Connect Tech Inc.  
Embedded Computing Experts

Product Guide

New Products  
Embedded Boards  
Ethernet  
PCI, PCI Express  
Fanless Systems  
Synchronous I/O  
Accessories  
Services

www.connecttech.com

FALL 2012/WINTER 2013
High Performance Connectivity Solutions for Embedded and Industrial Applications

Connect Tech delivers high performance computing solutions for embedded and industrial applications. For more than 27 years, Connect Tech has built a solid reputation for expertise in providing professional design services, delivering unsurpassed technical support and developing innovative products that improve design efficiency and cost effectiveness.

Innovative Products for Simple to Complex Applications

Commercial off-the-shelf, modified solutions and services include:

**Embedded Boards:** COM Express® Carrier Boards, Qseven Carrier Boards, Single Board Computers, FPGAs, CAN, PC/104, PC/104-Plus & PCI-104 Serial, PCI-104, PCI/104-Express & PCIe/104, ISA, Wireless Radio Modems, and Compact PCI

**Ethernet:** Ethernet to Synchronous Serial and Ethernet to Serial

**PCI, PCI Express:** PCI Serial and PCI Express Serial

**Fanless Systems:** Fanless Embedded Systems

**Synchronous:** PC/104 and Ethernet to Synchronous Serial

**I/O:** Analog I/O, Digital I/O, Remote I/O, and Multi-I/O

**Accessories:** Adapters & Development Tools, Power Supplies, Enclosure Systems, Storage Devices, and Cables

**Services:** Customization, Technical Support, and Conformal Coating

Connect Tech Inc.
42 Arrow Road
Guelph, ON Canada
N1K 1S6
Tel: 519.836.1291
Toll Free: 800.426.8979
(North America)
Fax: 519.836.4878
sales@connecttech.com
www.connecttech.com

Serving customers around the globe
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New Connect Tech Products

**Intel® Atom™ D2550 Series Fanless Embedded Systems**

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAR-2215</td>
<td>4x USB, VGA &amp; HDMI, up to 6 COM, 12V/24V power, and 1 Mini-PCIe expansion slot</td>
</tr>
<tr>
<td>PAR-2230</td>
<td>4x USB, 2x DVI, 4 COM, GPIO, 6V-34V power, and 2 Mini-PCIe and 1 PCI-104 expansion slots</td>
</tr>
<tr>
<td>PAR-2230D</td>
<td>Din Rail Mount, 4x USB, 2x DVI, 4 COM, GPIO, 6V-34V power, and 2 Mini-PCIe and 1 PCI-104 expansion slots</td>
</tr>
<tr>
<td>PAR-2236R</td>
<td>6x USB, 2x DVI, up to 8 COM (4 RS-422/485 isolation), GPIO, 6V-34V power, 2 Mini-PCIe and 1 PCI-104 expansion slots</td>
</tr>
<tr>
<td>PAR-2236U</td>
<td>6x USB, 2x DVI, up to 8 COM, GPIO, 6V-34V power, and 2 Mini-PCIe and 1 PCI-104 expansion slots</td>
</tr>
<tr>
<td>Cypress 7035M</td>
<td>Supports GSM/GPRS/WCDMA/HSDPA/GPS, and features dual M12 Gigabit LAN, 5x USB, 2x DVI, up to 6 COM, 6V-34V power, and 2 Mini-PCIe and 1 PCI-104 expansion slots</td>
</tr>
</tbody>
</table>

**Intel® Atom™ D525 Fanless Embedded System**

PAR-2217 is an Intel® Atom™ D525 fanless embedded platform.

**Features**
- Built-in high performance graphic engine
- VGA, SATA, 2x LAN, 4 USB, up to 6 COMs
- Power input of 12V/24V
## New Connect Tech Products

### Embedded Boards

**COM Express® Type 6 Carriers**

**PMC/XMC Carrier**
- PMC/XMC Carrier Board: A highly advanced, feature-rich carrier board which features PMC and XMC expansion and supports the latest in high performance processors.

**Ultra Lite Carrier**
- Ultra Lite Carrier Board: A compact carrier board designed to reduce size, weight and power in SWaP constrained applications.

### I/O

**Xtreme/Multi-I/O**
- Xtreme/Multi-I/O is a high density, all-in-one PC/104 communication board for CANbus, serial port, wired and wireless communication.
- **Features**
  - 2500V isolation protection
  - 2x SJA1000 controllers, 1Mbps/s
  - 4x RS-232/1x RS-485/J1708
  - 2x MultiTech compatible sockets
  - 5x isolated LEDs, 1x USB
  - Extended operating temperature

### Accessories

**PCI/104-Express to Single/Dual Mini-PCIe Adapter**
- PCI/104-Express to Single/Dual Mini-PCIe Card Adapters enable integration of a Mini-PCIe (PCI Express Mini) card into a PCIE/104 or PCI/104-Express system.
- **Features**
  - 3.3V and 1.5V DC power
  - SIM card support
  - Mini-PCIe status LEDs
  - USB client to Mini-PCIe

**PCI-104 to PC/104 Adapter**
- PCI-104 to PC/104 Adapter enables testing and development of PC/104 (ISA) devices in a PCI-104 (PCI) only system.
- **Features**
  - Customizable IO and memory address ranges
  - Supports 8/16-bit memory and I/O data transfers on ISA bus
  - PCI driven interrupt controller

**Qseven to COM Express® Express Adapter**
- Qseven to COM Express® Adapter allows users to install a Qseven module into any COM Express® Carrier Board.
- **Features**
  - Compatible with COM Express® Type 2 and Type 6
  - Basic and Compact COM Express® form factors
New Connect Tech Products

**PC/104 Power Supplies**
feature +6V to +36V DC input voltage and extended temperature capabilities.

**Xtreme/PSU**: 115W output power (+5V @ 10A, +12V @ 5A, and +5V standby @ 1A)
**Xtreme/PSU-XP**: 160W output power (+5V @ 10A, +3.3V @10A, +12V @ 5A, -12V @ 1A and +5V standby @ 1A)

**Xtreme/PSU Isolated** is a high efficiency, high powered isolated PC/104 power supply.

**Features:**
- 195W total output power (+5V @ up to 15A, +3.3V @ up to 20A and +12V @ up to 10A)
- +9V to +36V DC input voltage
- Up to 2.25kV of isolation
- Extended temperature capabilities

**Xtreme/PSU-UPS** is a PC/104 power supply with SMART battery charging capabilities, enabling users to power their embedded system and provide battery backup functionality.

**Features:**
- SMART battery charger for uninterrupted power supply
- 125W+ output power (+5V, +12V, -12V, +3.3V and +5V standby)

Connect Tech’s Power Supplies are designed with advanced protection features to withstand the harshest environments.
COM Express® Carrier Board

Connect Tech’s COM Express® Carrier Board is a full-featured compact carrier board which can be used as a stand-alone carrier board, or integrated directly into an existing application.

- Compatible with COM Express® Type 2 Basic & Compact Modules
- PCI-104 & PCIe/104 Expansion
- Multi-Vendor Support
- Custom Designs
NEW! COM Express® Type 6 Carrier Boards

Supports most current processors including 3rd Generation Intel® Core™ i7 and Type 6 COM Express® features including USB 3.0 and DisplayPort.

PMC/XMC Carrier Board
- The PMC/XMC Carrier Board is a highly advanced, feature-rich carrier which features PMC and XMC expansion and supports the latest high performance processors.

Ultra Lite Carrier Board
- The Ultra-Lite Carrier Board is a compact carrier board which matches the dimensions of a COM Express® Basic module. Ideal for space constrained applications.

- PMC/XMC & Mini-PCIe Expansion
- Type 6 & Type 2 Compatibility
- -40°C to +85°C
- Small, Compact Sizes Through 1U Rack Mount Designs
## COM Express® Carrier Boards
### Type 2 and Type 6

**Off-the-Shelf and Modified COM Express® Solutions**

Use Connect Tech's COM Express® Carrier Boards for instant proof of concept, or benefit from our custom design services to create a perfect fit carrier for your application.

Developing a custom carrier board protects your investment of design level IP by separating it from the standard CPU and memory found on the COM Express® module.

As next generation processors become available, your custom carrier stays intact — only your COM Express® module needs to change.

<table>
<thead>
<tr>
<th>Specifications</th>
<th>COM Express® Carrier Type 2</th>
<th>COM Express® Ultra Lite Carrier Type 6</th>
<th>COM Express® PMC/xMC Carrier Type 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini PCI Express</td>
<td>-</td>
<td>2 slots</td>
<td>4 slots</td>
</tr>
<tr>
<td>PMC/XMC</td>
<td>-</td>
<td>-</td>
<td>2 slots</td>
</tr>
<tr>
<td>HDMI</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>DisplayPort</td>
<td>-</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>DVI</td>
<td>-</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>LVDS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>VGA</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Gigabit Ethernet</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>USB 2.0/3.0</td>
<td>4/0</td>
<td>4/4</td>
<td>8/4</td>
</tr>
<tr>
<td>USB Client Port</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Serial RS-232 / RS-485</td>
<td>2/2</td>
<td>3/2</td>
<td>3/2</td>
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<tr>
<td>HD Audio</td>
<td>✓</td>
<td>-</td>
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<tr>
<td>GPIO</td>
<td>8 bits</td>
<td>8 bits</td>
<td>8 bits</td>
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<td>SATA</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>mSATA</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Compact Flash</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SD Card</td>
<td>-</td>
<td>✓</td>
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<tr>
<td>Input Power Options</td>
<td>+12V or ATX</td>
<td>+12V only</td>
<td>+9V to +36V</td>
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<tr>
<td>PCI-104 / PCIe/104</td>
<td>Optional</td>
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<td>-</td>
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<tr>
<td>Dimensions</td>
<td>175 x 115mm</td>
<td>125 x 95mm</td>
<td>428 x 190mm</td>
</tr>
<tr>
<td>Temperature</td>
<td>-40°C to +85°C/-40°F to 185°F</td>
<td>-40°C to +85°C/-40°F to 185°F</td>
<td>-40°C to +85°C/-40°F to 185°F</td>
</tr>
</tbody>
</table>

Off-the-Shelf and Modified COM Express® Solutions

Use Connect Tech's COM Express® Carrier Boards for instant proof of concept, or benefit from our custom design services to create a perfect fit carrier for your application.

Developing a custom carrier board protects your investment of design level IP by separating it from the standard CPU and memory found on the COM Express® module.

As next generation processors become available, your custom carrier stays intact — only your COM Express® module needs to change.

[Connect Tech's COM Express® Ultra Lite Carrier Board](www.connecttech.com)
Qseven Carrier Boards

PCI-104 Qseven Carrier Board
PCI-104

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

Features
- PCI-104 Qseven Carrier Board utilizes the PC/104 form factor and the PCI-104 bus, and allows installation of up to 4 PCI-104 boards

PCle/104 Qseven Carrier Board
PCle/104

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

Features
- The PCle/104 Qseven Carrier Board utilizes the PC/104 form factor with 4 x1 PCle lanes and the PCle/104 bus

Lite Qseven Carrier

The low cost, feature-rich Lite Qseven Carrier Board integrates with any industry standard Qseven module.

