- Performance: Each port has up to 64 bytes of transmit and receive FIFO buffers, automatic hardware and software flow control
- Protection: 3kV of optical isolation on each port

An extension of Connect Tech's PCI Express product family, the BlueStorm/Express Opto offers dependability and high-speed data transfer rates along with 3kV optical isolation. This added protection makes PCI Express Opto cards ideal in environments where harsh conditions may disrupt communications.

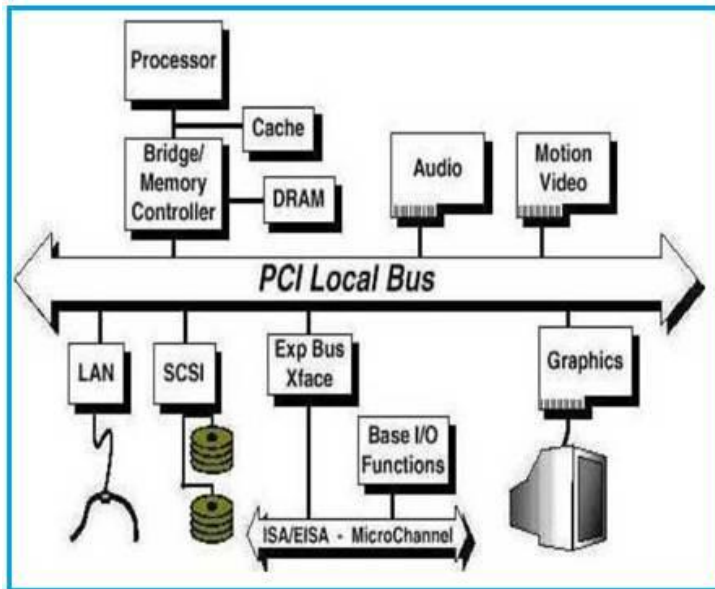
Available with four ports of RS-232/422/485 connectivity, these PCI Express x1 lane cards are compatible with x1, x4, x8, x16 lane PCI Express slots. Upgrading a PCI system to the more efficient PCI Express requires a hardware change only as your new PCI Express system is backwards compatible with PCI software. Bi-directional data speeds up to 1.8432 Mbps ensure fast data acquisition and communications. PCI Express lets you experience more responsiveness while reducing the load on your network. The image below shows a BlueStorm/Express Opto P/N BBG003.



PCI Products

Peripheral Component Interconnect, usually abbreviated to PCI, is a bus standard for connecting peripheral devices to the chipset of a processor. There are numerous variants and applications of the standard. The best-known variant is mainly used in the PC environment and is officially called PCI Conventional.

Peripheral Component Interconnect, usually abbreviated to PCI, is a bus standard for connecting peripheral devices to the chipset of a processor. It was originally developed by Intel (later [PCI-SIG](#) - PCI Special Interest Group) based on previous bus architectures such as ISA (Industry Standard Architecture) and VLB (VESA Local Bus). The initial PCI design had a speed of 33 MHz. This was developed further to accommodate higher bus speeds of 66 MHz and of 133 MHz.



(Diagram Source RF Wireless World)

The PCI bus works on a synchronous bus architecture. It supports a maximum of 5 devices. To support more, it requires a PCI-to-PCI bridge. The PCI bus which is now considered a legacy product has been superseded by PCI Express. For further information consult an article by [RF Wireless World](#) which compares the advantages and disadvantages of the PCI bus.

Current PCI systems can be converted easily to PCI Express by changing the physical layer, without any change to the existing application software. Use Connect Tech's BlueStorm/Express PCI Express serial cards to take advantage of the performance enhancements PCI Express.

PCI Products

BlueStorm/LP RS-232
BlueStorm/LP RS-485

BlueStorm/SP



BlueStorm/LP RS-232

BLG006 BLG008 BLG018 BLG020 BLG033 BLG035

- Two, four or eight asynchronous serial ports in various electrical interface configurations.
- Maximum data speeds of 921,6 Kbps (RS-232) and 1.843 Mbps (RS-422/485).
- Optional multi-strike surge suppression; IEC 1000-4 compatible on all signals, all ports.
- Each port can be configured independently for baud rate, parity, data and stop bits
- Supports full duplex (4 wire) with RTS/CTS flow control, half duplex (2 wire) with auto TxD echo cancellation and multi-drop (4 wire) duplex communication modes in RS-244/485.

The low profile BlueStorm/LP is the perfect fit for your high-density chassis or low-profile PC. Fully Universal PCI 2.3 compliant, this RS-232 adapter can be installed in either a 3.3V or 5V system and fits into low profile and standard height PCI computers with the change of a bracket. This enables you to connect multiple devices to your system, taking full advantage of the space saving qualities of its MD1 low profile design without sacrificing performance. Data speeds up to 921,6 Kbps ensure your data acquisition, office automation, POS, self-service kiosk, or scientific/instrumentation applications communicate in a reliable, cost-effective manner.

Available with or without surge suppression and DB-9 male cables, the PCI serial cards can be ordered with low profile bracket, standard sized bracket or both for the ultimate flexibility.

The BlueStorm/LP comes in 2, 4 and 8 port RS-232 serial interface models as well as 1 plus 1, 2 plus 2, and 4 plus 4 RS-232 plus RS-422/485 serial interface models.

Note: Many of these boards are approaching EOL – please refer to the product change notice:

<https://connecttech.com/ftp/pdf/CTIU-00050.pdf>

 Compare Boards

EOL



BlueStorm/LP RS-485

BLG010 BLG012 BLG022 BLG024 BLG026 BLG028
BLG037 BLG039 BLG041 BLG043 BLG049 BLG051



- Flexibility: Universal PCI ensures this Low-Profile serial card fits into both 3.3V or 5V systems. Available with standard height PCI bracket and cabling options as well.
- Performance: Each port is controlled by a dual, quad or octal PCI UART, providing 64 bytes of transmit and receive FIFO buffers, global interrupt source register, automatic hardware and software flow control.
- Speed: Supports data communication speeds up to 1,8432 Mbps.
- Protection: Available multi-strike surge suppression on all signals, all ports.

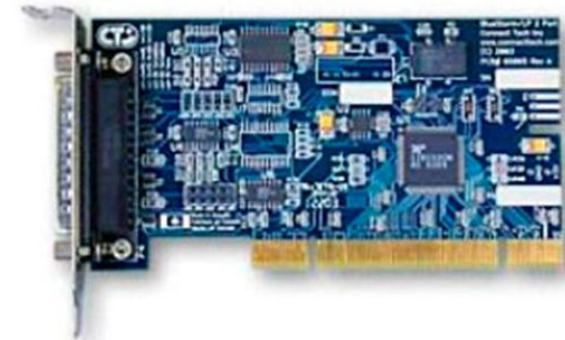
The low profile BlueStorm/LP is the perfect fit for your high-density chassis or low-profile PC. Fully Universal PCI 2.3 compliant, this RS-422/485 adapter can be installed in either a 3.3V or 5V system and fits into low profile and standard height PCI computers with the change of a bracket. This enables you to connect multiple devices to your system, taking full advantage of the space saving qualities of its MD1 low profile design without sacrificing performance. Data speeds up to 1,8432 Mbps (RS-422/485) ensure your data acquisition, office automation, POS, self-service kiosk, or scientific/instrumentation applications communicate in a reliable, cost-effective manner.

The BlueStorm/LP supports three RS-422/485 modes: full duplex (four wire) with RTS/CTS flow control, half duplex (two wire) with auto TxD echo cancellation, and multi-drop (four wire) full duplex communications of multi-drop devices.

Available with surge suppression or without and DB-9 male cables, the boards can be ordered with low profile bracket, standard size bracket or both for the ultimate flexibility. The BlueStorm/LP comes in 2, 4 and 8 port RS-422/485 models as well as 1 plus 1, 2 plus 2, and 4 plus 4 RS-232 plus RS-422/485 models.

Note: Many of these boards are approaching EOL – please refer to the product change notice:

<https://connecttech.com/ftp/pdf/CTIU-00050.pdf>



BlueStorm/SP

BTG001

- **Flexibility:** Universal PCI ensures this Standard Profile serial card fits into both 3,3V or 5V systems.
- **Speed:** Supports data communication speeds up to 1,8432 Mbps.
- **Protection:** Available multi-strike surge suppression on all signals, all ports.
- **Performance:** Ports are controlled by an octal PCI UART, providing 64 bytes of transmit and receive FIFO buffers, global interrupt source register, automatic hardware and software flow control.

Connect Tech's standard profile **BlueStorm/SP** is the ideal choice for your PCI applications. Fully PCI 2.3 compliant, the BlueStorm/SP can be installed in any 3.3V or 5V system. Available with eight ports, the BlueStorm/SP offers RS-232/422/485 connectivity and is jumper selectable on each individual port.

Dependability, high speed data transfer rates and multi-strike surge suppression make these cards ideal for many environments including industrial or office automation, POS, scientific or instrumentation applications, to name a few.

All BlueStorm/SP products are FCC certified and CE marked.

Note: This board is approaching EOL – please refer to the product change notice:

<https://connecttech.com/ftp/pdf/CTIU-00050.pdf>



BlueStorm/SP Opto

BSG001

- Flexibility: Suitable for both 3.3V and 5V PCI slots.
- Speed: Supports data communication speeds up to 1,8432 Mbps.
- Performance: Dual UARTs, providing 64 bytes of transmit and receive FIFO buffers for each port.
- Protection: 3kV optical isolation on all ports.

The BlueStorm/SP Opto offers the added protection of optical isolation for your critical applications. BlueStorm/SP Opto is an extension of the BlueStorm product family and is available as a standard profile card only.

Dependability, high speed data transfer rates and 3kV of optical isolation protection makes these cards ideal in environments where harsh conditions may disrupt communications.

Available with four ports of RS-232/422/485 connectivity, these BlueStorm/SP Opto cards are compatible with 3.3V and 5V PCI slots.

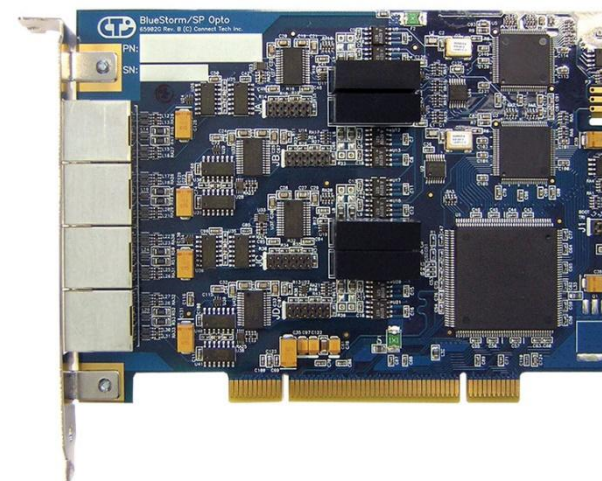
Bi-directional data speeds up to 1.8432 Mbps (RS-422/485) ensure fast data acquisition and communications.

All BlueStorm/SP Opto cards are FCC certified and CE marked.

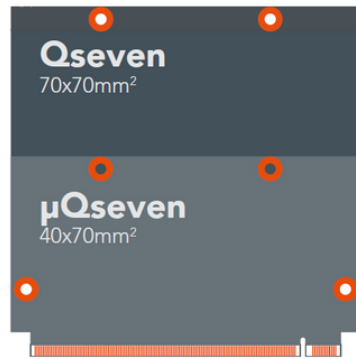
Note: This board is approaching EOL – please refer to the product change notice:

<https://connecttech.com/ftp/pdf/CTIU-00050.pdf>

EOL



Qseven Carrier Boards



Qseven® also supports ARM processors for mobile and ultra low power consumption applications. Unlike COM Express® it is not limited to x86 processor technology. One carrier board can be equipped with x86 or ARM Qseven® modules.

Qseven

Ethernet
LPC
SATA 0-1
I2C
HDA / I2S
USB 0-7/USB 3.0 0-1
TMDS / HDMI
PCIe 0-3
GPIO/SDIO
LVDS 2x24 / eDP
SER / CAN
SPI / LPC / I2C
Power

Derived from the word "quadratic", due to the square shape of the original module (70 mm on one side), the Qseven specification was first proposed by [Congatec](#) and adapted later by several other manufacturers. The standard is managed by [SGET](#) (Standardization Group for Embedded Technologies), which replaced the original Qseven consortium in 2013. There has since been various revisions to the original standard.

The [Qseven Design Guide](#) contains information for designing a custom system carrier board for Qseven modules. It includes reference schematics for the external circuits required to implement various peripheral functions. It also explains how to expand the supported buses and how to add additional peripherals and expansion slots to a Qseven-based system.

The Qseven format targets the next generation of ultra-mobile embedded processors built with the latest mobile chip technologies and complements the low power and small size of these processors. By taking advantage of the small form factor of the latest processors, Qseven offers high computing power in a module that is only 70 x 70 mm or 40 x 70 mm.



Connect Tech's line of Qseven carrier boards and adapters offer access to a wide range of features and functions available on the Qseven computer-on-module standard. These carriers are feature-rich and integrate to the PC/104, PCI-104, PCI Express, and PCIe/104 form factors, and the adapter allows users to install a Qseven module into any COM Express® Carrier Board.

Qseven Products

PCI-104 Qseven Carrier Board
PCIe/104 Qseven Carrier Board

Qseven to COM Express® Adapter
TrailBlazer/SBC
Ultra Lite and Lite Qseven Carrier Boards



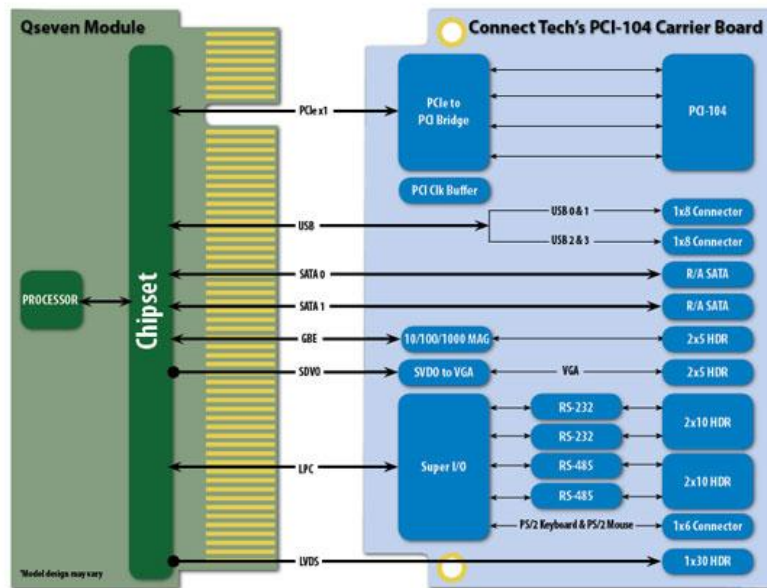
PCI-104 Qseven Carrier Board

QCG002

- PCI-104 form factor
- Install up to 4 PCI-104 boards
- Uses any off-the-shelf Qseven module
- High performance interfaces
- Compact size for easy integration
- Ideal for applications with low power requirements
- On-board connectors for easy connection to Qseven features
- Optional Qseven Cable Kit

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

EOL



The on-board connectors of the PCI-104 Qseven carrier board enable connection to SATA, USB, Ethernet, LVDS and VGA Video, and RS-232 & RS-422/485. Users can upgrade to the latest processor and memory technology with ease, while maintaining the I/O interfaces.

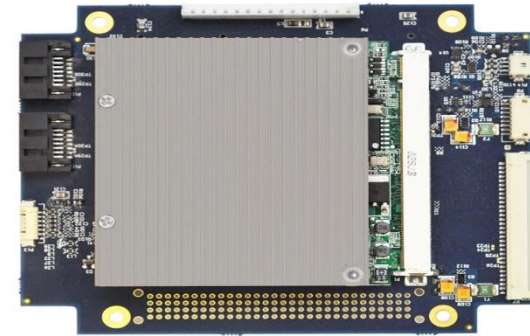


PCIe/104 Qseven Carrier Board

QCG001

- PCIe/104 form factor
- Uses any off-the-shelf Qseven module
- Ideal for applications with low power requirements
- High performance interfaces
- Compact size for easy integration
- Connectors and cables included for easy connection to Qseven features
- Optional Cable Kit for Qseven

Connect Tech's PCIe/104 Qseven Carrier Board is a small, embedded carrier board that allows complete integration with any industry standard Qseven module. This carrier board utilizes the PC/104 form factor with 4 x1 PCIe lanes, and the PCIe/104 bus. The on-board connectors enable connection to SATA, USB, Ethernet, LVDS Video, VGA Video, and RS-232 & RS-422/485. Easily upgrade to the latest processor and memory technology while maintaining the I/O interfaces.



Ultra Lite and Lite Qseven Carrier Boards

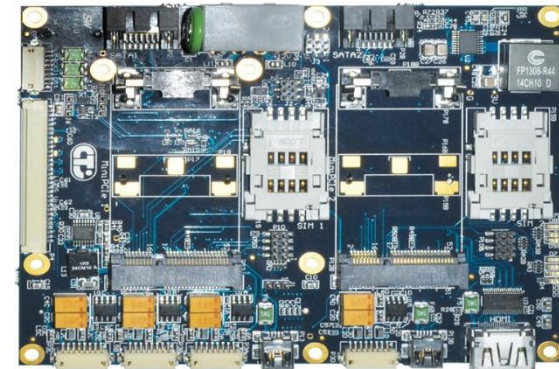
QCG005 QCG006 QCG011 QCG015

- Integrates with any industry standard off-the-shelf Qseven module
- Optional cable kits available for easy connection to Qseven features
- AMD, Intel® Atom™ and Freescale i.MX6 options
- LVDS Video & Back Light Controls
- Operating Temperature: -40 to 85 C

Connect Tech's Ultra Lite and Lite Qseven Carrier boards are low cost, feature rich carriers that integrate with any industry standard Qseven module.

Ultra Lite and Lite Qseven Carrier Boards offer a variety of embedded processor options including AMD Fusion/G-Series, Intel® Atom™ Z500 & E600, Freescale i.MX6. These carrier boards are not tied to any specific bus architecture and offer Mini-PCIe and SIM-card expansion capability. Add your choice of Mini-PCIe peripherals, including WiFi, GPS, Bluetooth, or storage depending on your application, and gain instant access to a low cost, compact and flexible computing solution.

The Ultra Lite and Lite Qseven Carrier Boards are ideal for mobile entertainment, kiosks, digital signage, soldier wearables and gaming just to name a few



 Compare Boards

EOL

 PDF

 USER MANUAL



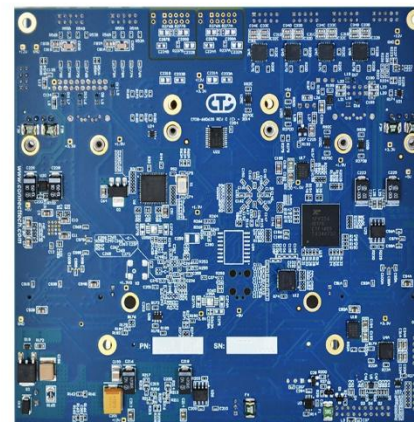
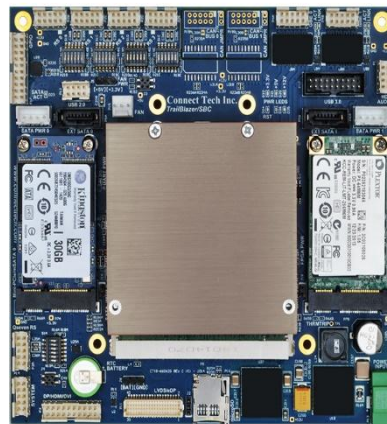
TrailBlazer/SBC

QKG201 QKG202 QKG203 QKG204 QKG205 QKG206

- Choose from Intel® E38xxx series, Quad, Dual or Single core options
- Quad Serial, Dual CAN Bus (Optional)
- External SATA/mSATA Switching Circuitry
- Single Wide Range Input Voltage +12V to +36V DC Input
- Extended Temperature Range: -40 to +85 C
- Dimensions L x W: 146,05 x 131,76 mm

Connect Tech's TrailBlazer/SBC is a rugged single board computer offering locking pin header connectors and has been specifically designed for the Intel Bay Trail series CPU. TrailBlazer/SBC is available with a Quad Core E3845, Dual Core E3825 or Single Core E3815.

Excellent for low power application needing a wide power input. With Mini-PCIe/mSATA/External SATA switching, Dual Gigabit Ethernet, and multiple display formats the TrailBlazer/SBC offers a full featured, flexible small form factor solution.



|Qseven to COM Express® Adapter

ADG042

- Compatible with all COM Express® Types:
- Type 2 | Type 6 | Type 1 | Type 10 | Type 3 | Type 4 | Type 5
- Operating Temperature: -40 to +85 C
- Basic and Compact COM Express® Form Factors
- Dimensions:
 - Compact: 95 x 95 mm
 - Basic: 95 x 125 mm



INTERFACES

- | | | |
|-------------------------------|--------------|---------|
| • PCI Express Lanes (4 lanes) | • SDIO | • SPI |
| • SATA (2 channels) | • LPC Bus | • SDVO |
| • GBE | • HD Audio | • I2C |
| • USB (8 ports) | • LVDS Video | • SMBus |

Connect Tech's Qseven to COM Express® Adapter allows users to install a Qseven module into any COM Express® Carrier Board.

The Qseven to COM Express® Adapter is transparent to the system and allows the Qseven module to be added to the COM Express® system without additional setup or software. Users can easily evaluate and integrate the latest generation of low powered Qseven CPU modules in a custom COM Express® carrier.

The Qseven to COM Express® Adapter can be used for evaluation or field deployment and allows users systems to transition to Qseven without any respin of their COM Express® Carrier.



PMC/XMC Products

[Board Comparison](#)

A PMC, or PCI Mezzanine Card, is a printed circuit board assembly designed to IEEE P1386 specifications. The electrical properties of the PCI bus are integrated with the mechanical dimensions of the Common Mezzanine Card or CMC format (IEEE 1386 standard). In a stacked structure, a mezzanine connector links two parallel PCBs. Although IEEE 1386-specified 64-pin, 1.0 mm pitch connectors are commonly used in PMC mezzanine systems, a variety of commercially available mezzanine connections are also available.

A PMC can have up to four 64-pin bus connectors. The first two ("P1" and "P2") are utilized for 32-bit PCI signals, whereas the third ("P3") is required for 64-bit PCI signals. An additional bus connector ("P4") can be used for non-specified I/O signals. Any connectors can also be put to the "bezel" on the front panel of the chassis or enclosure. The PMC standard specifies which connector pins go with specific PCI signals, as well as the 64 "P4" connector pins that can go with any I/O signal. It allows manufacturers to design devices that are compatible with the PCI bus but are smaller and more robust than standard PCI plug-in cards. In a standard card rack, the term mezzanine refers to how a PMC fits between neighbouring host cards and is connected to one of them by connections and mounting columns. The term stems from the Italian "mezzanine" and refers to a platform that connects two stories of a building. A single PMC measures 74 x 149 mm. The standard also specifies a double-size card; however, it is rarely used.

