



Reference Guide

Model: EB7NE-X8

The EB7NE-X8 is a non-enclosed version of the Magma 7-Slot PCI Express¹ to PCI Express expansion product. Non-enclosed board-sets are intended for OEMs and System Integrators who wish to utilize a non-Magma enclosure. In addition, the EB7NE-X8 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 *EB7-x8 User's Manual* included with the product for detailed information on connecting, using, and troubleshooting. When integrating the chassis with a host computer, please refer to the *EB7-x8 Quick Install Guide*. Both documents are available for download at: <http://www.magma.com/support/manuals/>

¹ The terms PCI Express and PCIe will be used interchangeably henceforth.

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General Specifications

- Host Connection: PCI Express interface card for standard height or low-profile cases
- PCIe Backplane: Seven PCIe slots, each operating at by-eight (x8) PCI Express bandwidth.
- Cable: 3 meter iPass®
- Aggregated Bandwidth: 4000MB/sec (or 4 GByte/sec)
- PCI Express Bus Specification: Revision 1.1
- 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

Pre-Installation Information

Before using the Magma expansion chassis you should perform the following steps:

- Inventory the shipping carton contents for all of the required parts
- Gather all of the necessary tools required for installation
- Read this manual

Parts List

Qty	Item	Purpose
1	PCI Express host card (Low-profile)	Installed in available x8 (or wider) PCIe slot in host computer. Provides connection point from computer to backplane.
1	7 slot PCIe backplane and mezzanine board	Provides seven PCIe expansion slots
1	3-meter cable	Connects host card to backplane.
1	Low profile mounting bracket	For mounting host card in low profile cases.
1	PCIe EIF Card	Provides ingress connection from cable onto backplane.
1	EB7-x8 User's Manual	Guide for connection, verification and troubleshooting.
1	EB7NE-X8 Reference Guide	Connector and Pin-out information



IMPORTANT

It is expected that the user will provide their own power supply to meet the requirements of the PCIe cards to be installed in the backplane. For best results, a minimum 400W power supply with (1) ATX connectors is recommended. For convenience, compatible power supplies are available from Magma.



IMPORTANT

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

This switch or bypass jumper should be connected as shown in the next section and in the [Backplane connectors & Switches](#) table.

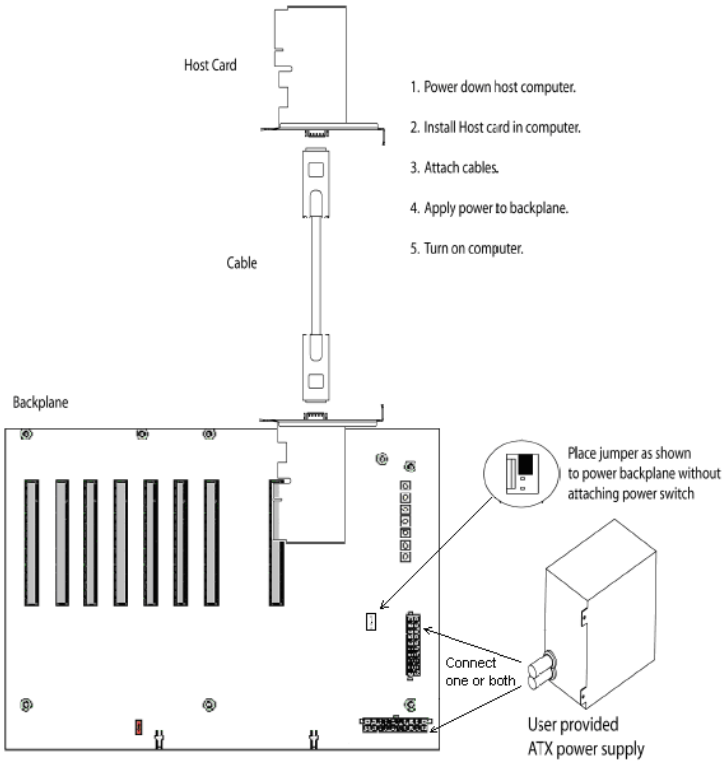
Out of Box Connection

Please refer to the [EB7-x8 User's Manual](#) for complete connection and verification instructions.