Features
- AMD Fusion/G-Series, Intel® Atom™ Z500 & E600, Freescale i.MX51 & i.MX6, Texas Instruments OMAP, NVIDIA Tegra and VIA Nano E-Series

Ultra Lite Qseven Carrier

Pico-ITX

The Ultra Lite Qseven Carrier Board in Pico-ITX form factor, integrates with any industry standard Qseven module.

Features
- AMD Fusion/G-Series, Intel® Atom™ Z500 & E600, Freescale i.MX51 & i.MX6, Texas Instruments OMAP, NVIDIA Tegra and VIA Nano E-Series

✓ PCIe/104, PCI-104 & Pico-ITX
✓ Processor options include:
  - AMD Fusion/G-Series
  - Intel® Atom™ Z500 & E600
  - Freescale i.MX51 & i.MX6
  - Texas Instruments OMAP
  - NVIDIA Tegra
  - VIA Nano E-Series
✓ Mini-PCle & SIM Card Expansion
✓ Custom Solutions
**Qseven Carrier Boards**

**Off-the-Shelf and Modified Qseven Solutions**

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

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

<table>
<thead>
<tr>
<th>Specifications</th>
<th>PCI-104 Qseven Carrier</th>
<th>PCIe/104 Qseven Carrier</th>
<th>Lite Qseven Carrier</th>
<th>QCG005</th>
<th>QCG011</th>
<th>QCG012</th>
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</thead>
<tbody>
<tr>
<td>Expansion Bus</td>
<td>PCI-104</td>
<td>PCIe/104</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Mini PCI Express</td>
<td>-</td>
<td>-</td>
<td>2 Slots</td>
<td>1 Slot</td>
<td>1 Slot</td>
<td>-</td>
</tr>
<tr>
<td>HDMI</td>
<td>-</td>
<td>-</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>LVDS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>VGA</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gigabit Ethernet</td>
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<td>1</td>
<td>1</td>
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<td>USB 2.0</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
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<tr>
<td>USB Client Port</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1</td>
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<tr>
<td>RS-232 / RS-48S</td>
<td>2 / 2</td>
<td>2 / 2</td>
<td>1 / 0</td>
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<tr>
<td>PS/2 Keyboard &amp; Mouse</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>SATA</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>mSATA</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
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<tr>
<td>MicroSD Card</td>
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<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>RTC Battery</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>Input Power</td>
<td>ATX or +5V only</td>
<td>ATX or +5V only</td>
<td>+5V only or +5V/+12V</td>
<td>+5V only or +5V/+12V</td>
<td></td>
<td></td>
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<tr>
<td>Dimensions</td>
<td>PC/104 (96 x 90mm)</td>
<td>PC/104 (96 x 90mm)</td>
<td>Custom (128 x 100mm)</td>
<td>Pico-ITX (100 x 72mm)</td>
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</tr>
<tr>
<td>Temperature</td>
<td>-20°C to 70°C/-4°F to 158°F</td>
<td>-20°C to 70°C/-4°F to 158°F</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Single Board Computers

**Xtreme/SBC PCIe/104 Single Board Computer:**
Xtreme/SBC PCIe/104 Single Board Computer utilizes the PCIe/104 form factor with 4 x1 PCIe lanes.

**Xtreme/SBC PCI-104 Single Board Computer:**
Xtreme/SBC PCI-104 Single Board Computer utilizes the PCI-104 form factor, supporting four peripheral boards.

**Features**
- 2x SATA, 1x Gigabit Ethernet, 4x USB 2.0, LVDS and VGA Video, 2x RS-232 and 2x RS-422/485 serial ports
- Choose from a variety of processors including AMD Fusion/G-Series, Intel® Atom™ Z500 & E600, Freescale i.MX51 & i.MX6, Texas Instruments OMAP, NVIDIA Tegra and VIA Nano E-Series

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Off-the-Shelf and Modified Solutions

**Multiple Processor Options!**

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

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

### Specifications

<table>
<thead>
<tr>
<th></th>
<th>AMD Fusion G-Series</th>
<th>E500</th>
<th>D2600</th>
<th>Freescale i.NX531-LN6G</th>
<th>Texas Instruments OMAP</th>
<th>NVIDA Tegra</th>
<th>VIA Nano E-Series</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Speed</strong></td>
<td>1.0 GHz</td>
<td>600 MHz to 1.6 GHz</td>
<td>600 MHz to 1.6 GHz</td>
<td>1.6 GHz</td>
<td>1.2 GHz</td>
<td>Up to 600 MHz</td>
<td>Up to 1.0 GHz</td>
</tr>
<tr>
<td><strong>PCIe/104</strong></td>
<td>4 x1</td>
<td>4 x1</td>
<td>4 x1</td>
<td>3 x1</td>
<td>-</td>
<td>-</td>
<td>4 x1</td>
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<tr>
<td><strong>PCI-104</strong></td>
<td>Up to 4 devices</td>
<td>Up to 4 devices</td>
<td>Up to 4 devices</td>
<td>Up to 4 devices</td>
<td>-</td>
<td>-</td>
<td>Up to 4 devices</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>Up to 4GB</td>
<td>Up to 2GB</td>
<td>Up to 2GB</td>
<td>Up to 4GB</td>
<td>128-512MB</td>
<td>Up to 16GB</td>
<td>1GB</td>
</tr>
<tr>
<td><strong>On-Board Flash Disk</strong></td>
<td>Up to 32GB</td>
<td>Up to 32GB</td>
<td>Up to 32GB</td>
<td>Up to 8GB</td>
<td>Up to 32GB</td>
<td>256MB-16GB</td>
<td>Up to 8GB</td>
</tr>
<tr>
<td><strong>Graphics</strong></td>
<td>Radeon 6250</td>
<td>Intel GMA 500</td>
<td>Intel GMA 500</td>
<td>Intel GMA 3600</td>
<td>OpenGL/OpenVG</td>
<td>POWERVR SGX</td>
<td>NVIDIA ULP</td>
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<tr>
<td><strong>Display Interface</strong></td>
<td>LVDS</td>
<td>VGA, LVDS</td>
<td>VGA, LVDS</td>
<td>LVDS</td>
<td>LVDS</td>
<td>LVDS</td>
<td>LVDS</td>
</tr>
<tr>
<td><strong>External Storage</strong></td>
<td>2x SATA</td>
<td>2x SATA</td>
<td>2x SATA</td>
<td>2x SATA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td><strong>USB</strong></td>
<td>4x USB 2.0</td>
<td>4x USB 2.0</td>
<td>4x USB 2.0</td>
<td>8x USB 2.0</td>
<td>2x USB 2.0</td>
<td>2x USB 2.0</td>
<td>4x USB 2.0</td>
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<tr>
<td><strong>Ethernet</strong></td>
<td>10/100/1000</td>
<td>10/100/1000</td>
<td>10/100/1000</td>
<td>10/100/1000</td>
<td>10/100</td>
<td>10/100</td>
<td>10/100/1000</td>
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<tr>
<td><strong>Other</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Micro SD, Video Input</td>
<td>Video Input</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Serial Interface</strong></td>
<td>-</td>
<td>2x RS-232, 2x RS-485</td>
<td>2x RS-232, 2x RS-485</td>
<td>2x RS-232, 2x RS-485</td>
<td>-</td>
<td>-</td>
<td>2x RS-232, 2x RS-485</td>
</tr>
<tr>
<td><strong>PS/2 Keyboard &amp; Mouse</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>0°C to 60°C</td>
<td>-20°C to 70°C</td>
<td>-40°C to 85°C</td>
<td>0°C to 70°C</td>
<td>0°C to 60°C</td>
<td>-20°C to 70°C</td>
<td>0°C to 60°C</td>
</tr>
<tr>
<td></td>
<td>32°F to 140°F</td>
<td>-4°F to 158°F</td>
<td>-40°F to 185°F</td>
<td>32°F to 158°F</td>
<td>32°F to 140°F</td>
<td>-4°F to 158°F</td>
<td>32°F to 140°F</td>
</tr>
<tr>
<td><strong>Cable Kit (Optional)</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Free Technical Support</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
FPGAs

FreeForm/Express S6 is a reconfigurable Xilinx Spartan-6 LX45T FPGA.

Features
- FPGA Mezzanine Card
- Integrated PCI Express® blocks
- 3.125 Gbps low-power transceivers, 128MB DDR3 RAM, 2x 10/100/1000 Ethernet, and 1x RS-232 port

Xtreme I/O Opto is a 48-bit PCI-104 isolated digital I/O board.

Features
- 24 optically isolated inputs
- 24 optically isolated outputs
- 3kV of isolation on all I/O
- +0 to +40V DC voltage range

FreeForm/PCI-104 is a reconfigurable FPGA development board.

Features
- Based on the Xilinx Virtex-5 FPGA (LX30T, LX50T & FX30T)
- 32-Bit/33MHz PCI-104 interface
- 8MB Flash, 128MB DDR2-400 memory, 2x 10/100 Ethernet, 2x RS-485, 4x Rocket I/O

FreeForm/104 is a PC/104 based card that features a reconfigurable FPGA through JTAG or SPI flash (4Mb).

Features
- Based on the Xilinx Spartan-3E
- External 5V power connection
- Four user configurable LEDs
- Eight position rotary switch

FreeForm/104 Daughter Board is an adapter for Connect Tech’s FreeForm/104 board.

Features
- Enables users to capture and process synchronous and asynchronous RS-232 or RS-422/485 serial data with customizable FPGA implementations

As shown with Epiq Solutions’ Bitshark FMC-1RX RF receiver.

FreeForm/104 Daughter Board

CONNECT TECH INC.
---

### Custom FPGA Design

Need assistance with a custom FPGA design?

We can help at any stage of a project!

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

---

### Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>FreeForm/Express x6</th>
<th>Xtreme I/O Optio</th>
<th>FreeForm/PCI-104</th>
<th>FreeForm/104</th>
<th>FreeForm/104 Daughter Board</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form Factor</strong></td>
<td>PCIe</td>
<td>PCI-104 or PC/104-Plus</td>
<td>PCI-104</td>
<td>PC/104</td>
<td>PC/104</td>
</tr>
<tr>
<td><strong>Ports</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td><strong>FPGA</strong></td>
<td>Xilinx Spartan-6 LX45T</td>
<td>Actel ProASIC3</td>
<td>Xilinx Virtex-5</td>
<td>Xilinx Spartan-3E</td>
<td>-</td>
</tr>
<tr>
<td><strong>Bus Interface</strong></td>
<td>Spartan-6 PCIe Gen 1 Endpoint</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>RS-232, RS-422, RS-449</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Mezzanine Card</strong></td>
<td>1x low pin count LPC FMC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Connectors</strong></td>
<td>2 x 25 (50 position)</td>
<td>-</td>
<td>-</td>
<td>PC/104 pass-through</td>
<td>-</td>
</tr>
<tr>
<td><strong>Isolation</strong></td>
<td>-</td>
<td>3kV on all channels</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Inputs/Outputs</strong></td>
<td>24 optically isolated</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Control Signals</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>TxD, RxD, DTR, RTS,</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>+3.3V DC and +12V DC</td>
<td>+5V DC</td>
<td>+5V DC</td>
<td>+5V DC (± 5%)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>-40°C to 85°C/-40°F to 185°F</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>16.76 x 11.11cm</td>
<td>9.5885 x 9.017cm</td>
<td>9.5885 x 9.0805cm</td>
<td>9.5885 x 9.017cm</td>
<td>9.5885 x 9.017cm</td>
</tr>
<tr>
<td></td>
<td>6.6” x 4.375”</td>
<td>3.775” x 3.550”</td>
<td>3.775” x 3.575”</td>
<td>3.775” x 3.55”</td>
<td>3.775” x 3.55”</td>
</tr>
</tbody>
</table>
CAN

**Protection for your embedded networking applications**

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

**CAN Controller Cards**

- **CANpro/104 Opto** includes two powerful NXP SJA1000 CAN controllers, along with 3kV optical isolation.
- **CANpro/104-Plus Opto** is based on the PC/104-Plus bus and includes two powerful NXP SJA000 CAN controllers, along with 3kV optical isolation.

