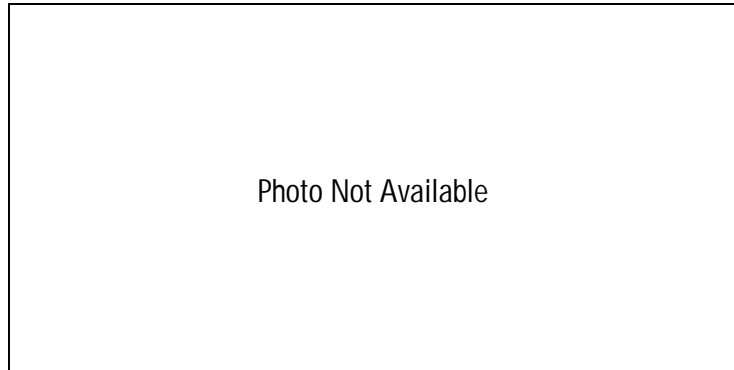


- Intel®'s Pentium/Celeron M processors up to 1.8 GHz (see ordering options)
- Up to 2 GB DDR SDRAM with ECC using one SODIMM
- Dual Ethernet controller supporting 10/100/1000BaseTX interface
- Serial ATA support
- Two high performance 16550-compatible serial ports
- Fully supports PICMG® 2.16
- Two PMC expansion sites (one 64-bit/66MHz, the other 32-bit/33 MHz)
- 64-bit/66 MHz CompactPCI® bus Interface
- IPMI support PICMIG Rev. 2.9
- USB 2.0 support (one standard USB connector on the front panel and two routed to the backplane rear I/O)
- Operating system support for Windows® 2000/Windows XP, Linux®, QNX and VxWorks®



Functional Characteristics

Microprocessor: The VMICPCI-7808 is based on the Pentium M processor family. The enhanced 1.6 GHz Pentium M processor has 1 MB of L2 cache, while the 1.4 GHz and the 1.8 GHz Pentium M processors have 2 MB of L2 cache. The Celeron M processor has 512 KB of L2 cache. The Pentium/Celeron M processor family offers thermal characteristics that are well suited for embedded systems operating over a wide range of temperatures.

DRAM Memory: The VMICPCI-7808 accepts one 200-pin DDR SODIMM with ECC memory module for configurations of up to 2GB (see ordering options for available memory sizes).

BIOS: The VMICPCI-7808 System BIOS and video BIOS are provided in reprogrammable memory.

Video Graphic Controller: High-resolution graphics and multimedia-quality video are supported on the VMICPCI-7808 by an internal graphics controller. A fully functional, integrated 2D/3D graphics accelerator provides pixel processing and rendering, with display resolutions of up to 1600 x 1200 supported. The video output is provided through the CompactPCI connector. Support is provided for both analog and LVDS digital video using the VMIACC-0591 rear transition board.

NOTE: Standard video BIOS support for LVDS is for an 800 x 600 panel only. If the VMIACC-0591 rear transition board is not used, then the video should be disabled via CMOS setup.

Ordering Options						
Nov. 15, 2004 800-657808-000	A	B	C	D	E	F
VMICPCI-7808	-		0	0	0	0
A = Processor 0 = Reserved 1 = 1.3 GHz Celeron M Processor 2 = Reserved 3 = 1.4 GHz Pentium M Processor 4 = 1.6 GHz Pentium M Processor 5 = 1.8 GHz Pentium M Processor B = DDR SDRAM Memory 0 = 256 MB 1 = 512 MB 2 = 1 GB 3 = 2 GB C through F = 0 (Options reserved for future use.)						
CompactPCI Rear Transition Utility Board						
VMIACC-0591						
The VMIACC-0591 installs in the rear transition area of the CompactPCI backplane and provides access to CompactFlash on primary IDE, IDE hard disk drive, floppy, COM 2, two USB ports, video and keyboard/mouse functions. The VMIACC-0591 is sold separately.						
For Ordering Information, Call: 1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859 Email: info.embeddedsystems@gefanuc.com Web Address: www.gefanuc.com/embedded Copyright © 2004 by VMIC Specifications subject to change without notice.						