Electrostatic Discharge (ESD) Warning

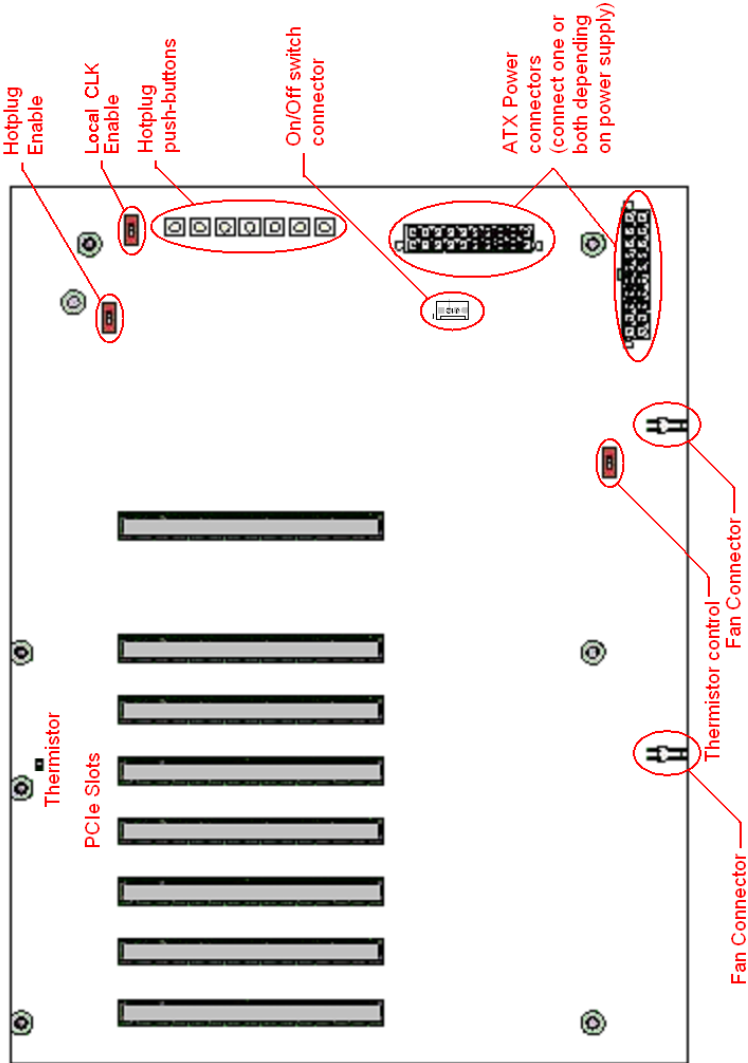


Electrostatic Discharge (ESD) is the enemy of semiconductor devices. You should always take precautions to eliminate any electrostatic charge from your body and clothing before touching any semiconductor device or card by using an electrostatic wrist strap and/or rubber mat.



System Integration

Connectors & Factory Defaults



Backplane Connectors & Switches

Connector	Type	Purpose
Slots 1-7	PCIe Slots	PCI Express peripheral card expansion
Upstream Slot- EIF	Upstream Interface slot	Upstream EIF card or CPU
SW 2,3,4,5,6,7,8	Hot Plug Attn button	Hot Plug Mode only – pressing enables or disables a slot – See section regarding hotplug
SW 11	Hot Plug Enable	Enables / Disables Hot Plug
J12	Power Switch and LED	Shorting pins 1 to 2 will pull PS_ON# on the ATX connector (J10 or J13) low, turning on a standard ATX power supply. Pin 4 will drive the Anode side of an LED to indicate the ATX has turned on.
J10, J13	ATX Power supply connection	Only one is required; supplies power to backplane
SW10	Fan Speed Control	Bypasses thermistor fan control; fan runs full speed.
J14, J15	Fan connections	Use +12V 2-wire fans – see detail
J11	Heat Sink Fan	Use +12V 2-wire fans – see detail
J9	EEPROM Write Protect	Do not install a jumper here unless instructed by Tech support
J16	EEPROM Enable	Do not install a jumper here unless instructed by Tech support
J17	I2C port	Not a user port or connection; never install a jumper here
S1	CLK Enables	Do not change unless instructed to by Tech support
SW12	Local CLK enable	Enables / disables local clock on backplane; CLK comes from cable
SW9	I2C addressing	Do not change unless instructed to by Tech Support. (original position – "1111")