**Features**

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

**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.

**Features**

- Wide range of interfaces including CAN, RS-232, RS-485, GPS, Bi-directional GPIO, High Voltage Isolated GPIO and ADCs
- Extended operating temperature

**Xtreme/Multi-I/O** is a high density, all-in-one PC/104 communication board for CANbus, serial port, wired and wireless communication.

**Features**

- 2500V isolation protection
- 2x SJA1000 controllers, 1Mbp/s
- 4x RS-232/1x RS-485/J1708
- 2x MultiTech compatible sockets
- 5x isolated LEDs, 1x USB

CONNECT TECH INC.
**Driver Support**

Connect Tech’s inhouse software development team ensures our products support the most current operating systems.

Visit our support section on-line to view the most current drivers for all Connect Tech products.

Don’t see what you need?

Contact our technical support team at support@connecttech.com

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**Specifications**

<table>
<thead>
<tr>
<th></th>
<th>CANpro/104 Opto</th>
<th>CANpro/104-Plus Opto</th>
<th>RoadWarrior</th>
<th>Extreme Multi-I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
<td>PC/104</td>
<td>PC/104</td>
<td>Wireless Device</td>
<td>PC/104</td>
</tr>
<tr>
<td>CAN Controller</td>
<td>x2 NXP SJA1000</td>
<td>x2 NXP SJA1000</td>
<td>PIC32</td>
<td>x2 NXP SJA1000</td>
</tr>
<tr>
<td>(CAN 2.0B Compliant)</td>
<td></td>
<td></td>
<td></td>
<td>J1708</td>
</tr>
<tr>
<td>BasicCAN &amp; PeliCAN Modes</td>
<td>✓</td>
<td>✓</td>
<td>N/A</td>
<td>✓</td>
</tr>
<tr>
<td>(SJA1000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJA1000 Input Clock</td>
<td>16MHz</td>
<td>16MHz</td>
<td>-</td>
<td>16 or 24MHz</td>
</tr>
<tr>
<td>Isolated CAN Interface</td>
<td>3kV</td>
<td>3kV</td>
<td>TI ISO1050</td>
<td>ADM3053</td>
</tr>
<tr>
<td></td>
<td>TI ISO1050</td>
<td>TI SN65HVD251</td>
<td>Dominant State Timeout</td>
<td></td>
</tr>
<tr>
<td>Memory Mapped Addressing</td>
<td>-</td>
<td>✓</td>
<td>N/A</td>
<td>✓ Jumperless</td>
</tr>
<tr>
<td>General Purpose I/O</td>
<td>-</td>
<td>8-bit 3.3V I/O Header</td>
<td>16 bits 3.3V or 5V bi-directional</td>
<td>-</td>
</tr>
<tr>
<td>Supports 1Mbps Operation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
</tr>
<tr>
<td>I/O &amp; Memory Space Selectable</td>
<td>✓</td>
<td>-</td>
<td>N/A</td>
<td>✓</td>
</tr>
<tr>
<td>Single or Dual Interrupts</td>
<td>✓</td>
<td>-</td>
<td>N/A</td>
<td>✓</td>
</tr>
<tr>
<td>Free Technical Support</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
**xtreme/104**

*xtreme/104* offers four or eight asynchronous RS-232 and/or RS-422/485 serial ports.

<table>
<thead>
<tr>
<th>Ports</th>
<th>4/8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>RS-232/422/485</td>
</tr>
</tbody>
</table>
| Control Signals | RS-232: Tx,Rx,RTS,CTS,Rl,DTR,DSR,DCD  
RS-422/485: TxD±,RxD±,CTS±,RTS± |
| Baud | RS-232: 50 bps to 230 Kbps/Custom  
RS-422/485: 50 bps to 460.8 Kbps/Custom |
| Temperature | 0°C to 70°C/32°F to 158°F |
| Dimensions | 9.60 x 10.41 x 1.12cm/3.77" x 4.09" x 0.44" |

*xtreme/104 RS-232* offers four or eight asynchronous RS-232 serial ports.

<table>
<thead>
<tr>
<th>Ports</th>
<th>4/8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>RS-232</td>
</tr>
<tr>
<td>Control Signals</td>
<td>Tx,Rx,RTS,CTS,Rl,DTR,DSR,DCD</td>
</tr>
<tr>
<td>Baud</td>
<td>50 bps to 230 Kbps/Custom</td>
</tr>
<tr>
<td>Temperature</td>
<td>0°C to 70°C/32°F to 158°F</td>
</tr>
<tr>
<td>Dimensions</td>
<td>9.60 x 10.41 x 1.12cm/3.77&quot; x 4.09&quot; x 0.44&quot;</td>
</tr>
</tbody>
</table>

**xtreme/104 Opto**

*xtreme/104 Opto* offers two or four asynchronous serial ports with 3kV optical isolation on all signals and ports.

<table>
<thead>
<tr>
<th>Ports</th>
<th>2/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>RS-232/422/485</td>
</tr>
</tbody>
</table>
| Control Signals | RS-232: Tx,Rx,RTS,CTS  
RS-422/485: TxD±,RxD±,CTS±,RTS± |
| Temperature | 0°C to 70°C/32°F to 158°F |
| Dimensions | 9.60 x 10.41 x 1.12cm/3.77" x 4.09" x 0.44" |

**ComSync/104**

*ComSync/104* offers two synchronous/asynchronous RS-232, RS-422, RS-449, EIA-530, EIA-530/A, V.35 and X.21 serial channels.

<table>
<thead>
<tr>
<th>Ports</th>
<th>2 Synchronous/Asynchronous Serial Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>RS-232, RS-422, RS-449, EIA-530, EIA-530/A, V.35 &amp; X.21</td>
</tr>
<tr>
<td>Control Signals</td>
<td>Tx±, Rx±, DCD±, RTS±, CTS±, DSR±, DTR±, SYNC±, TRxC±, RTxC±</td>
</tr>
<tr>
<td>Temperature</td>
<td>0°C to 70°C/32°F to 158°F</td>
</tr>
</tbody>
</table>
xtreme/104 Isolated 12 Port is a high density adapter which offers 12 asynchronous serial ports and complies with PC/104 form factor standards. It features eight jumper selectable RS-232/422/485 ports with support for all three RS-485 modes, and includes four dedicated RS-232 ports.

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

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

FPGA | Xilinx Spartan-3E FPGA, 500,000 gates |
Connector | 2 x 50 pin headers, 1 x 26 pin header |
Frequency | 66 MHz, internally scalable |
Temperature | -40°C to 85°C/-40°F to 185°F |
Power | +5V DC (± 5%) |

FreeForm/104 Daughter Board is a FreeForm/104 adapter board that enables users to capture and process synchronous and asynchronous RS-232 or RS-422/485 serial data with customizable FPGA implementations.

<table>
<thead>
<tr>
<th>Ports</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>RS-232, RS-422, RS-449</td>
</tr>
<tr>
<td>Control Signals</td>
<td>TxD, RxD, DTR, RTS, CTS, DCD, TxClk, RxClk</td>
</tr>
</tbody>
</table>
| Connectors | PC/104 pass-through  
2x50 pin connector to connect to FreeForm  
2x26 pin header connectors |
| Temperature | -40°C to 85°C/-40°F to 185°F |

Connect Tech’s Power Supplies power all of the PC/104 family expansion buses including PC/104, PC/104-Plus, PCI-104, PCI/104-Express and PCIe/104.

**NEW Power Supplies**

**xtreme/PSU Low Cost!**
- 115W total output power (+5V @ 10A, +12V @ 5A, and +5V standby @ 1A), and +6V to +36V DC input voltage

**xtreme/PSU-XP**
- 160W total output power (+5V @ 10A, +3.3V @10A, +12V @ 5A, -12V @ 1A and +5V standby @ 1A), and +6V to +36V DC input voltage

**xtreme/PSU Isolated**
- 195W total output power (+5V @ up to 15A, +3.3V @ up to 20A and +12V @ up to 10A), +9V to +36V DC input voltage, and up to 2.25kV of isolation

**xtreme/PSU-UPS**
- SMART battery charging for uninterrupted power supply
- 125W+ output power (+5V, +12V, -12V, +3.3V, +5V standby)
### Xtreme/104-Plus

**Form Factor**: PC/104-Plus  
**Ports**: 2/4/8  
**Control Signals**:  
- RS-232: TxD, RxD, RTS, DTR, CTS, DCD and SG  
- RS-422/485: (TxD, RxD, RTS, CTS)± and SR  
- RS-423: TxD-, TxDRef, RxD±, RTS-, RTSRef, CTS±  
**Temperature**: -40°C to 85°C/-40°F to 185°F  
**Power**: +5V DC 500mA (maximum) VI/O of +5V or 3.3V DC

**Xtreme/104-Plus** offers 4 or 8 high speed asynchronous RS-232/422/485 ports, 8 selectable RS-232/422/485/TTL ports, or 2/4 dedicated RS-423 ports.

**xtreme I/O Opto** is a 48-bit isolated digital input/output board with 24 optically isolated inputs and 24 optically isolated outputs.

### Xtreme/104-Plus 16 Port

**Form Factor**: PC/104-Plus  
**Ports**: 16  
**Interfaces**: RS-232/422/485  
**Power**: 5V bus power required. On-board regulator makes its own 3.3V 400mA maximum  
**Temperature**: -40°C to 85°C/-40°F to 185°F

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

**xtreme I/O Opto** is a 48-bit isolated digital input/output board with 24 optically isolated inputs and 24 optically isolated outputs.

### Xtreme/104-Plus Opto

**Form Factor**: PC/104-Plus  
**Ports**: 2/4  
**Control Signals**:  
- RS-232: TxD, RxD, RTS, CTS and SG  
- RS-422/485: (TxD , RxD , RTS , CTS)± and SR  
**Temperature**: -40°C to 85°C/-40°F to 185°F  
**Power**: +5V DC (±5%) @ 500mA (maximum)

**Xtreme/104-Plus Opto** provides the added protection of 3kV optical isolation on a rugged and compact form factor for critical embedded applications.

**xtreme I/O Opto** is a 48-bit isolated digital input/output board with 24 optically isolated inputs and 24 optically isolated outputs.

### ALL PCI-104 and PC/104-Plus boards are now available with a 22mm Connector to extend the stack height of your application!
**Xtreme I/O ADC-DAC** is an analog data acquisition board for the small form factor embedded market place.