[Eurocard](#) is the most common carrier card format that can accept PMCs. VMEbus cards in single, double, and triple heights, CompactPCI cards (cPCI), and, more recently, VPX cards are just a few examples. A basic 3U carrier card can hold one PMC, while 6U versions (typical of VMEbus cards) can hold up to two PMCs. Prior to the availability of the Advanced Mezzanine Card, PMCs were also employed in early ATCA systems (AMC).

Connect Tech's COM Express® Type 6 PMC/XMC family offers compact, feature-rich carriers with dual PMC/XMC and Mini-PCIe expansion. The COM Express® Type 6 PMC/XMC carrier board is available in three versions from Connect Tech: Type 6, Type 6 Ultra Lite, and Type 6 Lite.

Check out the Board Comparison Chart by clicking on the 'Board Comparison' Button for an overview of the various features.

PMC/XMC Products

Graphite VPX/XMC-PMC
PCI PMC Adapter
PCI/PCIe to PMC/XMC Adapter



Graphite VPX/XMC-PMC

VPG101 VPG102

- Conduction cooled or Air cooled options available
- The onboard PCIe Gen 3.0 switch supports multiple dataplane options: one x8 or two x4 ports
- I/O options: PMC I/O p64s or XMC I/O x12d+x8d+x38s
- Extended Temperature Range: -40 to +85 C

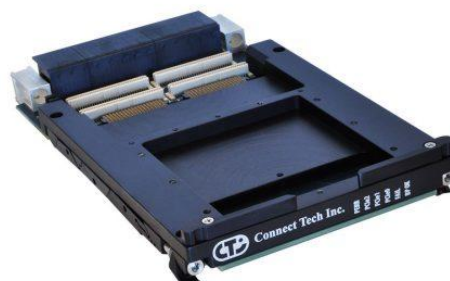
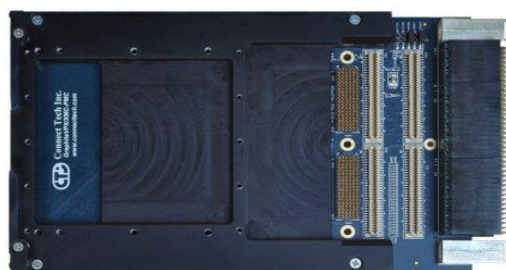
Connect Tech's GraphiteVPX/XMC-PMC is a VITA 65 compliant 3U peripheral carrier card that brings PCIe Gen 3.0 capable features to a mezzanine carrier. Complete with a x8 Gen 3 PCIe capable VITA 42 XMC interface for all the newest, high-end mezzanine cards, as well as a 64-bit 133MHz PCI-X capable interface for use with all of your legacy PCI based PMC mezzanines.

A complete mezzanine I/O complement is available (based on VITA 46.9) with all 64 PMC IO (p64s) or all 78 XMC IO (x12d+x8d+x38s) with the ability to support a hybrid option that allows for XMCs that have PMC IO connectors.

The onboard PCIe Gen 3.0 switch allows for multiple dataplane options, a direct x8 interface to the XMC site or the option of splitting the bus into two x4 interfaces allowing for an additional downstream port on the backplane. A non-transparent (NT) option is also available to allow multiple hosts to share the mezzanines resources through the same backplane.



Specifications	
Power Requirements	12V (VS1), 3.3V (VS2), and 5V (VS3)
Maximum Power	15W + Mezzanine Power
Back Plane PCIe	3.0 (x8 or two x4) dataplane only
XMC PCIe	3.0 (x8)
PMC PCI-X	64-bit 133MHz
LEDs	PCIe Link speeds, Power up status
Thermal Interface	Air-cooled, Conduction cooled
I/O	p64s for PMC I/O, x12d+x8d+x38s for XMC I/O



PCI PMC Adapter

ADG013

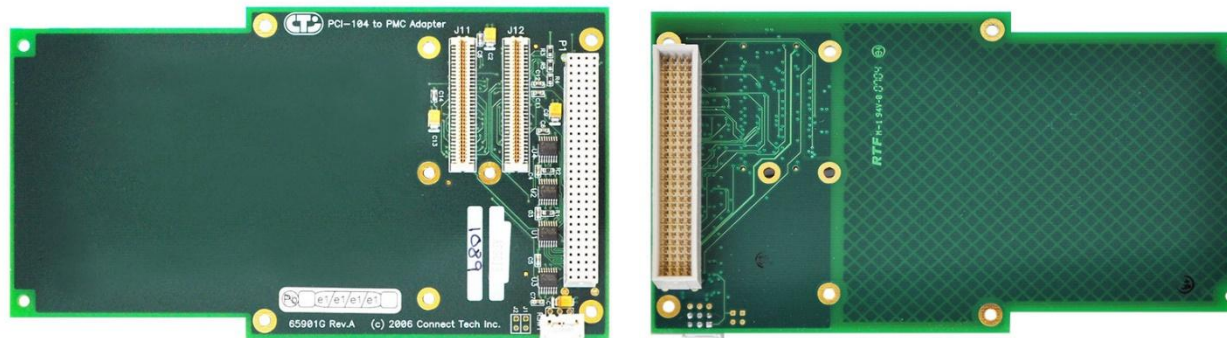
[Request Manual](#)

- PCI-104 and PC/104-Plus compatible (mechanically configured for mounting PMC cards)
- Industrial temperature range of -40 to +85 C
- PCI-104 120-pin stack-through connectors
- Two 64 pin passive PMC connectors
- Slot selector switch for PCI-104, "slot assigned"
- Mounting and voltage-keying holes for PMC card
- Dimensions L x W: 165,77 x 90,17 mm

This convenient adapter board allows PMC cards such as an IEEE 1386.1 card to be easily incorporated into an existing PCI-104 stack. The design includes signal multiplexing circuits, allowing multiple PMC cards to operate in a PCI-104 stack using multiple adapters simultaneously. Constructed with GND and Power Planes, this adapter has exemplary signal integrity and low DC resistance.

STANDARD USAGE

Simply mount the PMC card to the adapter, set the PCI-104 slot selector switch and place into the host system's PCI-104 stack.



PCI/PCIe to PMC/XMC Adapter

ADG052

- XMC to PCIe Connection
- PMC to PCI Connection
- BUSMODE LEDs with Jumper Selection for Testing
- Connector: XMC, PMC, PCIe (x16 Card accepted, x8 Compatible), PCI (32-bit)
- Industrial temperature: -40 to +85 C
- Dimensions L x W: 149 x 74 mm

Connect Tech's PCI/PCIe to PMC/XMC Adapter enables users to link a standard PCIe card to a XMC Carrier, or a standard PCI card to a PMC Carrier.

The ADG052 is transparent to the PMC/XMC Carrier system and allows for communication, testing, and/or debugging of the Carrier. The ability to test both PCI and PCIe cards, without additional setup or software, enables easy PCI to PMC or PCIe to XMC design development.

STANDARD USAGE GUIDE

For standard usage of the ADG052, simply insert into a PMC/XMC Carrier. Connect the desired PCI or PCIe cards into the Adapter. The LEDs on the Adapter serve a few purposes:

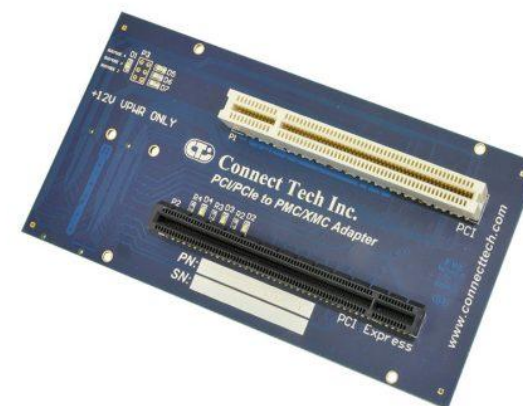
- D1: Busmode 1
- D2: XMC GA2
- D3: XMC GA1
- D4: XMC GA0
- D5: Busmode 4
- D6: Busmode 3
- D7: Busmode 2

For assembly, it is essential to ensure that proper Electro-Static Discharge (ESD) practices are followed.

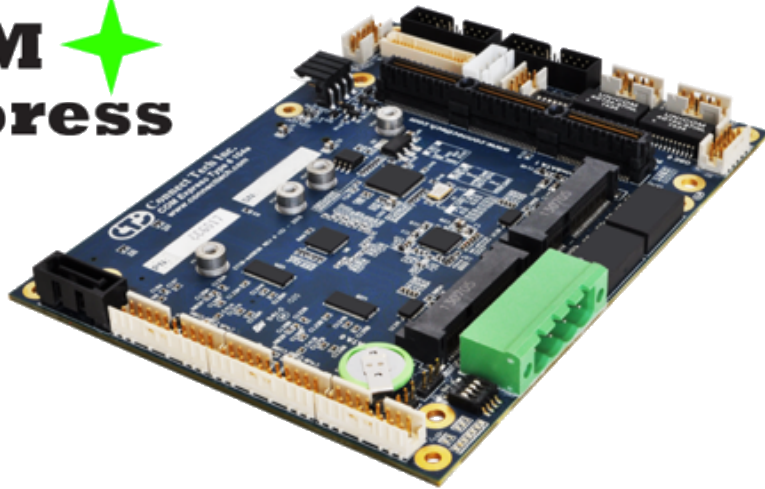
Note: This adapter card may no longer be available in smaller quantities – contact us for further information.

[Request Manual](#)

EOL



COM Express® Products



The COM Express® specification describes a family of single board computers in the Small Form Factor (SFF) and Computer On Module (COM) form factors that are suitable for a variety of commercial and military/aero applications. It's compatible with the most recent chip sets and serial signalling protocols, such as PCI Express Gen 3, 10GbE, SATA, USB 3.0, and high-resolution video interfaces.

COM Express not only offers the best performance of the many compact form factor standards and solutions available but it is unique in that it can be utilized in two ways:

1. As a Standalone single-board computer

2. Or a CPU mezzanine that may be inserted into a base board, or carrier board, that contains the user's application specific I/O.

The ability to attach a COM Express module onto a carrier board reduces the time and cost of building a device because the user does not need to understand the frequently complex intricacies associated with high-speed signalling or the latest chip sets. As newer COM Express modules become available, they can be readily put onto the carrier board to improve performance or reduce costs, extending the product lifecycle for consumers. This "future proofing" is unique to COM Express in the SFF market.

Up to four 10 Gigabit Ethernet (10GbE) connections can be added to the COM Express board in revision 3.0. The number of PCI Express lanes is increased to 32 with this new Type 7 connection version of COM Express, enabling a multitude of connectivity and interface choices, including the potential to allow the use of GPGPUs.

Because SFF applications must typically strike a delicate balance between cost and performance, the standard defines several COM Express form factors and board sizes.

Connect Tech provides COM Express® Carrier Board solutions for Type 7, Type 6, Type 10, and Type 2 standards. Choose from stacking carriers, micro carrier boards, PMC/XMC carriers, and rugged carriers to find the right carrier board for your project. Connect Tech also offers a COM Express® + GPU Embedded System, which combines the latest generation x86 CPUs with high-end GPUs in a ruggedized compact form factor embedded system.



COM EXPRESS® PRODUCTS

COM Express® Type 2 Carrier Board
COM Express® Type 6 PMC/XMC Carrier Board
COM Express® Type 6 Ultra Lite Carrier Board
COM Express® Type 6 Rugged Ultra Lite Carrier Board
COM Express® Type 6 PMC/XMC Ultra Lite Carrier
COM Express® Type 6 PMC/XMC Lite Carrier
COM Express® Type 6 104e

COM Express® Type 6 Stacking Carrier
COM Express® Bus Extender
COM Express® Type 7 Carrier Board
COM Express® + GPU Embedded System
COM Express® Type 10 Mini Carrier Board
COM Express® Type 10 PC Connector Carrier
COM Express® Type 10 Stacking Carrier

*Type 2**Type 6**Type 7**Type 10*

AERONAUTICS

CCG010 COM Express® Type 10 Mini Carrier Board

FCG001 FreeForm/PCI-104 FPGA with High Speed Digital I/O/Sd fids

PXG101 Xtreme/PSU Isolated Power Supply - Embedded Isolated DC-DC Power Supply

SDG006 SSD/104 SATA 2.5" Drive CarrierSd fids

XEG001 Xtreme/104-Express High-speed multiport serial adapter



COM Express® Type 2 Carrier Board

CCG001 CCG002 CCG003

- COM Express® Carrier Board supports modules from major manufacturers
- COM Express® Type 2 Basic and Compact module compatible
- PCI-104 and PCIe/104 expansion
- Dimensions L x W: 174 x 116,5 mm

COM Express® Carrier Board is ideal for a host of embedded applications that require higher performance and I/O bandwidth in a compact form factor. System expansion capability and customization is available through application-specific carrier boards.

Connect Tech's COM Express® Carrier Board is a full-featured, compact carrier board that is compatible with COM Express® Type 2 Basic and Compact modules. It can be used as a stand-alone carrier board, integrated directly into an existing application or as a small evaluation platform for battery supported applications that use COM Express® Compact modules.

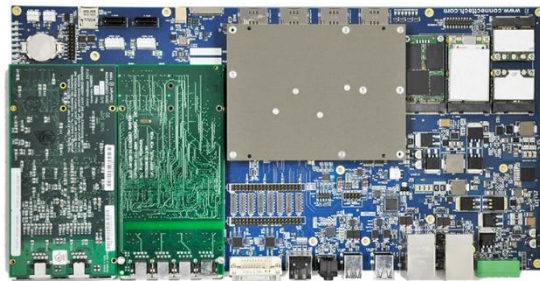


COM Express® Type 6 PMC/XMC Carrier Board

CCG007

- PMC/XMC & Mini-PCIe Expansion
- COM Express® Type 6 Compatibility
- Supports the latest high-performance Intel® processors
- Extended Temperature Range
- Fits 1U Rack Mount Chassis

Connect Tech's **COM Express® Type 6 PMC/XMC Carrier Board** is a highly advanced, feature-rich carrier which offers PMC/XMC and Mini-PCIe expansion. This carrier board features USB 3.0 and DisplayPort. It supports the latest high-performance Intel® processors. COM Express® Type 6 PMC/XMC Carrier Board is ideal for military and aerospace applications.



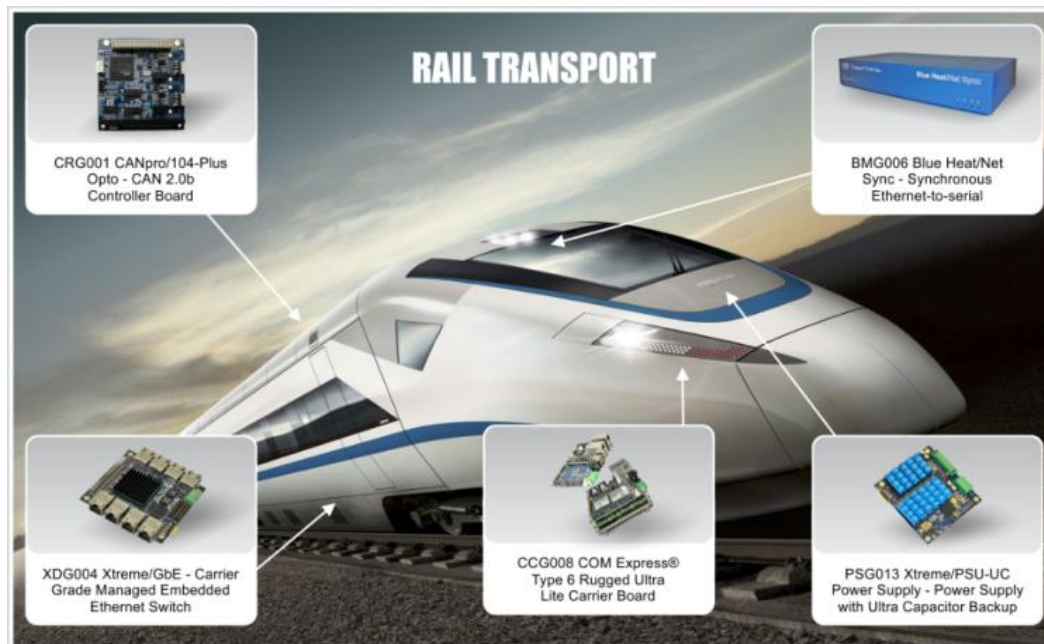
COM Express® Type 6 Ultra Lite Carrier Board

CCG008



- COM Express® Type 6 Compatibility
- Mini-PCIe Expansion
- Supports latest Intel® processor sets
- Extended Temperature Range: -40 to +85 C
- Dimensions L x H: 125 x 95 mm

Connect Tech's COM Express® Type 6 Ultra Lite Carrier Board is a compact carrier board which matches the dimensions of a COM Express® Basic module. COM Express® Type 6 Ultra Lite Carrier Board is ideal for space constrained applications and supports extended temperature ranges of -40 to +85 C. Supports the latest Intel® processor sets.



COM Express® Type 6 Rugged Ultra Lite Carrier Board

CCG011 CCG012

- Rugged, locking pin headers
- COM Express® Type 6 compatibility
- Mini-PCIe Expansion, USB 2.0, DisplayPort++
- Supports latest Intel® processor sets
- Extended Temperature Range: -40 to +85 C
- Dimensions L x W: 95 x 125 mm

Connect Tech's COM Express® Type 6 Rugged Ultra Lite Carrier Board is a compact carrier board which matches the dimensions of a COM Express® Basic module and offers the ultimate durability with locking, rugged pin headers.

COM Express® Type 6 Rugged Ultra Lite Carrier Board is ideal for space constrained applications, harsh environments, demanding conditions and supports extended temperature ranges of -40 to +85 C.



COM Express® Type 6 PMC/XMC Ultra Lite Carrier

CCG013

- Ruggedized, locking pin header connectors
- Dual PMC/XMC & Mini-PCIe Expansion
- COM Express® Type 6 compatibility
- Supports latest Intel® processor sets
- Extended Temperature Range: -40 to +85 C
- Dimensions L x W: 170 x 165 mm

Connect Tech's COM Express® Type 6 PMC/XMC Ultra Lite Carrier Board is a compact, feature-rich carrier which offers dual PMC/XMC and Mini-PCIe expansion. This carrier board features USB 3.0 and DisplayPort and supports the latest Intel® processor sets.

The COM Express® Type 6 PMC/ XMC Ultra Lite Carrier Board is ideal for military and aerospace applications and accepts a wide input voltage range from a regulated or un-regulated source of +12V to +48V DC.

Note: This board may no longer be available in smaller quantities – contact us for further information.



COM Express® Type 6 PMC/XMC Lite Carrier

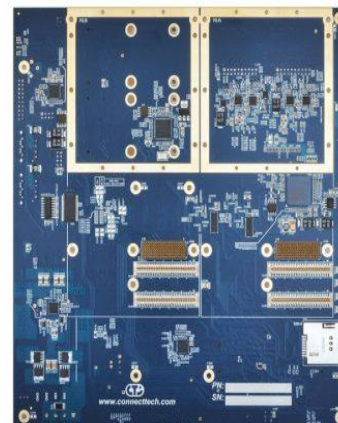
CCG016

- Ruggedized, locking pin header connectors
- Dual PMC/XMC & Mini-PCIe Expansion
- COM Express Type 6 compatibility
- Supports latest Intel® processor sets
- Extended Temperature Range
- Dimensions L x W: 170 x 165 mm

Connect Tech's COM Express® Type 6 PMC/XMC Lite Carrier Board is a compact, feature-rich carrier which offers dual PMC/XMC and Mini-PCIe expansion. This carrier board features USB 3.0 and DisplayPort and supports the latest Intel® processor sets.

The COM Express® Type 6 PMC/ XMC Lite Carrier Board is ideal for military and aerospace applications and accepts a wide input voltage range from a regulated or un-regulated source of +12V to +48V DC.1

Note: This board may no longer be available in smaller quantities – contact us for further information.



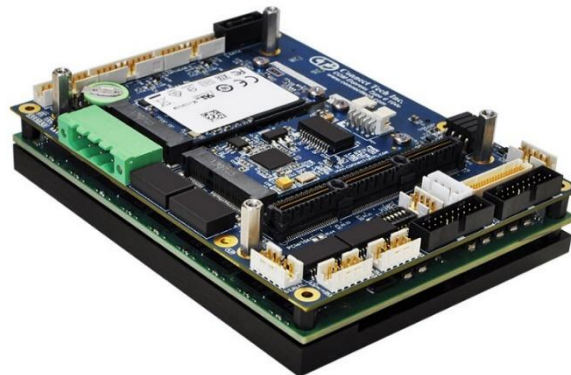
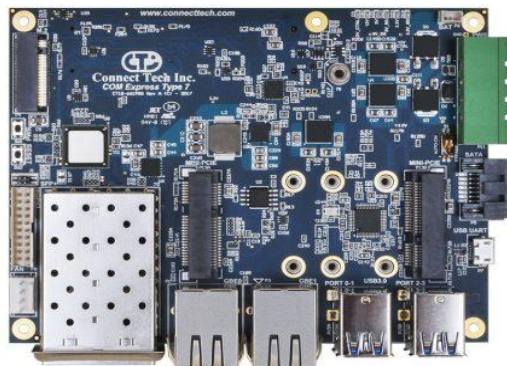
COM Express® Type 6 104e

CCG017 CCG018

- 4x USB 3.0, 2x GbE, 2x RS-232/485, LVDS (2x24), VGA
- CCG017 - PCIe/104 Type 2
- CCG018 - PCIe/104 Type 1
- On-Board DisplayPort/HDMI/DVI display switching
- Extended temperature range: -40 to +85 C
- Dimensions L x W: 125 x 95 mm

Connect Tech's COM Express® Type 6 104e is a compact carrier board which matches the dimensions of a COM Express® Basic module and offers the ultimate durability with rugged, locking pin header connectors.

In addition to the option for multiple video display, on-board DisplayPort/HDMI/DVI switching, USB 3.0, dual GbE and switchable Mini-PCIe / mSATA ports a PCIe/104 Type 2 connector allows for even a further 10 expansions. COM Express® Type 6 104e Carrier Board is ideal for space constrained applications, harsh environments, demanding conditions and supports extended temperature ranges of -40 to +85 C.



