

Reference Guide

Model: PE6NE

The PE6NE is a non-enclosed version of the Magma 6 Slot PCI Express® to PCI Expansion product. Non-enclosed board-sets are intended for OEMs and System Integrators who wish to utilize a non-Magma enclosure. In addition, the PE6NE may also be a solution for current Magma product owners who want to install a new Magma backplane into their existing Magma enclosure.

This document is intended to provide a brief overview of connectors, dimensions, and pin outs. When installing and using your Magma product, please refer to the [PE6R4 User's Manual](#) included with the product for detailed information on connecting, using, and troubleshooting.

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General Specifications

- Host Connection: PCI Express interface card (x4) for standard height or low-profile cases
- PCI Backplane: Six 64-bit/66MHz PCI slots (ATX Style)
- Cable: 1 meter Infiniband®
- Interconnect Bandwidth: 528MB/sec (Theoretical Max. of PCI 64/66)
- PCI Express Bus Specification: Revision 1.0a
- PCI Local Bus Specification: Revision 2.3
- PCI Bridge Architecture Specification: Revision 1.2
- MTBF: 1.3 million hours
- Operating Environment: 0° to 70° C Operating Temperature; -20° to 60° C Storage Temperature; 5% to 85% Relative Humidity, Non-condensing
- Supported Operating Systems: Windows XP/2000/Server 2003, Mac OS 10.4.x and Red Hat Linux 9
- Warranty: 1 Year Return to Factory
- Available Options: 3-meter cable (PN: SUBCBL3IF)

Parts List

Qty	Item	Purpose
1	PCI Express host card (Low-profile)	Installed in available x4+ PCIe slot in host computer. Provides connection point from computer to backplane.
1	6 slot PCI backplane	Provides six PCI slots
2	1-meter cables	Connects host card to backplane.
1	Low profile mounting bracket	For mounting host card in low profile cases.
1	ATX core plate	Provides I/O shield for the x1 and x3 connectors when PE6NE is installed in an ATX style enclosure.
1	Slot cover	Slot cover for non-operational PCI slot on backplane.
1	Power Supply Load Resistor	When connected to power supply power tab, provides required minimum 5 volt load for the power supply to regulate power properly. Required for 3.3 volt PCI card configurations only.
1	CD-ROM	Drivers and utilities
1	PE6R4 User's Manual	Guide for connection, verification and troubleshooting.
1	PE6NE Reference Guide	Connector and Pin-out information

**DANGER**

The **Power Supply Load Resistor** will be *hot* to the touch immediately after connected to a power supply power tab. Use caution when touching the Load Resistor after it has been installed.

**IMPORTANT**

It is expected that the user will provide their own power supply to meet the requirements of the PCI cards to be installed in the backplane. For best results, a minimum 400W power supply with (2) ATX connectors is recommended. For convenience, compatible power supplies are available from Mobility.

**IMPORTANT**

The user should supply a power switch compatible with their non-Magma enclosure. The Magma expansion product must be turned on before the host computer for proper configuration. For this reason, a Push-on/Push-off switch is required. A momentary switch will not work with this product.

