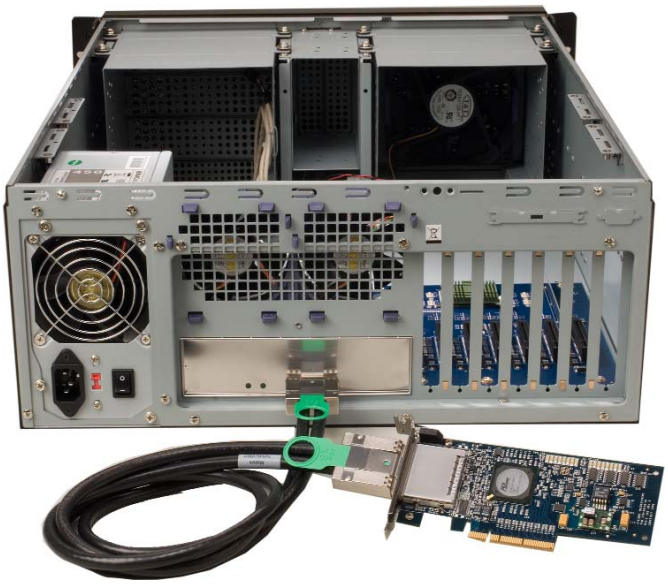
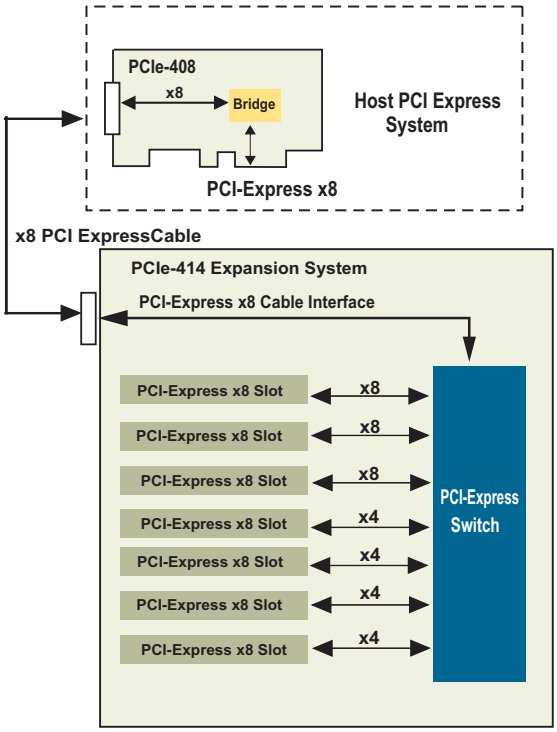
CYCLONE Microsystems
Intelligent I/O Controllers

2704 - Seven Slot PCI Express Expansion System

PCIe-408 PCIe Host Bus to PCIe x8 Expansion Cable Adapter
PCIe-414 Seven Slot PCI Express Expansion Backplane
600-2060 PCI Express Expansion Chassis

- Seven PCI Express Slots (Three x8, Four x4)
- 20 Gb/s Expansion Cable
- x8 PCI Express Host Bus to Cable Adapter
- 650 Watt Power Supply
- Rack Mount Chassis
- Full Length Slots
- High Capacity Cooling





PCI EXPRESS®

RoHS Compliant

The Cyclone Microsystems' 2704 PCI Express Expansion System is a PCI Express (PCIe) expansion system that allows the user to add up to seven PCI Express add-in cards. Most PCs contain few PCI Express slots making them poorly suited for embedded systems requiring a wealth of different I/O boards and co-processor resources.

The 2704 PCI Express Expansion Systems permits system developers to use powerful and cost-effective PCs as a foundation for a robust embedded system. All seven expansion slots accommodate full length and full height cards and are cooled by three fans. A 650 watt supply powers the rack-mounted expansion chassis.

The Expansion System's x8 PCI Express Expansion Cable supports 20 Gb/s bi-directional traffic to and from the host system and utilizes non-blocking PCI Express switches for excellent peer-to-peer I/O bandwidth. For PCs with modern BIOSs, the 2704 Expansion System is recognized by the host system upon boot-up, requires no hardware specific drivers, and is entirely host operating system agnostic.

The 600-2704 system is composed from three elements: a PCI Express Host Bus Cable Adapter, an Expansion System Cable and an Expansion Chassis. Our PCIe-408 Host Cable Bus Cable Adapter card is inserted into a host computer's PCIe slot. PCIe expansion cable links the PCI host with the PCIe-414 expansion backplane.