IDE Interface: The VMICPCI-7808 provides an IDE interface for hard disk drive and CompactFlash support, using the optional VMIACC-0591 Rear Transition board. The IDE interface allows support of several types of data transfers: Programmed I/O (PIO), 8237 style DMA, Ultra ATA/33, Ultra ATA/66 and Ultra ATA/100. When the CompactFlash is installed only one other IDE device can be installed.

NOTE: Ultra DMA IDE modes require a high performance 80-conductor cable.

Write Protection: The VMICPCI-7808 has the ability to write protect a CompactFlash when using the optional VMIACC-0591 Rear Transition board equipped with a CompactFlash (boards equipped with the SanDisk Industrial type CompactFlash). Write protection provides security features that allow the user to control the ability to write to the CompactFlash through a control register. Configuration of this feature requires a user selectable 40-bit security key for subsequent accesses to the device.

Ethernet Controller: The VMICPCI-7808 provides dual channels for 10/100/1000Mbit Ethernet using the Intel 82546EB Dual Ethernet controller. A front panel RJ45 connector is provided with two network status indicators, supporting PICMG 2.16 Rev 1.0. The front panel Ethernet interface can be switched from front to rear using the CMOS LAN selections. The other channel is PICMG 2.16 Rev 1.0 compatible and only available at the CompactPCI rear I/O, using the optional VMIACC-0591 Rear transition board. Front panel status indicators are available for the channel routed to the rear I/O.

NOTE: When the front panel LAN interface is switched to the rear, the VMIACC-0591 Rear Transition board is required.

Serial ATA: The VMICPCI-7808 provides a serial ATA interface via the CompactPCI backplane connector using the VMIACC-0591 rear transition board.

Remote Ethernet Booting: The VMICPCI-7808 utilizes an Expansion ROM BIOS, which enables processor booting from a network server. The facility supports PXE and a variety of network boot protocols including BOOTP and DHCP (TCP/IP).

USB Ports: The VMICPCI-7808 provides three high-speed universal serial bus (USB 2.0) ports. Connection for one USB port is provided on the front panel. The two other ports are available on the CompactPCI

backplane rear I/O for use with the optional VMIACC-0591 Rear Transition board.

Serial Ports: The VMICPCI-7808 provides two 16550-compatible serial ports. Each serial port has an independent 16-byte FIFO supporting baud rates up to 115 Kbaud. Connection for one serial port (COM1) is provided by an RJ45 connector located on the front panel, the other serial port (COM2) is available via the CompactPCI backplane rear I/O, using the optional VMIACC-0591 Rear Transition board with a standard DB-9 connector.

PMC Expansion Sites: The VMICPCI-7808 provides two IEEE 1386.1 PCI mezzanine card (PMC) expansion sites. This expansion capability allows the addition of peripherals offered for PMC applications. One PMC site is 3.3 V 64-bit, 66 MHz, while the second site is 5.0 V 32-bit, 33 MHz.

Keyboard and Mouse Ports: The VMICPCI-7808 supports a PS/2 type keyboard and mouse connection with signals routed to the CompactPCI rear I/O using the optional VMIACC-0591 backplane adapter.

Hardware Reset: A hardware reset switch is accessible from the front panel.

Watchdog Timer: The VMICPCI-7808 provides a software-programmable watchdog timer. The watchdog timer is enabled under software control. Once the timer is enabled, software must access the timer within the specified time period, or the output of the watchdog timer will either interrupt or reset the unit. The reset or interrupt operation is programmable.

Annunciators: Indicators for the primary IDE interface activity, board status, power good and a blue LED for hot swap are provided on the front panel. In addition, two indicators for the Ethernet adapter link and activity are located on the RJ45 network connector. Two other indicators are provided on the front panel for the second Ethernet port link and activity, routed from the rear I/O.

Thermal Management: The VMICPCI-7808 utilizes a passive heat sink that relies on forced air cooling within the equipment rack at the specified flow rate. Please refer to the environmental specifications for more information.

CompactPCI Bus Bridge: The VMICPCI-7808 is a universal CompactPCI single board computer (SBC) supporting applications as a system slot controller or a peripheral slot controller. The

PCI-to-PCI bridge interface to the CompactPCI bus is automatically configured to operate as either a transparent or non-transparent bridge. This implementation is fully compliant with PICMG 2.0 Rev 3.0, PICMG 2.1 Rev 2.0, and PCI-to-PCI Bridge Architecture Rev 1.1.