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>PCI-104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog Inputs</td>
<td>32 Single Ended/16 Differential Channels, 12/14/16 bit 100kps, Software-Programmable Input Ranges</td>
</tr>
<tr>
<td>Analog Outputs</td>
<td>4 Channels, 12/14/16 bit resolution, 6 programmable output ranges</td>
</tr>
<tr>
<td>Digital I/O</td>
<td>16 bit Bi-directional I/O</td>
</tr>
<tr>
<td>Temperature</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>PCI-104</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPGA</td>
<td>Virtex-5 FPGA options include LX30T, LX50T and FX30T</td>
</tr>
<tr>
<td>Power</td>
<td>5 V DC (+/- 5%). May vary by application.</td>
</tr>
<tr>
<td>Temperature</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
</tr>
<tr>
<td>Dimensions</td>
<td>PCI-104 1.0 Compliant</td>
</tr>
</tbody>
</table>

**PCI-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 and the PCI-104 bus, and allows installation of up to 4 PCI-104 boards.

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>PCI-104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interfaces</td>
<td>2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS &amp; VGA Video, 2x RS-232, 2x RS-422/485</td>
</tr>
<tr>
<td>Power</td>
<td>ATX or +5V/+12V only</td>
</tr>
<tr>
<td>Temperature</td>
<td>-20°C to 70°C/-4°F to 158°F</td>
</tr>
</tbody>
</table>

**Xtreme/SBC PCI-104 Single Board Computer** utilizes the PCI-104 form factor, supporting four peripheral boards. Instantly access a variety of features using the SBCs on-board connectors. Embedded processor options include AMD Fusion/G-Series, Intel® Atom™ Z500 & E600, Freescale i.MX51 & i.MX6, Texas Instruments OMAP, NVIDIA Tegra and VIA Nano E-Series.

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>PCI-104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interfaces</td>
<td>2x SATA, 4x USB 2.0, 1x Gigabit Ethernet, LVDS &amp; VGA Video, 2x RS-232, 2x RS-422/485</td>
</tr>
<tr>
<td>Power</td>
<td>ATX Supply Input or +5V/+12V only</td>
</tr>
<tr>
<td>Temperature</td>
<td>-20°C to 70°C/-4°F to 158°F</td>
</tr>
</tbody>
</table>
EMBEDDED BOARDS

**PCI-104**

**Xtreme I/O Opto** is a 48-bit isolated digital input/output board with 24 optically isolated inputs and 24 optically isolated outputs.

- **Form Factor**: PCI-104 or PC/104-Plus
- **Connectors**: 2 x 25 (50 position) 0.1” (DIL) pin headers
- **Isolation**: 3kV isolation on all channels
- **Inputs/Outputs**: 24 optically isolated I/O (24-bits) I/O voltage range: +0 up to +40V DC
- **Temperature**: -40°C to 85°C/-40°F to 185°F

**ComSync/PCI-104** which is based on the PCI bus, is a two-channel, multi-protocol serial adapter which offers high performance, reliable, synchronous or asynchronous serial communications.

- **Form Factor**: PCI-104
- **Interface**: RS-232, RS-422, RS-449, EIA-530, EIA-530/A, V.35 & X.21
- **Modes**: NRXI: NRZI, NRZI-B, NRZI-Mark, NRZI-Space, BiPhase: BiPhase-Space, BiPhase Level, Differential BiPhase
- **Temperature**: -40°C to 85°C/-40°F to 185°F
- **Power**: 5V DC @ 1 Amp (maximum)

**NEW Power Supplies**

Connect Tech’s Power Supplies power all of the PC/104 family expansion buses including PC/104, PC/104-Plus, PCI-104, PCI/104-Express and PCIe/104.

- **Xtreme/PSU Low Cost!**
  - 115W total output power (+5V @ 10A, +12V @ 5A, and +5V standby @ 1A), and +6V to +36V DC input voltage
- **Xtreme/PSU-XP**
  - 160W total output power (+5V @ 10A, +3.3V @ 10A, +12V @ 5A, -12V @ 1A and +5V standby @ 1A), and +6V to +36V DC input voltage
- **Xtreme/PSU Isolated**
  - 195W total output power (+5V @ up to 15A, +3.3V @ up to 20A and +12V @ up to 10A), +9V to +36V DC input voltage, and up to 2.25kV of isolation
- **Xtreme/PSU-UPS**
  - SMART battery charging for uninterrupted power supply
  - 125W+ output power (+5V, +12V, -12V, +3.3V, +5V standby)

**Xtreme/PCI-104 Opto 12 Port**

12 Port offers 12 ports on a PCI-104 card, with the added protection of 1kV optical isolation on a rugged and compact form factor.

- **Form Factor**: PCI-104
- **Interfaces**: RS-232/422/485
- **Temperature**: -40°C to 85°C/-40°F to 185°F
- **Power**: +5V DC 750mA to 950mA
- **Dimensions**: 9.5885 x 9.017 cm/3.775" x 3.550"
**Xtreme/104-Express**

*Form Factor:* PCI/104-Express
*Ports:* 8
*Line Interface:* RS-232/422/485, RS-232 or RS-422/485
*Control Signals:* RS-232: Tx, Rx, RTS, CTS, RI, DTR, DSR, DCD, SG
RS-422/485: TxD±, RxD±, CTS±, RTS±, SR
*Baud:* RS-232: 50 bps to 921.6 Kbps
RS-422/485: up to 15.625 Mbps
*UART:* Octal PCI Express, 128 Byte FIFO
*Temperature:* -40°C to 85°C/-40°F to 185°F

**PCIe/104-Express & PCIe/104**

**Xtreme/104-Express** is a PCI/104-Express multi-port serial board which provides a PCI-104 pass-through connector. Fully PCI/104-Express compliant.

**xtreme/104-Express Opto**

*Form Factor:* PCIe/104
*Ports:* 4/8
*Line Interface:* RS-232/422/485, RS-232 or RS-422/485
*Control Signals:* RS-232: Tx, Rx, RTS, CTS, RI, DTR, DSR, DCD, SG
RS-422/485: TxD±, RxD±, CTS±, RTS±, SR
*Baud:* RS-232: 50 bps to 1 Mbps
RS-422/485: up to 7.8125 Mbps
*UART:* Quad/Octal PCI Express, 256 Byte FIFO
*Temperature:* -40°C to 85°C/-40°F to 185°F

**xtreme/SBC PCIe/104 Single Board Computer** utilizes the PCIe/104 form factor with 4 x 1 PCIe lanes. Instantly access a variety of features using the SBCs on-board connectors. Embedded processor options include AMD Fusion/G-Series, Intel® Atom™ Z500 & E600, Freescale i.MX51 & i.MX6, Texas Instruments OMAP, NVIDIA Tegra and VIA Nano E-Series.

**xtreme/SBC PCIe/104 Single Board Computer**

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

**xtreme/SBC PCIe/104 Single Board Computer**

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

**xtreme/104-Express Opto** is a PCIe/104 serial card with 3 kV optical isolation for rapid data transfer and high reliability.

**xtreme/104-Express Opto**

*Form Factor:* PCIe/104
*Ports:* 4/8
*Line Interface:* RS-232/422/485, RS-232 or RS-422/485
*Control Signals:* RS-232: Tx, Rx, RTS, CTS, RI, DTR, DSR, DCD, SG
RS-422/485: TxD±, RxD±, CTS±, RTS±, SR
*Baud:* RS-232: 50 bps to 1 Mbps
RS-422/485: up to 7.8125 Mbps
*UART:* Quad/Octal PCI Express, 256 Byte FIFO
*Temperature:* -40°C to 85°C/-40°F to 185°F

**xtreme/SBC PCIe/104 Single Board Computer**

**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 PCIe/104 form factor with 4 x 1 PCIe lanes and the PCIe/104 bus.

**xtreme/SBC PCIe/104 Single Board Computer**

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

**PCI Express to PCIe/104 Adapter** allows a PCIe/104 or PCIe/104-Express card to be installed into a standard PCI Express system slot.

**PCIe/104 to PCI Express Adapter - Bottom Stacking** model allows a PCIe card to be installed into a PCIe/104 or PCIe/104-Express single board computer system in a stack down configuration.

**Bus**
- PCI/104 and PCI-104-Express compatible

**Features**
- x1 lane PCIe Express card edge for installation in any slot width

**Connector**
- PCIe/104 156-pin / PCI-104 120-pin

**Dimensions**
- 11.11 x 10.29 cm/4.375” x 4.050”

**PCIe/104 to PCI Express Adapter** allows a PCIe/104 or PCI/104-Express card to be installed into a PCIe/104 or PCI/104-Express single board computer system in a stack up configuration.

**Bus**
- PCI/104 and PCI-104-Express compatible

**Features**
- x16 lane vertical PCIe Express card edge (supports x1, x4, x8 or x16)

**Connector**
- 156 pin PCIe/104 bottom connector; footprint for 2x USB Type B connector

**Dimensions**
- 9.5885 x 9.017cm/3.775” x 3.550”

**NEW Power Supplies**

Connect Tech’s Power Supplies power all of the PC/104 family expansion buses including PC/104, PC/104-Plus, PCI-104, PCIe/104-Express and PCIe/104.

**xtreme/PSu low Cost!**
- 115W total output power (+5V @ 10A, +12V @ 5A, and +5V standby @ 1A), and +6V to +36V DC input voltage

**xtreme/PSu-XP**
- 160W total output power (+5V @ 10A, +3.3V @10A, +12V @ 5A, -12V @ 1A and +5V standby @ 1A), and +6V to +36V DC input voltage

**xtreme/PSu Isolated**
- 195W total output power (+5V @ up to 15A, +3.3V @ up to 20A and +12V @ up to 10A), +9V to +36V DC input voltage, and up to 2.25KV of isolation

**xtreme/PSU-UPS**
- SMART battery charging for uninterrupted power supply
- 125W+ output power (+5V, +12V, -12V, +3.3V, +5V standby)
**ISA**

**Echo/ISA**

Echo/ISA is an 8 port serial card designed for users who require continued support for ISA bus based systems.

- **Ports**: 8 asynchronous serial ports
- **Signals**: RS-232: RTS, CTS, TxD, RxD, DCD, DTR, DSR, RI  
  RS-422/485: TxD±, RxD±, CTS±, RTS±
- **Connectors**: DB-9/DB-25 male cable or connector box
- **Temperature**: 0°C to 70°C/32°F to 158°F

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**Wireless Radio Modems**

**xtreme/104 Radio Modem**

xtreme/104 Radio Modem provides wireless, long range communications for embedded PC/104 applications.

- **Bus**: PC/104
- **Power**: Powered via PC/104 bus – requires only 5V DC
- **Temperature**: 0°C to 70°C/32°F to 158°F
- **Dimensions**: 9.1 x 9.7 x 1.1 cm/3.6" x 3.8" x 0.44"

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**Compact PCI**

**Titan/cPCI (Rear and Front I/O)**

Titan/cPCI (Rear and Front I/O) Adapters offer 2 or 4 asynchronous RS-232 and/or RS-422/485 serial ports with jumper selectable interface, and front or rear I/O option.