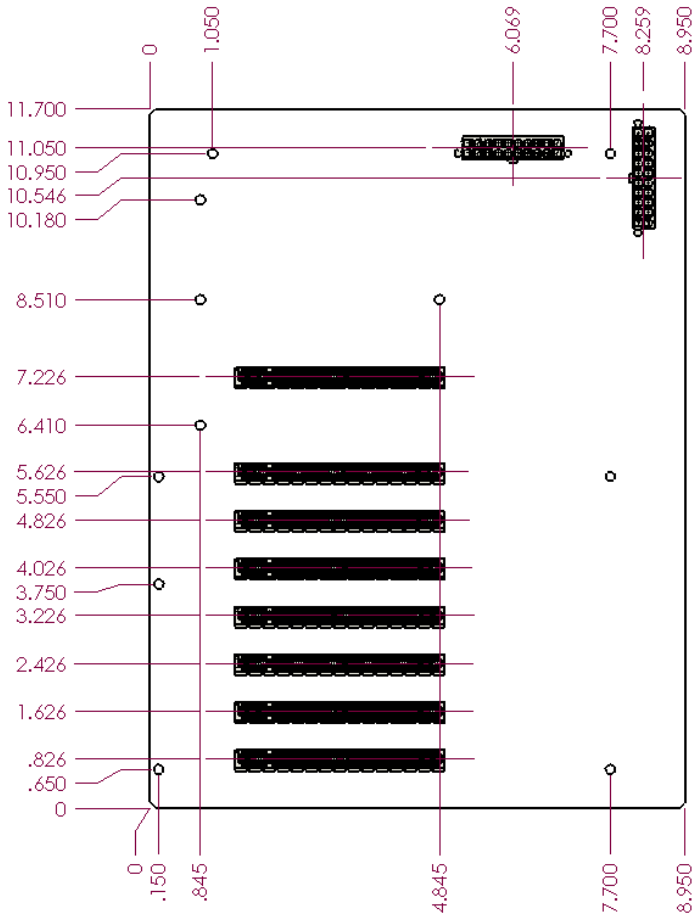
Host / EIF Board Connectors & Switches

Connector	Type	Purpose
J3	On board Oscillator	Enables on board RefCLK for use with CPU cards
J4		Shorting J4 changes the board from an Expansion Interface to a Host Interface board.

Backplane Connector Pinout

PIN	ATX Connectors J41 & J44	PWR_SW J12	FAN 1 J14	FAN 2 J15
1	+3.3V	GND	GND	GND
2	+3.3V	PS_ON	+12V	+12V
3	GND	GND		
4	VCC (+5VDC)	LED_5v		
5	GND			
6	VCC (+5VDC)			
7	GND			
8	PWR_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)			

