

2703 - Sixteen Slot PCI Express Expansion System

PCIe-412/403

PCIe-408

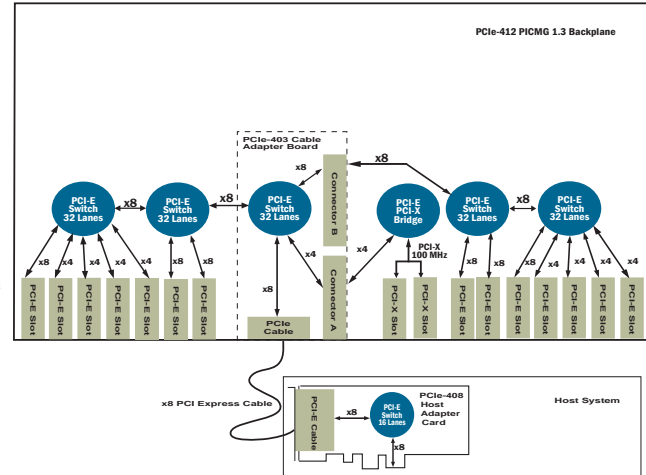
600-2050

Sixteen-Slot PCI Express Expansion Backplane

PCI Express Host to PCI Express Expansion Cable Adapter

PCI Express Expansion Chassis

- ◆ **Fourteen PCI Express Slots**
- ◆ **Two PCI-X Slots**
- ◆ **20 Gb/s Host Bus to Cable Adapter**
- ◆ **Rack Mounted Chassis**
- ◆ **PICMG 1.3 System Host Board Capable**
- ◆ **550 Watt Power Supply**
- ◆ **200 CFM Capacity**



Cyclone Microsystems' PCI Express Expansion System allows system developers to expand one host PCI Express slot to fourteen additional PCI Express Slots and two PCI-X slots via a x8 (20 Gb/s) PCI Express Expansion cable. This enables the coupling of cost-effective enterprise host PCs with high bandwidth, peer-to-peer capable I/O subsystems.

The PCI Express Expansion System includes a host bus cable adapter, an expansion cable, and an expansion backplane mounted in an industrial 19-inch chassis. The PCIe-408 PCI Express x8 Host Bus to PCI Expansion Cable Adapter bridges from the host bus to an x8 PCI Express expansion cable of one or three meters. The cable connects to the PCIe-412/403 Expansion Backplane. The PCIe-412/403 provides an additional sixteen slots for I/O and Embedded Computing boards. The six slots are configured as x8 (20Gbs/s) Slots, and eight as x4 (10 Gbs/s) Slots and two as PCI-X slots. The PCI Express Expansion Backplane supports a non-blocking switch fabric which features Quality of Service prioritization, and end-to-end data integrity.

The PCIe-412 Expansion Backplane is mounted in the 600-2050 Expansion Chassis, a 19-inch rack mounted chassis that is specifically designed to support the maximum power loads of boards populated in all sixteen slots.

Non-Blocking Switch Fabric

The PCIe-412/403's five PCI Express Switches support a non-blocking switch fabric between the fourteen PCI Express and two PCI-X slots to the host system. The non-blocking switch fabric supports complex peer-to-peer data flows.

Quality of Service

QoS features allow different applications to route packets through the fabric with differentiated priorities and bandwidths, and deterministic latencies. Two Virtual Channels per lane and eight traffic classes allow for different traffic priorities. Virtual Channel arbitration algorithms are user selectable and allow the QoS to be optimized for different traffic requirements.

End-to-End Packet Integrity

PCI Express Expansion Systems provide end-to-end CRC protection and Poison bit support to guarantee error free data transmission. Corrupted packets are automatically re-transmitted by the hardware with no software intervention.



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PCI Express Expansion System
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2703 - Sixteen Slot PCI Express Expansion System

PCIe-412/403

Sixteen-Slot PCI Express Expansion Backplane

PCIe-408

PCI Express Host to PCI Express Expansion Cable Adapter

600-2050

PCI Express Expansion Chassis



PCIe-412/403 Sixteen-Slot PCI Express Expansion Backplane

- Six x8 PCI Express Slots
- Eight x4 PCI Express Slots
- Two PCI-X Slots (64 bits, 100 MHz)
- 20 Gb/s x8 PCI Express Cable Interface to Cyclone PCIe-408 Host Bus Cable Adapter
- PICMG 1.3 Physical Format
- BTX and 8 Pin +12V PC Power Connectors
- RoHS Compliant
- Designed to meet UL Safety, FCC, CE Regulatory Certifications

