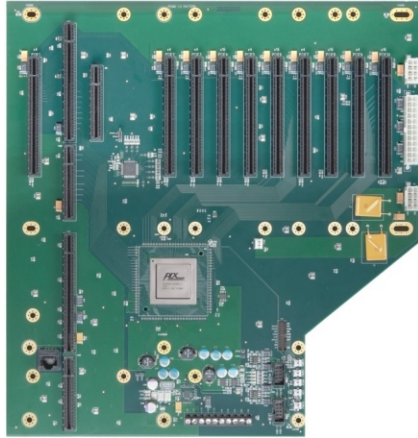


# BPG7087

## GRAPHICS & GPU BACKPLANE WITH FOUR x16 PCIe LINKS



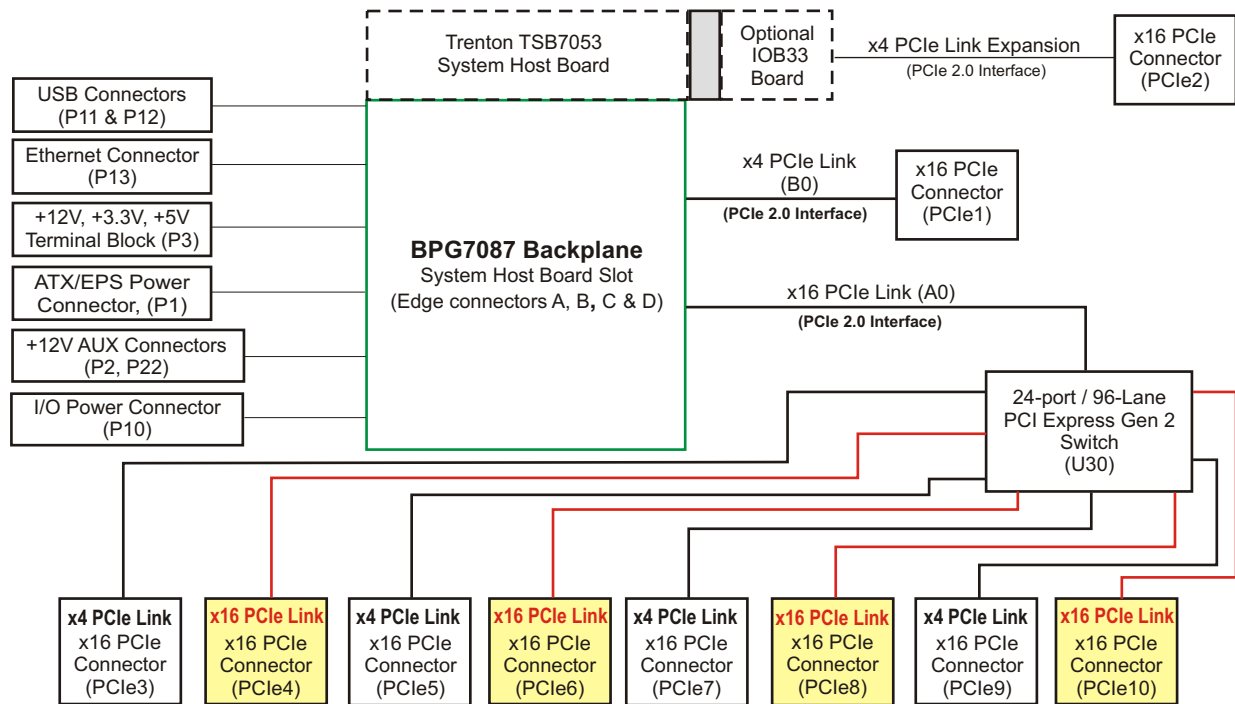
### FEATURES

- Multiple x16 PCIe 2.0 card slots for video processing, graphics and GPU solutions including NVIDIA® Tesla® 20-series GPUs or Matrox Graphics display wall cards
- An innovative 24-Port/96-Lane PCIe Gen 2 switch that provides 2.0 option card links even when using a system host board with a PCIe 1.1 root link
- 14-slot form factor backplane supports one graphics-class, PICMG 1.3® system host board such as the Trenton JXT6966, TQ9, TSB7053 or TML
- Four x16 card slots driven with x16 PCI Express® 2.0 electrical interfaces
- Ten total card slots that support either PCIe 2.0 or 1.1 option cards
- On-board Ethernet and USB 2.0 backplane I/O connections
- Five-year factory warranty
- Made in U. S. A.