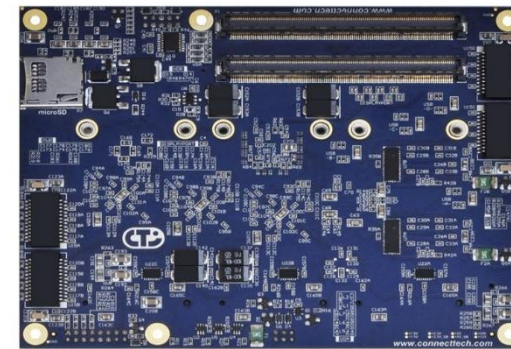
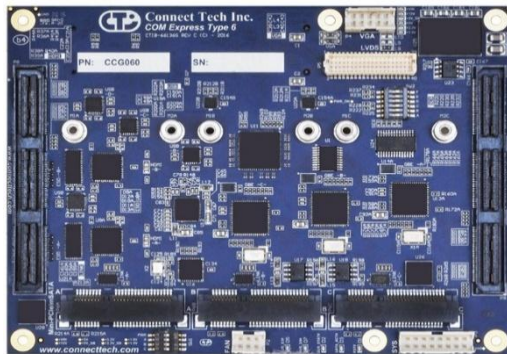
COM Express® Type 6 Stacking Carrier

CCG060 XBG601

- 3x Mini PCIe Modules
- 4x GbE Ports with On-Board Magnetics
- PCI Express x16 Bus Design Access
- Use with Off-the-Shelf or Custom designed breakout boards
- Extended Temperature Range: -40 to +85 C
- Dimensions L x W: 125 x 95 mm

Connect Tech's COM Express® Type 6 carrier, model CCG060, changes the design process completely! The CCG060 provides high density board to board connectors for use with either off-the-shelf or custom breakout boards, dramatically reducing the need for cabling. With all the complex circuitry already on the carrier, such as Gigabit Ethernet, USB 3.0, Serial, and Display, the design of a unique breakout board can be done with minimal effort and using Connect Tech's design services or by the user.

Use with off the shelf breakout boards, or easily design a custom breakout board to meet your needs. Access to the COM Express PCI Express x16 Bus enables high data throughput or bifurcation design options. In addition, both unused SATA Links and PCIe x1 Links with clocks are provided to the breakout board. All this allows for breakout board expansion to meet your design needs.



COM Express® Bus Extender

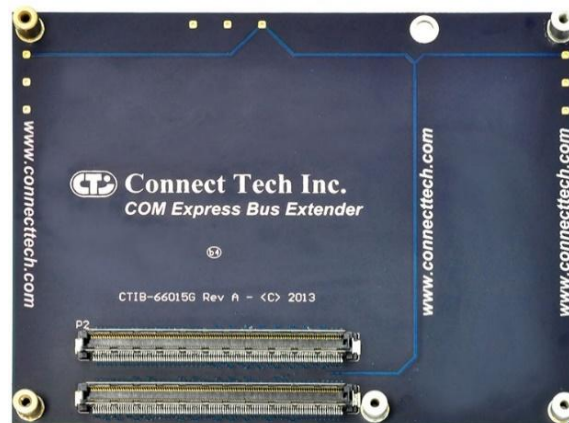
ADG053



- COM Express® Type 2/Type 6 Compatible
- Supports Compact and Basic COM Express® Modules
- Impedance Controlled Design
- Bus Connector: COM Express®
- Temperature: -40 to +85 C
- Dimensions L x W: 95 x 125 mm

Connect Tech's COM Express® Bus Extender simplifies small batch COM Express® testing cycles. This impedance-controlled design, intended to extend the life of your COM Express® Module/Carrier connectors, provides for full Type 2 or Type 6 COM Express® system functioning without interfering with the testing process. Because the ADG053 is simply a pass-through Bus Extender, it would also work for COM Express Type 7, as both Types 6 and 7 have 440 pins. Signal degradation may occur owing to certain of the high-speed I/O on newer COM Express Type 7 modules, so Connect Tech cannot ensure that it will function without some signal loss.

The COM Express® Bus Extender is compatible with Compact and Basic COM Express® Modules thanks to its solid solder mount standoffs. Save your expensive modules by wearing out the insertion rating of Connect Tech's COM Express® Bus Extender.



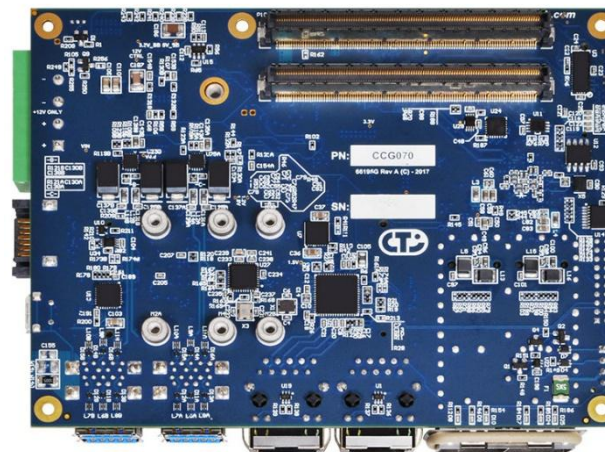
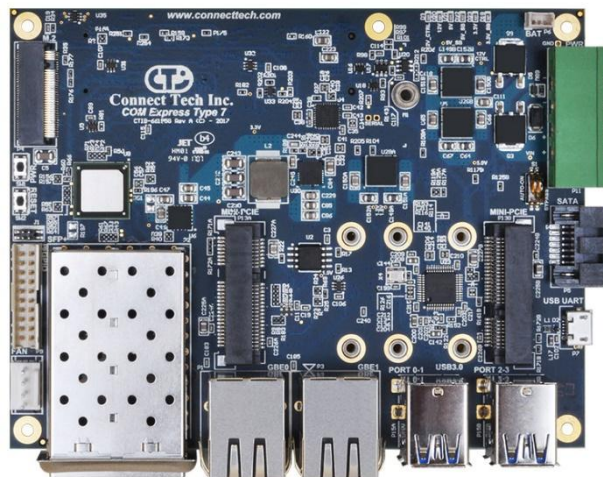
COM Express® Type 7 Carrier Board

CCG070

- COM Express® Type 7 Module Support
- Dual 10-Gigabit Ethernet
- Ultra-High-Speed Storage with M.2 NVMe SSD support
- Extended Temperature Range -40 to +85 C
- Dimensions L x W 125 x 95 mm

Connect Tech's COM Express® Type 7 Carrier Board is based on the PICMG COM Express® COM.0 R3.0 specification. It includes dual 10-Gigabit Ethernet from SFP+ modules, 2x GbE ports, M.2 NVMe Storage, 4x USB 3.0, full and half size Mini PCIe expansion slots, 8x 3.3V buffered GPIO, and a Console connection via Micro USB.

The carrier board is ideal for high-compute, enterprise level applications that have a need for a small form factor rugged solution providing access to high-end Xeon D class processors.



COM Express® Type 6 + GPU Embedded System

VXG201 VXG202 VXG203 VXG204 VXG301 VXG302

DXG201 DXG202 DXG203 DXG204 DXG301 DXG302

- Combines High-End GPUs with latest generation x86 processors in a ruggedized small form factor
- GPUs can be targeted for 4 independent display outputs OR for a headless GPU processing system utilizing CUDA® cores
- System uses a building block approach, mix and match CPUs with NVIDIA® Quadro® or Tesla® GPUs
 - Choose from 2 product models:
 - VXG part numbers have Passive Heat Spreaders that are to be installed into a Customer Designed End Thermal Solution
 - DXG part numbers have an Active Cooling Solution with Integrated Support Frame.

The COM Express® + GPU Embedded System from Connect Tech combines Intel® Skylake and Kaby Lake x86 processors with high-end NVIDIA® Quadro® and Tesla® Graphics Processing Units (GPU) all into a ruggedized small form factor embedded system. Choose from highest-end, highest-performance models or from low-powered extended temperature models all ideal for high-end encode/decode video applications or GPGPU CUDA® processing applications.

This embedded system exposes all the latest generation interconnect including Gigabit Ethernet, USB 3.0 and 2.0, DisplayPort++, VGA, LVDS, SATA III, GPIO, I2C, mSATA, miniPCIe, PCIe/104 and SD Card Expansion. This embedded system uses all locking ruggedized positive latching connectors.

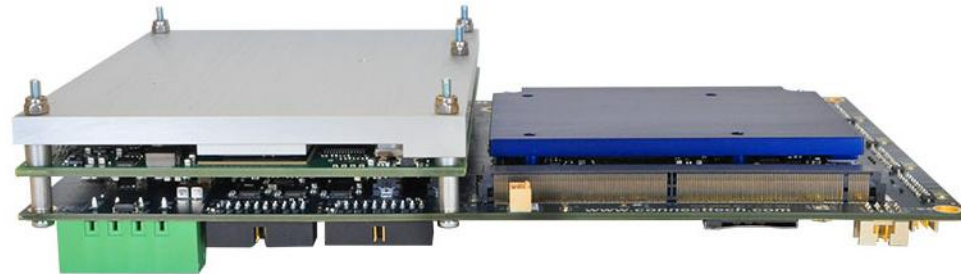


EOL



COM Express® Type 6 + GPU Embedded System Solutions

VGX	VGX COM Express Type 6 + GPU Embedded Subsystem
VXG201	Includes Intel® Xeon® E3-1505M V6 and NVIDIA® Quadro® P5000 + 0 to +55 C
VXG202	Includes Intel® Xeon® E3-1505L V6 and NVIDIA® Quadro® P3000 + 0 to +55 C
VXG203	Includes Intel® Xeon® E3-1515M V5 and NVIDIA® Quadro® P5000 + 0 to +55 C
VXG204	Includes Intel® Xeon® E3-1505L V5 and NVIDIA® Quadro® P3000 + 0 to +55 C
VXG301	Includes Intel® Xeon® E3-1505M V6 and NVIDIA® Tesla® M6 + 0 to +55 C
VXG302	Includes Intel® Xeon® E3-1515M V5 and NVIDIA® Tesla® M6 + 0 to +55 C



DGX	DGX COM Express Type 6 + GPU Embedded Subsystem with Active Cooling Solution (with Integrated Support Frame)
DXG201	Includes Intel® Xeon® E3-1505M V6 and NVIDIA® Quadro® P5000 0 to +55 C
DXG202	Includes Intel® Xeon® E3-1505L V6 and NVIDIA® Quadro® P3000 0 to +55 C
DXG203	Includes Intel® Xeon® E3-1515M V5 and NVIDIA® Quadro® P5000 0 to +55 C
DXG204	Includes Intel® Xeon® E3-1505L V5 and NVIDIA® Quadro® P3000 0 to +55 C



COM Express® Type 7 + GPU Embedded System

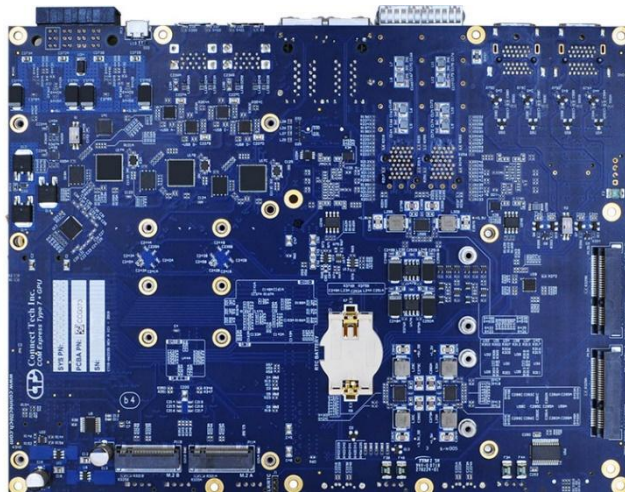
V7G001 V7G002 V7G003 V7G004 V7G005 V7G006

D7G001 D7G002 D7G003 D7G004 D7G005 D7G006

- Combines High-End GPUs with Intel® Xeon® D Server Class and Intel® Atom™ C3000 x86 Processors
- GPUs can be targeted for 4 independent display outputs OR for a headless GPGPU processing system using CUDA® cores
- 10 GbE interconnect: 2x 10GBASE-SR/LR From Dual Inphi CS4223E (Quad SFP+)
- Ideal for high-end encode/decode video applications or GPGPU CUDA® processing, Deep Learning and Artificial Intelligence applications
- Uses PC-style connectors for ease of cabling and packaging



The COM Express Type 7 + GPU Embedded System from Connect Tech combines Intel® Xeon® D (Server Class) and Intel® Atom™ C3000 x86 processors with high-end NVIDIA® Quadro® and Tesla® Graphics Processing Units (GPU) all into a small form factor embedded system. Choose from highest-end, highest-performance models or from low-powered models all ideal for high-end encode/decode video applications or GPGPU CUDA® processing, Deep Learning and Artificial Intelligence applications. This embedded system exposes all of the latest generation interconnect including: 10GbE and Gigabit Ethernet, USB 3.0 and 2.0, HDMI, SATA III, GPIO, I2C, M.2, miniPCIe. This embedded system uses PC-style connectors for ease of cabling and packaging.



COM Express® Type 7 + GPU Embedded Solutions

V7G	<i>V7G COM Express Type 7 + GPU Embedded Subsystem equipped with Passive Heat Spreaders (Customer Designed End Thermal Solution)</i>
V7G001	Includes Xeon® D1577 and NVIDIA® Quadro® P5000 + 2x 10G, 4x HDMI Variant
V7G002	Includes Xeon® D1577 and NVIDIA® Quadro® P3000 + 2x 10G, 4x HDMI Variant
V7G003	Includes Xeon® D1577 and NVIDIA® Tesla® P6 + 2x 10G, No Display Output Variant
V7G004	Includes Xeon® D1559 and NVIDIA® Quadro® P5000 + 2x 10G, 4x HDMI Variant
V7G005	Includes Xeon® D1559 and NVIDIA® Quadro® P3000 + 2x 10G, 4x HDMI Variant
V7G006	Includes Xeon® D1559 and NVIDIA® Tesla® P6 + 2x 10G, No Display Output Variant
V7G010	Includes Intel® Atom™ C3958 and NVIDIA® Quadro® P5000 + 4x HDMI Variant
V7G011	Includes Intel® Atom™ C3958 and NVIDIA® Quadro® P3000 + 4x HDMI Variant
V7G012	Includes Intel® Atom™ C3958 and NVIDIA® Tesla® P6 + No Display Output Variant

D7G	<i>D7G COM Express Type 7 + GPU Embedded Subsystem Equipped with Active Cooling System</i>
D7G001	Includes Intel® Xeon® D1577 and NVIDIA® Quadro® P5000 + 2x 10G, 4x HDMI Variant
D7G002	Includes Intel® Xeon® D1577 and NVIDIA® Quadro® P3000 + 2x 10G, 4x HDMI Variant
D7G003	Includes Intel® Xeon® D1577 and NVIDIA® Tesla® P6 + 2x 10G, No Display Output Variant
D7G004	Includes Intel® Xeon® D1559 and NVIDIA® Quadro® P5000 + 2x 10G, 4x HDMI Variant
D7G005	Includes Intel® Xeon® D1559 and NVIDIA® Quadro® P3000 + 2x 10G, 4x HDMI Variant
D7G006	Includes Intel® Xeon® D1559 and NVIDIA® Tesla® P6 + 2x 10G, No Display Output Variant
D7G010	Includes Intel® Atom™ C3958 and NVIDIA® Quadro® P5000 + 4x HDMI Variant
D7G011	Includes Intel® Atom™ C3958 and NVIDIA® Quadro® P3000 + 4x HDMI Variant
D7G012	Includes Intel® Atom™ C3958 and NVIDIA® Tesla® P6 + No Display Output Variant

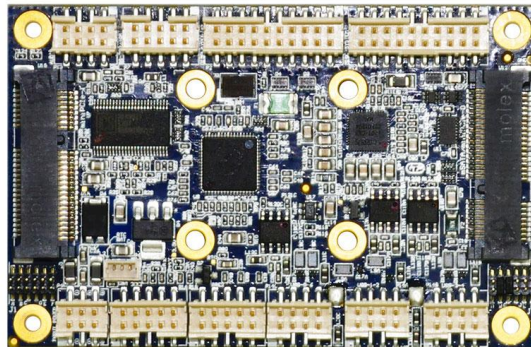
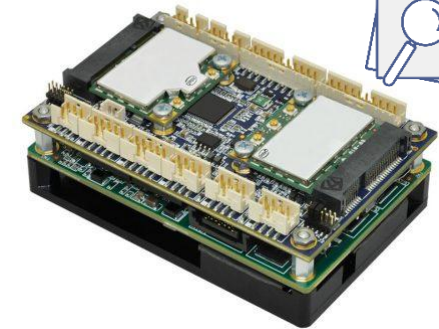


COM Express® Type 10 Mini Carrier Board

- 2 x mini PCIe, mSATA, SATA, 2 x GBE, 6 x USB, LVDS, DisplayPort/HDMI/DVI/VGA, HD Audio, 2 x RS-232/422/485
- All ruggedized latching connectors
- Now supporting USB 3.0 on CCG020 model
- Support for the latest generation of low powered CPUs
- Temperature Range: -40 to +85 C
- Dimensions L x W: 84 x 55 mm

Connect Tech's COM Express® Type 10 Mini Carrier Board is an extremely small carrier board featuring rugged, locking connectors and offers the ultimate in durability.

COM Express® Type 10 Mini Carrier Board is ideal for space constrained applications, harsh environments, demanding conditions and supports extended temperature ranges of -40 to +85 C.



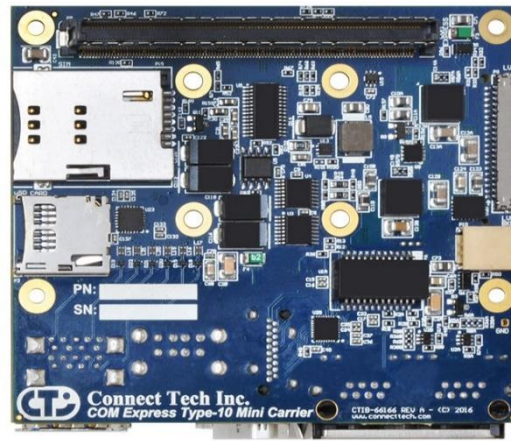
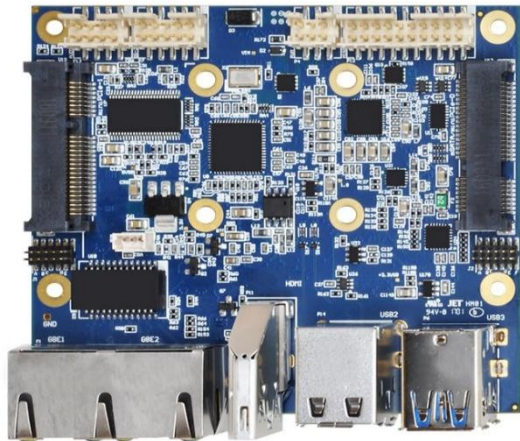
COM Express® Type 10 PC Connector Carrier

CCG022

- Combination of PC style and locking pin header connectors
- Support for the latest generation of low-powered CPUs
- 2 x USB 3.0 Type A, 6x USB 2.0, 2x RS-232, 2x GbE, 1x mSATA
- Extended Temperature Range: -40 to +85 C
- Dimensions L x W: 84 x 73,415 mm

Connect Tech's COM Express® Type 10 PC Connector Carrier is an extremely small carrier board featuring a combination of PC style connectors and locking pin header connectors. The carrier is a robust offering, with 2x USB 3.0 Type A ports, 6x USB 2.0 ports, 1x HDMI, 1x LVDS interface, and 2x GbE.

The COM Express Type 10 Carrier Board provides support for the latest generation of low-powered CPUs. It is ideal for space constrained applications and supports extended temperature ranges of -40 to +85 C.



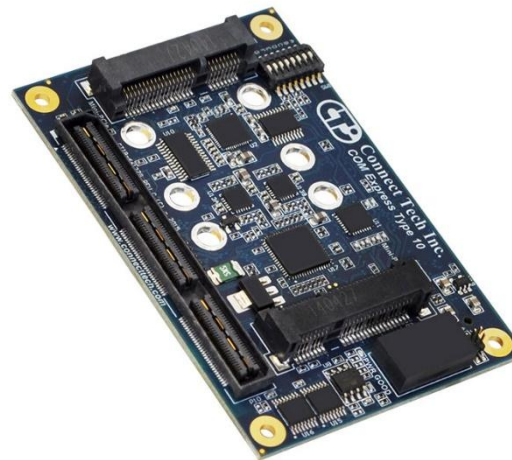
COM Express® Type 10 Stacking Carrier

CCG030 XBG101 XBG102

- 1x high density connector for breakout board utilization
- Expansion via Mini PCI Express
- Use with off-the-shelf or custom designed breakout boards
- Extended Temperature Range -40 to +85 C
- Dimensions L x W: 84 x 55 mm

Connect Tech's COM Express® Type 10 carrier, model CCG030, changes the design process completely! The CCG030 provides high density board to board connectors for use with either off-the-shelf or custom breakout boards, dramatically reducing the need for cabling. With all of the complex circuitry already on the carrier, such as Gigabit Ethernet, USB 3.0, Serial, and Display, the design of a unique breakout board can be done with minimal effort and using Connect Tech's design services or by the user.

CCG030 provides expansion via Mini-PCI Express which can be used for either Mini PCI Express peripherals or mSATA. In addition, both a SATA Link and a PCIe x1 Link with Clock are provided to the breakout board connector, allowing for breakout board expansion to meet your design needs.



COM-HPC® Products

COM-HPC is specifically developed to meet the ever-increasing performance and bandwidth demands of all current and forthcoming edge and embedded server applications that earlier Computer-on-Module requirements are unable to satisfy. As such, it will be a game changer for systems that address current and future demands in the digital era.

COM
+HPC®

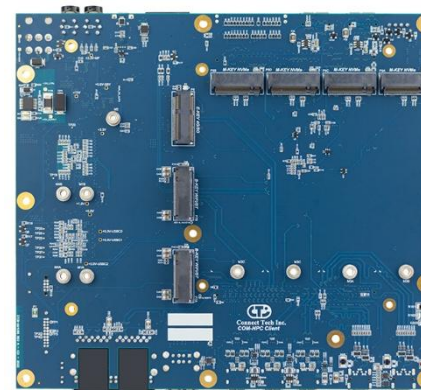
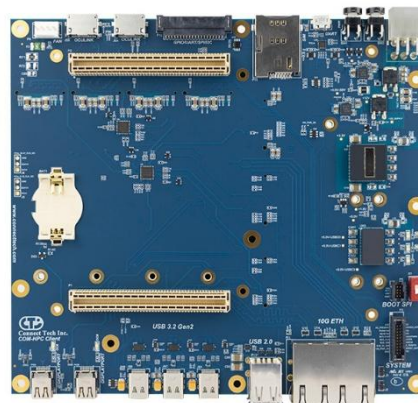


COM-HPC Carrier Board

HPC001

- Dimensions: 180mm x 160mm
- Based on COM-HPC® for Client Modules A, B, or C
- 2 x NBASE-T (2x 2.5Gbps)
- 3 x USB3.2 Gen2.1 via USB type C; 2 x USB 2.0 (USB Type-A Connector)
- 2 x 3042/3052 M.2 B-Key, 1 x 2230 M.2 E-Key, 4 x 2280 M.2 M-Key
- Extended Temperature Range -40°C to +85°C

This is the first Carrier Board from Connect Tech for the new COM-HPC platform. It has high-speed PC-style connectors as well as lockable pin header connectors.



