

**TRENTON  
SYSTEMS**  
Rugged Computers

**HDB8228  
Backplane**

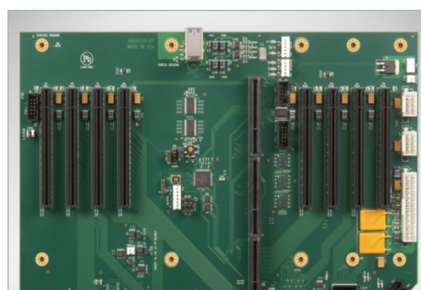
## 8 PCIe 3.0 SLOTS WITH 80 LANES PROVIDED BY THE SBC

**The Option Card Slots Are Directly Connected To The CPUs**

### Enhance System Design Flexibility

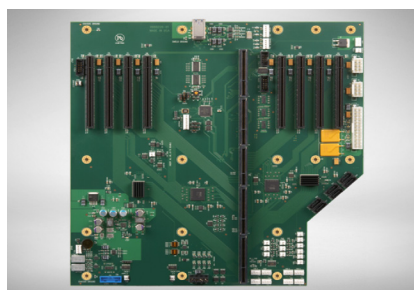
All card slots are designed for the Gen3 PCIe electrical interface and are equipped with x16 PCIe mechanical connectors. All eight of the backplane slots connected directly to the processors on the system host board. This is perfect for applications that require minimal latency.

## PRODUCT DETAILS



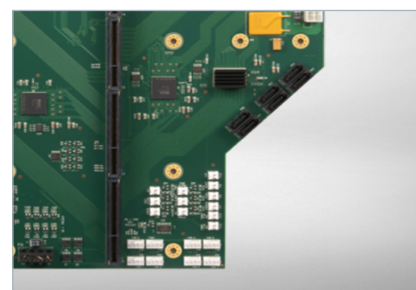
### PCIe Slots

4-x16 PCIe gen 3 and 4-x4 PCIe gen 3 (x16 mechanical).



### I/O Options

6-SATA/600, 2-USB3, 4-USB2, 1-serial port, 1-PS/2 mouse/keyboard, & 4 fan headers with fan speed monitoring.



### Notched Design

The HDB8228 backplane is notched to allow more front access drive bays.



[www.trentonsystems.com](http://www.trentonsystems.com)

Check out our website for configuration options.

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# TECH SPECS

# HDB8228 BACKPLANE

## Model Number

HDB8228

## Form Factor

HDEC Series midsize format backplane supports one dual-processor HDEC Series SHB and up eight PCI Express option cards. All card slots are designed for the Gen3 PCIe electrical interface and are equipped with x16 PCIe mechanical connectors. Four of the card slots are driven with Gen3 PCI Express x16 electrical interfaces and the remaining four slots support a x4 PCIe electrical interface.

## Mechanical

The nominal backplane thickness is 0.080"; however, the backplane mounting holes are recessed 0.018" on the bottom to provide an effective PCB thickness of 0.062" for use in the chassis design process.

## Size

12.3"/312mm x 12.9"/328mm (midsize format)

## Configuration

Four x16 PCI Express and four x4 PCIe (all x16 mechanical) slots, and all card slots are PCIe Gen3 capable

- Note 1: All backplane slots are driven with native PCIe 3.0 links direct from the two processors on a Trenton Systems, dual-processor HDEC Series system host board.
- Note 2: Backplane slots PCIe2, PCIe4, PCIe6 and PCIe8 are each driven with a dedicated x16 PCIe Gen3 link from one of the SHB's processors.
- Note 3: Backplane slots PCIe1, PCIe3, PCIe5 and PCIe7 are each driven with a dedicated x4 PCIe Gen3 link from one of the SHB's processors.
- Note 4: The x16 PCIe interface card slots are placed in alternate backplane slot locations in order to accommodate double-wide PCIe plug-in cards.

## Card Slots

4 – x16 PCI Express 3.0/2.0/1.1 electrical / x16 mech. connectors (card slots PCIe2, 4, 6, and 8)

4 – x4 PCI Express 3.0/2.0/1.1 electrical / x16 mech. connector (card slots PCIe1, 3, 5, and 7)

## Connectors

The table below lists the device I/O and system status connections are available on the backplane when using a Trenton HDEC Series SBC.

- |  |  |
|--|--|
| 6 – SATA/600 system headers  | 2 – USB3 interface system header connections           |
| 1 – Serial port header   | 4 – USB2 rear chassis access interface ports           |
| 1 – PS/2 mouse header  | 8 – GPIO signals available via a GPIO system header    |
| 1 – PS/2 keyboard header   | 1 – JTAG system header                                 |
| 1 – JTAG header  | 4 – System fan headers with built-in fan speed control |
| 1 – LED dimmer header  | 2 – System temperature sensor header connections       |
| 1 – System speaker header  | 4 – ACPI control headers (PSON, PWRBTN, RESET, PWRGD)  |
| 1 – System keypad header   | 1 – SMBus header                                       |
| 1 – Clear CMOS header  | 1 – 3.3V AUX power jumper for the card slots           |
| 4 – Alarm status headers for the FAN, TEMP, VOLT and ERROR signals |  |

## Agency Approvals & Compliance

Designed for UL60950 and CAN/CSA C22.2 No.60950-00, EN55022:1998 Class B, EN61000-4-2:1995, EN61000-4-3:1997, EN61000-4-4:1995, EN61000-4-5:1995, EN61000-4-6:1996, EN61000-4-11:1994

## Power Connectors

- ATX/EPS power source – one right-angle or vertical 24-position ATX/EPS connector
- +12V AUX power source – two right-angle or vertical 8-position connectors
- Terminal block – one four-position terminal block for extended current applications

## Power Indicators

- +5V, +5V AUX, +12V, and +3.3V system power connection and status
- +1V, and +1.8V power regulator level and status

## Operating Temperature

0°C to 50°C with standard cooling solution and 350LFM of continuous airflow

## Environmental

Airflow: 350LFM continuous airflow

Storage Temp: -40° to 70°C

Humidity: 5% to 90% non-condensing

Trenton's HDB8228 is a lead free, RoHS compliant backplane.