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

---

**Cirronet Frequency Operating I/O Data Rate Bandwidth UART**

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency Range</th>
<th>Operating Range</th>
<th>I/O Data Rate</th>
<th>Bandwidth</th>
<th>UART</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIT910</td>
<td>900 MHz</td>
<td>Up to 20 miles</td>
<td>Up to 86.4 Kbps</td>
<td>460 KHz</td>
<td>16 Byte FIFO</td>
</tr>
<tr>
<td>WIT2450</td>
<td>2.4 GHz</td>
<td>Up to 5 miles</td>
<td>Up to 230.4 Kbps</td>
<td>864 KHz</td>
<td>16 Byte FIFO</td>
</tr>
<tr>
<td>WIT2410</td>
<td>2.4 GHz Roaming</td>
<td>Up to 6 miles</td>
<td>Up to 230.4 Kbps</td>
<td>750 KHz</td>
<td>16 Byte FIFO</td>
</tr>
</tbody>
</table>
Blue Heat/Net Sync offers a synchronous Ethernet-to-serial solution for data communications.

**Ports**
4 Synchronous/Asynchronous Serial Ports

**Control Signals**
- Single ended: TxD, RxD, RTS, CTS, RI, DTR, DSR, DCD, RxClock, TxClock
- Differential: (TxO, RxO, CTS, RTS, DTR, DCD, DSR)\(\pm\), RxClock, TxClock

**LAN Interface**
Auto sensing 10Base-T, 100Base-TX

**Line Interface**
V.28, V.10, V.11, V.35, EIA-530, V.36

**Protocols**
- SDLC, HDLC, MonoSync, BiSync, Transparent BiSync, Async
- Ethernet Protocols: IP, TCP, UDP, ARP, RARP, TFTP, DHCP, BootP, HTTP, Telnet, ICMP, PPP

**Temperature**
0°C to 60°C/32°F to 140°F

**Dimensions**
11.56 x 11.68 x 3.43 cm/4.55” x 4.50” x 1.35”

**Power**
5V DC (2.5A) – 28V DC (450 mA)

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

**Ports**
4 Synchronous/Asynchronous Serial Ports

**Control Signals**
- Single ended: TxD, RxD, RTS, CTS, RI, DTR, DSR, DCD, RxClock, TxClock
- Differential: (TxO, RxO, CTS, RTS, DTR, DCD, DSR)\(\pm\), RxClock, TxClock

**LAN Interface**
Auto sensing 10Base-T, 100Base-TX

**Line Interface**
V.28, V.10, V.11, V.35, EIA-530, V.36

**Protocols**
- SDLC, HDLC, MonoSync, BiSync, Transparent BiSync, Async
- Ethernet Protocols: IP, TCP, UDP, ARP, RARP, TFTP, DHCP, BootP, HTTP, Telnet, ICMP, PPP

**Temperature**
0°C to 60°C/32°F to 140°F

**Dimensions**
11.56 x 11.68 x 3.43 cm/4.55” x 4.50” x 1.35”

**Power**
5V DC (2.5A) – 28V DC (450 mA)

Blue Heat/Net 2 is a compact Ethernet-to-serial device which offers 2 software selectable RS-232/422/485 serial ports, and allows connection of any RS-232 or RS-422/485 serial device to an Ethernet LAN.

**Ports**
2

**Control Signals**
- RS-232: TxO, RxO, CTS, RTS, DTR, DSR, RI, GND
- RS-422/485: (TxO, RxO, CTS, RTS)\(\pm\), SR

**Baud**
50 bps to 460.8 Kbps/Custom

**Dimensions**
11.56 x 11.68 x 3.43 cm/4.55” x 4.50” x 1.35”

**Power**
Multi-mode power adapter, 5V – 30V DC, 500 mA
- PoE model: 30 mA@ 48V DC
- Screw Terminal Connector model: 36V-56V DC

**Temperature**
-40°C to 74°F/ -40°C to 165°F

**Blue Heat/Net 4 or 8 RJ-45** is an Ethernet-to-serial device which offers 4 or 8 RS-232 serial ports.

**Ports**
4/8

**Control Signals**
- 1x,Rx,CTS,RTS,DTR,DSR,DCD,GND

**LAN Interface**
Auto sensing 10Base-T, 100Base-TX

**Line Interface**
RS-232

**Baud**
50 bps to 230.4 Kbps/Custom

**Dimensions**
18.42 x 13.34 x 3.43 cm/7.25” x 5.25” x 1.35”

**Temperature**
0°C to 70°C/32°F to 158°F
**Blue Heat/Net 4 or 8 DB-9**

Blue Heat/Net 4 or 8 DB-9 is an Ethernet-to-serial device which offers 4 or 8 RS-232 or software selectable RS-232/422/485 serial ports over Ethernet LAN.

<table>
<thead>
<tr>
<th>Ports</th>
<th>4/8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Signals</td>
<td>RS-232: TxD,RxD,CTS,RTS,DTR,DSR,DCD,Ri,GND</td>
</tr>
<tr>
<td>LAN Interface</td>
<td>Auto sensing 10Base-T,100Base-TX</td>
</tr>
<tr>
<td>Line Interface</td>
<td>RS-232/422/485</td>
</tr>
<tr>
<td>Baud</td>
<td>50 bps to 460.8 Kbps/Custom</td>
</tr>
<tr>
<td>Dimensions</td>
<td>24.41 x 13.34 x 4.29cm</td>
</tr>
<tr>
<td>Temperature</td>
<td>0°C to 70°C/32°F to 158°F</td>
</tr>
</tbody>
</table>

**Blue Heat/Net 16**

Blue Heat/Net 16 is an Ethernet-to-serial device which allows serial devices to connect directly to an Ethernet LAN via 16 software selectable RS-232/422/485 ports.

<table>
<thead>
<tr>
<th>Ports</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Signals</td>
<td>RS-232: DTR,DSR,RTS,CTS,TxD,RxD,Ri,DCD,GND</td>
</tr>
<tr>
<td>LAN Interface</td>
<td>Auto sensing 10Base-T,100Base-TX</td>
</tr>
<tr>
<td>Line Interface</td>
<td>RS-232/422/485</td>
</tr>
<tr>
<td>Protocols</td>
<td>IP, TCP, UDP, ARP, RARP, TFTP, DHCP, BootP, HTTP, Telnet, ICMP, PPP</td>
</tr>
<tr>
<td>Temperature</td>
<td>-40°C to 60°C/-40°F to 140°F</td>
</tr>
<tr>
<td>Baud</td>
<td>50 bps to 460.8 Kbps/Custom</td>
</tr>
<tr>
<td>Dimensions</td>
<td>43.7 x 16 x 4.4cm/17.25“x 6.25”x 1.74”</td>
</tr>
<tr>
<td>Power</td>
<td>110/240V AC, 50/60 Hz, 24-56 V DC</td>
</tr>
</tbody>
</table>

---

**FREE! BlueHeat/Net Software Development Kit!**

Connect Tech’s Ethernet to Serial products are built on a Linux platform and are available in 2, 4, 8 or 16 serial ports.

Visit our web site at [http://devel.connecttech.com](http://devel.connecttech.com) for your FREE Blue Heat/Net Software Development Kit!
BlueStorm/SP is a high-speed multi-port adapter which offers 8 ports of RS-232/422/485 connectivity.

<table>
<thead>
<tr>
<th>Ports</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Interface</td>
<td>RS-232/422/485</td>
</tr>
</tbody>
</table>
| Control Signals  | RS-232: Tx,Rx,CTS,RI,DTR,DSR,DCD,GND  
|                  | RS-422/485: (Tx,Rx,CTS,RTS)±,GND |
| Baud          | RS-232: 50 bps to 921.6 Kbps  
|               | RS-422/485: 50 bps to 1.8432 Mbps |
| UART         | Octal, 64 Byte FIFO |
| Temperature  | 0°C to 70°C/32°F to 158°F |
| Dimensions   | 14.702 x 10.605 cm/5.788 x 4.175" |

BlueStorm/SP RJ-11 is a high-speed multi-port adapter which offers 8 independently configurable RS-232 ports, along with +5 VDC or +12 VDC power on 6 RJ-11 ports.

<table>
<thead>
<tr>
<th>Ports</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Interface</td>
<td>RS-232, 6 RJ-11 connectors/2x10 pin headers</td>
</tr>
<tr>
<td>Control Signals</td>
<td>Tx,Rx,CTS,DTR,DSEP,DCP,SR,DCD,RX,RI</td>
</tr>
<tr>
<td>Baud</td>
<td>50 bps to 921.6 Kbps</td>
</tr>
<tr>
<td>UART</td>
<td>Octal, 64 Byte FIFO</td>
</tr>
<tr>
<td>Temperature</td>
<td>0°C to 70°C/32°F to 158°F</td>
</tr>
<tr>
<td>Dimensions</td>
<td>12.129 x 10.668 cm/4.775&quot; x 4.2&quot;</td>
</tr>
</tbody>
</table>

BlueStorm/SP Opto is a high-speed multi-port adapter which offers 4 ports of RS-232/422/485 connectivity, along with 3kV optical isolation.

<table>
<thead>
<tr>
<th>Ports</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Interface</td>
<td>RS-232/422/485, 3kV optical isolation</td>
</tr>
</tbody>
</table>
| Control Signals | RS-232: Tx,Rx,RTS,CTS,GND  
|                  | RS-422/485: Tx±,Rx±,RTS±,CTS±,GND |
| Baud          | RS-232: 50 bps to 921.6 Kbps  
|               | RS-422/485: 50 bps to 1.8432 Mbps |
| UART         | Dual, 64 Byte FIFO |
| Temperature  | 0°C to 70°C/32°F to 158°F |
| Dimensions   | 14.702 x 10.605 cm/5.788" x 4.175" |
BlueStorm/LP RS-232 & RS-422/485

BlueStorm/LP is a high-speed multi-port Universal PCI adapter designed for low profile and standard height PCI computers.

**Features**
- Available in 2, 4 and 8 port RS-232 serial interface models, and 1 plus 1, 2 plus 2, and 4 plus 4 RS-232 plus RS-422/485 serial interface models.

<table>
<thead>
<tr>
<th>Ports</th>
<th>Line Interface</th>
<th>Control Signal</th>
<th>Baud</th>
<th>UART</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BlueStorm/LP RS-232</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>RS-232</td>
<td>Tx,Rx,RTS,CTS,RD,DSR,DCD,GND</td>
<td>50 bps to 9.216 Kbps/Custom</td>
<td>Dual/Quad/Octal 64 Byte FIFO</td>
</tr>
<tr>
<td>4</td>
<td>RS-232</td>
<td>Tx,Rx,RTS,CTS,RD,DSR,DCD,GND</td>
<td>50 bps to 9.216 Kbps/Custom</td>
<td>Dual/Quad/Octal 64 Byte FIFO</td>
</tr>
<tr>
<td>8</td>
<td>RS-232</td>
<td>Tx,Rx,RTS,CTS,RD,DSR,DCD,GND</td>
<td>50 bps to 9.216 Kbps/Custom</td>
<td>Dual/Quad/Octal 64 Byte FIFO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ports</th>
<th>Line Interface</th>
<th>Control Signal</th>
<th>Baud</th>
<th>UART</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BlueStorm/LP RS-422/485</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>RS-422/485</td>
<td>TxD±,RxD±,RTS±,CTS±,GND</td>
<td>50 bps to 1.8432 Mbps/Custom</td>
<td>Dual/Quad/Octal 64 Byte FIFO</td>
</tr>
<tr>
<td>4</td>
<td>RS-422/485</td>
<td>TxD±,RxD±,RTS±,CTS±,GND</td>
<td>50 bps to 1.8432 Mbps/Custom</td>
<td>Dual/Quad/Octal 64 Byte FIFO</td>
</tr>
<tr>
<td>8</td>
<td>RS-422/485</td>
<td>TxD±,RxD±,RTS±,CTS±,GND</td>
<td>50 bps to 1.8432 Mbps/Custom</td>
<td>Dual/Quad/Octal 64 Byte FIFO</td>
</tr>
</tbody>
</table>

* Low profile models are available with standard height brackets.