COM-HPC® Products

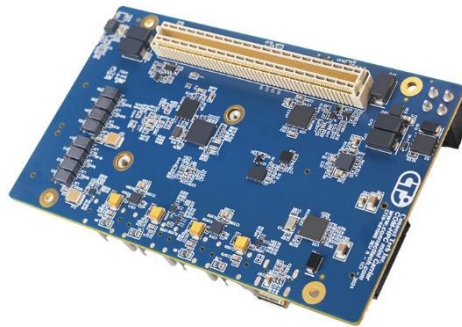
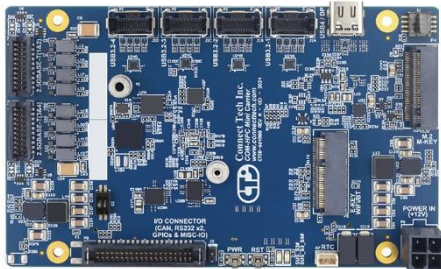
COM-HPC® Mini Carrier Board HPC002

The HPC002 COM-HPC Mini Carrier Board provides a commercial off-the-shelf solution that expedites your time to market. It facilitates effortless integration into edge computing, AI, and IoT ecosystems.

The COM-HPC® Mini Carrier Board has a wide range of connectivity choices, including high-speed and ruggedised locking connectors.

The mini carrier board, designed to suit the most recent COM-HPC® Mini specification, is a compact and versatile platform for high-performance computing applications. This adaptable mini carrier board improves power management, minimises space and energy, and shortens development time.

- Dimensions: 115 x 70 mm
- Secure rugged locking/latching connectors on all I/O ports
- 1x 2280 M.2 M-Key (PCIe x4, NVMe), 1x 2230 M.2 E-Key (WiFi/BT)
- 2x UART, 2x RS-232/RS-485, 1x I2C, 1x SPI, 1x CAN 2.0B
- 4x 2.5Gb Ethernet; 4x USB 3.2 Ports



VPX Products



VPX Products

Graphite VPX/CPU-TX2/TX2i/TX1
 Graphite VPX/CPU – 3U VPX SBC
 Graphite VPX/GPU
 Graphite VPX/XMC-PMC
 Graphite VPX/GbE – Managed
 Ethernet Switch

The VPX standard was developed with defence applications in mind, with an improved module standard that allows for high-performance applications and platforms. VME's Eurocard form factors were kept by VPX, which are based on multiples of three rack units: 3U stands for three rack units, and 6U stands for six rack units. It supported PCI Mezzanine Cards (PMC) and XMC mezzanines (PMC with high-speed serial fabric connectivity) while keeping VMEbus compatibility to a bare minimum.



VPX products from Connect Tech are VITA 65 compatible, compact 3U embedded systems. The GraphiteVPX/CPU-TX2/TX1, a VITA 65 compliant 3U VPX single board computer brings the NVIDIA® Jetson TX2 or TX1 embedded computing platform to the VPX form factor. The XMC-PMC solution supports PCIe Gen 3.0; the GPU solution includes the NVIDIA GeForce GTX 950M for embedded VPX; and the GbE solution includes a 20-port Managed Carrier Ethernet Switch.



Graphite VPX/CPU-TX2/TX2i

VPX003

- 1 TFLOP, 256 CUDA cores with NVIDIA® Pascal™ or Maxwell™ GPU Architecture
- Conduction cooled
- The onboard PCIe Gen 3.0 switch supports two x4 port data plane connections
- Extended Temperature Range: -40 to +85 C
- Can be used with RTG004 Graphite VPX CPU TX2/TX1 RTM to aid in development

Connect Tech's **GraphiteVPX/CPU-TX2/TX2i** is a VITA 65 compliant 3U VPX single board computer that brings the [NVIDIA® Jetson™ TX2 and TX2i](#) embedded computing platforms to the VPX form factor. This complete host solution delivers over a TeraFLOP of performance, with multiple USB 3.0 ports, multiple GbE channels, and 6 x CSI camera interfaces to round out this 3U VPX solution.

The onboard PCIe Gen 3.0 switch allows for two x4 interfaces providing two additional downstream ports on the backplane. The GraphiteVPX/CPU-TX2/TX2i has a Quad-Core 64bit ARM Cortex-A57 processor.

Note: These boards may no longer be available in smaller quantities – contact us for further information.



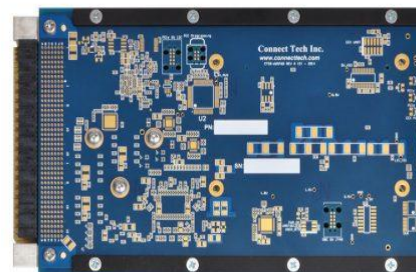
Graphite VPX/CPU – 3U VPX SBC

VPG001



- 3U OpenVPX VITA65
- Intel® Atom™ E3845 (Bay Trail) Quad Core processor
- Two x4 PCIe Gen3 Ports, Three 10/100/1000 BASE-T ports, Two 1000 BASE-X ports, Two USB 3.0 (SuperSpeed) ports, Eight USB 2.0 (Hi-Speed) ports, Two SATA 2.0 Ports, One DisplayPort++ Interface, HD Audio Input/Output, Two RS-232 Ports, 8 GPIO
- Supports 3U VPX profiles: MOD3 PAY 2F2T-16.2.5-2,3 and MOD3-PAY-2F2U-16.2.3-2,3

Connect Tech's GraphiteVPX/CPU is a VITA 65 compliant 3U single board computer based on the Intel® Atom™ E3845 (Bay Trail) Quad Core processor. The GraphiteVPX/CPU is a modular design allowing for other Intel processor options to be used; should an alternative processor be required for your application, please contact us.



Graphite VPX/AGX

VPG004

[Request Manual](#)

- Engineered for the NVIDIA® Jetson AGX Orin™ Industrial platform
- Aligned with 3U VPX SOSA
- PCIe x8 Gen4 (Board or Endpoint)
- Two 10-Gigabit Ethernet
- Full IMPI Support
- MIL-STD-810 and RTCA DO-160 Compliance
- Operating Temp.: -40 to 85C

The Graphite VPX/AGX Orin is a robust 3U VPX single board computer with the NVIDIA® Jetson AGX Orin™. It conforms to the Sensor Open Systems Architecture (SOSA) standard, ensuring smooth compatibility with SOSA-aligned systems.

The Graphite VPX/AGX Orin provides complete IPMI compatibility, allowing for convenient remote management and monitoring capabilities. High-speed connectivity such as twin 10GBASE-KR Ethernet, dual USB 3.2 Gen2, and PCIe x8 Gen4 provide extensive extension and integration. It meets MIL-STD-810H and DO-160 stress and vibration requirements, making it an excellent solution for today's mission-critical aerospace and defence AI applications.

Read more here https://connecttech.com/connect-tech-rugged-sosa-3u-vpx-sbc-ai-applications/?utm_source=CTI&utm_medium=email&utm_campaign=VPG004_Launch



Graphite VPX/GPU

VPX301

- NVIDIA® GeForce GTX 950M/2GB GDDR5
- Conduction Cooled only
- I/O supports up to 4 DisplayPort outputs or 2 DVI outputs
- The onboard PCIe Gen 3.0 switch supports multiple dataplane options: one x8 or two x4 ports with NT capabilities
- Extended Temperature Range: -40 to +70 C

Connect Tech's GraphiteVPX/GPU is a VITA 65 compliant 3U peripheral card that brings the NVIDIA® GeForce GTX 950M to the highly rugged embedded VPX marketplace. The GraphiteVPX/GPU provides up to four DisplayPort outputs or 2 DVI outputs. The power of the GeForce GTX 950M delivers unsurpassed graphics, video, and GPU computing performance, with access to 640 NVIDIA CUDA™ cores. It is an ideal solution for performance driven systems such as medical imaging, defence, and military/aerospace applications.

The onboard PCIe Gen 3.0 switch allows for multiple dataplane options, a direct x8 interface, or the option of splitting the bus into two x4 interfaces allowing for an additional downstream port. A non-transparent (NT) option is also available to allow multiple hosts to share the GPU resources through the same backplane.



Graphite VPX/XMC-PMC

VPG101 VPG102

- Conduction cooled or air-cooled options available
- The onboard PCIe Gen 3.0 switch supports multiple data plane options: one x8 or two x4 ports
- I/O options: PMC I/O p64s or XMC I/O x12d+x8d+x38s
- Extended Temperature Range: -40 to +85 C

Connect Tech's GraphiteVPX/XMC-PMC is a VITA 65 compliant 3U peripheral carrier card that brings PCIe Gen 3.0 capable features to a mezzanine carrier. Complete with a x8 Gen 3 PCIe capable VITA 42 XMC interface for all the newest, high-end mezzanine cards, as well as a 64-bit 133MHz PCI-X capable interface for use with all of your legacy PCI based PMC mezzanines.

A complete mezzanine I/O complement is available (based on VITA 46.9) with all 64 PMC IO (p64s) or all 78 XMC IO (x12d+x8d+x38s) with the ability to support a hybrid option that allows for XMCs that have PMC IO connectors.

The onboard PCIe Gen 3.0 switch allows for multiple dataplane options, a direct x8 interface to the XMC site or the option of splitting the bus into two x4 interfaces allowing for an additional downstream port on the backplane. A non-transparent (NT) option is also available to allow multiple hosts to share the mezzanines resources through the same backplane.

 **Compare Boards**



Specifications	
Power Requirements	12V (VS1), 3.3V (VS2), and 5V (VS3)
Maximum Power	15W + Mezzanine Power
Back Plane PCIe	3.0 (x8 or two x4) dataplane only
XMC PCIe	3.0 (x8)
PMC PCI-X	64-bit 133MHz
LEDs	PCIe Link speeds, Power up status
Thermal Interface	Air-cooled, Conduction cooled
I/O	p64s for PMC I/O, x12d+x8d+x38s for XMC I/O



Graphite VPX/GbE – Managed Ethernet Switch

VPG201 VPG202

- Conduction cooled or air-cooled Heatsink option
- 20 x GbE (10/100/1000 Ethernet) Ports – 16 to VPX backplane, 4 to front panel IO
- Web GUI or CLI Management
- Carrier Grade Ethernet Switching
- Available with RJ-45 Front panel for easy interfacing
- Supports 3U OpenVPX profile: MOD3-SWH-16T-16.4.7-1
- Extended Temperature Range: -40 to +85 C



Connect Tech's GraphiteVPX/GbE Managed Ethernet Switch provides Carrier Grade Ethernet switching capabilities in a small 3U embedded form factor.

Excellent for demanding applications with rugged environments and extreme temperatures, the GraphiteVPX/GbE Managed Ethernet Switch is also a highly reliable way to communicate with 10/100/1000 Base-T devices in an embedded system. Powered by the latest generation Carrier Ethernet Switch engine, the Vitesse 7429 features an embedded MIPS 32-bit CPU, 1Gb external memory and DMA-based frame extraction and insertion support timing over packet, Ethernet OAM, and performance monitoring.

Available in models with VPX backplane and/or 4 port RJ45 on the front panel connectors, making this embedded Ethernet switch ideal for any type of environment.



FPGA Products



FPGA PRODUCTS

FreeForm/104
FreeForm/Express S6
FreeForm/PCI-104
Xtreme I/O Opto
FPGA Daughter Board

A field-programmable gate array (FPGA) is an integrated circuit that can be customized after manufacturing by a client or a designer, hence the name. A hardware description language (HDL), similar to that used for application-specific integrated circuits, is used to specify the FPGA setup (ASIC). Previously, circuit diagrams were employed to specify the setup, but with the emergence of electronic design automation technologies, this is becoming less common.



The Xilinx Spartan-6, Spartan-3E, Virtex-6, and Virtex-5 FPGAs are used in Connect Tech's FPGA products.

The FPGA development boards are pre-loaded with full-featured designs that allow communication with the control and register portions of the FPGA device over the PC/104 or PCI-104 bus.



FreeForm/104

FBG001 FBG006

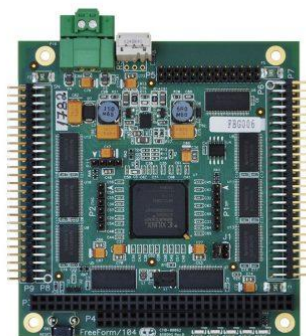
- Customizable PC/104 board based on the Xilinx Spartan 3E – 500.000 gates
- FPGA configurable through JTAG or SPI flash (4Mb)
- Reprogrammable in the field for standard and custom designs
- External 5V power connection for stand-alone usage
- Four user configurable LEDS and on-board reset switch
- Eight position rotary switch connected to FPGA

FreeForm/104 is a PC/104 based FPGA development board for digital I/O and control applications.

Based on Xilinx's Spartan-3E, Connect Tech's FreeForm/104 provides off-the-shelf flexibility, making it ideal for high speed, compute-intensive, reconfigurable applications. The FPGA configuration is stored in flash memory, allowing users to easily implement design changes during development or in the field.

Customized FPGA configurations can be developed easily by the user with the free Xilinx ISE WebPACK software, or through Connect Tech's engineering services. The versatility and high-speed processing core of the FreeForm/104 makes it ideal for applications including DSP, software defined radio, aerospace, defence systems, computer hardware emulation, production or laboratory testing and industrial process monitoring and control.

Note: These boards may no longer be available in smaller quantities – contact us for further information.



FreeForm/Express S6

FDG001 FDG002

- Spartan-6 LX45T FPGA
- PCIe x1 form factor
- 128MB DDR3 Memory
- Low Pin Count FMC connector
- 2x 10/100/1000 Ethernet ports
- 1x RS-232 port
- Flash for embedded code storage
- JTAG debugging
- Industrial temperature

Connect Tech's FreeForm/Express S6 is a reconfigurable computing platform that is based on the Xilinx Spartan-6 FPGA featuring integrated PCI Express® blocks, advanced memory support, and 3.125 Gbps low-power transceivers. The FreeForm/Express S6 FPGA development board includes an industry-standard FPGA Mezzanine Card (FMC) connector, which provides a flexible I/O interface for future scaling and customization. The PCIe bus bandwidth ensures high speed communication between the host system and the application's interfaces.

A wide range of available FMC modules adds interfaces such as ADC and digital video, which makes FreeForm/Express S6 a highly versatile platform for system development. Ideally suited for applications requiring both prototyping and field deployment including real-time data acquisition, high performance video processing, and software defined radio. FreeForm/Express S6 is optimized for embedded processor designs, supporting development with Xilinx's MicroBlaze.

Use Connect Tech's engineering services for FPGA design and software/driver development.

Note: These boards may no longer be available in smaller quantities – contact us for further information.

 **Compare Boards**

EOL

 **PDF**

 **USER MANUAL**



FreeForm/PCI-104

FCG001 FCG002 FCG003 FCG004 FCG005 FCG006

- Designed using Xilinx's multi-platform Virtex-5 FPGA
- 8MB Flash for embedded code storage
- 128MB DDR2-400 memory
- High speed digital I/O – 64 single ended or 32 LVDS pairs
- 2 x 10Base-T, 100Base-TX Ethernet
- 2 x RS-485 serial interface
- Designed for embedded processing using MicroBlaze™
- PowerPC 440 embedded processor option

VIRTEX-5 FPGA OPTIONS:

Connect Tech's FreeForm/PCI-104 FPGA development board with high-speed digital I/O offers Virtex-5 FPGA options including LX30T FPGA, LX50T FPGA and FX30T FPGA



If you don't see the Virtex option you're looking for? [Contact us](#) for a complete list or talk to us about custom designs!

FreeForm/PCI-104 is a reconfigurable FPGA development board with high-speed digital I/O that combines a user programmable FPGA with a 32-Bit, 33MHz PCI-104 interface. The advantages of PCI-104's high bandwidth along with the versatile FPGA architecture allows users to create a high-speed data interface and control solution that is uniquely suited to each individual application.

Based on the Xilinx Virtex-5 FPGA, Connect Tech's FreeForm/PCI-104 is highly versatile and provides a powerful platform for system development. Ideal for real-time data acquisition, high performance signal processing, avionics, autonomous vehicles, and software defined radio, FreeForm/PCI-104 is perfect for embedded systems designs when used along with an embedded host processor.

Use Connect Tech's engineering services for FPGA and high-speed digital I/O design and software/driver development.

Note: These boards may no longer be available in smaller quantities – contact us for further information.



Xtreme I/O Opto

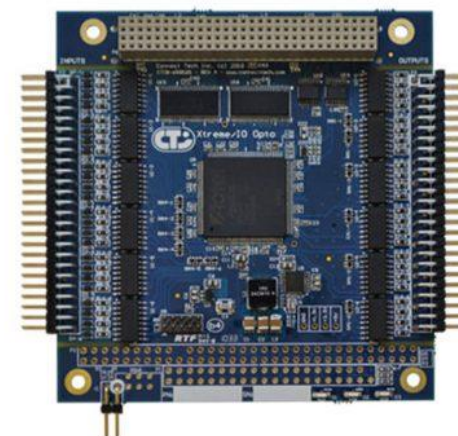
DAG001 DAG002

- Inputs: Selectable interrupt generation on any input signal (change of state, rising or falling edge) with 1,8kOhm current limiting series resistor on each input, and wide input voltage range from +0 up to +40V DC
- Flexibility: FPGA Register Controlled Device (jumpers are not required)
- Optical Isolation: 3kV RMS
- Outputs: Individual selectable output voltage levels with a 4,7kOhm pull up, with maximum output current of 8mA, and wide input voltage range from +0 up to +40V DC

Connect Tech's Xtreme I/O Opto is a 48-bit isolated PCI-104 Digital I/O board grouped with 24 optically isolated inputs and 24 optically isolated outputs. The flexibility of the FPGA technology allows integration and customization to meet application requirements.

Fully PCI-104 compliant, Xtreme I/O Opto Digital I/O can be controlled directly from a memory mapped register set in any operating system.

The reliability of the Xtreme I/O Opto, along with the added protection provided by 3kV isolation on the Digital I/O ensures optimal performance and protection under extreme environmental conditions. Xtreme I/O Opto is ideal for PC/104 and other embedded technology applications in the military, aerospace, medical and industrial sectors.

[A B Compare Boards](#)**EOL**

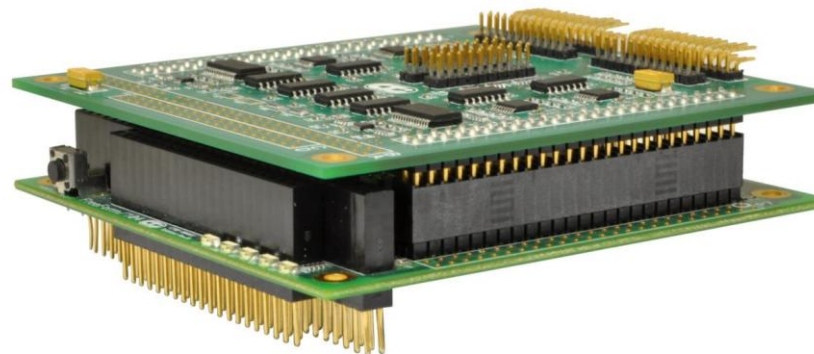
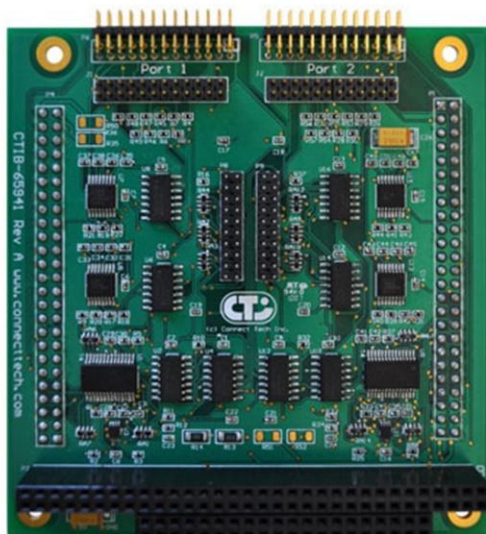
FPGA Daughter Board

DBG002

- Integration with the FreeForm/104 Xilinx Spartan-3E FPGA enables UART design and data capture customization
- Two switchable RS-232, RS-422 or RS-485 channels, configurable to be fully synchronous or asynchronous
- Pass-through PC/104 connector allows the Daughter Board to stack with the FreeForm/104 parent-board

The Daughter Board is a connector for Connect Tech's FreeForm/104 FPGA development board that allows users to record and process synchronous and asynchronous RS-232 or RS-485/RS-422 serial data with proprietary FPGA implementations.

The DBG002 enables easy and rapid design changes at run time when combined with a FreeForm/104 FPGA development board, making it perfect for high-speed, memory-intensive, reconfigurable applications.



DBG002 - Daughter Board installed on FreeForm/104



Multiport Serial Synchronous



ComSync multi-protocol serial adapters with PC/104, PCI/104, and PCI/104 Gen. 3 choices are among Connect Tech's Multiport Serial (Synchronous) solutions. Aside from the two serial adapters, Connect Tech also offers the Blue Heat/Net Sync, an external Ethernet-to-serial solution.

