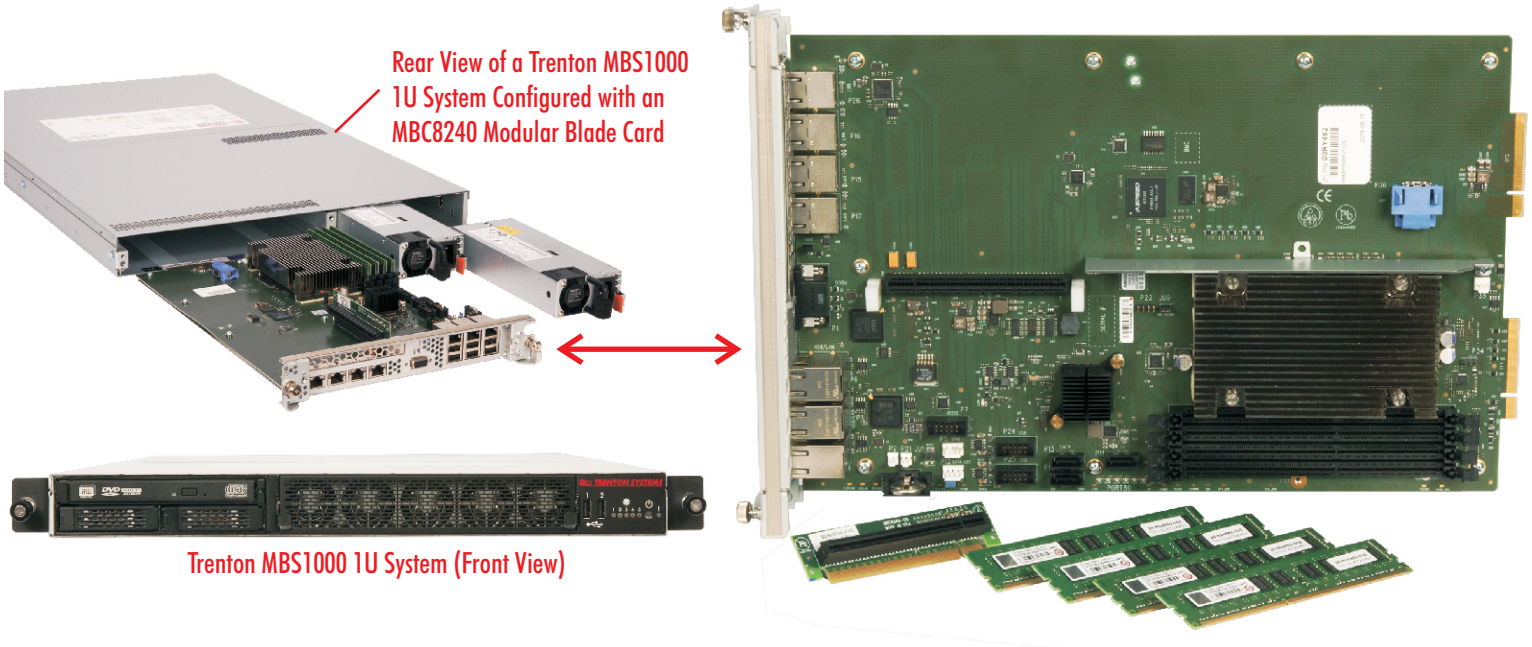
MBC8240

MODULAR BLADE CARD PRODUCT DATA SHEET

MODULAR BLADE CARD for 1U RACKMOUNT COMPUTERS



Trenton's MBC8240 modular blade card is ideal for use in 1U rackmount computers and blade servers. This single board computer delivers:

- Long-life Intel® Xeon® or Intel® Core™ Processor Option
- Supports four, DDR3-1600 Memory DIMMs, up to 32GB max.
- Secure system interconnects, 1 - VGA, 2 - SATA/600 & 12 - USB
- Full-Height, Full-Length PCI Express 3.0 Card Slot
- One, Dedicated System Management Ethernet LAN
- 5-year product warranty maximizes system ROI
- Six, General Purpose 10/100/1000Base-T Ethernet Interfaces
- Trenton Smart System Management (SSM) application software
- Trenton's SSM is built on IPMI to deliver remote system management

LONG-LIFE EMBEDDED PROCESSOR OPTIONS:

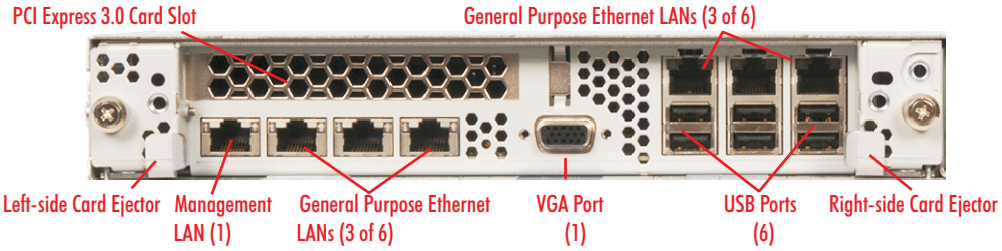
Quad-Core Intel® Xeon® E3-1200 v3 Series
Processor Package: LGA1155
E3-1225v3 (3.2GHz, 8MB Cache 84W TDP)
E3-1268Lv3 (2.3GHz, 8MB Cache, 45W TDP)

PLATFORM CONTROLLER HUB (PCH):

The Intel® C226 is a Platform Controller Hub or PCH that takes the place of the traditional multi-component chipset. The PCH design approach saves power while providing enhanced system host board I/O, PCI Express and Ethernet interface capabilities.

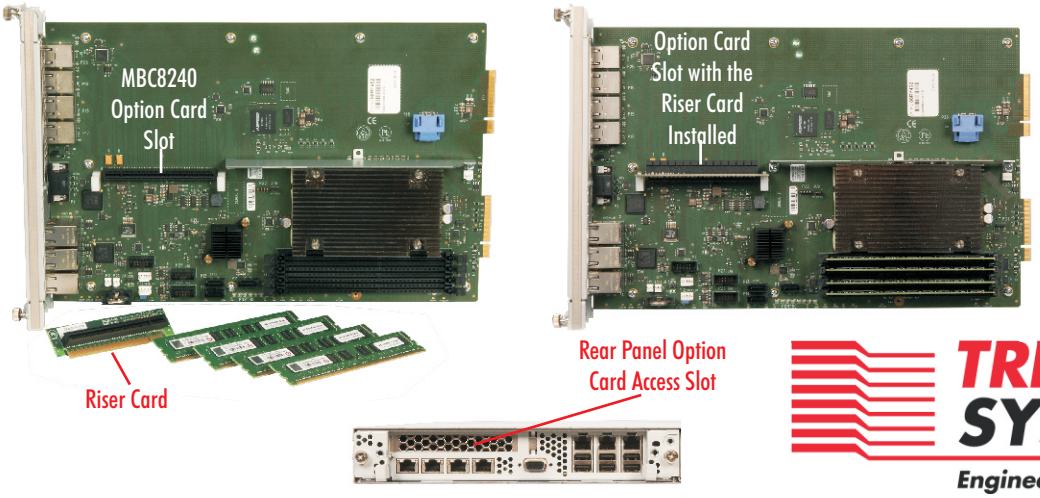
MBC8240 MODULAR BLADE CARD CONSTRUCTION and I/O BRACKET LAYOUT:

Trenton's MBC8240 is a modular single board computer that does not scrimp on performance. The SBC is housed in a rugged metal carrier assembly for easy integration and field service support in 1U rackmount servers such as the Trenton MBS1000. The card's I/O bracket supports an extensive array of external system I/O connections, and network interfaces as illustrated below.