IPMI: The VMICPCI-7808 provides PICMG 2.9 Rev 1.5 IPMI support via the Zircon PM Peripheral Management Controller.

High Availability Hot Swap: The VMICPCI-7808 complies with PICMG 2.1 Rev 2.0 standard for CompactPCI hot swap. The VMICPCI-7808 complies with the high availability provisions of this standard. The processor may be removed and replaced while the system is operational. Processing can automatically be switched to a back-up SBC that was previously installed in the system.

CMOS Battery: The VMICPCI-7808 uses a holder that permits field replacement of the CMOS battery. A header and jumper allows the battery to be disconnected from the circuitry for long-term storage.

Back Panel Configuration: The VMICPCI-7808 provides support for several peripherals using the CompactPCI backplane rear I/O connectors. These signals are routed to the CompactPCI J3 and J5 connectors. This permits connection of the external IDE hard disk drive, CompactFlash, PMC I/O, floppy drive, two USB, two SATA, video, and keyboard/mouse via the VMIACC-0591 Rear Transition board. Connection to these signals is provided to facilitate application development.

NOTE: If the VMICPCI-7808 is not used with the VMIACC-0591 Rear Transition board, the user is responsible for either terminating video, SATA and USB or for disabling these features in the CMOS setup.

Operating System and Software Support

The VMICPCI-7808 supports a variety of operating systems including Microsoft® Windows 2000, Windows XP, Linux, QNX and VxWorks.

Physical/Environmental Specifications

Dimensions: 6U (4HP) single slot Eurocard form factor

Height	9.2 in. (233.4 mm)
Depth	6.3 in. (160 mm)
Thickness	0.8 in. (20.3 mm)

Power Requirements: (Does not include PMC power.)

Pentium M Processor (1.4 GHz):

+5 VDC (+5, -3 percent), 4.5 A (typical), 6.75 A maximum

+3.3 VDC (+5, -3 percent), 1.5 A (typical), 2.0 A maximum

+12.0 VDC (+5, -3 percent), 50 mA maximum

-12 VDC (+5, -3 percent), 50 mA maximum

Celeron M 1.3 GHz and the Pentium M Processors 1.6 GHz and 1.8 GHz:

+5 VDC (+5, -3 percent), <TBD> (typical), <TBD> maximum

+3.3 VDC (+5, -3 percent), <TBD> (typical), <TBD> maximum

+12.0 VDC (+5, -3 percent), <TBD> maximum

-12 VDC (+5, -3 percent), <TBD> maximum

Airflow: Forced air cooling required, 400 LFM minimum, measured at the top (outlet) of the unit

Altitude:

Operating, 0 – 10,000 ft (3,000 m)

Storage, 0 – 40,000 ft (12,000 m)

Operating Temperature:

1.3 GHz Celeron M Processor = -0°C to 50°C max (.13u uFC-PGA)

1.4 GHz Pentium M Processor = -0°C to 65°C max (90nm uFC-BGA)

1.6 GHz Pentium M Processor = -0°C to 50°C max (.13u uFC-PGA)

1.8 GHz Pentium M Processor = -0°C to 55°C max (90nm uFC-PGA)

Storage: -40 °C to +85 °C

NOTE: The Pentium M processor will throttle when its junction temperature is between 90 °C and 100 °C. If application cannot take throttling of the CPU, then the thermal profile of the system must be verified to keep the CPU junction temperature less than 90 °C.

Humidity:

Operating, Relative Humidity 5% to 95%, noncondensing

Storage, Relative Humidity 5% to 95%, noncondensing

Vibration: 6 Gs RMS (20 - 2000 Hz) random, .0185 G2 per Hz spectrum

Shock: 10 Gs, 16 ms half sine, 6 axis, 10 pulses each

MTBF: Total FIT x QTY: 4992.766332

MTBF (hours): 200,289.76593

Trademarks

Intel, Pentium and Celeron are registered trademarks of Intel Corporation. Microsoft and Windows are registered trademarks of Microsoft Corporation. CompactPCI and PICMG are registered trademarks of PCI Industrial Computer Manufacturer's Group. Other registered trademarks are the property of their respective owners.