MultiPort Serial Synchronous Products

Blue Heat/Net Sync
ComSync/104
ComSync/PCI-104 Gen. 3

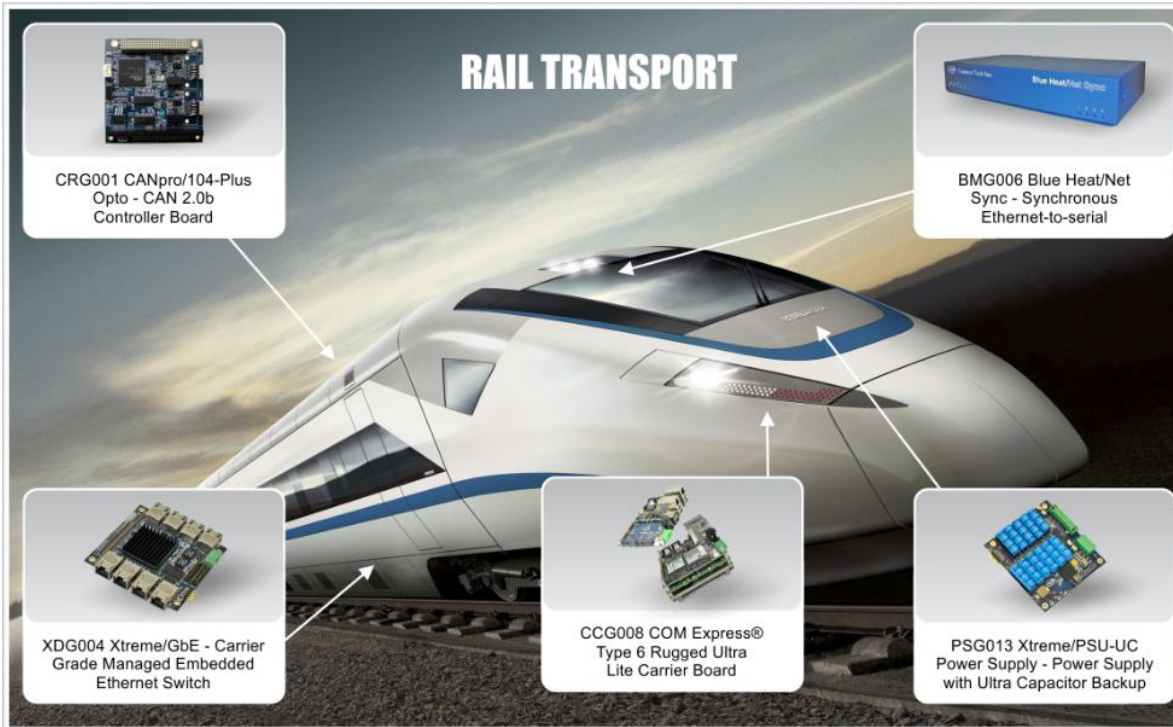


Blue Heat/Net Sync

BMG006

- Flexible: Four asynchronous or synchronous Ethernet-to-serial ports
- Serial Protocols: HDLC/SDLC, MonoSync, BiSync, Isochronous, Asynchronous
- Easy to Use: Flexible and easy configuration over serial or HTTP connections.
- Serial Signalling Interfaces: V.28 (RS232), V.10, V.11 (RS422), V.35, EIA-530, and X.21
- Programmable: Built on the uClinux embedded operating system, enabling the development of customized software.
- Performance: Built around a 66MHz ColdFire CPU featuring 16MB SDRAM, 8MB Flash and a uClinux embedded operating systems.

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



The Blue Heat/Net Sync is based on the sturdy uClinux (Linux embedded operating system) and may be configured with application-specific protocols.

To liberate devices from a physical connection, Blue Heat/Net Sync integrates different electrical interfaces and remote configurability. Remote access provides location flexibility and reduces costs by simplifying future installations or upgrades.

A web-based HTTP interface allows the Blue Heat/Net Sync to be programmed and operated locally or remotely. Devices can be updated in the field from a central location, with the option of booting from on-board Flash memory or a network site.



ComSync/104

CSG001 CSG005

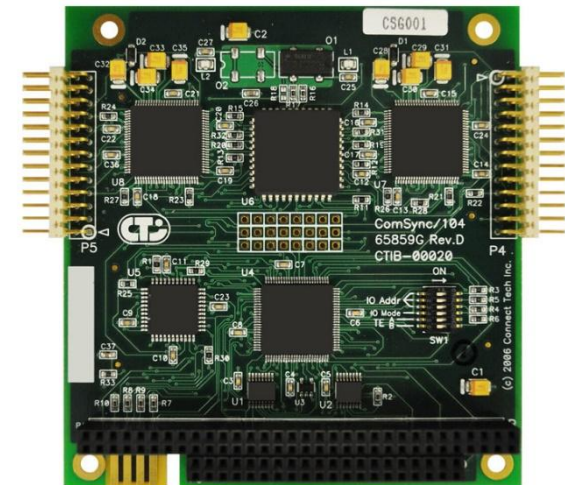
- Adaptability: Supports four software programmable DMA channels and offers programmable bit rates with different oscillators available for custom bit rates. Also supports a wide range of third-party applications and hardware/software tools.
- Flexibility: Choice of seven software programmable electrical interfaces (RS-232, RS-422, RS-449, EIA-530, EIA-530/A, V.35 and X.21).
- Speed: Achieve rapid data transfer rates up to 4.9 Mbps per channel.
- Performance: A 20 MHz Zilog 85230 ESCC controls each channel.
- Temperature Range:
- CSG001 – Commercial Temp.
- CSG005 – Industrial Temp: -40 to +85 C
- Dimensions: PC/104 Compliant

For your most demanding applications, this two-channel, multi-protocol serial adapter for the PC/104 bus provides reliable, synchronous, or asynchronous serial connections. The ComSync/104 allows you to select from a variety of electrical interfaces, protocols, and encoding schemes to ensure that your hardware/software solution is perfectly matched to your needs.

Bit cloning and programmable security solutions are available in the Register. To the long list of ComSync/104 features, add convenience. The extended temperature model assures that your communications will continue even if the weather is less than ideal.

 Compare Boards

EOL



ComSync/PCI-104

CPG001

- Flexibility: Choice of seven software programmable electrical interfaces (RS-232, RS-422, RS-449, EIA-530, EIA-530A, V.35 and X.21).
- Speed: Achieve rapid data transfer rates up to 18.432 Mbps per channel.
- USART: Two dual channel Zilog Z16C32 Integrated Universal Serial Controllers (IUSCs) with 32 byte transmit and receive.
- Protocols: SDLC, HDLC, MonoSync, Transparent BiSync, Async, external character sync and others.

Connect Tech's ComSync product family has expanded to include a PCI-104 platform option for your synchronous and asynchronous serial communications.

Based on the PCI bus and a compact form factor, this two-channel, multi-protocol serial adapter offers high performance, reliable, synchronous, or asynchronous serial communications for your industrial or embedded needs.

Providing the maximum in flexibility, this PCI-104 card allows you to choose from multiple electrical interfaces, protocols and encoding schemes to ensure your hardware solution is ideally suited to your specific application.

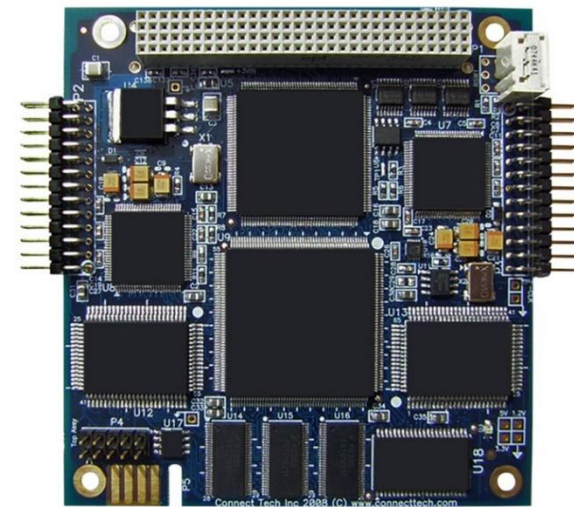
ComSync/PCI-104 is PCI-104 1.0 compliant and includes a PCI-104 stack-through connector to interface with a PCI-104 card stack.

COMSYNC/PCI-104 DRIVERS

ComSync/PCI-104 includes driver support for many popular operating systems, including:

- Linux Drivers
- Windows Drivers

[Contact Connect Tech for more information about a PCI-104 driver to support your specific operating system.](#)

**EOL****PDF****USER
MANUAL**

ComSync/PCI-104 Gen. 3

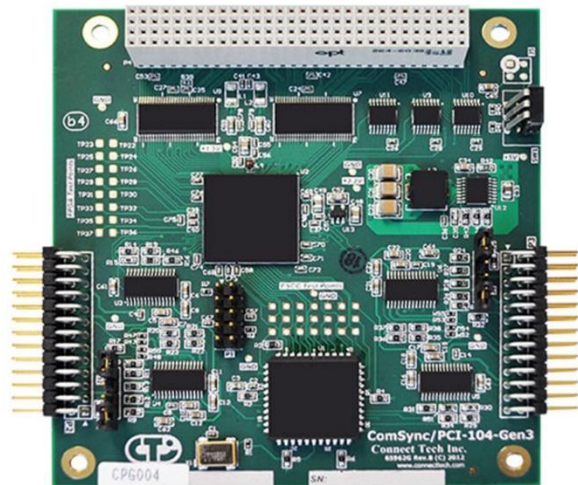
CPG004

- Two synchronous/asynchronous serial channels
- Multiple communication protocols supported: RS 232, RS-422, RS-485, HDLC, SDLC, MonoSync, BiSync and Async
- Operating temperature range: -40 to 85 C

Based on the PCI bus and a compact form factor, this two-channel, multi-protocol serial adapter offers high performance, reliable, synchronous, or asynchronous serial communications for your industrial or embedded needs.

Providing the maximum in flexibility, this PCI-104 card allows you to choose from multiple electrical interfaces, protocols and encoding schemes to ensure your hardware solution is ideally suited to your specific application.

EOL



Multiport Serial Asynchronous Products



Connect Tech's Multiport Serial (Asynchronous) products are wide ranging, covering solutions for Ethernet-to-Serial, PC/104, PC/104-Plus, PCI-104, Compact PCI, PCI Express, PCI, Universal PCI, ISA, and USB-to-Serial. Choose your product below.

MultiPort Serial Asynchronous Products

- Blue Heat/Net
- BlueStorm/Express
- BlueStorm/Express 8/16 RS-232
- BlueStorm/Express Isolated
- BlueStorm/Express LP
- BlueStorm/Express LP Opto
- BlueStorm/Express Opto
- BlueStorm/LP RS-232
- BlueStorm/LP RS-485
- BlueStorm/SP
- BlueStorm/SP Opto
- BlueStorm/SP RJ-11
- Xtreme I/O Opto
- Xtreme/104-Express – Serial Board
- Xtreme/104-Express Opto – Serial Board
- Xtreme/104-Plus
- Xtreme/Multi-I/O
- Xtreme/PCI-104 Opto – 12 Port



Xtreme/104-Plus

XPG002 XPG003

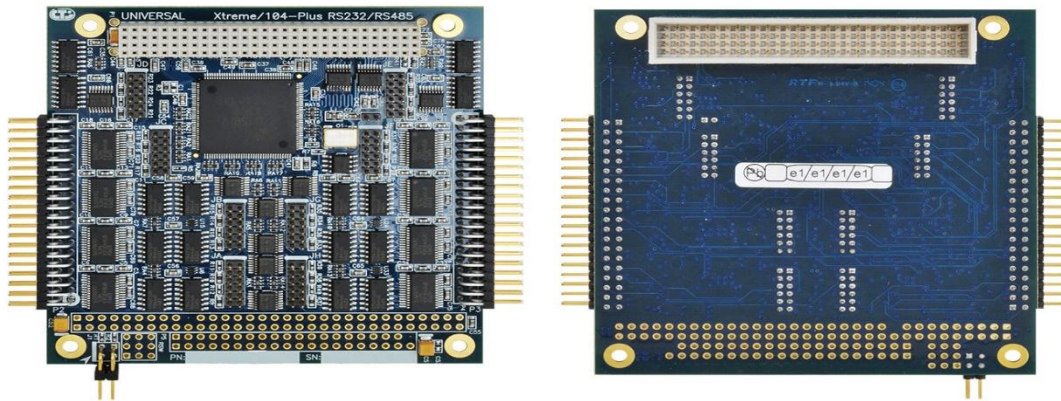
 Compare Boards

EOL



- Flexibility: 2, 4 or 8 asynchronous serial ports. 2 and 4 ports available in dedicated RS-423, 4/8 ports available in switchable RS-232/422/485 and now, 8 ports in switchable RS-232/422/485/TTL.
- Speed: Data transfer speeds range from 50 bps to 1,8432 Mbps
- Ruggedness: Operates within a temperature range of -40 to +85 C
- Performance: Each port is controlled by a high performance UART, providing 64 bytes of transmit and receive FIFO buffers.
- Adaptability: Supports three RS-485 modes: Full Duplex, Half Duplex and Multi-drop. (TTL models supports Full Duplex only.)

High performance and versatility are trademarks of the Xtreme/104 PC/104 serial card family. Now the Xtreme/104-Plus offers more choice for your embedded applications requiring a small footprint, but fast data transfer rates. The Xtreme/104-Plus is available with 4 or 8 high speed asynchronous RS-232/422/485 ports, 8 selectable RS-232/422/485/TTL ports or choose 2 or 4 dedicated RS-423 ports. High performance UARTs provide each port with large data buffering capabilities, and each port on the switchable models can be configured for electrical interface, baud rate, parity, data and stop bits independently. The Xtreme/104-Plus is the perfect combination of flexibility, high performance, and cost-effectiveness.



Xtreme/PCI-104 Opto – 12 Port

XIG011 XIG013 XIG014 XIG015 XIG016 XIG017 XIG018

- **Flexibility:** 12 RS-232/422/485 optically isolated serial ports
- **Speed:** Data rates up to 1 Mbps RS-232 and 4.16 Mbps RS-422/485
- **Ruggedness:** Operates within a temperature range of -40 to +85 C
- **Performance:** Each port is controlled by a high performance UART, providing 64 bytes of transmit and receive FIFO buffers
- **Adaptability:** Supports full duplex (4-wire) half duplex (2-wire) and multi-drop (4-wire) in RS-422/485 mode

Connect Tech's robust Xtreme product family now includes high density optical isolation as an additional feature to its product offering. Xtreme/PCI-104 Opto provides the highest port density, with 12 ports on a PCI-104 card, along with the added protection of 1kV optical isolation on a rugged and compact form factor.

Dependability, high speed data transfer rates and 1kV of optical isolation protection makes these cards ideal for critical applications whereby harsh conditions may disrupt communications. The Xtreme/PCI-104 Opto is ideal for embedded systems in the military, aerospace, medical and industrial sectors.

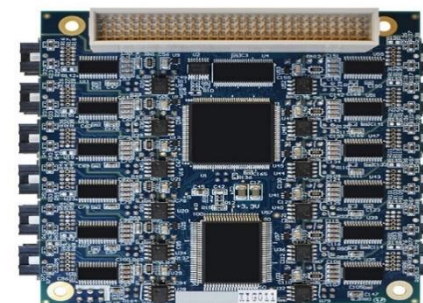
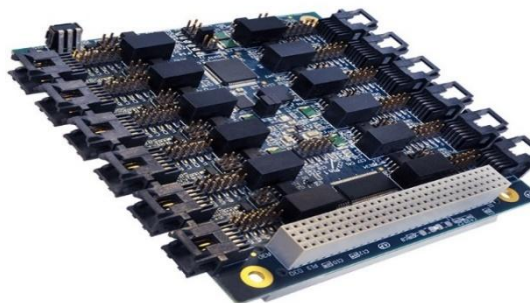
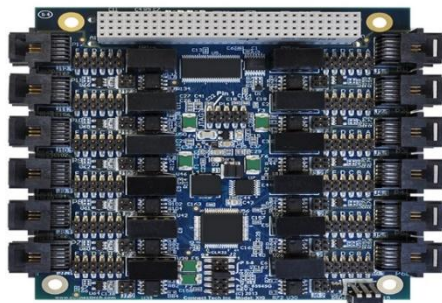
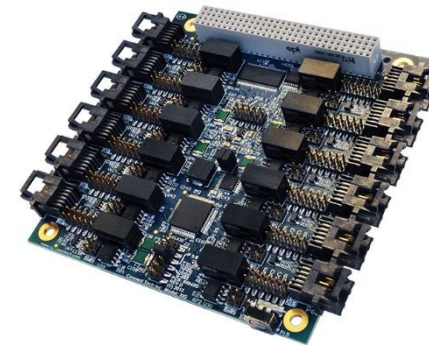
Note: These boards are now EOL. Limited quantities may still be available, otherwise an MOQ is required – contact us for further details.

 Compare Boards

EOL



USER
MANUAL



Xtreme/104-Express Opto – Serial Board

XFG001 XFG002

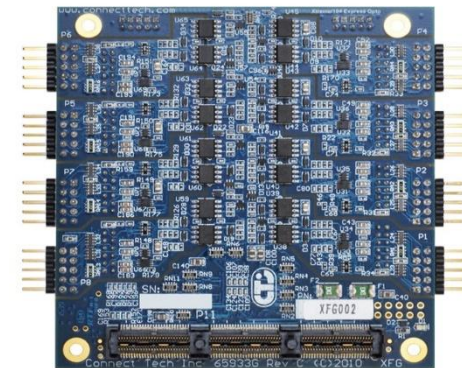
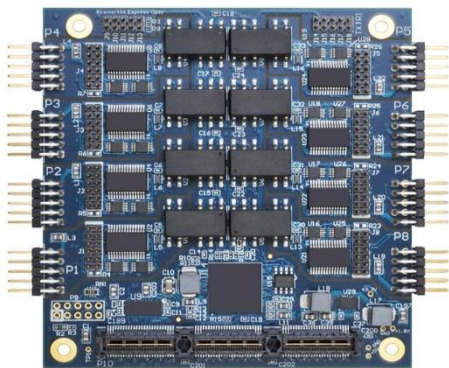
- PCIe/104 form factor
- Four or eight switchable RS-232/422/485 ports
- 3 kV optical isolation on each port
- Rugged filtering on all ports for immunity to EMI and noise
- Configurable tri-state on power up in RS-422/485 mode

Connect Tech's PCIe/104 serial cards offer advantages including rapid data transfer, high reliability and reduced system costs because of the stacking nature of the PC/104 form factor. Xtreme/104-Express Opto serial cards maximize ruggedness by adding 3 kV optical isolation to protect your industrial and embedded applications.

Xtreme/104-Express Opto includes a fractional baud rate generator that matches almost any baud rate accurately. Additionally, Xtreme/104-Express Opto offers large 256 byte FIFO buffers, 9-bit data support, and is suitable for industrial temperature requirements (-40 to 85 C).

Connect Tech's PCIe/104 serial boards provide longevity for critical military, aerospace, medical, instrumentation and industrial control applications.

 Compare Boards



Xtreme/104-Express – Serial Board

XEG005 XEG006

- PCI/104-Express form factor RS-232/422/485 add-in card
- Eight high speed serial ports up to 15.625 Mbps
- 9-bit data support with 128-byte FIFOs per port
- Rugged filtering on all ports for immunity to EMI and noise
- Supports RS-485 full duplex, half duplex and multi-drop slave
- Configurable tri-state on power up per port for all RS-485 ports

Xtreme/104-Express is Connect Tech's first PCI/104-Express multi-port serial board. Fully PCI/104-Express compliant, this board provides a PCI-104 pass-through connector for easy transition from legacy PCI-104 cards to PCI Express stacks.

Connect Tech's highest throughput to date, Xtreme/104-Express incorporates a fractional baud rate generator that allows almost any baud rate to be matched accurately. Fail-safe transceivers ensure glitch-free network operations, while industrial temperature grade components make certain your communications are protected from disruptions that can occur in harsh environments.

This PCI/104-Express serial board offers reliability, high data rates and longevity for military, aerospace, medical, instrumentation and industrial control applications.



10Gb & 1GbE Embedded Ethernet Switches & NICs



EMBEDDED ETHERNET SWITCHES & NICs

10 GbE Solutions

Xtreme/10G Managed Ethernet Switch/Router
PCIe/104 Dual 10GbE

GbE Solutions

Xtreme/GbE 8-Port Managed Carrier Ethernet Switch
Xtreme/GbE 12-Port Managed Carrier Ethernet Switch
Xtreme/GbE 24-Port Managed Carrier Ethernet Switch

10 GbE & 1 GbE EMBEDDED ETHERNET SWITCHES & NICs

Connect Tech offers a variety of Gigabit Embedded Ethernet Switches and NICs including 12, 24, and 36-port solutions, switch boxes, boards, embedded systems, a 10G switch/router, and a 10G Ethernet controller. These high density, high port count carrier grade Ethernet solutions are ideal for a wide range of military, industrial, and commercial applications.



Xtreme/10G Managed Ethernet Switch/Router

XDG201-01 XDG202-01

- 36 switchable ports (4x 10G; 8x 1GbE [SGMII]; 24x 1GbE)
- High-density board-to-board connector
- +4V to 14V input range
- Extended Temperature Range: -40 to +85 C
- SMBStaX, IStaX
- Dimensions L x W: 85 x 85 mm

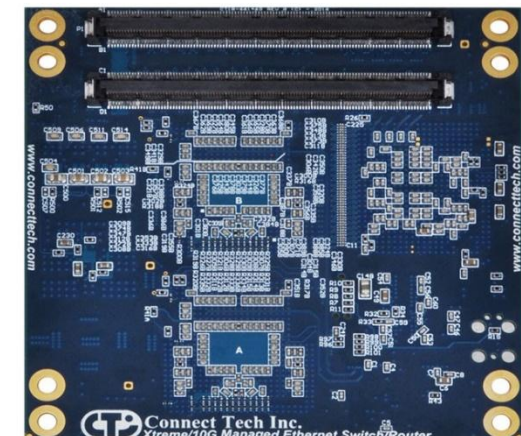
Software Comparison

Configuration Guides



Connect Tech's **Xtreme/10G Managed Ethernet Switch/Router** provides high density, high port count Layer 2 switching and Layer 3 routing with 10G uplinks. A total of 36 switchable ports, with 4 x 10G, 8 x 1GbE (SGMII), and 24 x 1GbE (Copper 10/100/1000Mbps) ports in an extremely small form factor 85 x 85mm.

The device targets managed Layer 2 and Layer 3 equipment in SMB, SME, and industrial applications where high port count 1GbE switching with 10G aggregation/uplinks are required.



Xtreme/10G Managed Ethernet Switch/Router

XDG205-01

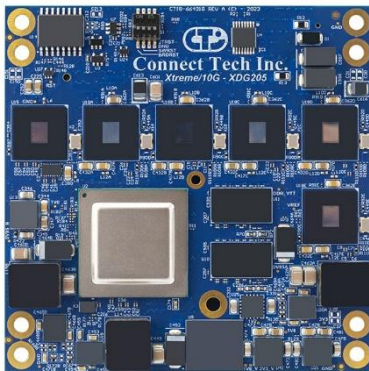
- 12x 10G Ports (10G/5G-SGMII/2.5G-SGMII/1G-SGMII)
- 24x 2.5GBASE-T/1000BASE-T
- High-density board-to-board connector
- Fully managed L2 switching and L3 routing features
- Complete TSN feature set
- Voltage Input Range: +4V to 14V
- Temp. Range: -40 to +85 C
- Dimensions L x W: 85 x 85 mm



With its high port density and number of ports, the Xtreme/10G Managed Ethernet Switch/Router offers Layer 2 switching and Layer 3 routing with 10G uplinks. The 36 switchable ports are offered in a minuscule 85mm x 85mm package, and they consist of 12 10G and 24 2.5G (Copper 10/100/1000/2500 Mbps) connectors.

For space-constrained applications requiring dense, high-bandwidth ethernet switching, this compact platform is ideal. Robotic and autonomous vehicle platforms are ideal for the rapid transfer of data from cameras and sensors over 2.5G and 1G networks, as well as multiple 10G connections.

The XDG205-01 requires a Breakout Carrier P/N [XBG305](#).



XDG201/XDG202/XDG205 Breakout Carrier

XBG301

Feature	Description
Ports	4x 10G (SFP+) 4x 1G (SFP) 24x 1G (RJ-45)
Console	1x RS-232 (via DB-9)
Input Voltage	+5V to +14V DC (4-pin 5mm pitch terminal header)
Dimensions	167,07 x 125,84 x 49,10mm (when both XDG20x + XHG201 heat spreader are installed)

The XBG301 is a COTS breakout board solution designed by CTI for the XDG201 switch. This breakout board is also intended to be used by clients as a Reference Design platform for their own development needs.

