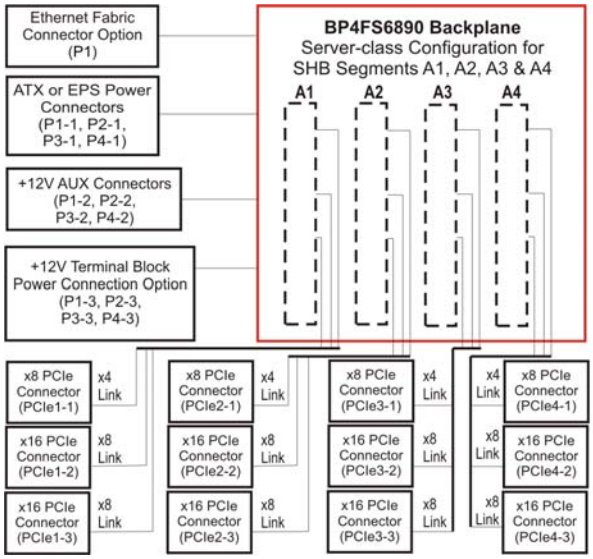
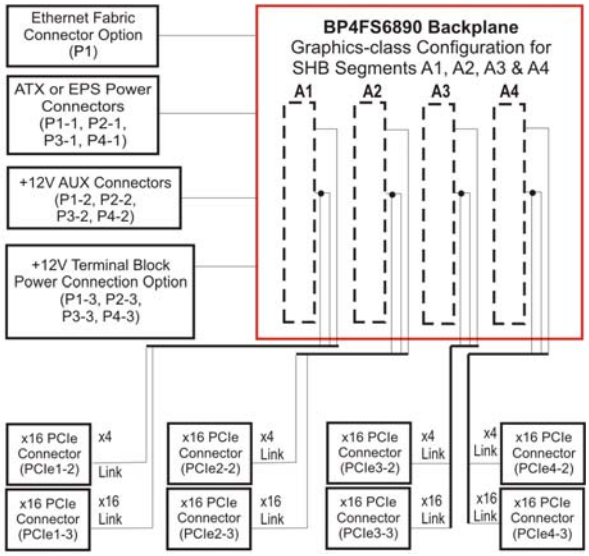
TRENTON Technology Inc.
2350 Centennial Drive • Gainesville, Georgia 30504
Sales (800) 875-6031 • Phone (770) 287-3100 • Fax (770) 287-3150

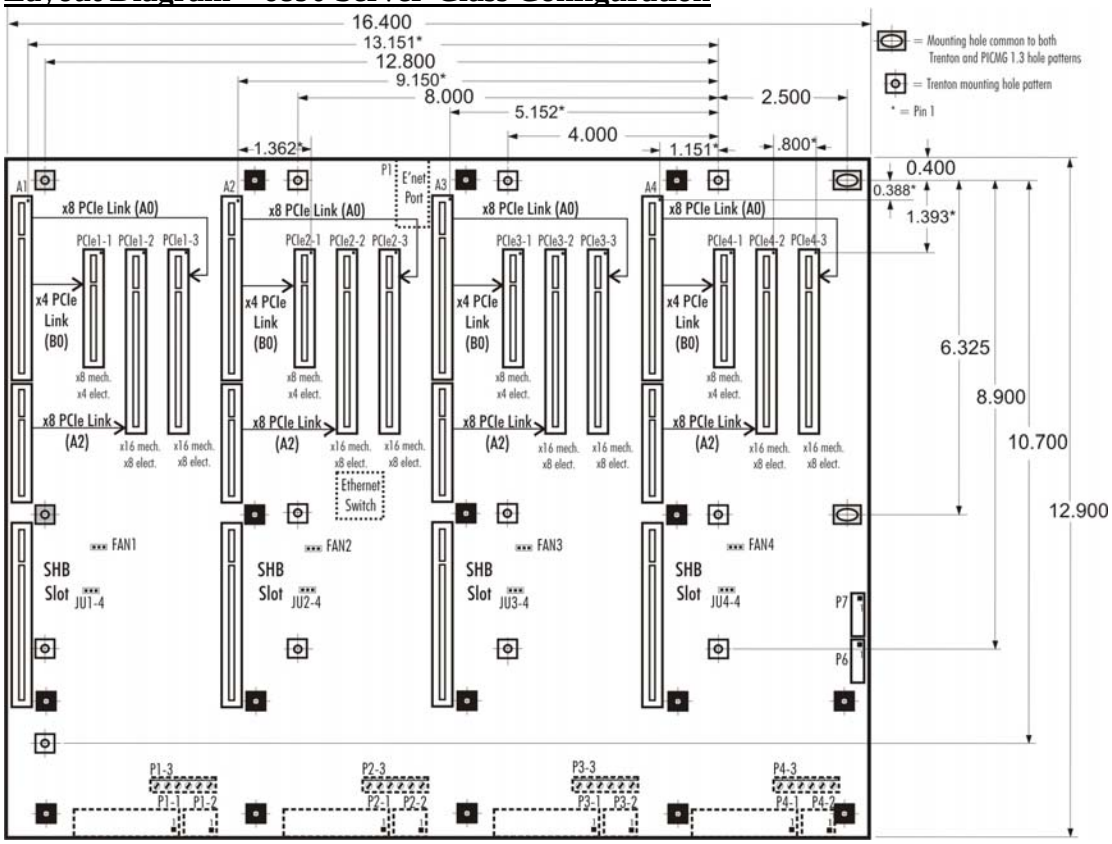
Technical Information – Jumpers and Connectors
BP4FS6890 (6890) Four-Segment PCI Express Backplane