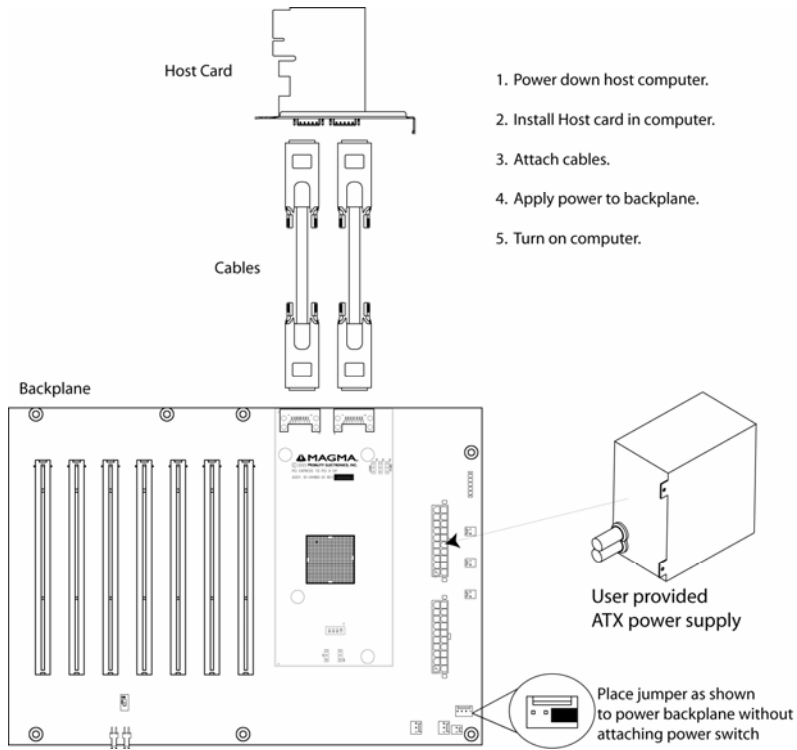
Out of Box Connection

Please refer to the [PE6R4 User's Manual](#) for complete connection and verification instructions.

Electrostatic Discharge (ESD) Warning

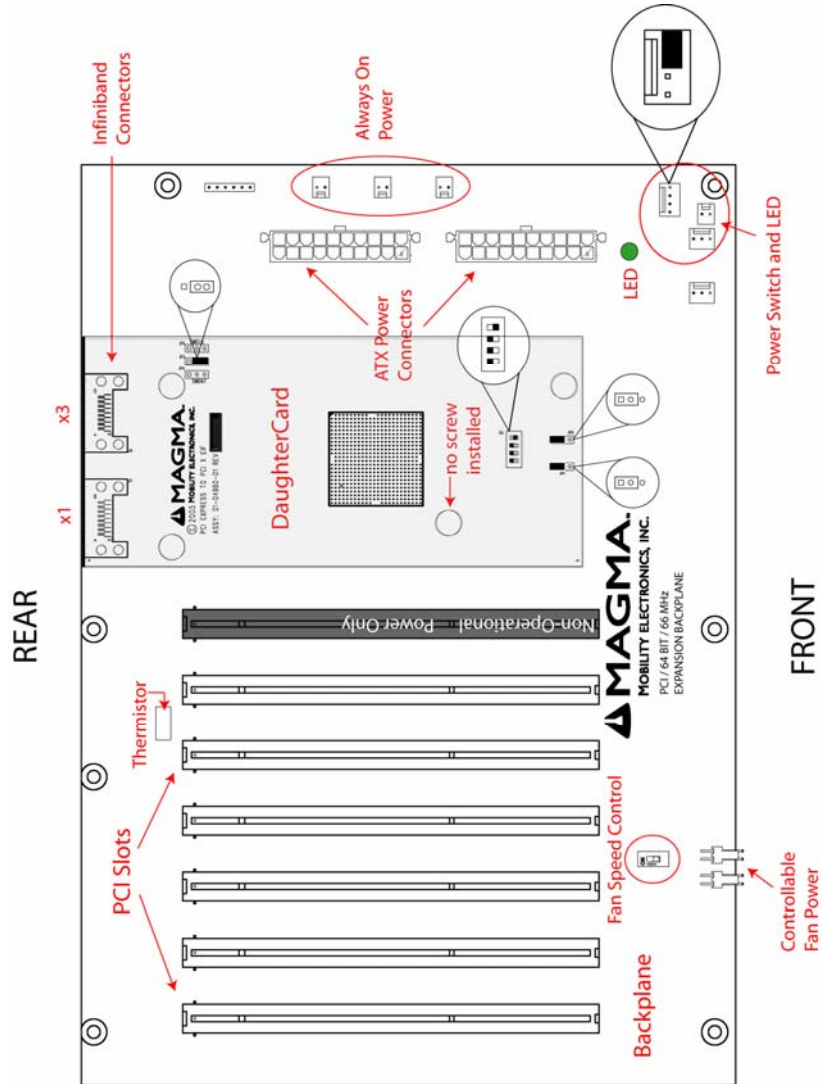


Electrostatic Discharge (ESD) is the enemy of semiconductor devices. You should always take precautions to eliminate any electrostatic charge from your body and clothing before touching any semiconductor device or card by using an electrostatic wrist strap and/or rubber mat.