With the XBG301 embedded carrier, CTI offers a Reference Design Package that includes the entire Bill of Materials, Schematics, Layout files, and user manual.



XDG305 Breakout Board

XBG305

Support for PPS IN and PPS out

Supports 24 x 2,5G/1G Copper Ports

8 x 10G SFP+ ports (compared to the XBG301 with 4 x 10G and 4 x1G)

Legacy support for XBG201

Compared to XBG301 improved USB and <serial connectors

Improved 3,3V Power Supply to support higher power demand.

Feature	Description
Ports	24x 2,5G/1G (RJ-45) Copper Ports
Console	1x RS-232 (via DB-9)
Input Voltage	+5V to +14V DC (4-pin 5mm pitch terminal header)
Dimensions	167,07 x 125,84 x 49,10mm (when both XDG20x + XHG201 heat spreader are installed)

The XBG301 is a COTS breakout board solution designed by CTI for the XDG201 switch.

This breakout board is also intended to be used by clients as a Reference Design platform for their own development needs.

With the XBG301 embedded carrier, CTI offers a Reference Design Package that includes the entire Bill of Materials, Schematics, Layout files, and user manual.



PCIe/104 Dual 10GbE

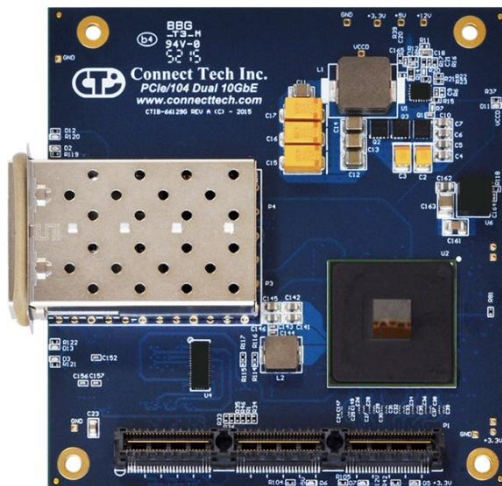
XDG101

- 10GbE Connectivity
- Powered by Intel's X710 Ethernet Controller
- Provides support for network and server virtualization
- LAN and SAN flexibility
- 0 to +55 C

Connect Tech's **PCIe/104 Dual 10GbE** board is a dual-port 10 Gigabit Ethernet controller for PCIe/104 platforms. Powered by Intel's X710 Ethernet Controller, the PCIe/104 Dual 10GbE provides support for network and server virtualization as well as LAN and SAN flexibility while maintaining reliable performance. This product is ideal for adding high speed 10GbE connectivity to embedded systems.

Note: This board is now EOL. Limited quantities may still be available, otherwise an MOQ is required – contact us for further details.

EOL



Xtreme/GbE 8-Port Managed Carrier Ethernet Switch

XDG004 XDG005 XDG006 XDG007 XDG008 XDG009 XDG016 XDG017 XDG018 XDG019 XDG020 XDG021

Specifications	
Ethernet Switch Engine	Vitesse VSC7428 Carrier Grade Ethernet Switch Chipset (XDG004-009) Vitesse VSC7429 Carrier Grade Ethernet Switch Chipset (XDG010, XDG013)
Memory	128Mb Flash, 1GB RAM
Ethernet	8x Gigabit ethernet (10/100/1000 Mbps)
Layer 2 Switching	802.1Q VLAN switch with 8K MACs and 4K VLANs, Hardware and software-based learning, Independent and shared VLAN learning (IVL, SVL), IPv4/IPv6 multicast, Jumbo frame support, Link aggregation (IEEE 802.3ad), Policing with storm control and MC/BC protection, Push/pop up to two VLAN tags, RSTP and MSTP support
Management Access	PCIe/104 Bus, RS-232 Serial Interface (CLI), Software API, Web Interface
Thermal Solution using Air Cooled Heat Sink	XDG004 XDG005 XDG006 XDG007 XDG008 XDG009
Thermal Solution using Condition Cooled Heatplate	XDG016 XDG017 XDG018 XDH019 XDG020 XDG021
GbE Connector Type	RJ45: XDG004 XDG005 XDG006 XDG016 XDG017 XDG018 Rugged Locking Pin Headers: XDG007 XDG008 XDG009 XDG019 XDG020 XDG021
LEDs	Power Rail LEDs, Status LEDs
Input Voltage	+9V to 36V Input Range (All Models) +12V only (Models with PCIe/104 Connector) +5V only (XDG029 Only)
Power Consumption	0.35A, 4.2W
PC/104 Bus Connector Option	PC/104: XDG005 XDG008 XDG017 XDG020 PCIe/104: XDG006 XDG009 XDG010 XDG018 XDG021 None: XDG004 XDG007 XDG016 XDG019
Dimensions	Fully PCI/104 compliant
Operating Temperature	-40 to +85 C



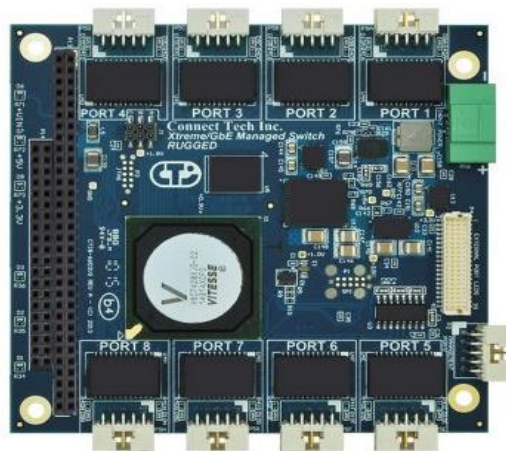
Xtreme/GbE 8-Port Managed Carrier Ethernet Switch

Connect Tech's Xtreme/GbE Managed Carrier Ethernet Switch offers carrier-class Ethernet switching capabilities in an extremely small, embedded form factor.

[Configuration Guides](#)


The Xtreme/GbE Managed Carrier Ethernet Switch is not only ideal for high-end applications such as mobile and microwave backhaul but is also a highly reliable way to communicate with 10/100/1000 devices in an embedded system. The Xtreme/GbE Managed Carrier Ethernet Switch is based on the latest generation Microchip VSC7428/VSC7429 switch engine. The embedded 416MHz MIPS 32-bit CPU, external 1GB DDR2 memory and DMA-based frame extraction and insertion support timing over packets, Ethernet DAM and performance monitoring.

This embedded Ethernet switch is available in RJ-45 or Rugged Positive Locking Headers models, making it suitable for any type of environment.



XDG007 - 8-Port Xtreme/GbE



XDG013 - 12-Port Xtreme/GbE



XDG007 - 8-Port Xtreme/GbE



Xtreme/GbE 12-Port Managed Carrier Ethernet Switch

XDG010 XDG012 XDG013 XDG022 XDG023

Specifications	
Ethernet Switch Engine	Vitesse VSC7429 Carrier Grade Ethernet Switch Chipset (XDG010, XDG013)
Memory	128Mb Flash, 1GB RAM
Ethernet	12x Gigabit ethernet (10/100/1000 Mbps)
Layer 2 Switching	802.1Q VLAN switch with 8K MACs and 4K VLANs, Hardware and software-based learning, Independent and shared VLAN learning (IVL, SVL), IPv4/IPv6 multicast, Jumbo frame support, Link aggregation (IEEE 802.3ad), Policing with storm control and MC/BC protection, Push/pop up to two VLAN tags, RSTP and MSTP support
Management Access	PCIe/104 Bus, RS-232 Serial Interface (CLI), Software API, Web Interface
Thermal Solution using Air Cooled Heat Sink	XDG010 XDG012 XDG013
Thermal Solution using Condition Cooled Heatplate	XDG022 XDG023
GbE Connector Type	RJ-45's & Rugged Locking Pin Headers: XDG010 XDG012 XDG022 Rugged Locking Pin Headers: XDH013 XDG023
LEDs	Power Rail LEDs, Status LEDs
Input Voltage	+9V to 36V Input Range (All Models) +12V only (Models with PCIe/104 Connector) +5V only (XDG029 Only)
Power Consumption	0.35A, 4.2W
PC/104 Bus Connector Option	PCIe/104: XDG010 XDG013 XDG022 XDG023 None: XDG012
Dimensions	Fully PCI/104 compliant
Operating Temperature	-40 to +85 C

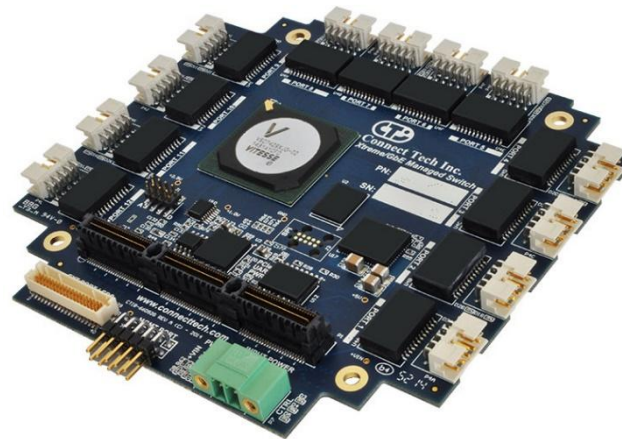


Xtreme/GbE 12-Port Managed Carrier Ethernet Switch

Connect Tech's Xtreme/GbE Managed Carrier Ethernet Switch offers carrier-class Ethernet switching capabilities in an extremely small, embedded form factor.

The Xtreme/GbE Managed Carrier Ethernet Switch is not only ideal for high-end applications such as mobile and microwave backhaul but is also a highly reliable way to communicate with 10/100/1000 devices in an embedded system. The Xtreme/GbE Managed Carrier Ethernet Switch is based on the latest generation Microchip VSC7428/VSC7429 switch engine. The embedded 416MHz MIPS 32-bit CPU, external 1GB DDR2 memory and DMA-based frame extraction and insertion support timing over packets, Ethernet OAM and performance monitoring.

This embedded Ethernet switch is available in RJ-45 or Rugged Positive Locking Headers models, making it suitable for any type of environment.



XDG013 - 12-Port Xtreme/GbE



Xtreme/GbE 24-Port Managed Carrier Ethernet Switch

XDG024 XDG025

XDG024 - Xtreme/GbE 24-Port Managed Carrier Ethernet Switch (PCIe/104 Version)

XDG025 - Xtreme/GbE 24-Port Managed Carrier Ethernet Switch (Standalone Version)

Specifications	
Ethernet Switch Engine	Microchip VSC7429 Carrier Grade Ethernet Switch Chipset
Ethernet PHYs	12 x Cu PHY Ports from Vitesse VSC7429 Switch Engine, 12 x Cu PHY Ports from Vitesse VSC8512 External PHY
Memory	128Mb Flash, 1GB RAM
Ports	24 x Gigabit Ethernet (10/100/1000 Mbps)
Magnetics	On-board Gigabit Magnetics for all 24 Ports (No external magnetics required) (10/100/1000 Mbps) application
Connectors	3 x High-Density Board-to-Board / Board-to-Cable Connectors, Connectors can be mated directly to breakout boards, or via cabling, Each High-Density Connector Contains 8 Gigabit Ports
Layer 2 Switching	802.1Q VLAN switch with 8K MACs and 4K VLANs, Hardware and software-based learning, Independent and shared VLAN learning (IVL, SVL), IPv4/IPv6 multicast, Jumbo frame support, Link aggregation (IEEE 802.3ad), Policing with storm control and MC/BC protection, Push/pop up to two VLAN tags, RSTP and MSTP support
Management Access	PCIe/104 Bus (XDG024), RS-232 Serial Interface (CLI), SNMP, Software API, Web Interface
Breakout Board Options	8-Port Bank Cabling Options to: Panel Mount Vertical RJ-45s, Right Angle RJ-45s and MIL Circular Connector, Direct Board-to-Board (No Cabling): 24-Port Vertical RJ-45s, Full Custom (Simple 2-layer no magnetics designs)
Standalone Operation	Switch can be used as a standalone unit OR can be paired with an embedded SBC
Power Requirements	+12V only (from PCIe/104 Connector), +4V to 14V Input Range (External Connector)
Power Consumption	Idle: 0,7A, 8.4W, Max: 1,15A, 14W (with +12V input), Typical: 0,85A, 10W
Dimensions	PC/104 compliant: 90 x 96 mm, Tallest Top Side Component: Heatsink 9,5 mm
Operating Temperature	-40 to +85 C, (chipset rated to +125 C junction temperature)
Additional Product Search Terms	DEV011



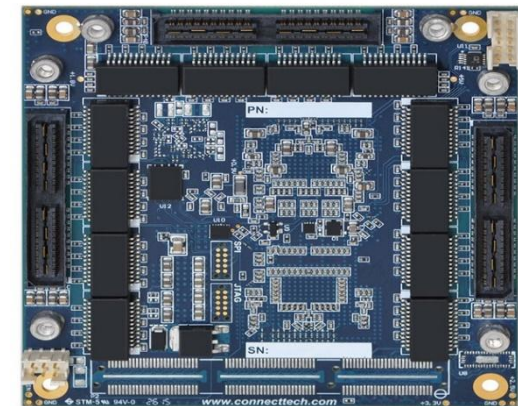
Xtreme/GbE 24-Port Managed Carrier Ethernet Switch

Connect Tech's 24-port Xtreme/GbE Managed Carrier Ethernet Switch provides high-density, high-port-count Ethernet switching capabilities in an extremely small, embedded form factor. Excellent for any space-constrained, mission-critical application that requires a high-density, high-port-count embedded managed Ethernet switch.

The Xtreme/GbE 24-Port Managed Carrier Ethernet Switch implements on-board magnets for all 24 ports, eliminating the need for external magnets for your end application. It has been designed from the ground up to simplify integration into an enclosure by limiting the amount of cabling required for port termination and providing the option to remove all cabling.

The Xtreme/GbE 24-Port Managed Carrier Ethernet Switch uses a special board-to-board/board-to-cable configuration with high density for port breakouts. Ports can be broken out via a breakout board/carrier that can be connected directly to the XDG024/25, or via a high-density, high-speed twinax cable.

The XDG025 is designed for stand-alone applications where all thermal extraction is done on one plane and connection/cabling is done on the opposite plane, while the XDG024 is designed for direct installation into a PCIe/104 stack.



Xtreme/GbE 24-Port Managed Carrier Ethernet Switch

XDG032 XDG033

XDG032 - Xtreme/GbE 24-Port with SFP Top Side

XDG033 - Xtreme/GbE 24-Port with SFP Bottom Side

Specifications	
Ethernet Switch Engine	Microchip VSC7429 Carrier Grade Ethernet Switch Chipset
Ethernet PHYs	12 x Cu PHY Ports from Vitesse VSC7429 Switch Engine, 12 x Cu PHY Ports from Vitesse VSC8512 External PHY
Memory	1Gb DDR2 SDRAM, 128Mb Serial NOR Flash
Ports	1x 1G SGMII (for SFP Uplink), 1x 2.5G SGMII (for SFP Uplink), 24 x 1000BASE-T
Default Port Configuration	24 x Gigabit Ethernet 1 x SFP 1 Gigabit++ 1 x SFP+ 2.5 Gigabit
Magnetics	On-board Gigabit Magnetics for all 24 Ports (No external magnetics required) (10/100/1000 Mbps) application
Connectors	4 x High-Density Board-to-Board / Board-to-Cable Connectors, Connectors can be mated directly to breakout boards, or via cabling, Each High-Density Connector Contains 8 Gigabit Ports
Layer 2 Switching	802.1Q VLAN switch with 8K MACs and 4K VLANs, Hardware and software-based learning, Independent and shared VLAN learning (IVL, SVL), IPv4/IPv6 multicast, Jumbo frame support, Link aggregation (IEEE 802.3ad), Policing with storm control and MC/BC protection, Push/pop up to two VLAN tags, RSTP and MSTP support
Management Access	RS-232 Serial Interface (CLI), SNMP, Software API, Web Interface
Breakout Board Options	4-Port SFP Cabling Option to Right Angle SFP Cage, 8-Port Bank Cabling Options to: Panel Mount Vertical RJ-45s, Right Angle RJ-45s and MIL Circular Connector, Direct Board-to-Board (No Cabling): 24-Port Vertical RJ-45s, Full Custom (Simple 2-layer no magnetics designs)
Standalone Operation	Switch can be used as a standalone unit OR can be paired with an embedded SBC
Power Requirements	+4V to 14V Input Range (External Connector)
Power Consumption	Idle: 0,7A, 8.4W, Max: 1,15A, 14W (with +12V input), Typical: 0,85A, 10W
Dimensions	PC/104 compliant: 90 x 96 mm, Tallest Top Side Component: Heatsink 9,5 mm
Operating Temperature	-40 to +85 C, (chipset rated to +125 C junction temperature)



CAN Controllers



CAN CONTROLLERS

CANpro/104 Opto
CANpro/104-Plus Opto
Xtreme/Multi-I/O

A Controller Area Network (CAN bus) is a reliable vehicle bus standard that enables microcontrollers and devices to connect with each other's applications without the need for a host computer. It is a message-based protocol that was originally created to save copper by multiplexing electrical wiring in automobiles, but it may also be utilized in a variety of different applications. The data in a frame is communicated sequentially for each device, but in such a way that if more than one device transmits at the same time, the device with the greatest priority can continue while the others back off. All devices, including the transmitting device, get frames.

Connect Tech's CAN controller cards have two powerful NXP SJA1000 CAN controllers as well as 3kV optical isolation to secure your automotive, medical, military, aerospace, and industrial control applications.

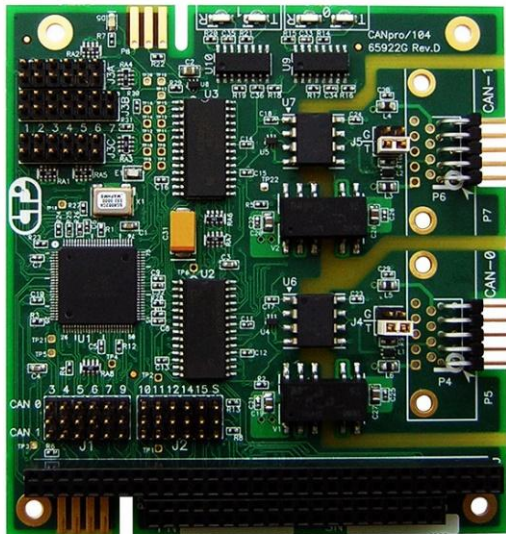
The CAN technology utilized in Connect Tech's CANpro CAN controller cards provides excellent error detection and isolation, reducing the microcontroller's workload and benefiting your applications. Dependability, high data speeds, and network control capabilities are among the other benefits.



CANpro/104 Opto

CNG001 CNG004

- Bus Interface: PC/104
- CAN Controller: Two NXP SJA1000 CAN controllers
- Decoded Address Range: Configurable for BasicCAN and PeliCAN
- Temperature Range: -40 to +85 C



Connect Tech's CANpro/104 Opto combines the power of two NXP SJA1000 CAN controllers with the compact size and rugged stability of PC/104.

This CAN controller card features fail-safe power-up/power-down and on-board high input impedance transceivers to maximize nodes on the bus. Jumperable slew rate limiting reduces radiated emissions. 3kV of isolation ensures your data is protected from disruptions that can occur with exposure to harsh conditions or environments.

Dependability, high data rates and network control capabilities make CANpro/104 Opto ideal for industrial control applications.

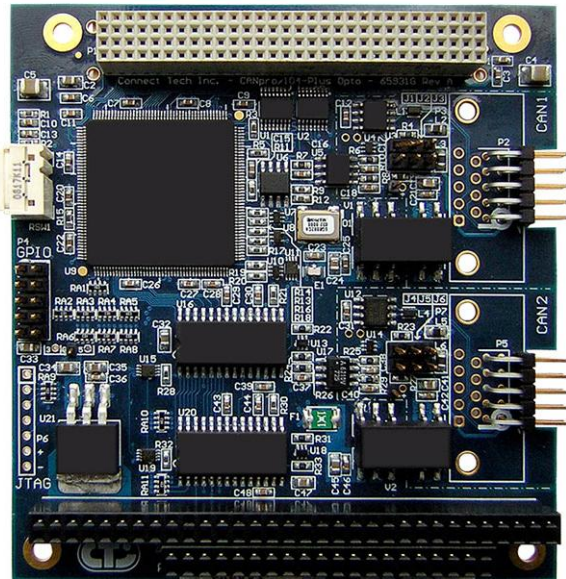
 **Compare Boards**



CANpro/104-Plus Opto

CRG001

- Bus Interface: PC/104-Plus
- CAN Controller: Two NXP SJA1000 CAN controllers
- Decoded Address Range: Configurable for BasicCAN and Pelican
- Temperature Range: -40 to +85 C



Connect Tech's CANpro/104-Plus Opto offers two powerful NXP SJA1000 CAN controllers and 3kV optical isolation to provide maximum protection for your industrial control applications.

An extension of Connect Tech's current CAN controller product line, CANpro/104-Plus Opto is based on a PC/104-Plus bus. The design frees up valuable I/O space offering you greater flexibility within your embedded system. For even more I/O, CANpro/104-Plus Opto includes an 8-bit GPIO header.

Dependability, high data rates, network control capabilities and 3kV optical isolation protection make CANpro/104-Plus Opto the ideal choice for industrial control applications that are exposed to harsh conditions or environments.



Xtreme/Multi-I/O

XMG001

- All-in-one PC/104 communication solution for CANbus, serial port, and wired and wireless communication (including optional GPS functionality)
- High voltage (2500V) port isolation reduces noise and increase system protection
- Advanced CANbus functionality reduces development time, cost, and installation setup
- Jumperless configuration with secure lock, ensuring uniformity and maximizing system security
- Extended operating temperature for outstanding performance and reliability in harsh environments



Connect Tech's Xtreme/Multi-I/O features dual SJA1000 CANbus controllers, isolated serial and CAN ports, and two MultiTech Universal compatible sockets on a single PC/104 board design. This high-density communication board offers an all-in-one communication solution, optimizing Size, Weight, and Performance requirements. This innovative product takes full advantage of the latest technologies in jumperless configuration, high voltage isolation and advanced communication functionality.

On-board FPGA and PIC32 microcontroller facilitate jumperless configuration of the board, with the FPGA providing a full-featured J1708 controller. Xtreme/Multi-I/O includes two galvanic isolated CANbus controllers with 2500V isolation protection and advanced networking and configuration capabilities.

The 4x RS-232 ports and 1x RS-485/J1708 port features 2500V isolation protection and individual +5VDC isolated power supplies, providing less noise and increased system protection. With USB connectivity and jumperless setup, extended operating temperature, and versatile options, Connect Tech's Xtreme/Multi-I/O is ideal for CANbus, serial, wired and wireless communication.