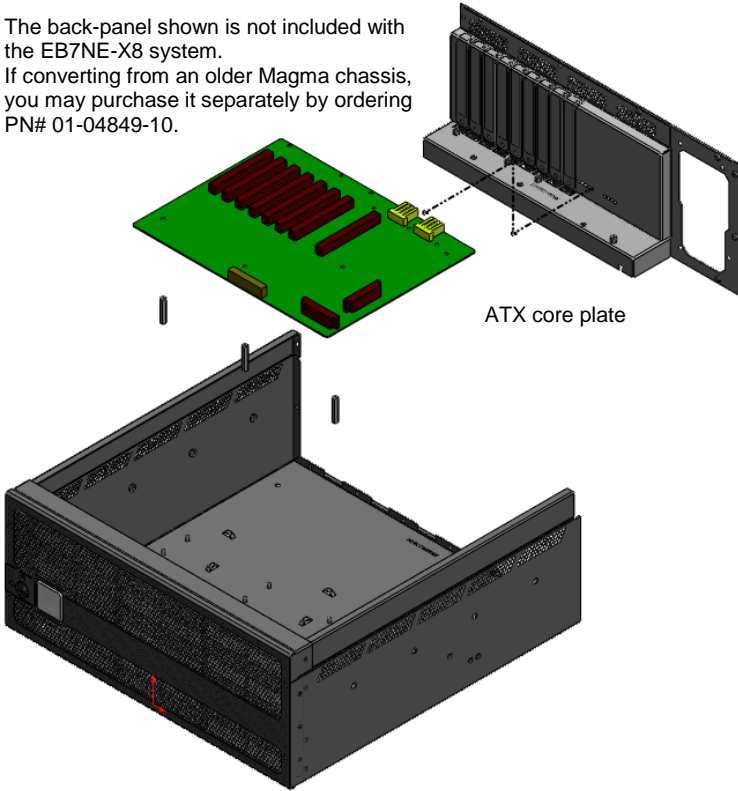
Dimensions and Pins



Upgrades

The illustration below depicts the installation of the EB7NE-X8 into a Magma chassis. Use it as reference when upgrading from an older backplane.

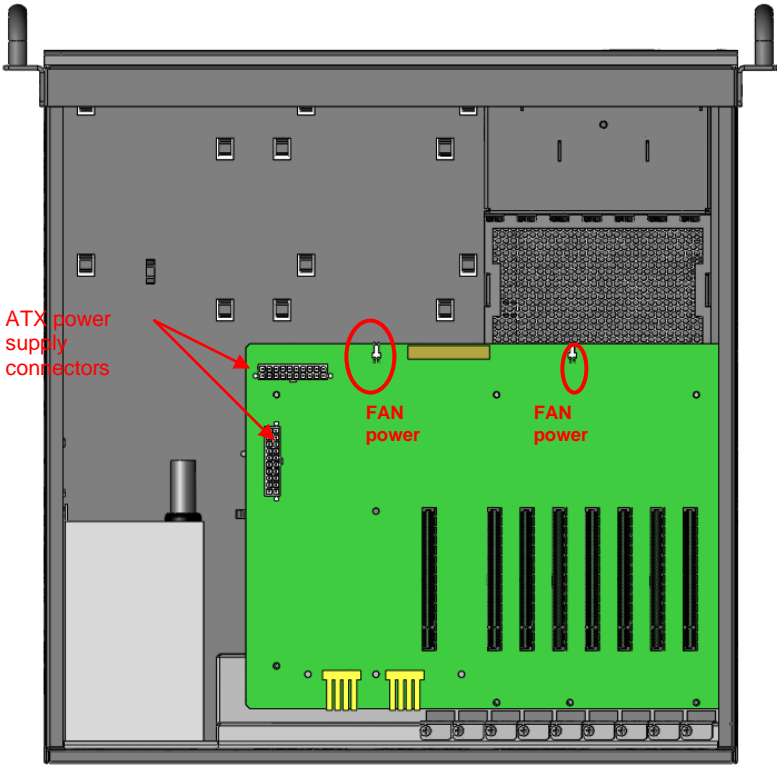
The back-panel shown is not included with the EB7NE-X8 system. If converting from an older Magma chassis, you may purchase it separately by ordering PN# 01-04849-10.



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.

Place the new backplane into the enclosure by aligning the LED light pipes with the cut-out on the back panel. Align the mounting holes on the backplane with the 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:



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-Magma 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

MISSION TECHNOLOGY GROUP, INC dba MAGMA

9918 Via Pasar, San Diego, CA 92126, USA

Phone (858) 530-2511 • Fax (858) 530-2733

Email: support@magma.com • www.magma.com