System Integration

Connectors & Factory Defaults



Backplane Connectors & Switches

Connector	Type	Purpose
J1, J2, J3, J4, J5, J6	PCI Slots	For universal or 3.3V only PCI cards
J7	PCI Slot	Non-Operational. Powered only, no request/grant lines
J9	Programming Header	For Mobility use only
J202, J210, J211	Locking Header Molex 22-29-2021	Always-on power connector when power applied to backplane.
J12	ATX Connector	Primary ATX power cable [For single or "fully populated" power connector]
J13	ATX Connector	Secondary ATX power cable [For 2 nd AND "less populated" power connector]
J200	Locking Header	Power switch & LED SW/GND – Jumper SW/GND to power backplane when power supply is connected. Remove/Replace jumper to allow ON/OFF control with a power switch. LED/GND – Powers external LED when power is ON
J10	Locking Header Molex 39-29-9202	Power switch
J11	Locking Header Molex PN: 39-29-9202	Power LED
D1	Green LED	Indicates power to backplane when lit.
J201	Locking Header Molex PN: 22-27-2031	For +5Vsb always on from J12
JP201	Locking Header Microchip Technology PN: TC648	Fan speed controller with auto shutdown and over temperature alert.
S201	Dip Switch	Fan speed control ↑ Fan always on ↓ Fan speed controlled by thermistor (RT201)
J213, J214	Locking Header Molex PN: 22-05-3021	Fan power – controlled by S201
RT201	Thermistor Vishay 01T1002FF	Monitors temperature. Works in conjunction with S201.

DaughterCard Connectors & Switches

Connector	Type	Purpose
J1	Infiniband® connector	Provide x1 communication path
J4	Infiniband® connector	Provide x3 communication path
JP1	Jumper	Reset/Boot Control – For Mobility Use Only
JP2	Jumper	Reset/Boot Control – For Mobility Use Only
JP3	Jumper	Timeout Control – For Mobility Use Only
JP4	Jumper	Not implemented
JP5	Jumper	Not implemented
S1	Dip Switch	For Mobility use only