PCI Express is a high performance, general purpose I/O inter-connect defined for a wide variety of computing and communication platforms. Key PCI attributes, such as its usage model, load-store architecture, and software inter-faces are maintained, whereas its parallel bus implementation is replaced by a serial interface. PCI Express take advantage of recent advances in point-to-point inter-connects, switch-based technology, and packetized protocol to deliver new levels of performance.

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PCI Express Expansion System
Data Sheet March 2007

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PCIe-408 PCIe Host Bus to PCIe x8 Expansion Cable Adapter
PCIe-414 Seven Slot PCI Express Expansion Backplane
600-2060 PCI Express Expansion Chassis

PCIe-408 Host Bus to PCI-E Expansion Cable Adapter Specifications

- PCI Express x8 Host Interface
- PCI Express Bridge to x8 Cable
- PCI Express Low Profile Card Format
- Host Processor and Operating System Independent
- Standard Height or Low Profile Face Panel
- RoHS Compliant

PCIe-414 PCI Express Expansion Backplane

- x8 Upstream Port
  - x8 PCI-Express Cable Interface from Host
  - One or Three Meter Expansion Cable Option
- Seven PCI Express Downstream Ports
  - Three x8 PCI-Express Slots
  - Four x4 PCI-Express Slots using x8 Connectors
- 48 Lane PCI Express Switch supporting:
  - Non-Transparent Bridging for Peer-to-Peer Communications
  - Non-Blocking Switch Fabric
  - Data Integrity
  - Quality of Service
- RoHS Compliant
- ATX Form Factor

600-2060 Expansion Chassis Specifications

Physical 19 Inch Rack Mount Enclosure
4U Height and 22 Inch Depth
Black Color
Rack Mount Flanges and Handles

Board Slots Seven Full Length PCI Express Slots

Drive Bays Three 5.25 Inch External
Three/two 3.5 Inch External
Locked Drive Bay Door

Cooling 180 CFM Fans with Filter

Power 650 Watt Power Supply
100-240 VAC, 47-63 Hz Power Input

+5V	30 A		
+12V	32 A	-12V	0.3 A
+3.3V	32 A	+5VSB	2 A

Environmental	PCIe-408	PCIe-414
Physical Dimensions	Low Profile PCI-Express Card 6.00" x 2.21"	Mini ATX 11.2" x 8.2" (284mm x 208mm) ATX 20 pin Power Supply Connector (Molex 39-29-9202 or equivalent) or BTX (24 pin) Power Supply Connector
Operating Temperatures	0 to 55 Degrees Celsius	0 to 55 Degrees Celsius
Relative Humidity	0 – 95%	0 – 95%
Storage Temperatures	-55 to 125 Degree Celsius	-55 to 125 Degree Celsius
Power Requirements (Watts)		
+3.3V Typical	1.06	1.68
Maximum	1.22	1.91
+5V Typical	–	12.55
Maximum	–	16.65
+12V Typical	2.93	0
Maximum	4.16	0
-12V Typical	–	–
Maximum	–	–

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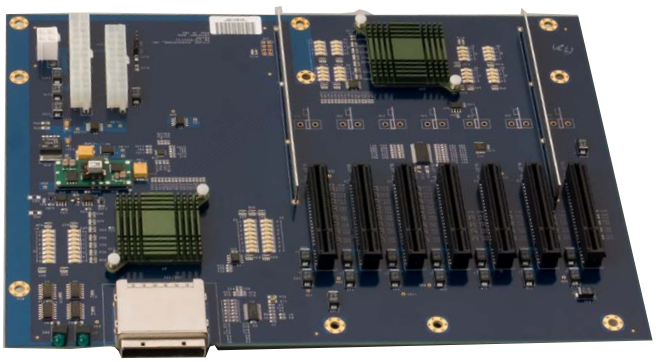
Component Boards

PCIe-408
Host Bus to Expansion Cable Adapter



PCIe-414
Seven Slot Expansion Backplane

PCI Express Expansion Chassis

PCI EXPRESS

RoHS Compliant

Seven Slot PCI Express Expansion System Ordering Information

600-2704-1	Seven Slot PCI Express Expansion System, One Meter Cable Including:	
	PCIe-408	PCI Express Host Bus to Expansion Cable Adapter
	530-2030	One Meter x8 PCIe Expansion Cable
	PCIe-414	PCI Express Expansion Backplane
	600-2060	Expansion Chassis
600-2704-3	Seven Slot PCI Express Expansion System, Three Meter Cable Including:	
	PCIe-408	PCI Express Host Bus to Expansion Cable Adapter
	530-2031	Three Meter x8 PCIe Expansion Cable
	PCIe-414	PCI Express Expansion Backplane
	600-2060	Expansion Chassis
800-2704	600-2704 User's Manual	
800-0408	PCIe-408 User's Manual	
800-0414	PCIe-414 User's Manual	

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