EOL

RoadWarrior Cellular/Satellite M2M

RDG001 RDG002 RDG003 RDG004

- Remotely monitor, control and collect data from multiple I/O interfaces
- Operate on any cellular or Low Earth Orbit (LEO) network
- Control from any Internet connected device
- RS-232, RS-485, CAN, GPS, Bi-directional GPIO, Isolated GPIO and ADCs

ROADWARRIOR



Connect Tech's RoadWarrior enables remote monitoring, controlling and collecting of data from multiple I/O interfaces through a wireless cellular data link or Low Earth Orbit (LEO) satellite.

RoadWarrior can be controlled from any Internet connected device. This product is designed for rugged mobile, mission-critical and industrial strength applications that require enhanced wireless M2M (machine-to-machine) connectivity.

RoadWarrior can be configured to operate on any existing cellular network standard and frequency bands today, with drop-in replacement upgradeability to operate on future cellular networks. RoadWarrior also has the capability of operating on LEO satellite networks. With a wide range of interfaces including RS-232, RS-485, CAN, GPS, Bi-directional GPIO, High Voltage Isolated GPIO and ADC's, RoadWarrior is ideal for many remote or mobile application environments including transportation and military applications.

 **Compare Boards**

EOL



The Kube

ESG401

- Dimensions: 163,6 x 108 x 96,3 mm
- 1x HDMI, 2x GbE, 2x USB 2.0, 802.11 a/b/g/n, 1x RS-232
- +9V to +36V Power Input
- Designed to MIL-STD 810G and DO-160G for shock and vibration
- Designed to IP68 ingress protection rating
- Extended Temperature Range -40 to +85 C

The Kube is a small form factor, rugged embedded system based on the Intel Atom E3845. It is designed to MIL-STD 810g, DO-160G, and IP68.

Housed in a compact enclosure with optional mounting brackets, the Kube is a feature rich COM Express® Type 10 System with USB, HDMI, Gigabit Ethernet, and WiFi capabilities.

The COM Express Type 10 base with Mini PCI Express expansion makes the Kube easy to modify. Custom face plates are easily accommodated using Connect Tech design services.



LINQ/GbE Rugged Managed Ethernet Switch Box

ESG301 ESG302

- 12 and 24 Port 10/100/1000 Mbps Managed Switch Box
- Ruggedized Sealed RJ-45 Acclimate Connector Series
- IP68 Dust and Waterproof Solid Aluminum Enclosure
- Layer 2+ Carrier Ethernet Management
- Low Power Passively Cooled Construction
- Extended Temperature Range -40 to +85 C

LINQ/GbE is a Rugged Managed Ethernet Switch Box. LINQ/GbE series of products offers 12 or 24 Ethernet ports of 10/100/1000 Mbps. Using the Vitesse switch engine VSC7429, users have access to a wide range of Layer 2+ Switching features including but not limited to VLAN support, IPv4/IPv6 multicast, QoS, link aggregation and more. Management access is available via web interface, software API, SNMP or command line interface which is ideal for remote multi-unit updates.

LINQ/GbE is a natural progression to an extensive line of small form factor embedded Managed Ethernet Switches readily available from Connect Tech. The LINQ/GbE uses a rugged enclosure design that is rated IP68 using solid Aluminum Alloy construction ideal for harsh high-shock and vibration environments.



V7G GPU System

ESG701 ESG702 ESG703 ESG704 ESG705 ESG706 ESG710 ESG711 ESG712



Connect Tech's V7G GPU System combines Intel® Xeon® D (Server Class) and Intel® Atom™ C3000 x86 processors with high-end NVIDIA® Quadro® and Tesla® graphics processing units (GPUs) in a small form factor embedded system. You have a choice of the highest performance and lower performance models, all ideal for high-end video encoding/decoding applications or GPGPU CUDA® processing, deep learning, and artificial intelligence applications.

This embedded system has all the latest generation interconnects including: 10GbE and Gigabit Ethernet, USB 3.0 and 2.0, HDMI, SATA III, GPIO, I2C, M.2, miniPCIe. The black aluminium housing offers two mounting options: Half-rack rail mounting or standalone mounting bracket.

- High-End GPUs paired with Intel® Xeon® D Server Class and Intel® Atom™ C3000 x86 Processors
- 4 independent display outputs or GPGPU processing system using CUDA® cores

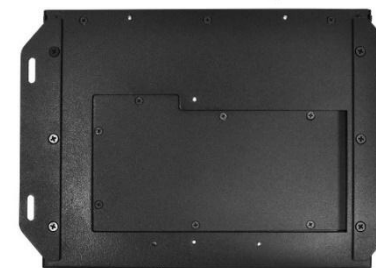


Part Number	CPU	GPU	Display Output
ESG701	Intel® Xeon® D1577	NVIDIA® Quadro® P5000	4x HDMI Variant
ESG702	Intel® Xeon® D1577	NVIDIA® Quadro® P3000	4x HDMI Variant
ESG703	Intel® Xeon® D1577	NVIDIA® Tesla® P6	No Display Output Variant
ESG704	Intel® Xeon® D1559	NVIDIA® Quadro® P5000	4x HDMI Variant
ESG705	Intel® Xeon® D1559	NVIDIA® Quadro® P3000	4x HDMI Variant
ESG706	Intel® Xeon® D1559	NVIDIA® Tesla® P6	No Display Output Variant
ESG710	Intel® Atom™ C3958	NVIDIA® Quadro® P5000	4x HDMI Variant
ESG711	Intel® Atom™ C3958	NVIDIA® Quadro® P3000	4x HDMI Variant
ESG712	Intel® Atom™ C3958	NVIDIA® Tesla® P6	No Display Output Variant



Managed Ethernet GbE Switch

Specifications	
CPU Module Options	- Intel® Xeon® D1577 (16 x 1.3 / 2.1 GHz, 24MB cache, 45 W) - Intel® Xeon® D1559 (12 x 1.5 / 2.1 GHz, 18MB cache, 45 W) - Intel® Atom™ C3958 (16 x 2.0 / 2.0 GHz, 16MB cache, 31W) - Memory: 48GB DDR4 2400 MT/s ECC
GPU Module Options	- NVIDIA® Quadro® P5000 – (Pascal, 2048 CUDA Cores, 100W) - NVIDIA® Quadro® P3000 – (Pascal, 1280 CUDA Cores, 75W) - NVIDIA® Tesla® P6 – (Pascal, 2048 CUDA Cores, 90W, ECC)
Ethernet	4x 1GBE / 1000BASE-T (RJ-45) 2x 10G (SFP+) (4x 10G model available with upcoming Denverton processor SKUs only)
Display	4x HDMI 2.0 Type A (Only available on some models)
Video Input Options	2x 3G-SDI Inputs 2x HDMI Inputs 16x Composite/Analog Inputs – NTSC/PAL 2x Camera Link Inputs (via mini PCIe or M.2)
USB	4x USB 3.0 Type A Ports
Storage Expansion	2x NVMe SSD Storage (Removable via bottom access panel) 1x 2.5" SATA SSD/Mech Storage (Removable via front panel drawer)
IO Expansion	2x mini PCIe Slots (Accessible from removable access panel) 2x M.2 (Accessible from removable access panel)
GPIO	4 inputs (3.3V/5V selectable) 4 outputs (3.3V/5V selectable)
Input Power	+12V Input Only
Misc	Recessed Reset Button Status LEDs
Operating Temperature	TBD
Weight	TBD
Thermal Solution	Integrated Active Forced-air Thermal Solution
Mounting Options	- Half-rack Operation – Rackmount Rail Option - Standalone Operation – Bottom Side Rail Option
Enclosure	Material: Aluminum Finish Colour: Black Powder Coat
System Dimensions	Half Rack Width, 2U Height Outer Dimensions without mounting rails installed: 228,6 x 88,9 x 181 mm



Ethernet to Serial



Ethernet technology, long favoured for its ease of expandability for local area networks (LANs), has made inroads into the computing market as a method of networking serial devices without the constraints of traditional serial connectivity.

With Ethernet becoming faster and more robust, there's no reason not to take advantage of this bus-independent Ethernet-to-serial solution, which allows remote monitoring and control as well as easy access to all your peripherals.



Industrial Protocols



POS Application

Blue Heat/Net

Blue Heat/Net 2

Blue Heat/Net 4 or 8

Blue Heat/Net 16



Blue Heat/Net 2

BNG009 BNG010



- Programmable: Built on the uClinux embedded operating system, enabling the development of customized software.
- Compact and Rugged: 115 mm wide, including wall-mount flange. Optional DIN rail mount kit available
- Industrial Temperature Range: Operates between -40 and +85 C
- Speed: Baud rates up to 460,8 Kbps. Custom baud rates available.
- Ease of Use: Flexible and easy configuration over a serial, Telnet or HTTP connection.
- Power Options: Multi-mode 5V DC to 30V DC input, and available Power over Ethernet (PoE) with 48V DC screw terminal connector.
- Protocols: Numerous application modes and protocols available, including Point-to-Point Protocol (PPP), Raw TCP and industrial protocols.
- Industrial Protocol Option: Modbus, AllenBradley, Rockwell Automation, DNP3.
- Performance: Built around a 32 bit, 66MHz ColdFire CPU featuring 16MB SDRAM, 2MB or 4 MB Flash and a Linux core.
- Flexibility: Two software selectable RS-232/422/485 ports and independent port configuration. RS-485 models feature software selectable bias termination.



In harsh environments like factories or wherever reliable communications are required, this small Ethernet-to-serial device is designed to work. Remote control of serial peripherals from any connected workstation or via the Internet is possible with the Blue Heat/Net 2. It has two RS-232/422/485 ports.

This Ethernet-to-serial converter operates in the industrial temperature range of -40 to +85 C. It accepts DC power from 5V to 30V and supports Power over Ethernet (PoE) via screw terminals. It also auto-detects MDI/MDIX for straight-through or crossover Ethernet cables.

The Blue Heat/Net 2 Ethernet-to-serial device eliminates the need for a dedicated PC, reducing equipment costs and monitoring time. It can be configured and controlled remotely via Telnet or HTTP via serial interface.

Their auto-sensing 10Base-T, 100Base-TX LAN interface can achieve data speeds up to 460,8 Kbps per port. It's easy to customize software for each port. The Blue Heat/Net Ethernet-to-serial device uses the uClinux embedded operating system and has a familiar Linux API. Connect Tech's free Software Development Kit includes all open-source development tools. The Blue Heat/Net is one of the most flexible Ethernet-to-serial products on the market.



Blue Heat/Net 4 or 8

BNG004 BNG006 BNG008

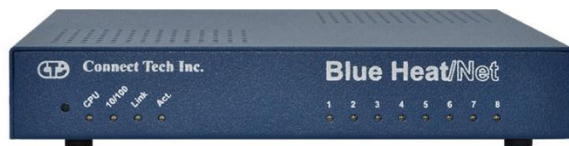
 **Compare Boards**

EOL

PDF

USER MANUAL

- Programmable: Built on the uClinux embedded operating system, enabling the development of customized software.
- Easy to Use: Flexible and easy configuration over serial, Telnet or HTTP connections.
- Speed: Baud rates up to 460,8 Kbps. Custom baud rates available.
- Performance: Built around a 32 bit, 66MHz ColdFire CPU featuring 16MB SDRAM, 2MB or 4MB Flash and a Linux core.
- Power: Flexible power options on select models include 5-30V DC power input or an external AC power adapter.
- Rackmount: Select four and eight port DB-9 Blue Heat/Net models feature an optional 19" 1U rack mount kit.
- Protocols: Numerous application modes and protocols available, including Point-to-Point Protocol (PPP), Raw TCP and industrial protocols
- Flexible: Four or eight RS-232 or software selectable RS-232/422/485 ports with independent port configuration. RS-485 models feature software selectable bias and termination.



Network enable all your serial devices with the Blue Heat/Net Ethernet-to-serial device. Our four and eight port RS-232 or software selectable RS-232/422/485 models enable you to locate COM ports exactly where you want them, eliminating the need for a dedicated, physical PC connection. Remotely control your serial peripherals from any workstation connected to your Ethernet LAN or via the internet. This Ethernet-to-serial device helps you cut equipment costs, while eliminating the time required to maintain and collect information from individual workstations or out in the field. The Blue Heat/Net Ethernet-to-serial device can be configured and controlled via serial interface, or remotely via Telnet or web-based HTTP.

Blue Heat/Net includes an auto-sensing 10/100 LAN interface, and features baud rates up to 460.8 Kbps per port. Each port is independently configurable, and software customization is a breeze. Based on the uClinux embedded operating system, the Blue Heat/Net offers programmers a familiar Linux API. Connect Tech includes a full range of open-source development tools via its free [Software Development Kit](#). You can create customized protocols and download them directly to the on-board Flash memory, making the Blue Heat/Net one of the most flexible Ethernet-to-serial products on the market.

Industrial protocol, Power over Ethernet (PoE) and industrial temperature grade Ethernet-to-serial option models also available.



Blue Heat/Net 16

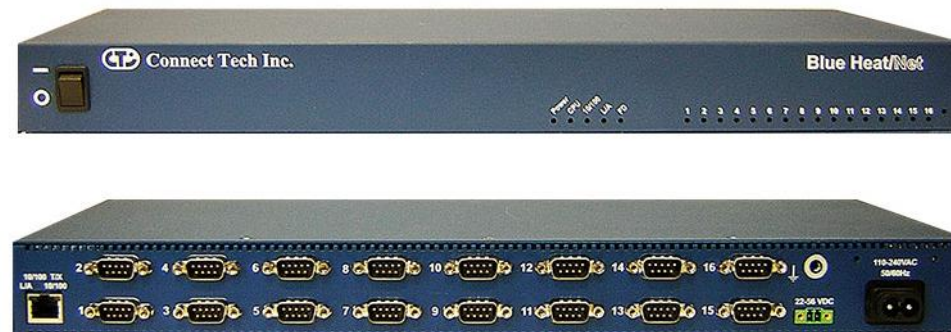
BNG022

- Programmable: Built on the uClinux embedded operating system, enabling the development of customized software.
- Flexible: Sixteen software selectable RS-232/422/485 ports with bias and termination.
- Easy to Use: Flexible and easy configuration over serial, Telnet or HTTP connections.
- Speed: Baud rates up to 460,8 Kbps. Custom baud rates available.
- Performance: Built around a 32 bit, 166MHz ColdFire CPU featuring 32MB SDRAM, 8MB Flash and a uClinux embedded operating systems.
- Protocol options: Numerous application modes and protocols available, including Point-to-Point Protocol (PPP), Raw TCP and industrial protocols.

Remotely access devices with the Blue Heat/Net 16 Ethernet-to-serial device. Directly connect devices to your Ethernet LAN via 16 software selectable RS-232/422/485 ports. Remote access not only frees your devices from a physical connection increasing location flexibility, but also simplifies future installations or upgrades and reduces cabling costs. All Blue Heat/Net Ethernet-to-serial devices can be configured and controlled via serial interface, or remotely via Telnet or web-based HTTP.

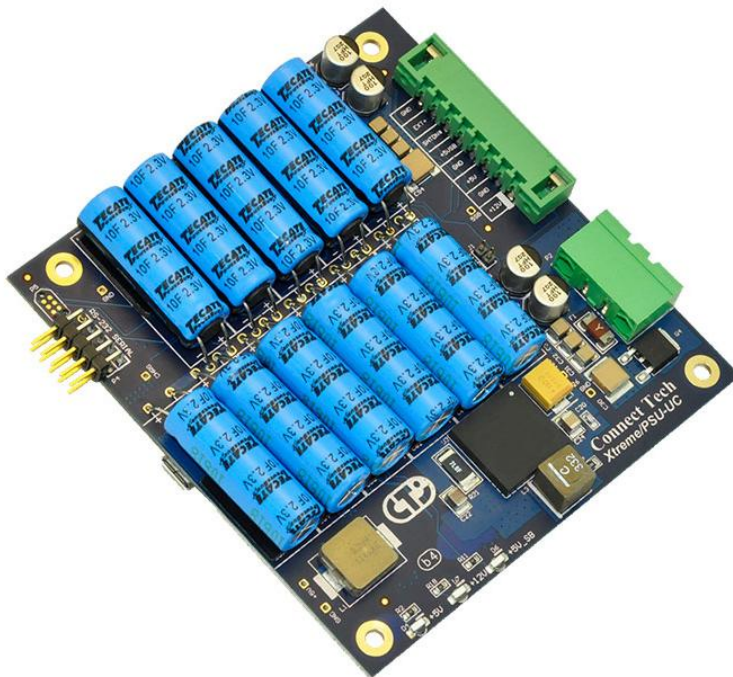
Blue Heat/Net includes an auto-sensing 10/100 Ethernet interface and can achieve data speeds up to 460,8 Kbps per port. Ports are independently configurable and software customization is a breeze. Based on the uClinux embedded operating system, this Ethernet-to-serial device offers programmers a familiar Linux API. Connect Tech includes a full range of open-source development tools via its free **Software Development Kit**. You can create customized protocols and download them directly to the on-board Flash memory, making the Blue Heat/Net one of the most flexible Ethernet-to-serial products on the market.

Industrial protocol, Power over Ethernet (PoE) and industrial temperature grade Ethernet-to-serial options also available on select models.





Power Supplies



The Xtreme/PSU power supplies from Connect Tech are high efficiency, high powered PC/104 form factor solutions with wide input voltage ranges. They are intended for use in a variety of harsh environments, including military, industrial, and air and ground vehicles.

POWER SUPPLIES

Xtreme/PSU Isolated Power Supply
Xtreme/PSU Power Supply
Xtreme/PSU-UC Power Supply



Xtreme/PSU Isolated Power Supply

PXG101 PXG102 PXG103 PXG104 PXG105 PXG106 PXG107 PXG108 PXG109 PXG110 PXG111 PXG112

PXG201 PXG202 PXG203 PXG204 PXG205 PXG206

PXG301 PXG302 PXG303 PXG304 PXG305 PXG306 PXG307 PXG308 PXG309 PXG310 PXG311 PXG312

- Up to 2. 25kV of isolation
- Up to 195W of total output power
- +5V @ up to 15A
- +3.3V @ up to 20A
- +12V @ up to 10A
- Advanced active input power protection
- Available with PC/104-Plus, PCI-104, PC/104, PCI/104-Express, PCIe/104 expansion
- Temperature Range: -40 to +85 C
- Dimensions L x W: 90 x 96 mm

Connect Tech's Xtreme/PSU Isolated power supply is a high efficiency, high powered Isolated PC/104 form factor power supply with extended temperature capabilities. Xtreme/PSU Isolated provides isolated power to on-board terminal block connectors. It also directly powers all the PC/104 family expansion buses such as PC/104, PC/104-Plus, PCI-104, PCI/104-Express and PCIe/104.

Xtreme/PSU Isolated is a highly reliable power supply which provides up to 195W of total output power with +3.3V, +5V, and +12V output voltages. It can be used as a stand-alone power supply to power any other embedded system or used directly to power any PC/104 stack or single board computer (SBC).

Xtreme/PSU Isolated power supply has a wide input voltage range that accepts +9V to +36V DC and is specifically designed for use in a broad range of rugged applications including military, industrial, and air and ground vehicles. Xtreme/PSU Isolated power supply can be used in combination with Connect Tech's stackable CPU and expansion boards for a total design solution.

Compare Boards



EOL

PDF

USER MANUAL



Xtreme/PSU Power Supply

PSG001 PSG002 PSG003 PSG004 PSG005 PSG006

- Input Voltage Range: +6V to +36V DC
- Total Output Power: 115W
- Output Voltages: +5V @ 10A, +12V @ 5A, +5V-SB @ 1A
- Operating Temperature: -40 to +85 C
- Fully meets the PC/104 component height requirements
- No extra stacking extenders needed
- Other PC/104 boards can be stacked directly on top or below the Xtreme/PSG
- Uses latest generation highest efficiency power controllers, inductors, and MOSFETs
- Oversized MOSFETs for improved thermal performance (No Heat sinking needed)
- Various Connector Options:

2-piece terminal header/plug (standard), shrouded screw locking (optional)

Connect Tech's Xtreme/PSU is a high efficiency, high powered PC/104 form factor power supply solution with extended temperature capabilities. Xtreme/PSU provides power to terminal block connectors and powers all the PC/104 family expansion buses such as PC/104, PC/104-Plus, PCI-104, PCI/104-Express and PCIe/104. The Xtreme/PSU is a highly reliable power supply which provides 115W of total output power with +5V, +12V and +5V-Standby output voltages. It can be used as a stand-alone power supply to power any other embedded system or used directly to power any PC/104 stack or single board computer (SBC).

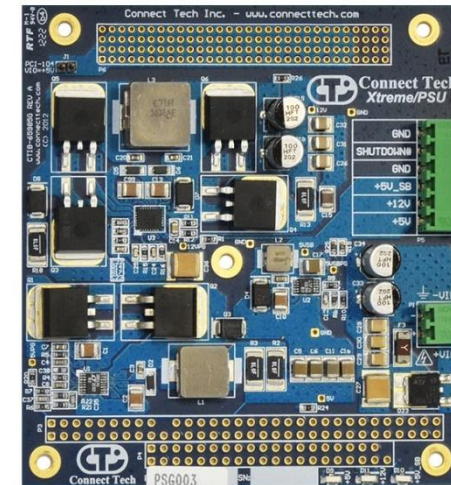
The Xtreme/PSU has a wide input voltage range that accepts +6V to +36V DC and is specifically designed for use in a broad range of rugged applications including military, industrial, and air and ground vehicles.

Xtreme/PSU can be used in combination with Connect Tech's stackable CPU and expansion boards for a total design solution.

Xtreme/PSU-XP Power Supply Build Options: Connect Tech's Xtreme/PSU product family includes the following part numbers and build options:

- | | |
|-----------------------------------|---|
| • PSG001: PC/104-Plus (PCI & ISA) | • PSG004: PCIe/104 (PCI Express Only) |
| • PSG002: PC/104 (ISA Only) | • PSG005: PCI/104-Express (PCI Express & PCI) |
| • PSG003: PCI-104 (PCI Only) | • PSG006: Embedded (No Bus Connector) |

 Compare Boards



EOL



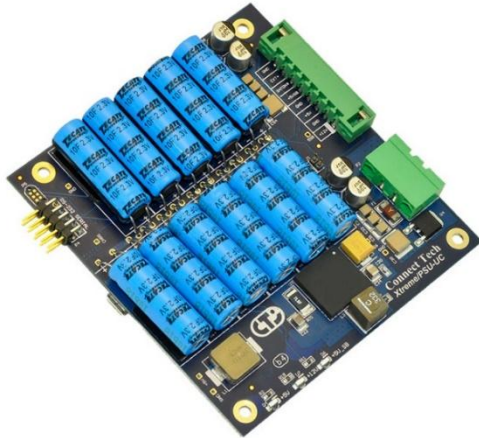
Xtreme/PSU-UC Power Supply

PSG013

EOL



USER
MANUAL



- Dimensions: PC/104 Compliant
- Ultracapacitor backup for uninterrupted power supply
- 115W total output power, +5V, +12V and +5V Standby
- Fully meets PC/104 component height requirements
- Uses latest generation highest efficiency power controllers, inductors, and MOSFETs
- Operating Temperature: -40 to +85 C

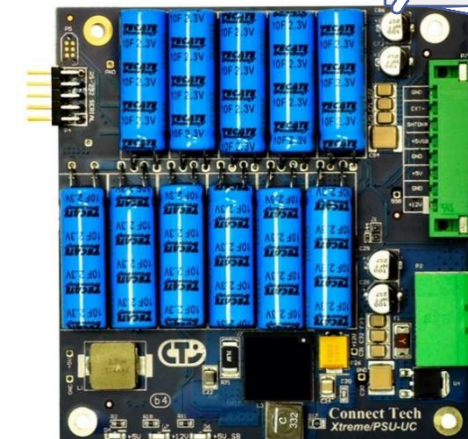
Connect Tech's Xtreme/PSU-UC is a high efficiency, high powered PC/104 form factor power supply featuring a wide input voltage range that accepts +8 to +36V DC, and provides 115W total output power with +5V, +12V and +5V Standby output voltages.