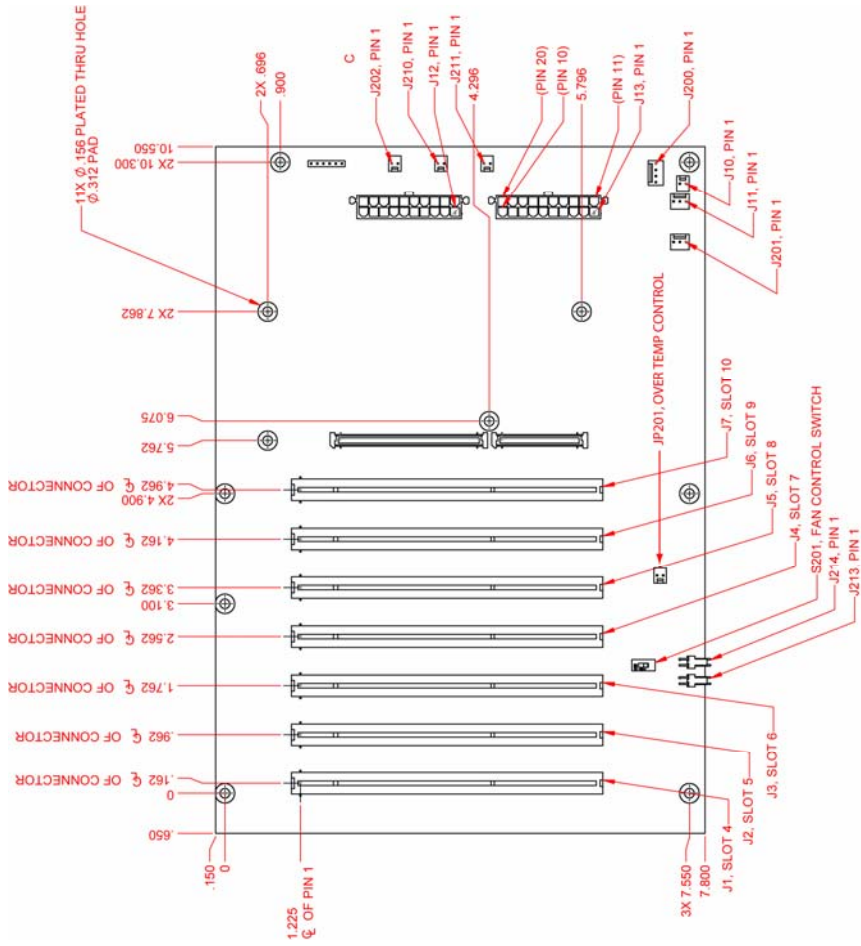
Caution

It is recommended that you do not remove the DaughterCard from the backplane unless told to do so by Mobility Technical Support staff.

Connector Pinout

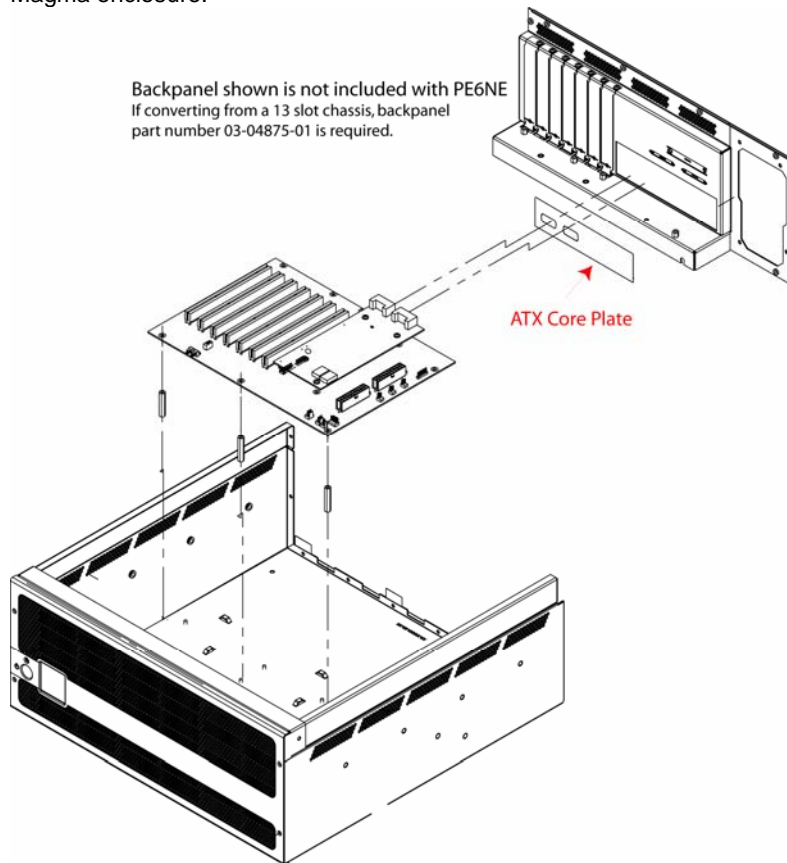
PIN	POWER J10	LED J11	ATX J12 & J13	POWER J200	POWER J201	POWER J202	POWER J210	POWER J211	FAN J213	FAN J214
1	+3.3V	+3.3V	+3.3V	+3.3V	+3.3V	+12V	+12V	+12V	+12V	+12V
2	+3.3V	+3.3V	+3.3V	+3.3V	+3.3V	GND	GND	GND	GND	GND
3		GND	GND	GND	GND					
4			VCC (+5VDC)	VCC (+5VDC)						
5			GND							
6			VCC (+5VDC)							
7			GND							
8			POWER-OK							
9			5VSB							
10			+12V							
11			+3.3V							
12			-12V							
13			GND							
14			PS-ON							
15			GND							
16			GND							
17			GND							
18			-5V							
19			VCC (+5VDC)							
20			VCC (+5VDC)							