Block Diagrams





Layout Diagram – 6890 Server-Class Configuration



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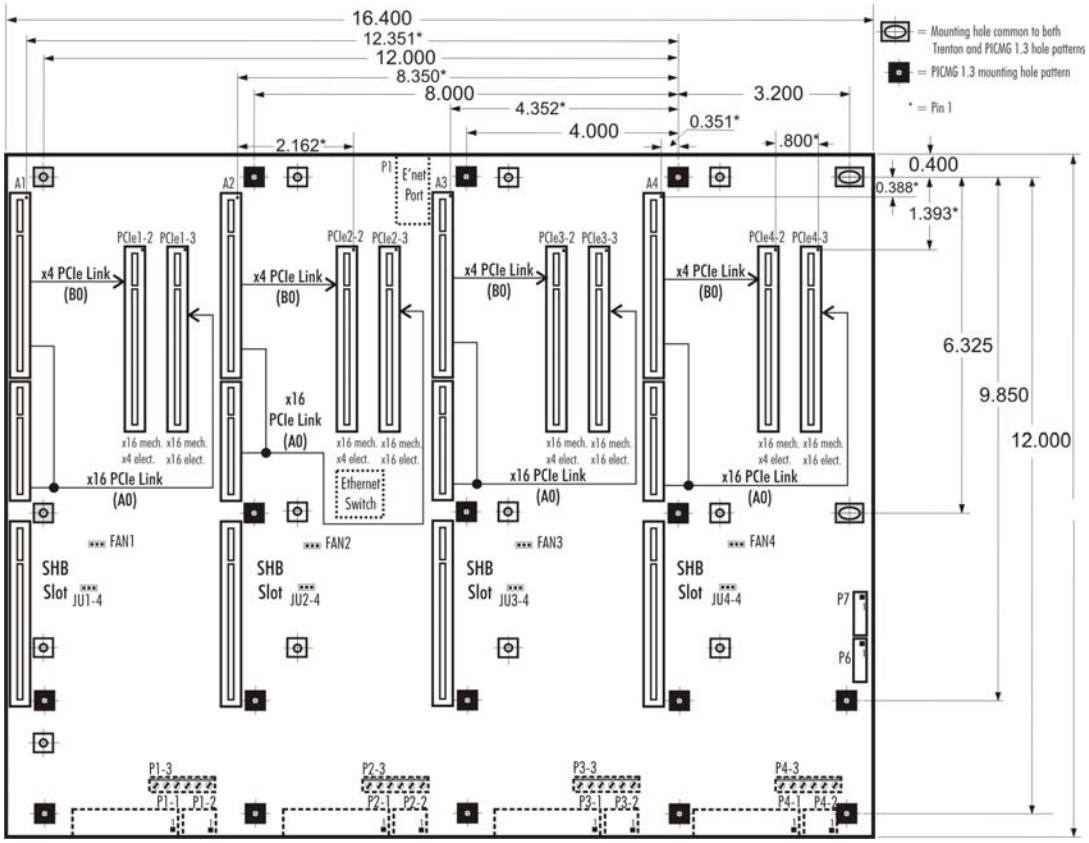
Layout Diagram – 6890 Graphics-Class Configuration