Xtreme/PSU-UC features on-board Ultracapacitors to provide uninterrupted UPS backup capability. Because it uses

Ultracapacitors in the place of batteries the Xtreme/PSU-UC can provide instant short-term power backup in the event of a power loss or interruption and be fully charged and ready to provide backup power again within seconds. The Xtreme/PSU-UPS uses rugged components and can operate in the industrial temperature range of -40 to +85 C.

Xtreme/PSU-UC can be used in combination with Connect Tech's stackable CPU and expansion boards for a total design solution and is ideal for use in a broad range of rugged military and industrial applications.

Note: This PSU may no longer be available in smaller quantities – contact us for further information.



Development Tools & Adapters



Simplify and accelerate the development process with engineering tools offered by Connect Tech. Adapters, carriers, bus extenders, and dump switch cards allow for easy adaptation and connection of your embedded system.

DEVELOPMENT TOOLS & ADAPTERS

COM Express® Bus Extender
 ISA to PC/104 Adapter
 Mini PCIe Carrier
 PC/104-Plus to Mini PCI Adapter
 PCI Dump Switch Card
 PCI Express (PCIe) Burn-in Rack Adapter
 PCI Express Dump Switch Card
 PCI Express to PCIe/104 (PCI/104-Express) Adapter
 PCI to CompactPCI Adapter
 PCI to PC/104-Plus Adapter
 PCI/104-Express to Single/Dual Mini-PCIe Adapter
 PCI/PCIe to PMC/XMC Adapter
 PCI-104 to PMC Adapter

PCIe/104 Bus Extender
 PCIe/104 Quad Mini PCIe/mSATA
 PCIe/104 to M.2 Adapter
 PCIe/104 to PCI Express Adapter Bottom Stacking Model
 PCIe/104 to PCI Express Adapter Top Stacking Model
 PCIe/104 to PCI Express Cable Adapter
 PCI-104 to PC/104 Adapter
 PCI-104 to Mini-PCIe Card Adapter
 PCIe/104 to PCI-104 Adapter
 Qseven to COM Express® Adapter
 SMART Battery Adapter
 SUMIT to PCIe/104 Adapter
 XMC to PCIe/104 Adapter



PCI to PC/104-Plus Adapter

ADG001



- Compatible with standard Universal, 3.3V or 5V PCI slot
- Industrial temperature operating range: -40 to +85 C
- +5V input for PCle/104 add-in card
- Connectors/Interfaces include a PCI-104 120 pin stack-through connector with shroud for connection to the host CPU board and PC/104 64 and 40 pin passive stack-through connectors (model AD001)
- Dimensions L x W: 127,79 x 106,68 mm

Developers can use this passive extension card to integrate a PCI-104 or PC/104-Plus card into a Universal PCI bus system. The adapter has a stack-through connector, allowing the test card to be placed on either side (type ADG001), allowing for front or rear probing. Also, the design allows wires to exit the host PC for convenient connection to other devices.



ISA to PC/104 Adapter

ADG003

- PC/104 64 and 40-pin passive stack-through connectors
- Temperature range: -30 to +65 C
- Breadboarding area for electrical circuit assembly and testing
- Reset button
- Dimensions: L x W: 156,083 x 106,68 mm

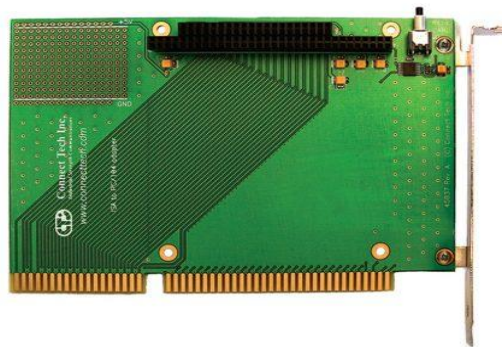
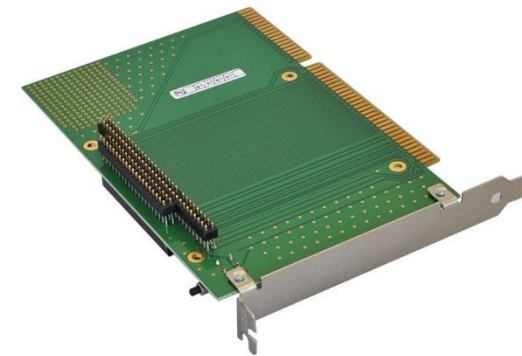
This passive extender card allows developers to install an 8 or 16-bit PC/104 card into a standard ISA bus PC system, avoiding the need for a dedicated PC/104 stack for development work. It is equipped with a stack-through connector so the test card can be installed on either side enabling probing on the front or the back.

The design also includes a reset button, for convenient push-button resetting of the test card without resetting the host computer. This feature is extremely useful when debugging hardware interactions requiring a hardware “clean slate”.

STANDARD USAGE

Simply stack the test PC/104 card onto the adapter's PC/104 connectors and insert the adapter into the host system's ISA slot. No additional configuration is required.

Note: Only one PC/104 card can be used per adapter card.



PCI to CompactPCI Adapter

ADG004

- CompactPCI 110 pin male A connector
- Operating temperature: -30 to +65 C
- Available with low profile or standard profile PCI bracket
- Breadboarding area for electrical circuit assembly and testing
- Reset button
- MD1 form factor
- Dimensions L x W: 119,92 x 64,14 mm

This passive extender card enables developers to insert an 8-bit or 16-bit PC/104 card into a regular ISA bus PC system, eliminating the need for a separate PC/104 stack for development work.

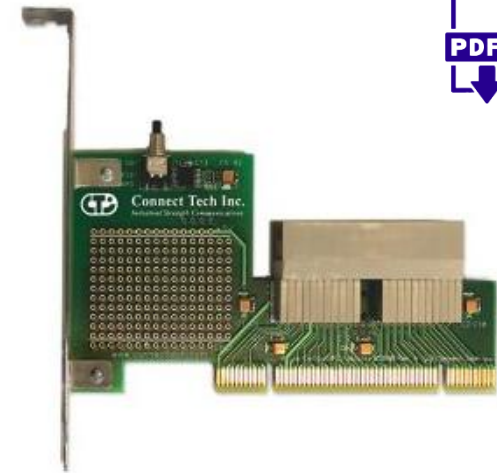
Because the adapter has a stack-through connector, the test card can be inserted on either side, allowing for front or rear probing.

A reset button is also included in the design for easy push-button resetting of the test card without resetting the host computer. This capability comes in handy when debugging hardware interactions that necessitate a hardware "clean slate." (*This is a hardware reset only. It does not restore the PCI configuration space.*)

STANDARD USAGE

Insert the adapter into the desired slot in your host system. Connect the test cPCI card into the connector.

Note: This adapter card may no longer be available in smaller quantities – contact us for further information.



PCI Dump Switch Card

ADG005

- Temperature range of 0 to +65 C
- Universal 32-bit PCI card (PCI 2.3 compliant)
- Push button generation of an Non-Maskable Interrupt (NMI)
- Transparent PCI to PCI bridge
- Dimensions: 119,888 mm (L)
- MD1 Low Profile



This convenient programming tool will pay for itself the first time you use it. It is required hardware for any developer working on programs such as device drivers or interrupt handlers.

When a system freezes during creating or testing software, a hardware reset results in the loss of critical system information as well as significant development time. The Universal PCI Dump Switch card boosts your productivity by removing the guesswork that is generally required to determine the cause of a system hang. It has an outside push button that will enable a crash dump or drop you into your operating system's debugger by triggering a Non-Maskable Interrupt (NMI).

A software debugger can use this card to troubleshoot events even if the fault causes the operating system to lock up completely. (The host computer is not reset by the PCI Dump Card.)

(The PCI Dump Card does not reset the host computer.)



STANDARD USAGE

Download the [General Usage Notes](#), which includes notes for Windows, Linux and QNX4 as well as general operating instructions.



PC/104-Plus to Mini PCI Adapter

ADG006



- Compatible with standard Universal, 3.3V or 5V PC/104-Plus stack
- Temperature range: -40 to +85 C
- Mini PCI Type III 124 pin female socket
- PC/104-Plus 120 pin stack-through connector
- PC/104 64 and 40 pin passive stack-through connectors
- 3.3V regulator capable of delivering 2 Watts of power to the Mini PCI card
- Dimensions L x H: 90,17 x 95,885 mm

This adapter enables users to insert a Mini PCI card, such as an IEEE 802.11 wireless LAN card, into a standard 3.3 or 5V PC/104-Plus stack.

Using a passive PC/104 stack-through connector, the card can be inserted in a PC/104-Plus stack without interfering with the signals of PC/104 cards located above or below.

For usage with 5V-only systems, the adapter contains a 3.3V regulator.

STANDARD USAGE AND ID SELECTION

Simply insert the Mini PCI card into the card's socket and into the host system's PC/104-Plus stack. Each card in the stack must have a unique ID number ranging from 0 to 3. You will need to establish a pair of jumpers to indicate where your card is in the stack. (Be certain that no two boards have the same ID number.)

For an ID of zero, the jumpers remain empty. Fill in the left jumper for an ID of one, the right jumper for an ID of two, and both jumpers for an ID of three.

No additional configuration is required.



PCIe/104 Bus Extender

ADG038

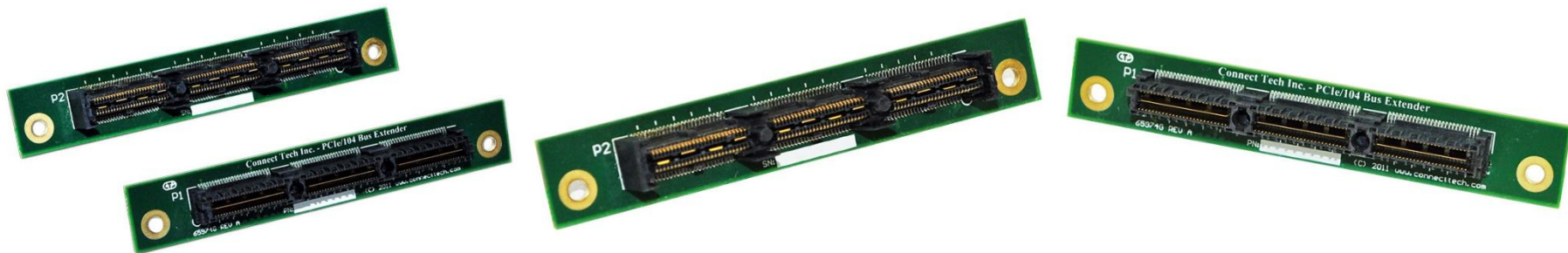
 [Request Manual](#)



- Expand the height clearance between Single Board Computers (SBCs) and PCIe/104 or PCI/104-Express Peripherals
- PCIe/104 (PC/104-Express)
- Electrical Interface: PC/104-Express
- Bus Connectors: PCIe/104 x 16
- Temperature: -40 to +85 C
- Dimensions L x W: 90,2 x 14,605 mm

The **PCIe/104 Bus Extender** from Connect Tech can be used to increase the height of a PCIe/104 or PCI-104-Express peripheral card stack by one card height.

Heatsinks, I/O connectors, cables, and other components can cause clearance concerns in your PCI/104-Express stack, however the PCIe/104 Bus Extender can solve this problem.



SUMIT to PCIe/104 Adapter

ADG039

- Compatible with Type-1 or Type-2 SUMIT-104 systems
- Access to additional auxiliary SUMIT-104 signals
- Bus Connectors: SUMIT A and B, PCIe/104 x 1
- Optional: 2 x USB (from SUMIT) via Mini USB connectors
- Operating Temperature: -40 to +85 C
- Dimensions L x W: 95,885 x 90,17 mm

The **SUMIT to PCIe/104 Adapter** from Connect Tech enables for the simple integration of PCIe/104 or PCI/104-Express cards into an existing SUMIT-104 system.

The **SUMIT to PCIe/104 Adapter** is fully compatible with any Legacy Type-1 or Type-2 SUMIT-104 system, and it enables the use of x1 and x4 lane PCIe/104 or PCI/104-Express peripherals with SUMIT cards in an SUMIT-104 stack. SMBus and two USB ports are also accessible on the PCIe/104 bus. There are also two USB ports accessible via the on-board Mini-USB connector (optional).



EOL



PCI-104 to PC/104 Adapter

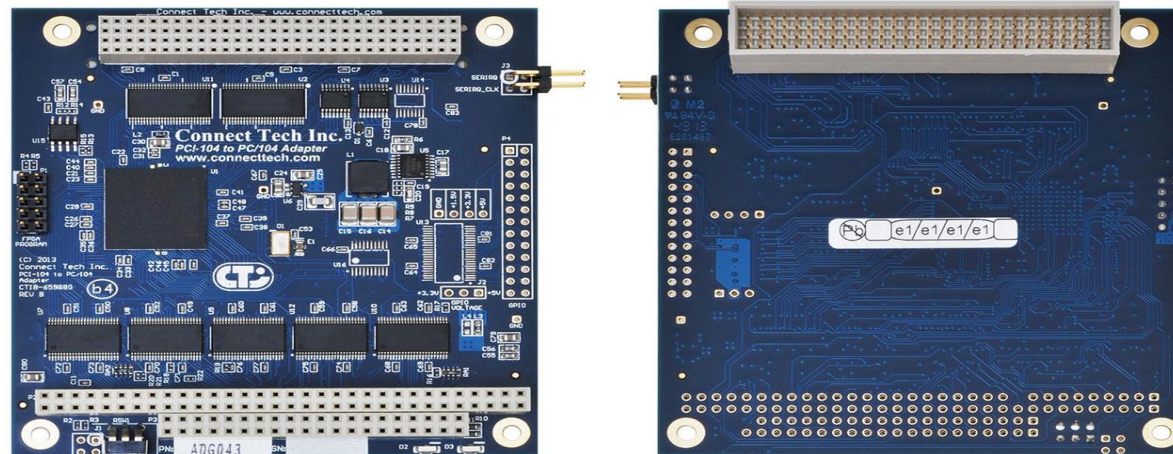
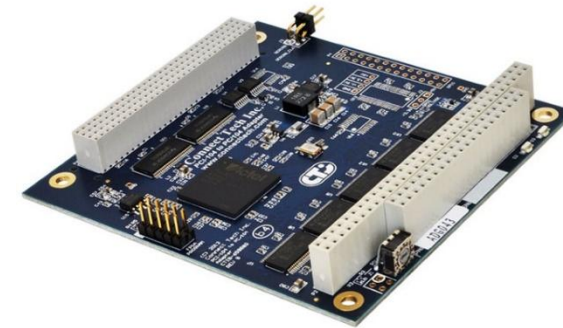
ADG043

- Converts PCI-104 bus transactions to PC/104 bus transactions (PCI to ISA)
- Acts as a PCI target on the PCI-104 host system, and as the ISA host on the PC/104 bus
- Maps PCI address space to ISA address space through base address registers
- Supports 8 and 16-bit memory and I/O data transfers on the ISA bus
- Automatically performs multiple ISA bus operations for each PCI 32bit transfer
- An additional 16 bidirectional digital I/O are available via the PCI bus (optional)

Interrupt controller monitors and relays powered by PCI triggered IRQ
on the
PC/104 bus

- IO and memory address ranges are fully programmable and are loaded at system startup via the on-board EEPROM interface
- Dimensions L x W: 95,885 x 90,17 mm

Connect Tech's PCI-104 to PC/104 Adapter allows for the testing and development of PC/104 (ISA) devices in a PCI-104 (PCI) only system. The PCI-104 to PC/104 Adapter converts transactions on the PCI-104 bus to PC/104 bus transactions (PCI to ISA).



PCIe/104 to PCI-104 Adapter

ADG054

- Use of PCI-104 Boards in PCIe/104 Stack
- Up/Down Stack Compatible
- PCIe/104 Compliant
- Temperature: -40 to +85 C
- Dimensions L x W: 95,8885 x 90.17 mm

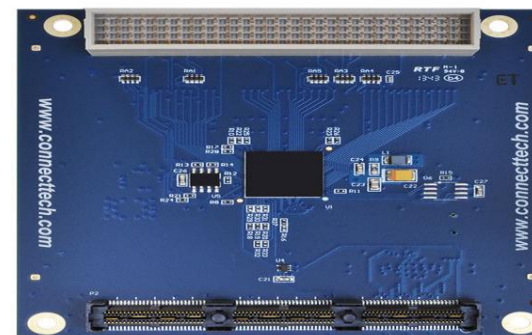
By introducing PCI-104 cards into your stack, you can extend the capabilities of your PCIe/104 systems. The PCIe/104 to PCI-104 Adapter from Connect Tech allows customers to add four PCI-104 compatible boards in either a stack up or stack down configuration.

With a full PCIe/104 pass-through, it is also feasible to use PCI/104 - Express cards. The Adapter also uses the PCIe x1 Bank, freeing up the x16 Bank for more intensive activities.

STANDARD USAGE GUIDE

To use the ADG054, simply insert it into a PCIe/104 slot on a host system. Attach the Adapter to the PCI-104 or PCI/104-Express cards you want to use. Remember to assign a unique ID to each of the selected cards and to ensure that no two boards have the same unique ID.

Three crucial aspects are indicated by the LEDs on the Adapter. The three blue LEDs each represent a power rail in the PCIe/104 stack. The Red PWR LED indicates that the PLX8112 chip on board is properly powered. Lastly, the Red LINK LED indicates that the board has connected to the PCIe Lane successfully. Ensure that suitable Electro Static Discharge (ESD) techniques are followed throughout stack assembly.



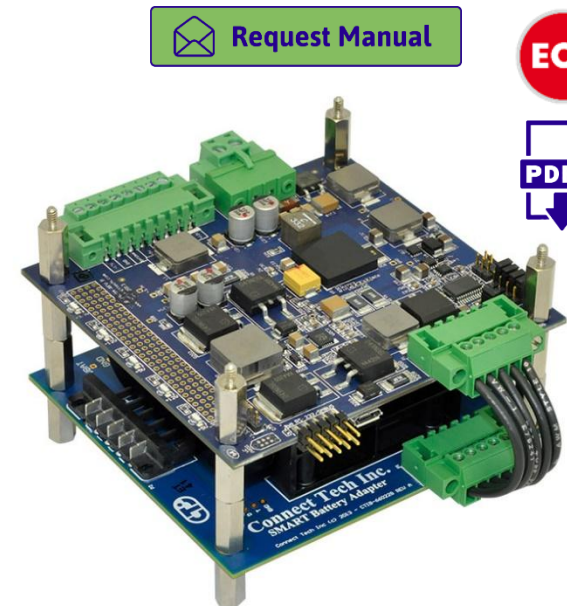
SMART Battery Adapter

ADG061

- Compatible with all SMART battery chargers
- Easily integrates SMART battery into a PC/104 Stack
- Connectors: SMART Battery connector (5787428-1), 5 pin Terminal header and plug
- Temperature: -40 to +85 C
- Dimensions L x W: 90,2 x 96 mm

Connect Tech's Smart Battery Adapter makes it simple to integrate a SMART battery into an existing PC/104 system. When combined with the Xtreme/PSU-UPS power supply, it provides a comprehensive Power Supply solution with uninterrupted power supply and battery backup functionality.

Note: This adapter card may no longer be available in smaller quantities – contact us for further information.


[Request Manual](#)

EOL



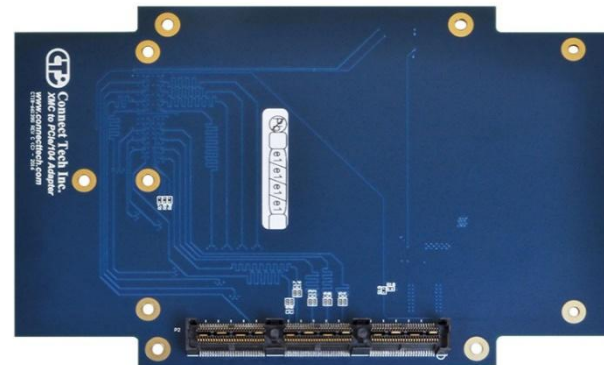
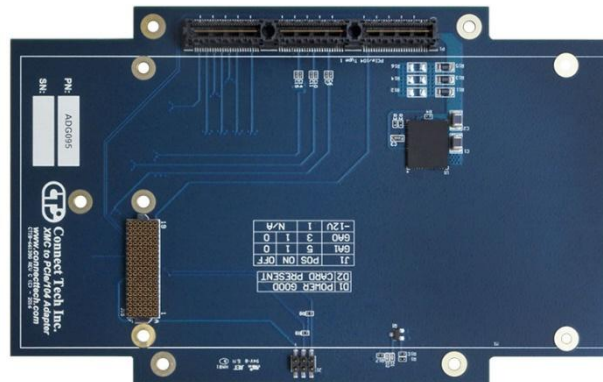
XMC to PCIe/104 Adapter

ADG095

- PCIe/104 Compliant
- Type 1 PCIe/104 & XMC Connectors
- Extended Temperature Range: -40 to +85 C
- Dimensions L x W: 96,018 x 152,4 mm

The Connect Tech XMC to PCIe/104 Adapter Board is an engineering tool that allows for the rapid construction of systems that require the usage of next generation form factor peripheral cards. This adapter allows you to install VITA 42 XMC cards to a Type 1 PCIe/104 system.

Note: Note: Smaller quantities of this adapter card may no longer be available; please contact us for more information.





Authorized Distributor / Reseller

The Junction AS

☎ +47 40 40 34 02

✉ Sales@TheJunction.eu

<https://www.TheJunction.eu>



DISCLAIMER

The content of this interactive catalogue is protected by copyright. Unauthorized use may be subject to criminal prosecution. The Junction accepts no liability for any of the publicly available information contained within this publication.