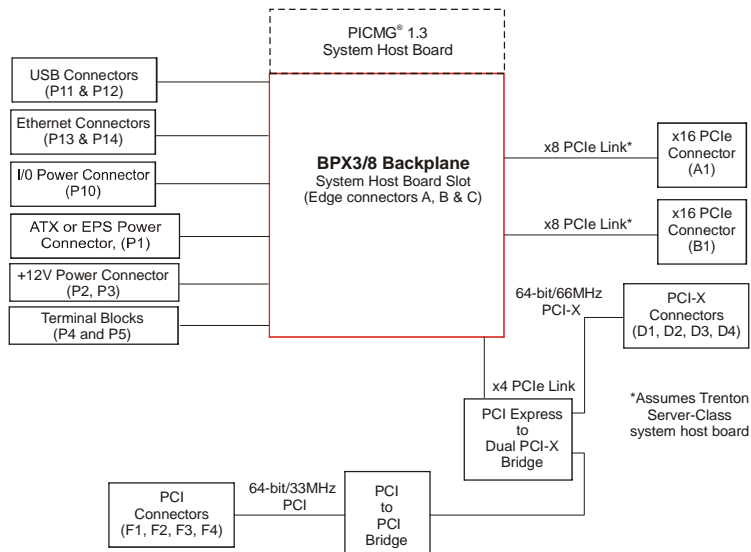




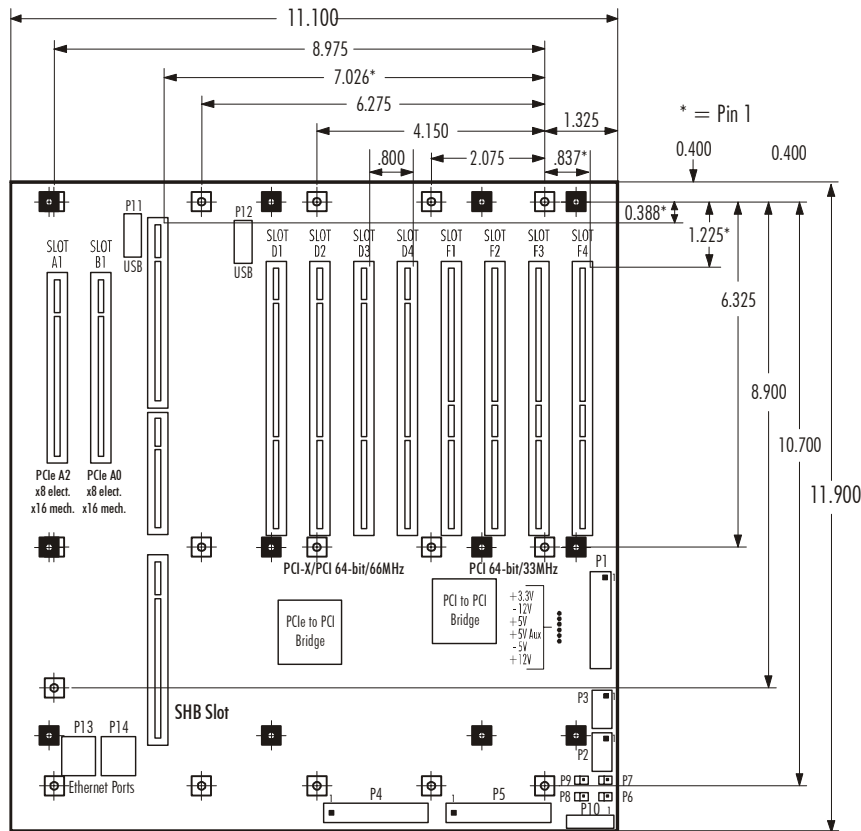
TRENTON Technology Inc.  
 2350 Centennial Drive • Gainesville, Georgia 30504  
 Sales (800) 875-6031 • Phone (770) 287-3100 • Fax (770) 287-3150

## Technical Information – Jumpers and Connectors BPX3/8 (6377) Server-Class PCI Express Backplane

### Block Diagram



### Layout Diagram – 6377



- Trenton Hole Pattern
- PICMG 1.3 Hole Pattern

#### Notes:

- \*\*Optional USB and Ethernet connectivity provided by PICMG 1.3 SHB.
- Connector spacing: 0.800"
- Connectors are populated based on model.
- Nominal PCB thickness: .062"
- Mounting holes: .156" diameter
- Some holes are common to both hole patterns
- All dimensions are inches.



### **BPX3/8 (6377) Configuration Jumper**

The setup of the configuration jumper on the backplane is described below. \* indicates the default value of the jumper.