**TRENTON**  
Dependable, always.

### BLOCK DIAGRAM:



### TEN SLOT GRAPHICS/VIDEO/GPU BACKPLANE :

Trenton's BPG7087 features four x16 PCI Express 2.0 links that enable system designers to support multiple high-end video/graphics or GPU cards in a single rackmount computer system. The other six option card slots use x16 PCIe mechanical connectors driven with x4 PCIe 2.0 electrical links when using a Trenton TSB7053 single board computer with the optional IOB33 expansion module. The backplane also supports dual-processor SBCs such as the JXT6966. PCIe links integrated into the CPUs on both of these latest SBCs automatically match an option card's PCI Express link type and speed via the interface's built-in auto-training capability. This SBC and backplane design feature maximizes system flexibility by enabling system support for PCI Express Gen 2.0 or Gen 1.1 option cards having various PCIe electrical interfaces such as x16, x8, x4 and x1 PCIe links.

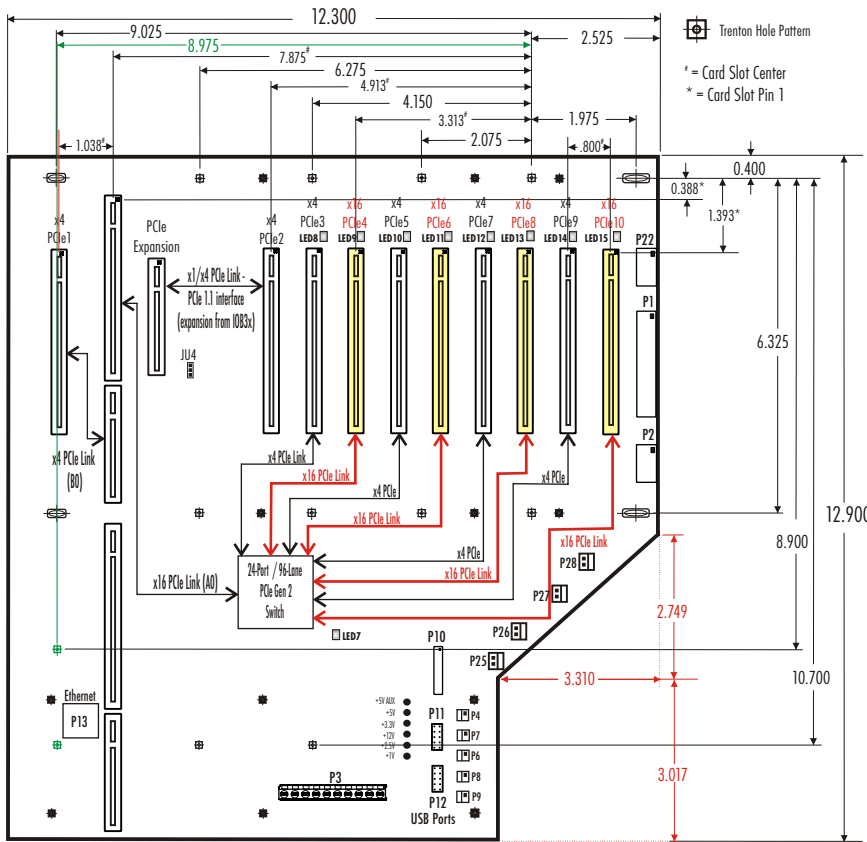
### APPLICATION EXAMPLES:

The BPG7087 backplane forms the heart of any system design that deploys multiple, x16 PCI Express option cards. Graphics and video processing system solutions using Matrox Graphics video display wall cards or general purpose GPU systems featuring multiple NVIDIA® Tesla® 20-series cards are ideal application candidates for the Trenton BPG7087 backplane. The backplane's 24-port / 96-Lane PCIe switch ensures reliable PCI Express electrical interface routing to high performance option cards. The backplane links support either PCI Express 2.0 or 1.1 cards with varying PCIe link constructions thereby providing an important level of added scalability to any rackmount computer system. The backplane's smaller 14-slot form factor lends itself well to medical diagnostics, military/aerospace, and other video and GPU system designs.