PCI EXPRESS® 3.0 FULL-HEIGHT CARD SUPPORT:

The MBC8240 supports all standard PCI Express plug-in cards including full-height PCIe Gen3 cards. The MBC8240 supports a x16 Express plug-in card via the SBC's optional x16 PCIe riser card. The riser card (BRC8244) installs in the SBCs option card slot as shown here to provide secure card mounting for industry standard PCI Express plug-in cards.



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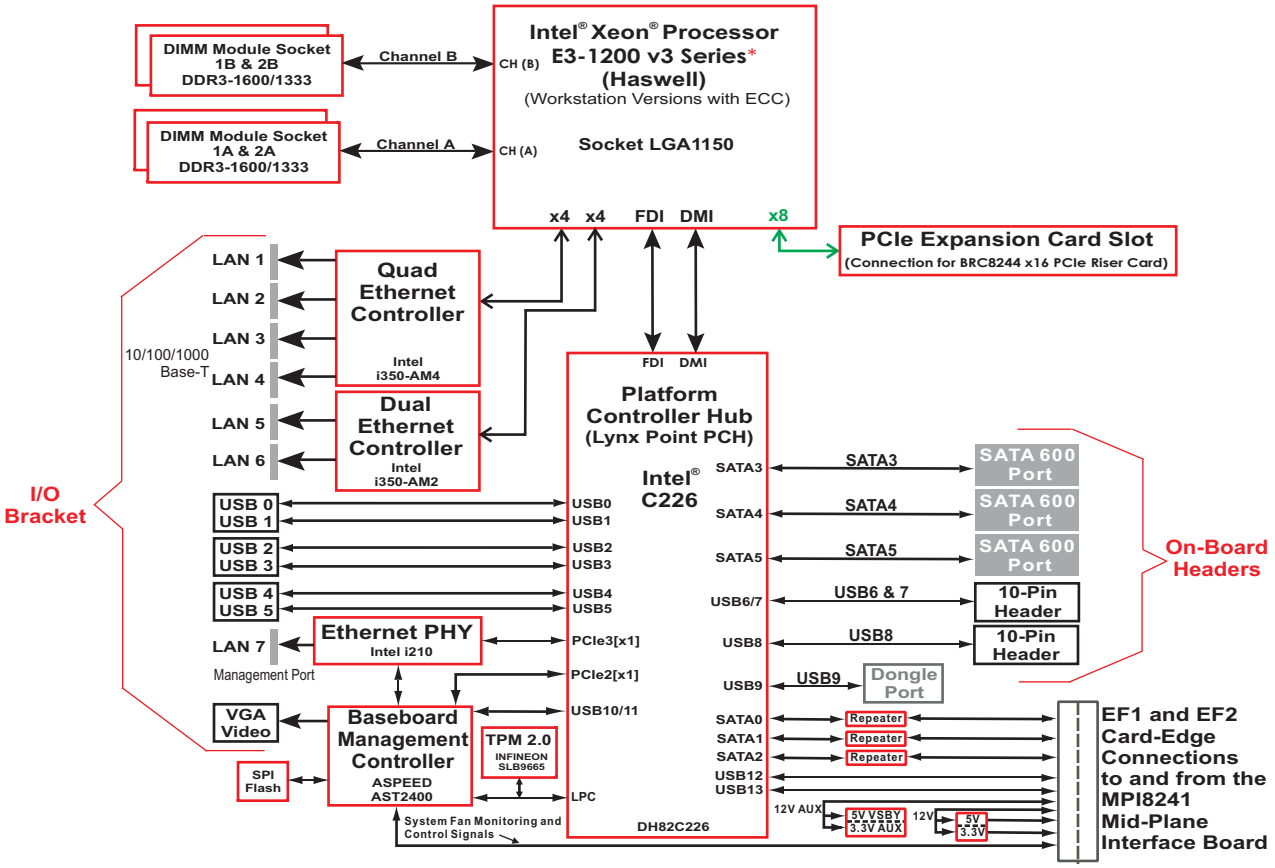

SEVEN ETHERNET INTERFACES - 10/100/1000BASE-T:

All seven Ethernet interface ports are located on the I/O bracket of the MBC8240 modular blade card. Ethernet ports 1 through 5 are general purpose Gigabit Ethernet ports and are driven by either a quad or dual Intel® Ethernet Controller I350. These controllers interface directly to the card's processor via on-board PCI Express device interconnects.