---

**NOTE:** For the two-position jumper (3-post), “RIGHT” and “LEFT” refer to positioning when the backplane is viewed with the slots at the top end of the backplane.

---

<u>Jumper</u>	<u>Description</u>
<b>JU4</b>	<b>+5V Auxiliary Voltage</b>
	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. *

### **BPX3/8 (6377) Connectors**

The connectors available on the BPX3/8 vary depending on the version of the backplane you have. Connectors for the 6377-001 (ATX) and 6377-004 (EPS) tabs are defined below.

#### **BPX3/8 (6377-001) Connectors**

---

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

---

#### **P1 - ATX Power Connector**

20 pin dual row header, Molex #39-29-9202

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Gnd	13	Gnd
4	+5V	14	PSO#
5	Gnd	15	Gnd
6	+5V	16	Gnd
7	Gnd	17	Gnd
8	PWRGD	18	-5V
9	+5VAUX	19	+5V
10	+12V	20	+5V

#### **P2 - +12V Power Connector**

4 pin mini fit JR, Molex #39-29-3046

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	3	+12V
2	Gnd	4	+12V



### **BPX3/8 (6377-001) Connectors (continued)**

**P3 - +12V Power Connector**

4 pin mini fit JR, Molex #39-29-3046

<u>Pin</u>	<u>Signal</u>
1	Gnd
2	Gnd
3	+12V
4	+12V

**P4 - Terminal Block Connector**

10 position terminal block, Amp #1-796949-0

20 Amps per circuit

<u>Pin</u>	<u>Signal</u>
1	+3.3V
2	+3.3V
3	+5V
4	Gnd
5	Gnd
6	Gnd
7	Gnd
8	Gnd
9	+12V
10	+12V

**P5 - Terminal Block Connector**

10 position terminal block, Amp #1-796949-0

20 Amps per circuit

<u>Pin</u>	<u>Signal</u>
1	+3.3V
2	+3.3V
3	+5V
4	Gnd
5	Gnd
6	Gnd
7	Gnd
8	Gnd
9	+12V
10	+12V

**P6 - Power-On Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PSO#
2	Gnd

**P7 - Power Button Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRBT#
2	Gnd



### **BPX3/8(6377-001) Connectors (continued)**

**P8 - Reset Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	SHB_RST#
2	Gnd

**P9 - Power Good Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRGD
2	+3.3V

**P10 - I/O Power Connector**

20 pin right angle dual row header, Molex #87833-2020

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	2	+12V
3	IPMB_DA	4	Gnd
5	IPMB_CL	6	+5V
7	SMDAT	8	+5VAUX_IN
9	SMCLK	10	+3.3V
11	PWRBT#	12	PSON#
13	Gnd	14	SHB_RST#
15	PWRGD	16	+5VAUX_IN
17	Gnd	18	+5VAUX_IN
19	Gnd	20	-12V

**P11 - Universal Serial Bus (USB) Connector**

8 pin dual row header, Molex #702-46-0801

(+5V fused with self-resetting fuses)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+5V-USB0	2	+5V-USB1
3	USB0-	4	USB1-
5	USB0+	6	USB1+
7	Gnd-USB0	8	Gnd-USB1

**P12 - Universal Serial Bus (USB) Connector**

8 pin dual row header, Molex #702-46-0801

(+5V fused with self-resetting fuses)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+5V-USB2	2	+5V-USB3
3	USB2-	4	USB3-
5	USB2+	6	USB3+
7	Gnd-USB2	8	Gnd-USB3



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

---

### **BPX3/8 (6377-001) Connectors (continued)**

#### **P13 - 10/100/1000Base-T Ethernet Connector - LAN 0**

8 pin shielded RA RJ-45 connector, Molex #43202-8110

<u>Pin</u>	<u>Signal</u>
1	TRP1+
2	TRP1-
3	TRP2+
4	TRP3+
5	TRP3-
6	TRP2-
7	TRP4+
8	TRP4-

#### **P14 - 10/100/1000Base-T Ethernet Connector - LAN 1**

8 pin shielded RA RJ-45 connector, Molex #43202-8110

<u>Pin</u>	<u>Signal</u>
1	TRP1+
2	TRP1-
3	TRP2+
4	TRP3+
5	TRP3-
6	TRP2-
7	TRP4+
8	TRP4-



### **BPX3/8 (6377-004) Connectors**

#### **P1 - EPS Power Connector**

24 pin dual row header, Molex #39-29-9243

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
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