PCIe-408 Host Bus to PCI Express Expansion Cable Adapter

- PCI Express x8 Host Interface
- PCI Express Bridge to x8 Cable
- PCI Express Low Profile Card Format
- Host Processor and Operating System Independent
- RoHS Compliant
- Available with either standard or low profile edge panel

600-2050 Expansion Chassis Specifications

Physical	19 Inch Rack Mount Enclosure 4U Height and 22 Inch Depth Black Color Rack Mount Flanges and Handles	Power	550 Watt Power Supply 90-263 VAC, 47-63 Hz Power Input
Drive Bays	Three 5.25 Inch External Two 3.5 Inch Internal Locked Drive Bay Door		
Cooling	180 CFM Fans Chassis Thumbscrew Filter Replacement		

Environmental	PCIe-408	PCIe-412	PCIe-403
Physical Dimensions	Low Profile PCI-Express Card 6.00" x 2.21"	16.6" x 11.9"	6.6" x 2.4"
Operating Temperatures	0 to 55 Degrees Celsius	0 to 55 Degrees Celsius	0 to 55 Degrees Celsius
Relative Humidity	0 - 95%	0 - 95%	0 - 95%
Storage Temperatures	-55 to 125 Degree Celsius	-55 to 125 Degree Celsius	-55 to 125 Degree Celsius
Power Requirements (Watts)			
+3.3V Typical	1.06	1.17	2.01
Maximum	1.22	1.42	2.38
+5V Typical	-	5.44	-
Maximum	-	6.94	-
+12V Typical	2.93	-	5.21
Maximum	4.16	-	6.88
-12V Typical	-	-	-
Maximum	-	-	-

2703 - Sixteen-Slot PCI Express Expansion System

PCIe-412/403

Sixteen-Slot PCI Express Expansion Backplane

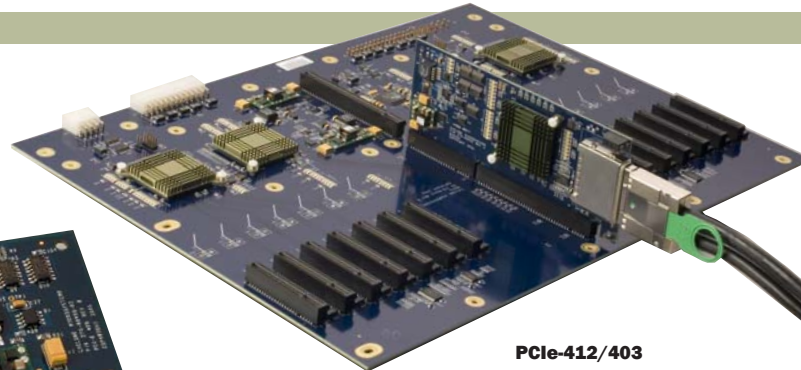
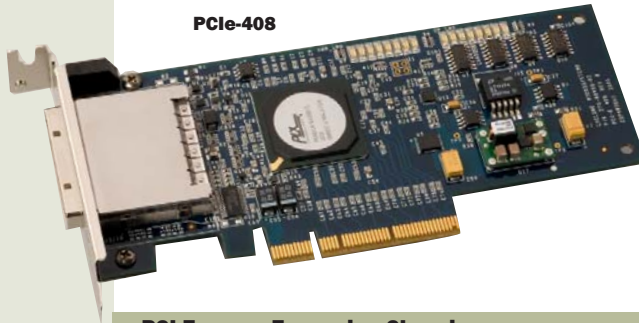
PCIe-408

**PCI Express Host to PCI Express Expansion
Cable Adapter**

600-2050

PCI Express Expansion Chassis

Component Boards



PCI Express Expansion Chassis



PCI
EXPRESS



Sixteen-Slot PCI Express Expansion System Ordering Information

600-2703-1	Sixteen-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-412/403 16 Slot PCI Express Expansion Backplane
600-2050 Expansion Chassis	
600-2703-3	Sixteen-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-412/403 16 Slot PCI Express Expansion Backplane
600-2050 Expansion Chassis	
800-2703	600-2703 User's Manual
800-0408	PCIe-408 User's Manual
800-0412	PCIe-412 User's Manual

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