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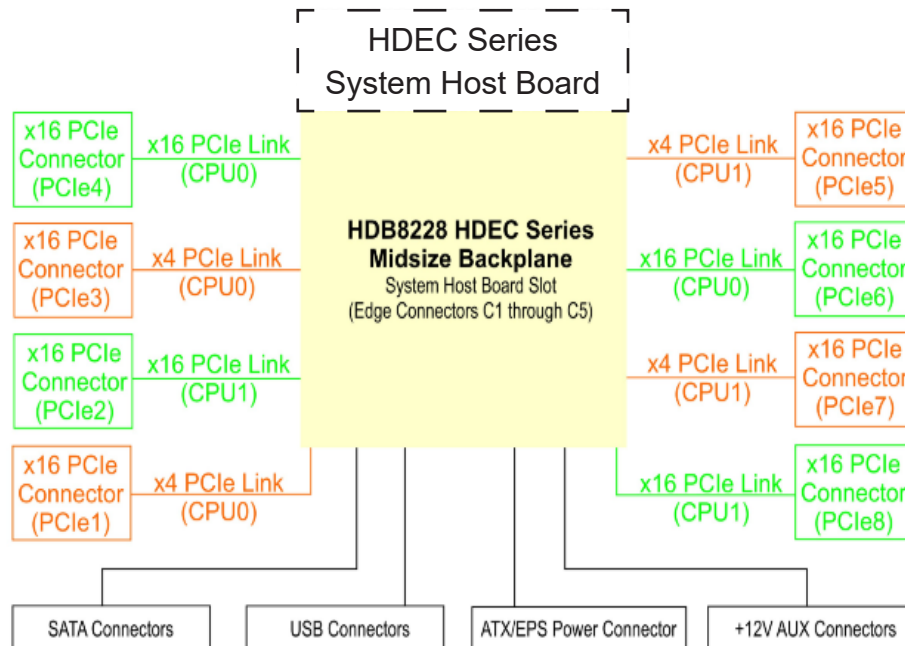
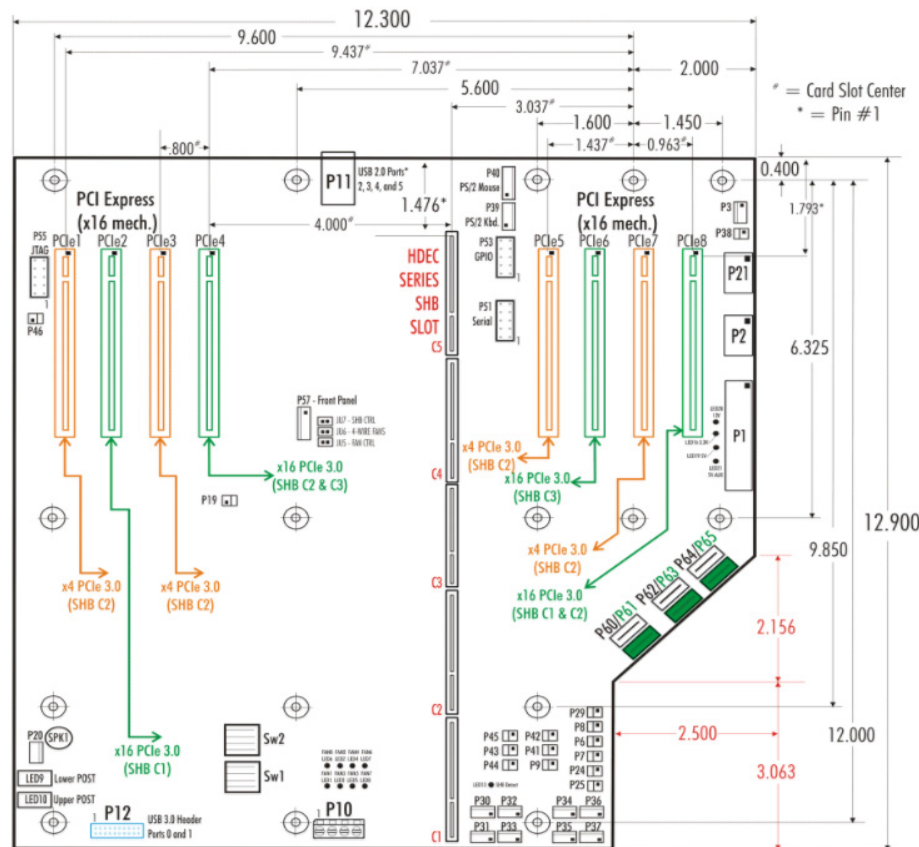
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# BLOCK DIAGRAM

# HDB8228 BACKPLANE



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