#### **P2 - +12V Power Connector**

8 pin mini fit JR, Molex #39-29-3086

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	5	+12V
2	Gnd	6	+12V
3	Gnd	7	+12V
4	Gnd	8	+12V

#### **P3 - +12V Power Connector**

8 pin mini fit JR, Molex #39-29-3086

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	5	+12V
2	Gnd	6	+12V
3	Gnd	7	+12V
4	Gnd	8	+12V

#### **P4 - Power Supply Connector**

10 position terminal block, Amp #1-796949-0

20 Amps per circuit

<u>Pin</u>	<u>Signal</u>
1	+3.3V
2	+3.3V
3	+5V
4	Gnd
5	Gnd
6	Gnd
7	Gnd
8	Gnd
9	+12V
10	+12V



### **BPX3/8 (6377-004) Connectors (continued)**

**P5 - Power Supply Connector**

10 position terminal block, Amp #1-796949-0  
20 Amps per circuit

<u>Pin</u>	<u>Signal</u>
1	+3.3V
2	+3.3V
3	+5V
4	Gnd
5	Gnd
6	Gnd
7	Gnd
8	Gnd
9	+12V
10	+12V

**P6 - Power-On Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PSO#
2	Gnd

**P7 - Power Button Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRBT#
2	Gnd

**P8 - Reset Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	SHB_RST#
2	Gnd

**P9 - Power Good Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRGD
2	+3.3V

**P10 - I/O Power Connector**

20 pin right angle dual row header, Molex #87833-2020

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	2	+12V
3	IPMB_DA	4	Gnd
5	IPMB_CL	6	+5V
7	SMDAT	8	+5VAUX_IN
9	SMCLK	10	+3.3V
11	PWRBT#	12	PSO#
13	Gnd	14	SHB_RST#
15	PWRGD	16	+5VAUX_IN
17	Gnd	18	+5VAUX_IN
19	Gnd	20	-12V



### **BPX3/8 (6377-004) Connectors (continued)**

#### **P11 - Universal Serial Bus (USB) Connector**

8 pin dual row header, Molex #702-46-0801  
(+5V fused with self-resetting fuses)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+5V-USB0	2	+5V-USB1
3	USB0-	4	USB1-
5	USB0+	6	USB1+
7	Gnd-USB0	8	Gnd-USB1

#### **P12 - Universal Serial Bus (USB) Connector**

8 pin dual row header, Molex #702-46-0801  
(+5V fused with self-resetting fuses)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+5V-USB2	2	+5V-USB3
3	USB2-	4	USB3-
5	USB2+	6	USB3+
7	Gnd-USB2	8	Gnd-USB3

#### **P13 - 10/100/1000Base-T Ethernet Connector - LAN 0**

8 pin shielded RA RJ-45 connector, Molex #43202-8110

<u>Pin</u>	<u>Signal</u>
1	TRP1+
2	TRP1-
3	TRP2+
4	TRP3+
5	TRP3-
6	TRP2-
7	TRP4+
8	TRP4-

#### **P14 - 10/100/1000Base-T Ethernet Connector - LAN 1**

8 pin shielded RA RJ-45 connector, Molex #43202-8110

<u>Pin</u>	<u>Signal</u>
1	TRP1+
2	TRP1-
3	TRP2+
4	TRP3+
5	TRP3-
6	TRP2-
7	TRP4+
8	TRP4-



**Trenton SHB Optional Backplane I/O Support For the BPX3/8 (6377)**

TRENTON SHB	ETHERNET			USB							
	LAN0	LAN1	LAN2	USB0	USB1	USB2	USB3	USB4	USB5	USB6	USB7
NLT/NLI <sup>1</sup>	-	-	n/a	-	-	X	X	n/a	n/a	n/a	n/a
SLT/SLI <sup>1</sup>	-	-	n/a	-	-	X	X	n/a	n/a	n/a	n/a
MCX-series <sup>2</sup>	-	-	X	-	-	-	-	X	X	X	X

<sup>1</sup> Requires factory build option.

<sup>2</sup> LAN2 is a 10/100/1000BASE-T Ethernet interface when using a MCX-series SHB

Note: The letter X indicates an interface connection routed to SHB edge connector C for use on the backplane

**Connector Configuration Illustrated For The BPX3/8 (6377)**

MODEL#	MODEL NAME	DESCRIPTION
6377-001	BPX3/8-ATX	ATX connectors with two high-current terminal blocks
6377-004	BPX3/8-EPS	EPS connectors with two high-current terminal block

Trenton recommends the EPS configuration for use with SHBs using dual, high-performance Intel® Xeon® processors.