Ethernet port 0 is dedicated to remote system management. This management port connects to the MBC8240's baseboard management controller (BMC) via an Intel® I210 Ethernet PHY.

UNIVERSAL SERIAL BUS INTERFACES (USB 2.0):

Six on the available twelve USB 2.0 interfaces are routed to USB electrical ports 0 thru 5 located on the MBC8240's I/O bracket. Two USB interfaces (electrical ports 12 and 13) are routed to the card's mid-plane interface connectors for use on a computer's front panel. The remaining four interfaces are available on board headers.

SERIAL ATA/600 PORTS:

An integrated Serial ATA (SATA) controller in the Intel® C226 features six SATA ports with data transfer rates up to 600MB/s. The MBC8240 routs three of these interfaces to the card's mid-plane interface connectors to support front panel HDD/SDDs and optical media drives. The interface support independent SATA storage drive operations and RAID storage array configurations.

VIDEO INTERFACE:

The MBC8240's BMC doubles as a video controller to drive a standard VGA port located on the card's I/O bracket.

BIOS (FLASH):

The board uses Aptio® 4.x BIOS from AMI and the BIOS resides in a SPI Flash device to simplify field upgrades and BIOS customization.

TRENTON SMART SYSTEM MANAGEMENT (SSM):

Trenton's Smart System Management™ embedded application software or SSM enables remote system monitoring and control over the MBC8240's dedicated management Ethernet LAN (Port 0). The SSM software is embedded at the Trenton Systems' factory in the MBC8240's Baseboard Management Controller or BMC. The card's BMC is an ASPEED AST2400. Trenton's SSM application software is built upon the industry standard Intelligent Platform Management Interface (IPMI) and its related sub-components including:

1. Intelligent Platform Management Bus (IPMB)
2. IPMI Platform Management FRU Information Storage Definition
3. Intelligent Chassis Management Bus (ICMB)

Trenton SSM's implementation of IPMI provides seamless and efficient remote system management and control capability from any monitoring location worldwide. A short list of Trenton SSM application software functionality includes:

- Fan speed monitoring
- Fan condition & status
- Alarm monitoring
- FRU management
- Voltage monitoring
- SBC present
- Remote messaging (i.e. call home)
- Poll for processor & memory health

APPLICATION CONSIDERATIONS:

Temperature/Environment:

Operating Temperature: 5° to 40° C.
Air Flow Requirement: 350LFM continuous airflow
Storage Temperature: - 20° to 70° C.
Humidity: 8% to 85% RH @12° C. dew point, non-condensing

ORDERING INFORMATION:

Part Number	CPU Speed	MaxTDP	Intel® No.
92-824001300000	3.2GHz	84W	E3-1225 v3
92-824000200000	2.3GHz	45W	E3-1268L v3

Cooling:

The MBC8240 cooling solution design eliminates all fans from the SBC, and has a low-profile height of 1.21" (3.07cm). The overall board dimensions are 14.25" (36.20cm) L x 9.00" (22.86cm) W.

STANDARDS:

- PCI Express® Base Specifications 3.0, 2.0 and 1.1
- Intelligent Platform Management Interface (IPMI) v2.0 rev. 1.1

AGENCY APPROVALS:

Designed for UI60950, 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

The stated processing, memory and communication interface speeds and bandwidths are component maximums; actual system performance may vary.

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