Ports 2/4/8
Temperature 0°C to 70°C/32°F to 158°F
Dimensions 12.72 x 1.5 x 6.44 cm/5.01” x .59” x 2.54”
**PCI Express Serial**

**BlueStorm/Express** is a standard profile PCI Express serial card available in 2, 4, 8 or 16 ports of RS-232/422/485 connectivity.

<table>
<thead>
<tr>
<th>Ports</th>
<th>Control Signal</th>
<th>Baud</th>
<th>UART</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>RS-232: Tx,Rx,CTS,RD,DSR,DCD,± GND RS-422/485: (Tx,Rx,CTS,RTS)±,± GND</td>
<td>RS-232: 1 Mbps RS-422/485: 7.8 Mbps</td>
<td>Dual PCIe 256 Byte TX and RX FIFOs</td>
</tr>
<tr>
<td>4</td>
<td>RS-232: Tx,Rx,CTS,RD,DSR,DCD,± GND RS-422/485: (Tx,Rx,CTS,RTS)±,± GND</td>
<td>RS-232: 1 Mbps RS-422/485: 7.8 Mbps</td>
<td>Quad PCIe 256 Byte TX and RX FIFOs</td>
</tr>
<tr>
<td>8</td>
<td>RS-232: Tx,Rx,CTS,RD,DSR,DCD,± GND RS-422/485: (Tx,Rx,CTS,RTS)±,± GND</td>
<td>RS-232: 921.6 Kbps RS-422/485: 1.843 Mbps</td>
<td>Octal PCIe 64 Byte TX and RX FIFOs</td>
</tr>
<tr>
<td>16</td>
<td>RS-232: Tx,Rx,CTS,RD,DSR,DCD,± GND RS-422/485: (Tx,Rx,CTS,RTS)±,± GND</td>
<td>RS-232: 921.6 Kbps RS-422/485: 1.843 Mbps</td>
<td>2x Octal PCIe 64 Byte TX and RX FIFOs</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Ports</th>
<th>Line Interface</th>
<th>Control Signals</th>
<th>Baud</th>
<th>UART</th>
<th>Temperature</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/16</td>
<td>RS-232</td>
<td>TxD, RxD, RTS, CTS, RI, DTR, DSR, DCD</td>
<td>50 bps to 1 Mbps</td>
<td>Octal, 256 Byte FIFO</td>
<td>-40°C to 85°C / -40°F to 185°F</td>
<td>14 x 10.7 cm / 5.5&quot; x 4.2&quot;</td>
</tr>
</tbody>
</table>

**BlueStorm/Express Opto** is a standard profile PCI Express serial card which offers 4 ports of RS-232/422/485 connectivity, and 3kV optical isolation. These x1 lane cards are compatible with x1, x4, x8, x16 lane PCI Express slots.

<table>
<thead>
<tr>
<th>Ports</th>
<th>Isolation</th>
<th>Line Interface</th>
<th>Control Signals</th>
<th>Baud</th>
<th>UART</th>
<th>Temperature</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3kV</td>
<td>RS-232/422/485</td>
<td>RS-232: Tx,Rx,CTS,GND RS-422/485: (Tx,Rx,CTS,RTS)±,± GND</td>
<td>RS-232: 921.6 Kbps RS-422/485: 1.843 Mbps</td>
<td>2x Dual PCIe, 64 Byte TX and RX FIFOs</td>
<td>0°C to 70°C / 32°F to 158°F</td>
<td>14.699 x 11.049 cm / 5.787&quot; x 4.350&quot;</td>
</tr>
<tr>
<td><strong>BlueStorm/Express Opto (1kV)</strong></td>
<td><strong>BlueStorm/Express Opto</strong> is a standard profile PCI Express serial card which offers 8 ports of RS-232/422/485 connectivity, and 1kV optical isolation on 4 of 8 ports.</td>
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</tr>
<tr>
<td><strong>Ports</strong></td>
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<td></td>
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<tr>
<td><strong>Isolation</strong></td>
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<tr>
<td><strong>Line Interface</strong></td>
<td>RS-232/422/485</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Control Signals</strong></td>
<td>RS-232: Isolated: Tx,Rx,RTS,CTS,GND Non-Isolated: Tx,Rx,RTS,CTS,RI,DTR,DSR,DCD,GND</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Baud</strong></td>
<td>RS-232: 921.6 Kbps</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UART</strong></td>
<td>Octal PCI, 64 Byte TX and RX FIFOs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>0°C to 70°C/32°F to 158°F</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Dimensions</strong></td>
<td>14.702 x 10.605 cm/5.788&quot; x 4.175&quot;</td>
<td></td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th><strong>BlueStorm/Express Isolated</strong></th>
<th><strong>BlueStorm/Express Isolated</strong> is a standard profile PCI Express serial card which offers 8 ports of RS-232 connectivity, and 2kV optical isolation on all 8 ports.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ports</strong></td>
<td>8</td>
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<tr>
<td><strong>Isolation</strong></td>
<td>2kV isolation, 3kV on board</td>
</tr>
<tr>
<td><strong>Line Interface</strong></td>
<td>RS-232</td>
</tr>
<tr>
<td><strong>Control Signals</strong></td>
<td>Tx,Rx,RTS,CTS,DCD,DTR</td>
</tr>
<tr>
<td><strong>Baud</strong></td>
<td>RS-232: 1 Mbps</td>
</tr>
<tr>
<td><strong>UART</strong></td>
<td>Octal PCI, 64 Byte TX and RX FIFOs</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>0°C to 70°C/32°F to 158°F</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>14.699 x 11.049 cm/5.787&quot; x 4.350&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>BlueStorm/Express LP</strong></th>
<th><strong>BlueStorm/Express LP</strong> is a low profile PCI Express serial card which offers 8 ports of RS-232/422/485 connectivity.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ports</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>Line Interface</strong></td>
<td>RS-232/422/485</td>
</tr>
<tr>
<td><strong>Control Signals</strong></td>
<td>RS-232: Tx,Rx,RTS,CTS,RI,DTR,DCD,GND RS-422/485: (Tx±,Rx±,CTS±,RTS±,GND)</td>
</tr>
<tr>
<td><strong>Baud</strong></td>
<td>RS-232: 1 Mbps RS-422/485: 7.8 Mbps</td>
</tr>
<tr>
<td><strong>UART</strong></td>
<td>Octal PCI, 64 Byte TX and RX FIFOs</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>0°C to 70°C/32°F to 158°F</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>14.699 x 6.891 cm/5.787&quot; x 2.713&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>BlueStorm/Express LP Opto</strong></th>
<th><strong>BlueStorm/Express LP Opto</strong> is a low profile PCI Express serial card which offers 2 ports of RS-232/422/485 connectivity, along with 3kV optical isolation on both ports.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ports</strong></td>
<td>2</td>
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<tr>
<td><strong>Line Interface</strong></td>
<td>RS-232/422/485</td>
</tr>
<tr>
<td><strong>Control Signals</strong></td>
<td>RS-232: Tx,Rx,RTS,CTS,GND RS-422/485: (Tx±,Rx±,CTS±,RTS±,GND)</td>
</tr>
<tr>
<td><strong>Baud</strong></td>
<td>RS-232: 1 Mbps RS-422/485: 7.8 Mbps</td>
</tr>
<tr>
<td><strong>UART</strong></td>
<td>Dual PCIe, 265 Byte TX and RX FIFOs</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>0°C to 70°C/32°F to 158°F</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>15.7 x 6.9 cm/6.2&quot; x 2.7&quot;</td>
</tr>
</tbody>
</table>
Fanless Embedded Systems

Connect Tech’s Fanless Embedded Systems are designed with processor options including **Intel® Atom™ N270**, **Intel® Atom™ Dual-Core D510**, **Intel® Core™ i3/i5/i7** and **AMD LX800**. These compact, high performance fanless systems offer low power consumption, a wide operating temperature range, along with anti-vibration and shock resistant features that allow operation under harsh environmental conditions.

- Aluminum chassis conveniently mounts to a variety of surfaces
- Anti Shock / Vibration
- Wide operating temperature range
- Wide power input range
- Fanless, noise-free design
- Multiple video ports
- LAN connectivity, serial ports, USB ports
- PCI-104, PCI-32, Mini-PCI, PCIe expansion capabilities

### FEATURES

**PAR-2013D** is an **AMD LX-800** DIN-Rail mount industrial fanless embedded platform.

**Features**
- LAN, USB, VGA, RS-232
- Isolated RS-422/485
- Isolation Digital I/O
- DIN-Rail mounting
- Power input of 6V-34V

**PAR-2042** is an **Intel® Atom™ N270** industrial fanless embedded platform.

**Features**
- Digital I/O with isolation protection
- Supports up to 4 COMs
- 2 PCI-32 expansion slots
- Power input of 6V-34V

**PAR-2052M** is an **Intel® Atom™ N270** fanless embedded platform.

**Features**
- Digital I/O with isolation protection
- Supports up to 3 COMs
- 2 PCI-32 expansion slots
- Supports GSM/GPRS/WCDMA/HSDPA and GP
- Anti-shock and vibration
- Power input of 6V-34V
PAR-2192M features an Intel® D510 Dual-Core 1.6 GHz processor. Features:
- Supports GSM/GPRS/WCDMA/HSDPA and GPS
- VGA, LVDS, LAN, 2 COMs, 5x USB
- Internal SATA HDD & removable HDD with anti-vibration
- Power input of 6V-34V

PAR-2200D (120-130) is an Intel® Atom™ N270 fanless embedded platform. Features:
- Supports dual display DVI and VGA
- Supports up to 4 COMs, CF, SATA
- Power input of 12V/24V
- DIN-Rail mounting

PAR-2215 is an Intel® Atom™ D2550 fanless embedded platform. Features:
- High performance graphic engine
- VGA, HDMI, 2x LAN, 4x USB, up to 6 COMs
- Power input of 12V/24V
- 1 Mini-PCIe expansion slot

PAR-2217 is an Intel® Atom™ D525 fanless embedded platform. Features:
- Built-in high performance graphic engine
- VGA, SATA, 2x LAN, 4 USB, up to 6 COMs
- Power input of 12V/24V

PAR-2230 is a low power Intel® Atom™ D2550 fanless embedded platform. Features:
- High performance graphic engine
- 2x DVI, SATA, mSATA, 2x LAN, 4x USB, 4x COM, GPIO
- Power input of 6V-34V
- 2 Mini-PCIe and up to 2 PCI-104 expansion slots

Ideal for In-Vehicle Embedded Systems
Ideal for Industrial Automation Control
Ideal for Multimedia Applications
Ideal for Digital Signage
Ideal for Industrial Automation Control
NEW
NEW
NEW
NEW
### Fanless Embedded Systems