Dimensions and Pins



Upgrades

The below illustration depicts the installation of the PE6NE a Magma chassis. Use this illustration as a guide when installing the PE6NE in your Magma enclosure.

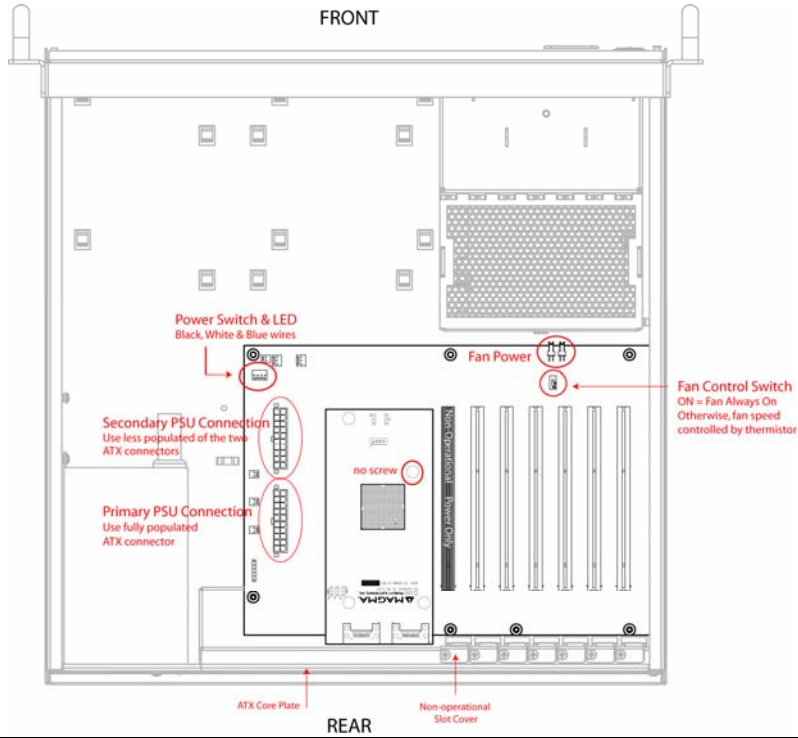



Backplane installation


Shut down your Magma expansion system. Remove the cover and PCI cards. Unplug all cables and wires attached to backplane. To make reconnection simple, make note of where cables and wires are connected to original backplane, i.e. power supply, fans, power LED. Remove the mounting screws and lift the original backplane out of the chassis.


You must also replace the ATX Core Plate to provide a new I/O shield for the Infiniband® connectors. The core plate will simply “snap into place” in the chassis backpanel.

Place the new backplane into the enclosure by aligning the Infiniband connectors with the cut-outs on the backpanel. Align the seven mounting holes on the backplane with the seven stand-offs and secure with screws. Loosely attach the screws until you are sure the backplane is installed and adjusted in its proper place before tightening. Reconnect cables and wires as shown below:



 **IMPORTANT**
 Connect Power Supply Load Resistor to a power tab attached to the power supply

 **DANGER**
 The **Power Supply Load Resistor** will be *hot* to the touch immediately after connected to a power supply power tab. Use caution when touching the Load Resistor after it has been installed.



Compliance Information

These devices have been tested and found to comply with FCC and CE EMC requirements in Magma chassis. This does not ensure that non-Mobility products will comply with EMC requirements with these devices installed. It is the responsibility of the integrator to ensure that their products are compliant with all regulations where their product will be used.

MAGMA

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