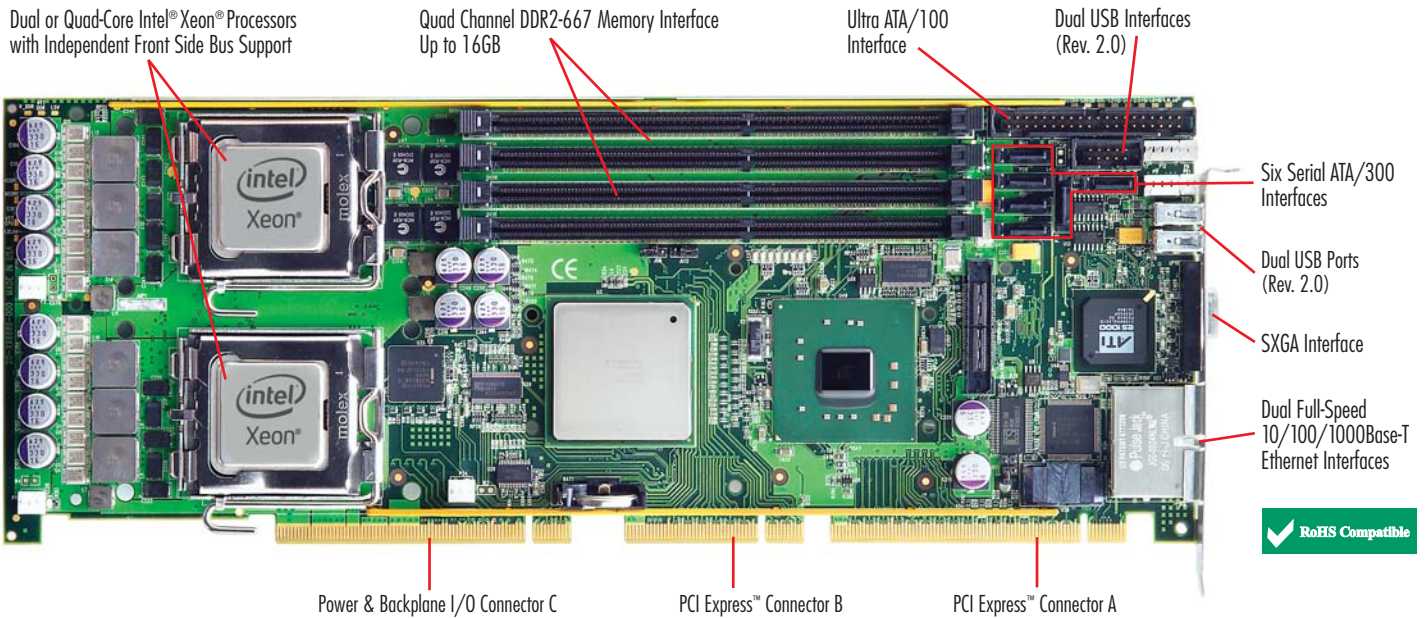


MCG SYSTEM HOST BOARDS WITH MULTI-CORE PROCESSORS



Trenton's MCG series of PICMG® 1.3 system host boards (SHBs) offers a wide variety of board configurations designed to excel in your most demanding and diverse graphics-class computing applications. Dual-Core processor options provide two and Quad-Core processors provide four execution cores per CPU. For dual-processor board configurations, each CPU has its own independent system bus to reduce data bottlenecks while maximizing processing throughput. The four-channel memory interface features DDR2-667 FB-DIMMS with a maximum of 16GB. An extended memory SHB configuration is available that supports up to 32GB of system memory.

PROCESSORS:

Dual-Core Intel® Xeon® Processors (5100 series), 1.6GHz - 3.0GHz*
 Quad-Core Intel® Xeon® Processors (5300 series), 1.66GHz - 2.66GHz*
 Quad-Core Intel® Xeon® Processors (5400 series), 2.0GHz - 3.0GHz*
 Processor Package: LGA771 (Socket J)

*Higher speeds as available

The chipset and the Intel® Xeon® processors on the MCG series support independent 1066MHz or 1333MHz system buses as well as the Intel® I/O Acceleration Technology (I/OAT). Intel® I/OAT improves system I/O performance with improved processor, MCH and ICH capabilities. Other processor features include:

- Dual-Core, 4MB Shared L2 Cache (5100 series)
- 32-bit and 64-bit computing via Intel® EM64T
- Demand-Based Switching with Enhanced Intel SpeedStep® Technology (EIST)
- Quad-Core: 2x4MB L2 Cache (5300 series), 2x6MB L2 Cache (5400 series)

CHIPSET:

Maximum MCGT and MCGT-E performance in dual processor applications is achieved with the independent system bus feature of the Intel® 5000X chipset. The chipset also enables 16GB (MCGT/MCGI) or 32GB (MCGT-E/MCGI-E) system memory SHB configurations. Other chipset features include configurable graphics-class PCIe link configurations, a four-channel DDR2 FB-DIMM interface and 1066/1333MHz system bus support.

PCI EXPRESS™ INTERFACES:

Trenton's graphics-class MCG series of SHBs provides one x16 PCI Express link designed to support a high-end PCI Express video and graphics card. The SHB's x4 PCIe link operates as either a x4 link or can be divided into four x1 PCIe links on the backplane. These links, along with the PCIe reference clocks, are routed to SHB edge connectors A and B. Trenton's optional IOB31 module, part number 6474-000, may be used to provide an additional x4 PCIe link to the backplane. The PCI Express links support PCI Express option cards and bridge chips that provide PCI/PCI-X option card functionality. PCI Express auto-negotiation capability is supported on the MCG series of SHBs and enables communications to x1, x4, x8 and x16 PCI Express cards as well as PCI/PCI-X cards via PCI Express-to-PCI/PCI-X bridge chips on a PICMG 1.3 backplane.

DDR2-667/533 FB-DIMM MEMORY:

The DDR2-667/533 Fully-Buffered DIMM (FB-DIMM) interface is a four-channel interface originating at the Memory Controller hub with each channel terminating at an FB-DIMM module socket on the MCGT and MCGI SHBs. On the MCGT-E and MCGI-E SHBs, the four channels each terminate in two FB-DIMM sockets, for a total of eight FB-DIMMs. The SHBs use ECC registered PC2-5300 or PC2-4200 FB-DIMMs. The MCGT/MCGI SHBs support a maximum memory capacity of 16GB, while the MCGT-E/MCGI-E boards feature an extended memory capacity of 32GB. The peak memory interface bandwidth per channel is 8.0GB/s when using PC2-5300 FB-DIMMs. Detailed information on how the chipset's memory interface population rules affect memory interface bandwidth performance is posted on the MCG-series product detail web pages that can be found at www.TrentonTechnology.com.

SERIAL ATA/300 PORTS:

The integrated Serial ATA (SATA) controller provides six SATA ports with data transfer rates up to 300MB/s. Independent SATA drive operation and RAID 0, 1, 5 and 10 drive array configurations are supported on the MCG series of SHBs. SATA technology provides lower pin counts, reduced signaling voltages, simplified cabling, CRC error detection and hot-plug device support.

PCI EXPRESS™ CONFIGURATION AND BUS SPEEDS:

PCI Express - Edge Connectors A & B	- One x16 link, one x4 link
	- Eight reference clocks
PCI Express - (IOB31/PCIe Expansion)	- One x4 link
PCI Express - (on-board only)	- Three x4 links
PCI (on-board only)	- 32-bit/33MHz
Enterprise South Bridge Interface System or FS	- 2GB/s (x4 PCIe link)
	- 1066/1333MHz

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

The MCG series of SHBs offers advanced Ethernet connectivity that supports two Gigabit Ethernet ports on the board's I/O bracket. RJ-45 connectors on the I/O bracket provide the mechanical interface to these Ethernet networks. A third Gigabit Ethernet interface is routed to edge connector C of the SHB for use on a PICMG 1.3 backplane.

UNIVERSAL SERIAL BUS INTERFACES (USB 2.0):

There are eight USB 2.0 interfaces on the MCG series of SHBs. USB ports 0 and 1 are located on the I/O bracket, on-board headers contain ports 2 and 3, and USB ports 4, 5, 6 and 7 are routed to the SHB's edge connector C for use on backplanes that support the optional PICMG 1.3 USB interface capability.

STANDARDS:

- PCI Express™ Base Specification 1.1
- SHB Express™ System Host Board PCI Express Specification - PCI Industrial Computer Manufacturers Group (PICMG®) 1.3



Dependable, always.