<table>
<thead>
<tr>
<th>Model</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PAR-2230D</strong></td>
<td>- Ideal for Industrial Automation Control</td>
</tr>
<tr>
<td><strong>PAR-2236R</strong></td>
<td>- Ideal for Industrial Automation Control</td>
</tr>
<tr>
<td><strong>PAR-2236U</strong></td>
<td>- Ideal for Industrial Automation Control</td>
</tr>
<tr>
<td><strong>PAR-2311</strong></td>
<td>- Ideal for High Performance Computing</td>
</tr>
<tr>
<td><strong>Cypress 7035M</strong></td>
<td>- Ideal for In-Vehicle Embedded Systems</td>
</tr>
</tbody>
</table>

#### NEW

**PAR-2230D** is a low power Intel® Atom™ D2550 DIN-rail mount fanless embedded platform.
- High performance graphic engine
- 2x DVI, SATA, mSATA, 2x LAN, 4x USB, 4x COM, GPIO
- 2 Mini-PCIe and up to 2 PCI-104 expansion slots
- DIN-Rail mounting
- Power input of 6V-34V

**PAR-2236R** is an Intel® Atom™ D2550 fanless embedded platform.
- High performance graphic engine
- RS-422/485 isolation
- 2x DVI, 2x LAN, SATA, mSATA, 6x USB, up to 8x COM, GPIO
- 1 PCI-104 and 2 Mini-PCIe expansion slots
- Power input of 6V-34V

**PAR-2236U** is an Intel® Atom™ D2550 fanless embedded platform.
- High performance graphic engine
- 2x DVI, 2x LAN, SATA, mSATA, 6x USB, 8x COM, GPIO
- 1 PCI-104 and 2 Mini-PCIe expansion slots
- Power input of 6V-34V

**PAR-2311** features an Intel® i3/15/17 4-Core/2-Core processor which offers high performance, yet is low on power consumption.
- DVI & VGA dual independent display
- 2x LAN, 6x USB, 5x COM, GPIO
- 1x16 PCIe expansion slot
- 1 internal HDD, 2 external HDD
- Power input of DC 2V/AC 110/230V

**Cypress 7035M** features an Intel® Atom™ D2550 Dual-Core 1.86GHz processor.
- Supports GSM/GPRS/WCDMA/HSDPA and GPS
- Dual M12 Gigabit LAN
- 5x USB, 2x DVI, up to 6 COM
- Power input of 6V-34V
- 2 Mini-PCIe and 1 PCI-104 expansion slots
- Power input of 6V-34V
<table>
<thead>
<tr>
<th>Specifications</th>
<th>PAR-2013D</th>
<th>PAR-2042</th>
<th>PAR-2052M</th>
<th>PAR-2192M</th>
<th>PAR-2200D 120/130</th>
<th>PAR-2215</th>
<th>PAR-2217</th>
<th>PAR-2250</th>
<th>PAR-2250D</th>
<th>PAR-2250R</th>
<th>PAR-2250U</th>
<th>PAR-2311</th>
<th>Cypress 7035M</th>
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<tr>
<td>CPU</td>
<td>AMD LX-800</td>
<td>Atom N270</td>
<td>Atom N270</td>
<td>Atom D510</td>
<td>Atom D550</td>
<td>Atom D2550</td>
<td>Atom D525</td>
<td>Atom D550</td>
<td>Atom D550</td>
<td>Atom D550</td>
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<td>Core i7/15/13</td>
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<td>SIRF-3</td>
</tr>
</tbody>
</table>

**Fanless Embedded Systems**
# PC/104 & Ethernet to Synchronous Serial

## ComSync/104

**ComSync/104** offers two synchronous/asynchronous RS-232, RS-422, RS-449, EIA-530, EIA-530/A, V.35 and X.21 serial channels.

<table>
<thead>
<tr>
<th>Ports</th>
<th>2 Synchronous/Asynchronous Serial Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>RS-232, RS-422, RS-449, EIA-530, EIA-530/A, V.35 &amp; X.21</td>
</tr>
<tr>
<td>Control Signals</td>
<td>Tx±, Rx±, DCD±, RTS±, CTS±, DSR±, DTR±, SYNC±, TRxC±, RxC±</td>
</tr>
<tr>
<td>Temperature</td>
<td>0°C to 70°C/32°F to 158°F</td>
</tr>
<tr>
<td>Dimensions</td>
<td>PC/104 v.2.3 Compliant</td>
</tr>
</tbody>
</table>

## ComSync/PCI-104

**ComSync/PCI-104** is a two-channel, multi-protocol serial adapter which offers synchronous or asynchronous serial communications.

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>PCI-104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td>RS-232, RS-422, RS-449, EIA-530, EIA-530/A, V.35 &amp; X.21</td>
</tr>
<tr>
<td>Modes</td>
<td>NRX: NRZI, NRZIB, NRZI-Mark, NRZI-Space, BiPhase: BiPhase-Space, BiPhase Level, Differential BiPhase</td>
</tr>
<tr>
<td>Temperature</td>
<td>-40°C to 85°C/-40°F to 185°F</td>
</tr>
<tr>
<td>Power</td>
<td>5V DC @ 1 Amp (maximum)</td>
</tr>
</tbody>
</table>

## Blue Heat/Net Sync

**Blue Heat/Net Sync** offers an Ethernet to synchronous serial solution for data communications.

<table>
<thead>
<tr>
<th>Ports</th>
<th>4 Synchronous/Asynchronous Serial Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Signals</td>
<td>Single ended: TxD, RxD, RTS, CTS, RI, DTR, DSR, DCD, Rx Clock, Tx Clock Differential: (TxD, RxD, CTS, RTS, DTR, DCD, DSR)±, Rx Clock, Tx Clock</td>
</tr>
<tr>
<td>LAN Interface</td>
<td>Auto sensing 10Base-T, 100Base-TX Ethernet</td>
</tr>
<tr>
<td>Line Interface</td>
<td>V.28, V.10, V.11, V.35, EIA-530, V.36</td>
</tr>
<tr>
<td>Protocols</td>
<td>SDLC, HDLC, MonoSync, BiSync, Transparent BiSync, Async Ethernet Protocols: IP, TCP, UDP, ARP, RARP, TFTP, DHCP, BootP, HTTP, Telnet, ICMP, PPP</td>
</tr>
<tr>
<td>Temperature</td>
<td>0°C to 60°C/32°F to 140°F</td>
</tr>
<tr>
<td>Dimensions</td>
<td>11.56 x 11.68 x 3.43cm/4.55&quot; x 4.50&quot; x 1.35&quot;</td>
</tr>
<tr>
<td>Power</td>
<td>5V DC (2.5A) – 28V DC (450 mA)</td>
</tr>
</tbody>
</table>
Multi-I/O

NEW

✓ All-in-one PC/104 communication solution for CANbus, serial port, wired and wireless communication
✓ High voltage port isolation reduces noise and improves system protection
✓ Advanced CANbus functionality reduces development time, cost, and installation
✓ Jumperless configuration
✓ Extended operating temperature for outstanding performance and reliability in harsh environments

I/O

Xtreme/Multi-I/O

- 2500V isolation protection
- 2x SJA1000 controllers, 1Mbp/s
- 4x RS-232/1x RS-485/J1708
- 2x MultiTech compatible sockets
- 5x isolated LEDs, 1x USB
- Extended operating temperature

Analog I/O

Analog Input & Output Model

Ideal for data acquisition, measurement and control applications

Xtreme I/O ADC-DAC

- Analog Input & Output Model offers 32 single ended/16 differential channels of 16 bit analog input, 4 channels 16 bit analog output, 16 bit GPIO

Xtreme I/O ADC-DAC Analog Input Model

- Offers 32 single ended/16 differential channels of 16/12 bit analog input, 16 bit GPIO

Analog Inputs
- Channels: 32 SE/16 Differential
- Resolution: 16-bit/12-bit
- Sampling Rate: 100 kbps
- Input Ranges: 0-5V, 0-10V, ±5V, ±10V

Analog Outputs
- Analog Input & Output Model only
- Channels: 4
- Resolution: 16-bit
- Output Ranges:
  - Unipolar: 0V to 5V, 0V to 10V
  - Bipolar: ±5V, ±10V, ±2.5V, −2.5V to 7.5V

Digital I/O
- 16-bit bidirectional I/O
- Input/Output Ranges: ±3.3V or ±5V (TTL/CMOS)
- High Current: 24mA

Temperature
- −40°C to 85°C/−40°F to 185°F
**Digital I/O**

**Xtreme I/O ADC-DAC**
- Analog Inputs: 32 Single Ended/16 Differential Channels, 16/14/12 bit 100kps, Software-Programmable Input Ranges
- Analog Outputs: 4 Channels, 16/14/12 bit resolution, 6 programmable output ranges
- Digital I/O: 16 bit bi-directional I/O

**Xtreme I/O Opto**
- Connectors: 2 x 25 (50 position) 0.1" (DIL) pin headers
- Isolation: 3kV isolation
- Inputs: 24 optically isolated inputs (24-bits), input voltage range +0 up to +40V DC
- Outputs: 24 optically isolated outputs (24-bits), output voltage range +0 up to +40V DC

**FreeForm/104**
- FPGA: Xilinx Spartan-3E, 500,000 gates, 360K RAM
- Standard: 96 digital I/O
- Programmable I/O: 96 high current TTL/CMOS (48 per 50 pin connector), 6 TTL (26 pin connector)
- Fixed I/O: 12 TTL inputs (26 pin connector)

**Remote I/O**

**Cellular/Satellite M2M Communications**

**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 and configured to operate on any existing cellular network standard and frequency bands, with convenient upgradeability to operate on future cellular networks.

- **Serial**
  - 2x RS-232, 2x RS-485
- **Cell Networks**
  - HSPA/EV-DO/UMTS/EDGE/GPRS/CDMA
- **Satellite**
  - LEO Satellite
- **Features**
  - CAN, GPS, Bi-directional GPIO, Isolated GPIO and ADCs
- **Power**
  - +9 to +30V DC with reverse polarity protection
NEW! Qseven to COM® Express Adapter

Install a Qseven module into any COM Express® Carrier Board.

Size:
- Compact: 95x95 mm
- Basic: 95x125 mm

Connectors:
- Single or double row COM Express Module Connectors
- Qseven connector

Features:
- Compatible with COM Express® Type 2 and Type 6

NEW! PCI-104 to PC/104 Adapter

Enables testing and development of PC/104 (ISA) devices in a PCI-104 (PCI) only system.

Connector:
- PCI-104, PC/104

Features:
- PCI Memory and IO interface to operate, control, and monitor peripherals on the PC/104 (ISA) bus
- PCI driven interrupt controller monitors and relays triggered IRQ lines on the PC/104 bus

NEW! PCI/104-Express to Single/Dual Mini-PCle Adapter

Integrate a Mini-PCle (PCI Express Mini Card) into a PCI/104 (PCI/104-Express) system.

Connector:
- PCI/104-Express

Features:
- 3.3V (at 3A) and 1.5V (at 1A) DC power
- Half-Mini and Full-Mini PCle card supported
- SIM card support, USB, and PCI bus pass-through (all optional)

NEW! PCI/104-Express to Single Mini-PCle Adapter

Integrate 2 Mini-PCle (PCI Express Mini Cards) into a PCI/104 (PCI/104-Express) system.