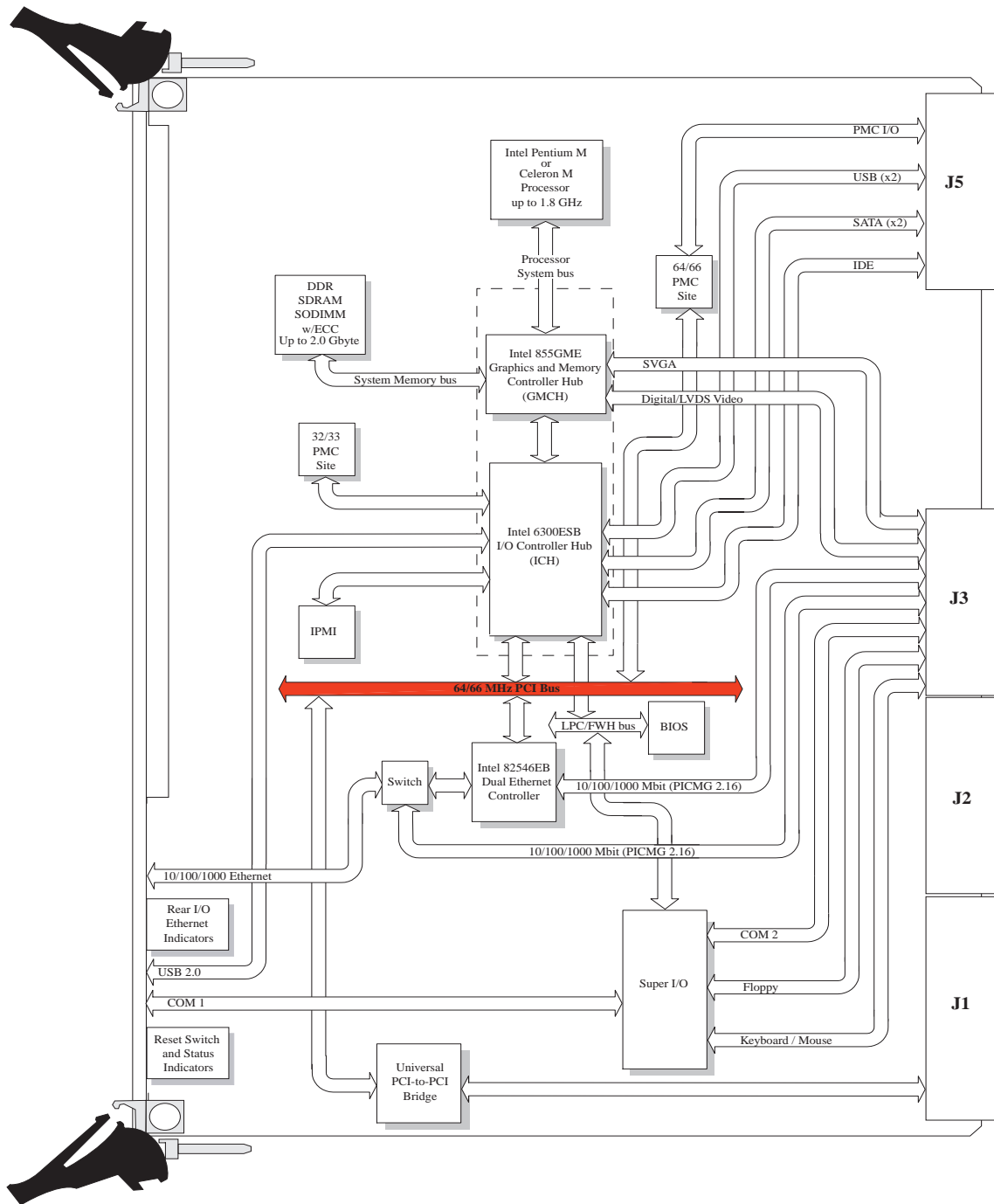


Figure 1. VMICPCI-7808 Functional Block Diagram



GE Fanuc Embedded Systems Information Centers

USA and the Americas:

Huntsville, AL 1 800 322-3616
 1 (256) 880-0444
 Ventura, CA 1 (805) 650-2111

Europe, Middle East and Africa:

Edinburgh, UK 44 (131) 561-3520
 Paris, France 33 (1) 4324 6007

Additional Resources

For more information, please visit the GE Fanuc Embedded Systems web site at: www.gefanuc.com/embedded