Notes:

- Dotted lines indicate connectors and other components that are populated based on model name and number.
- Typical PCIe connector centers are 0.049" from pin 1
- Mounting holes have a nominal 0.156" diameter
- Nominal PCB thickness: 0.080"
- All dimensions are inches.
- Suggested Trenton server-class PICMG 1.3 SHBs for use with the server-class BP4FS6890 backplane models:
  - Dual-processor SHBs: MCXT, MCXT-E, SLT and NLT
  - Single-processor SHBs: MCXI, SLI and NLI
- Suggested Trenton graphics-class PICMG 1.3 SHBs for use with graphics-class BP4FS6890 backplane models:
  - Dual-processor SHBs: MCGT and MCGT-E
  - Single-processor SHBs: MCGI, TQ9, TML and T4L

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BP4FS6890 Backplane Configuration Table

The BP4FS6890 four-segment PICMG 1.3 backplane can be factory-configured to operate with either PICMG 1.3 Graphics- or Server-class system host boards (SHBs). The model number column in the table below indicates the backplane's specific configuration. Server-class configurations must be matched to server-class SHBs and graphics-class configurations must be matched with graphics-class SHBs for optimum system performance.

Model#	Model Name & Type	SHB Connector D	ATX/EPS Connectors P1-1 P2-1 P3-1 P4-1	+12V Aux Connectors P1-2 P2-2 P3-2 P4-2	+12V Terminal Blocks P1-3 P2-3 P3-3 P4-3	Ethernet Hub and Port P1	PCIe slots per SHB segment
6890-005	BP4FS6890-SCSR, Server-class, Standalone, Right-angle ATX/EPS power connectors	No	Yes	Yes	No	No	2 – x16 mech. / x8 elect. 1 – x8 mech. / x4 elect.
6890-016	BP4FS6890-SCST, Server-class, Standalone, Terminal Block connectors	No	No	No	Yes	No	2 – x16 mech. / x8 elect. 1 – x8 mech. / x4 elect.
6890-025	BP4FS6890-SCER, Server-class, Ethernet, Right-angle ATX/EPS power connectors	No	Yes	Yes	No	Yes*	2 – x16 mech. / x8 elect. 1 – x8 mech. / x4 elect.
6890-036	BP4FS6890-SCET, Server-class, Ethernet, Terminal Block connectors	No	No	No	Yes	Yes*	2 – x16 mech. / x8 elect. 1 – x8 mech. / x4 elect.
6890-105	BP4FS6890-GC1SR, Graphics-class, Standalone, Right-angle ATX/EPS power connectors	No	Yes	Yes	No	No	2 – x16 mech. -- 1 x16 elect. & 1 x4 elect.
6890-116	BP4FS6890-GC1ST, Graphics-class, Standalone, Terminal Block connectors	No	No	No	Yes	No	2 – x16 mech. -- 1 x16 elect. & 1 x4 elect.
6890-125	BP4FS6890-GC1ER,Graphics-class, Ethernet, Right-angle ATX/EPS power connectors	No	Yes	Yes	No	Yes	2 – x16 mech. -- 1 x16 elect. & 1 x4 elect.
6890-136	BP4FS6890-GC1ET, Graphics-class, Ethernet, Terminal Block connectors	No	No	No	Yes	Yes	2 – x16 mech. -- 1 x16 elect. & 1 x4 elect.