Connector:
- PCI/104-Express

Features:
- 3.3V (at 3A) and 1.5V (at 1A) DC power
- Half-Mini and Full-Mini PCle card supported
- SIM card support, USB, and PCI bus pass-through (all optional)

NEW! PCI-104 to Mini-PCle Adapter

Enables integration of a Mini-PCle (PCI Express Mini) card into a PCI-104 system.

Connector:
- PCI-104 x 1

Features:
- 3.3V and 1.5V DC power
- SIM card, Half-Mini and Full-Mini PCle cards supported
- 3 Mini-PCle status LEDs
- Optional PCI Express Mini-Card Specification Revision 2.0 which adds a DisplayPort connection
Adapters and Development Tools

**SUMIT to PCIe/104 Adapter**
Integrate a PCIe/104 or PCI/104-Express card into a SUMIT-104 system.

- **Connector:** SUMIT A and B, PCIe/104 x1
- **Features:** 2 x USB (from SUMIT) via Mini USB connectors

**PCle/104 & PCI/104-Express**
Allows one additional card height spacing between peripherals in a PCIe/104 or PCI/104-Express stack.

- **Size:** 9.02 x 1.4605cm/3.55” x .575”
- **Connector:** 156 pin PCIe/104 bottom connector
- **Features:** PCIe/104 x16 bus connector

**PCle/104 to PCI Express Adapter - Bottom Stacking**
Install a PCI Express card into a PCIe/104 or PCI/104-Express single board computer system in a stack down configuration.

- **Size:** 19.3 x 15.2cm/6” x 7.6”
- **Connector:** 156 pin PCIe/104 top connector; footprint for 2x USB Type B connector
- **Features:** x16 lane vertical PCI Express card edge (supports x1, x4, x8 or x16)

**PCle/104 to PCI Express Adapter - Top Stacking**
Install a PCI Express card into a PCIe/104 or PCI/104-Express single board computer system in a stack up configuration.

- **Size:** 9.5885 x 9.017cm/3.775” x 3.550”
- **Connector:** 156 pin PCIe/104 bottom connector
- **Features:** x16 lane vertical PCI Express card edge (supports x1, x4, x8 or x16)

**PCle/104 to PCI Express Cable Adapter**
Provides an interface from the PCIe/104 (PCI/104-Express) bus to a PCI Express cable connection.

- **Connector:** PCIe cable connector, PCI-104/Express 156 pin top and bottom connectors
- **Features:** x1 PCIe/104 lanes connected via PCI Express cable

**SuMIT to PCIe/104 Adapter**
Integrate a PCIe/104 or PCI/104-Express card into a SUMIT-104 system.

- **Connector:** PCIe/104 x1
- **Features:** PCIe/104 x16 bus connector

**PCle/104 Bus Extender**
Integrate a PCIe/104 or PCI/104-Express card into a SUMIT-104 system.

- **Connector:** PCIe/104 x1
- **Features:** PCIe/104 x16 bus connector
<table>
<thead>
<tr>
<th>Adapter Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PCI Express to PCI-104 Express Adapter</strong></td>
<td>Install a PCle/104 or PCI/104-Express card into a standard PCI Express slot.</td>
</tr>
<tr>
<td><strong>Size:</strong></td>
<td>11.11 x 10.29cm/4.375” x 4.050”</td>
</tr>
<tr>
<td><strong>Connector:</strong></td>
<td>• PCle/104 156-pin / PCI-104 120-pin</td>
</tr>
<tr>
<td><strong>Features:</strong></td>
<td>• x1 lane PCI Express card edge for installation in any slot width</td>
</tr>
<tr>
<td><strong>PCI to PC/104-Plus Adapter</strong></td>
<td>Install a PCI-104 or PC/104-Plus serial card into a standard Universal PCI slot.</td>
</tr>
<tr>
<td><strong>Size:</strong></td>
<td>10.69 x 12.48cm/4.2” x 4.913”</td>
</tr>
<tr>
<td><strong>Connector:</strong></td>
<td>• PCI-104, 120 pin and PC/104, 64 and 40 pin stack-through connectors</td>
</tr>
<tr>
<td><strong>Features:</strong></td>
<td>• Compatible with standard Universal 3.3V or 5V slot</td>
</tr>
<tr>
<td><strong>ISA to PC/104 Bus</strong></td>
<td>Install an 8 or 16-bit PC/104 card into a standard ISA system.</td>
</tr>
<tr>
<td><strong>Size:</strong></td>
<td>15.62 x 10.68cm/6.145” x 4.2”</td>
</tr>
<tr>
<td><strong>Connector:</strong></td>
<td>• PC/104, 64 and 40 pin passive stack-through connectors</td>
</tr>
<tr>
<td><strong>Features:</strong></td>
<td>• 16x11 (.100” grid) breadboarding area for assembly and testing</td>
</tr>
<tr>
<td><strong>PCI/104-Plus to Mini PCI Adapter</strong></td>
<td>Install a Mini PCI card into a standard PCI/104-Plus stack.</td>
</tr>
<tr>
<td><strong>Size:</strong></td>
<td>3.3V regulator delivers 2 watts of power to the Mini PCI card</td>
</tr>
<tr>
<td><strong>Connector:</strong></td>
<td>• PC/104-Plus, 120 pin and PC/104, 64 and 40 pin stack-through connectors</td>
</tr>
<tr>
<td><strong>Features:</strong></td>
<td>• Operates multiple PMC cards in a PCI-104 stack with multiple adapters</td>
</tr>
</tbody>
</table>

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Adapters and Development Tools

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

**Universal PCI**
- Allows debugging during system hang-ups.
- **Size:** 11.99 x 6.44cm/4.72” x 2.54”
- **Connector:** Transparent PCI to PCI bridge
- **Features:** Universal 32-bit PCI card (PCI 2.3 compliant)

**PCI-Express**
- Allows debugging during system hang-ups.
- **Size:** 6.7 x 6.8cm/2.64” x 2.68”
- **Connector:** Transparent PCIe to PCI bridge
- **Features:** x1 lane PCIe (PCI Express 1.0 compliant)

**PCI Express Burn-in Rack Adapter**
- Burns up to 10 (15W or 25W) PCI Express cards simultaneously with lane widths from x1 to x16 in any combination.
- **Size:** 31.5 x 13.97cm/ 12.4” x 5.5”
- **Connector:** ATX power supply connectors to power common components
- **Features:** Quick verification of power conditions and lane widths via on board LEDs

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**Simplify and Accelerate the Development Process**

Incorporate various form factors into your PC/104 stack, including MiniPCI, MiniPCIe and mSATA... or use PC/104 in a desktop ISA, PCI or PCI Express slot with an adapter board from our extensive line of development tools and adapters.
Connect Tech’s **Power Supplies** power all of the PC/104 family expansion buses including PC/104, PC/104-Plus, PCI-104, PCI/104-Express and PCIe/104.

**Xtreme/PSU:**
115W total output power (+5V @ 10A, +12V @ 5A, and +5V standby @ 1A), and +6V to +36V DC input voltage

**Xtreme/PSU-XP:**
160W total output power (+5V @ 10A, +3.3V @10A, +12V @ 5A, -12V @ 1A and +5V standby @ 1A), and +6V to +36V DC input voltage

**Xtreme/PSU Isolated:**
195W total output power (+5V @ up to 15A, +3.3V @ up to 20A and 12V @ up to 10A), +9V to +36V DC input voltage, and up to 2.25kV isolation

**Xtreme/PS-UPS:**
- SMART battery charging for uninterrupted power supply
- 125W+ output power (+5V, +12V, -12V, +3.3V, +5V standby)
**Enclosure Systems**

**Rugged Enclosure System** is a light-weight, aluminium enclosure designed to house and protect PC/104 form factor boards.

The Rugged Enclosure System ensures a sealed, dry environment under extreme temperatures and conditions, including exposure to humidity, immersion and fluids. The modular design accommodates up to three modules in between the end caps.

**FEATURES**

- Designed to IP65 specifications
- Internal and external suspension systems
- Modular assembly fits together precisely
- Expandable modular system
- Up to three modules between end caps
- Customized solutions

**SSD/104 SATA** is a rugged stackable storage solution that allows installation of up to two mSATA SSD modules into any PC/104-Plus, PCI-104, PCI/104-Express and PCIe/104 stack or embedded system.

| Capacity | 4, 8, 16, 32, 64 or 128GB Up to 256GB with 2 mSATA modules |
| Connector | Standard right angle 7-pin SATA |
| Flash | MLC and SLC |
| Temperature | -40°C to 85°C (-40°F to 185°F) |
| Power | +3.3V ±5% |

**Cables**

Connect Tech offers a variety of cabling options including various 4- and 8-port “fan-out” cables, 4- and 8-port I/O boxes, an adapter box that can convert an 8-port ISA or PCI card to eight RJ-45 jacks, or custom cabling to better meet your requirements. Our cables feature:

- **High Quality Construction** and low capacitance wire for decreased signal degradation
- **Identification** of port numbers and cable part number.
- **Electromagnetic noise immunity**: to minimize electromagnetic radiated emissions and improve immunity to from other sources.
**Customization**

**From Modifications to Complete Board Design**

Connect Tech offers customized solutions to create an exact technology fit. Using off-the-shelf intellectual property from our extensive line of commercial off-the-shelf products, we can develop custom solutions without the learning curve. This reduces your time to market, delivering prototypes in many cases within an eight week window! Use our off-the-shelf solutions to develop in parallel with custom design efforts.

**Our Markets**

Customers worldwide realize the benefits of using Connect Tech’s products and services. Our solutions enable rapid proof-of-concept and deployment to improve workflow processes, increase efficiency and reduce the time to market. Our wide range of products can be adapted for various applications including:

- Automation • Energy • Gaming
- Military & Aerospace • Manufacturing • Medical
- Point-of-Sale • Transportation

Connect Tech has established partnerships around the world to ensure you are served in a timely and cost-effective manner.
Technical Support

Connect Tech upholds its reputation for providing exceptional customer service and support.

Our highly trained technical support team is dedicated, knowledgeable and experienced. They are up to date on the latest in hardware and software technologies.

We offer free technical support worldwide and are accessible Monday to Friday, 8:30 am to 5:00 pm EST by telephone, fax and email. Visit our website for current product manuals, installation guides and software drivers.

Connect Tech supports the most popular operating systems, including:

Conformal Coating

Connect Tech recognizes the harsh reality that many embedded systems find themselves operating in unusually hostile environments. When conformal coating is required to protect your application against substantial moisture, dust, chemicals or temperature extremes, we can help.

**Standard Conformal Coating Options**

*Protect your circuitry when exposure to unique environmental circumstances is inevitable.*

**Humiseal 1B31:** A fast air drying, single component, acrylic coating that provides excellent moisture and environmental protection for printed circuit assemblies.

**Dymax 9-20557 LV:** Multi-Cure 9-20557-LV is excellent for encapsulating, potting, sealing and bonding. Coating resists yellowing, vibration, impact and thermal shock. The coating exhibits excellent adhesion to most solder masks, and fluoresces for easy in-line quality control.

**Dow Corning 1-2620:** Protective coating for rigid and flexible circuit boards. These one-part, self-priming coatings cure to flexible, transparent elastoplastic coatings ideally suited for electronic printed wiring board (PWB) applications, particularly those requiring toughness and abrasion resistance.

Contact a sales representative for more information or to inquire about additional conformal coating options.
Connect Tech Satisfaction Guarantee

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

Quality Assurance

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

Lifetime Warranty

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