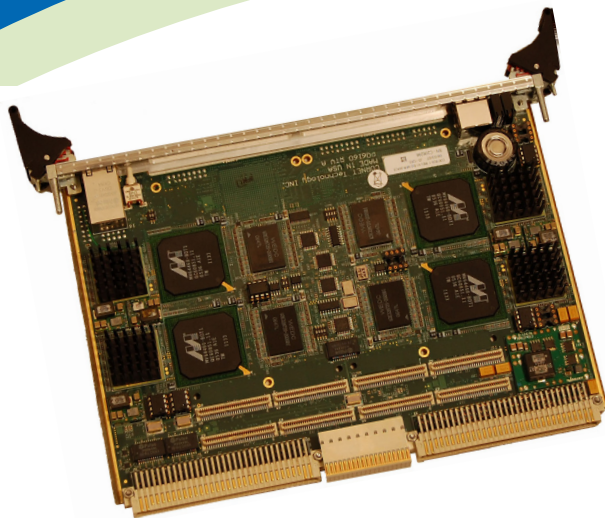


Celero™ CVME-7448ML

Quad PowerPC™

VME Solutions



Image, radar, sonar, and laser intelligence applications require an embedded computing platform that is capable of collecting, analyzing, and disseminating enormous amount of intelligence in real-time. Systems designers often consider using a multi-processing architecture. Cornet Technology's Celero CVME-7448ML solution is ideal for system designers choosing commercial-off-the-shelf (COTS) products to achieve substantial cost savings and a reduced time-to-market.

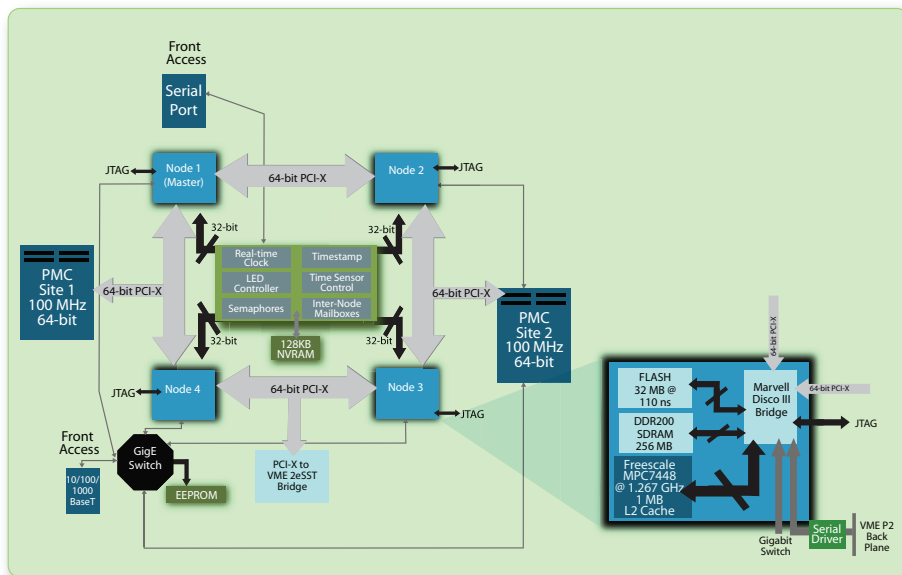
Within a VME 6U form factor, the Celero CVME-7448ML has four Freescale PowerPC MPC7448 processors, each running at a clock speed of 1.267 GHz. Each processor has an AltiVec™ vector-processing engine that is capable of optimizing the performance of mathematically intensive operations. The hardware uses a distributed memory architecture. Each node has 1 MB on-chip L2 Cache, 256 MB DDR SDRAM (expandable to 512 MB), and 32 MB FLASH. The board has two 64-bit PMC sites for hosting data acquisition or signal conditioning modules, four configurable multi-protocol (RS-232/422/485) serial ports, and four 10/100/1000 Base-T Gigabit Ethernet ports.

The four processors are connected in a ring topology through a 64-bit PCI-X local bus running at up to 100 MHz.

The Celero CVME-7448ML includes a board support package (BSP) for the VxWorks® 6.5

operating system. This lets system designers seamlessly integrate their application code into a real-time operating system environment. The BSP's function library handles multi-processing capabilities through semaphores, FIFO mailboxes, DMA transfers, timestamps, and interrupts. To further optimize the performance and precision of processing-intensive operations, a C or C++ signal-processing library is available to fully exploit the capabilities of the AltiVec DSP engine on each PowerPC processor. Software developers can conveniently use the on-board JTAG interface, status LEDs, front panel reset toggle switch, and power-on built-in test features for extensive development.

The Celero CVME-7448ML uses lead-free components and manufacturing processes, making it suitable for deployment in environments subject to RoHS compliant requirements. Cornet Technology warrants the Celero CVME-7448ML to be free of defects in materials and workmanship for one year from the date of delivery. Cornet Technology also provides firmware upgrades during the warranty period. An extended warranty is available.





Specifications

Processor: 4 Freescale MPC7448 PowerPC processor
@ 1.267 GHz

Memory (per processor):

L1 Cache: 32 KB instruction, 32 KB data
L2 Cache: 1 MB
SDRAM: 256 MB DDR200
Flash: 32 MB

Front Panel I/O: Two 64-bit PMC expansion sites

One RJ-45 Ethernet switch port

One RJ-45 RS-232 UART serial port,
selectable to one of the four nodes

Backplane I/O: PMC Site 1/2 user I/O signals (Pn/Jn4)
route to VME P0 and P2 (VITA-35)

One Ethernet switch port

Four RS-232/422/485 ports available via
VME P2

Eight general purpose LVTTTL digital I/O
lines via VME P2

VME Bus: VME64x 2eSST at 320 MB/sec

Mechanical

Form Factor: 6U VME, 4 TE
PCB Dimensions: 233.35 mm x 160 mm x 20 mm
PCB Type: Multi-layer FR4

Power: 5V, 3.3V

Power Consumption: 100 W (Without PMCs populated)

PMC Expansion

Power: 5V, 3.3V
Max. Clock Speed: 100 MHz
Data Bus: 64-bit
Conformance: IEEE P1386, VITA-35

Environmental

Commercial Temperature Grade

Operating Temperature: 0°C to 50°C
Storage Temperature: -40°C to +85°C
Humidity: 10 to 90% non-condensing

Extended Temperature Grade

Operating Temperature: -20°C to 65°C
Storage Temperature: -40°C to +85°C
Humidity: 10 to 90% non-condensing

Custom Order Options

Commercial and Extended Grade
Conformal Coating



6800 Versar Center
Springfield, VA 22151
www.cornet.com

703.658.3400 main
703.658.3440 fax
sales.CTI@cornet.com

In the interest of continuous improvement, Cornet Technology, Inc. reserves the
right to change specifications without prior notice.

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