### BACKPLANE MODEL: BPG7087

MODEL#	MODEL NAME	DESCRIPTION
7087-008	BPG7087-CST	ATX/UPS and 12V AUX vertical power connectors and one terminal block

**BPG7087 LAYOUT - TRENTON MOUNTING HOLE PATTERN DIMENSIONS:**



**SUGGESTED TRENTON PICMG 1.3 SYSTEM HOST BOARD:**

**DUAL PROCESSOR SHB**  
JXT6966

**SINGLE PROCESSOR SHBs**  
TSB7053, JXTS6966, TQ9, TML

**ENVIRONMENTAL SPECS.:**

Operating Temp.: 0° C to 60° C

Storage Temp.: -20° C to 70° C

Humidity: 5% to 90%, non-condensing

\* Environmental specifications for system host boards / single board computers are usually lower than those of the backplane.

The Trenton BPG7087 is a lead-free, RoHS compliant backplane.

This backplane is designed to meet worldwide EMI emissions requirements, CE conformity and immunity standards. Contact Trenton for the specific standard numbers that apply to this product.

The Trenton BPG7087 backplane is designed for UL60950 and CAN/CSA C22.2 No. 60950-00.

**Engineering Notes:**

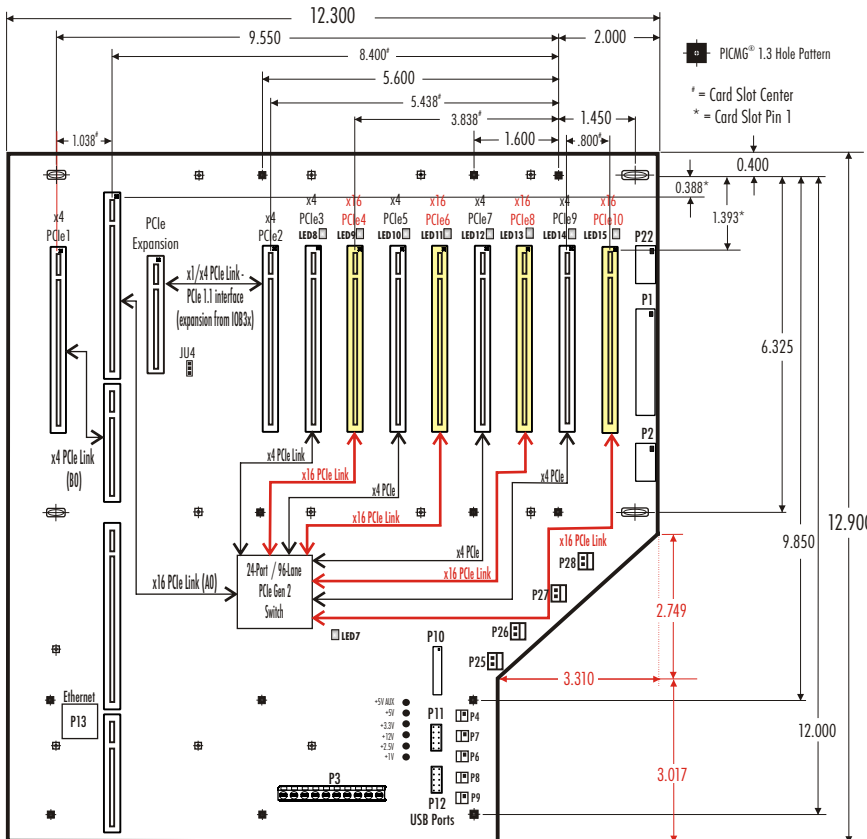
All power connectors are shown in the layout drawings. The connectors are populated based on model.

Mounting holes: 0.156" diameter

Nominal PCB thickness: 0.080"

All dimensions are inches.

**BPG7087 LAYOUT - PICMG 1.3 MOUNTING HOLE PATTERN DIMENSIONS:**



**APPLICATION NOTES:**

1. A Trenton JXT6966 with an optional IOB33 or a Trenton TSB7053, TQ9 or TML single board computer with an optional IOB31 must be used with the BPG7087 backplane to ensure that all of the backplane slots are functional.

2. Video, graphics or GPU cards using x16 PCIe electrical interfaces must be placed in card slots PCIe4, PCIe6, PCIe8 or PCIe10 on the backplane to take full advantage of the x16 link speed.

*Product Photo Note: The photo of the 7087 backplane shown on page one is provided for illustrative purposes only. Actual connector locations are illustrated in the backplane layout drawings and on the Trenton website.*

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