*Trenton SLT/SLI and NLT/NLI system host boards do not support the Ethernet function on the backplane

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BP4FS6890 (6890) Configuration Jumpers

The setup of each SHB segment's configuration jumper on the backplane is described below. * indicates the default value of the jumper.

NOTE: For the two-position jumper (3-post) in SHB segments, "RIGHT" and "LEFT" refer to positioning when the backplane is viewed with the SHB's I/O plate(s) at the top end of the backplane.

NOTE: JU4, 1-2 indicates the JU4 jumper in SHB segments one and two while JU4, 3-6 means the JU4 jumper in SHB segment three, four, five and six.

Jumper	Description
JU1-4, JU2-4, JU3-4, JU4-4	**+5V Auxiliary Voltage** Install on the LEFT if +5V auxiliary voltage is provided by the standard +5V supply. This option is used for systems which do not have either an ATX or EPS standard power input. This mode provides the necessary +5V for the SHB's +5VAUX signal lines. Sleep mode recovery is not supported using non-ATX/EPS power supplies. * Install on the RIGHT if +5V auxiliary voltage is provided by a separate +5VAUX signal input pin. This enables the necessary SHB power signaling and allows recovery from sleep mode. This option is used for ATX or EPS standard power supplies.

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BP4FS6890 (6890) Connectors

NOTE: Pin 1 on the connectors is indicated by the square pad on the PCB.

P1-1, P2-1 - EPS Power Connector
P3-1, P4-1 24 pin vertical dual row, Molex #44206-0007

Pin	Signal	Pin	Signal
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Gnd	15	Gnd
4	+5V	16	PSON#
5	Gnd	17	Gnd
6	+5V	18	Gnd
7	Gnd	19	Gnd
8	PWRGD	20	-5V
9	+5VAUX	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Gnd

P1-2, P2-2 - +12V Power Connector
P3-2, P4-2 8 pin vertical dual row, Molex #44206-0005

Pin	Signal	Pin	Signal
1	Gnd	5	+12V
2	Gnd	6	+12V
3	Gnd	7	+12V
4	Gnd	8	+12V

P1-3, P2-3 - Terminal Block Connector
P3-3, P4-3 6 position terminal block, AMP, #796949-4
20 Amps per circuit

Pin	Signal
1	+12V
2	+12V
3	+12V
4	Gnd
5	Gnd
6	Gnd

P6 - PSON and SHB Reset Signal Connector
16 pin dual row connector, 3M, #N2516-6002RB

Pin	Signal	Pin	Signal
1	PSON# - 1	2	Gnd - 1
3	PSON# - 2	4	Gnd - 2
5	PSON# - 3	6	Gnd - 3
7	PSON# - 4	8	Gnd - 4
9	SHB_RST - 1	10	Gnd - 1
11	SHB_RST - 2	12	Gnd - 2
13	SHB_RST - 3	14	Gnd - 3
15	SHB_RST - 4	16	Gnd - 4

BP4FS6890 (6890) Connectors (continued)

P7 - Power Button and Power Good Signal Connector

16 pin dual row connector, 3M, #N2516-6002RB

Pin	Signal	Pin	Signal
1	PWRBT# - 1	2	Gnd - 1
3	PWRBT# - 2	4	Gnd - 2
5	PWRBT# - 3	6	Gnd - 3
7	PWRBT# - 4	8	Gnd - 4
9	PWRGD - 1	10	Gnd - 1
11	PWRGD - 2	12	Gnd - 2
13	PWRGD - 3	14	Gnd - 3
15	PWRGD - 4	16	Gnd - 4

P1 - 10/100 Base-T Ethernet Connector – Backplane Hub Port (OPTIONAL)

8 pin right angle shielded RJ-45 connector, Pulse, #J0035D21BNL

Pin	Signal
1	RXD-
2	RXD+
3	RCI
4	RC
5	TC
6	TCI
7	TXD-
8	TXD+

FAN1 - Available System Cooling Fan Power Connector
FAN2 Standard 3 pin cooling fan power header
FAN3
FAN4

Pin	Signal
1	Gnd
2	+12V
3	NC