VMIVME-7805
Intel® Pentium® 4 Processor-M Based VMEbus Single-Board Computer

A GE Fanuc Company

- Pentium® 4 Processor-M µFCPGA socket processor-based single-board computer (SBC) with 400 MHz system bus
- Special features for embedded applications include:
  - — Up to 1 Gbyte bootable flash on secondary IDE (optional)
  - — Two 16-bit and two 32-bit programmable timers
  - — 32 Kbyte of nonvolatile SRAM
  - — Software-selectable watchdog timer with reset
  - — Remote Ethernet booting
  - — PMC expansion site (IEEE-P1386 common mezzanine card standard, 5 V)
  - — VME64 modes supported: A32/A24/D32/D16/D08(EO)/MBLT64/BLT32
  - — VMEbus interrupt handler, interrupter and system controller
  - — Includes real-time endian conversion hardware for little-endian and big-endian data interfacing (patent no. 6,032,212)
  - — Enhanced bus error handling
  - — Passive heat sink
- Standard features for embedded applications include:
  - — Up to 2.20 GHz Pentium 4 Processor-M with 512 Kbyte advanced transfer cache
  - — Up to 1 Gbyte PC2100 DDR SDRAM using two SODIMMs
  - — Internal SVGA and DVI controller
  - — 400 MHz system bus via Intel® 852GM chipset
  - — One Ethernet controller supporting 10BaseT and 100BaseTX interfaces
  - — One Ethernet controller supporting 10BaseT, 100BaseTX and 1000BaseT interfaces
  - — On-board Ultra DMA/100 hard drive and floppy drive controllers (uses VMEbus P2 for connection to IDE/floppy)
  - — Two high-performance 16550-compatible serial ports
  - — PS/2-style keyboard and mouse ports on front panel
  - — Real-time clock and miniature speaker included
  - — Dual front panel Universal Serial Bus (USB) connections Rev. 2.0
- Operating system support available:
  - — Windows NT®
  - — Windows® 2000
  - — VxWorks
  - — QNX
  - — LynxOS
  - — Linux

MICROPROCESSOR — The VMIVME-7805 brings the Intel Pentium 4 Processor-M to VMEbus, offering processor speeds up to 2.2 GHz. The Intel Pentium 4 Pocessor-M is the first Intel mobile processor with the Intel NetBurst micro-architecture. The Intel Pentium 4 Processor-M utilizes a 478-pin, Micro Flip-Chip Pin Grid Array (Micro-FCPGA) package, and plugs into a surface-mount, Zero Insertion Force (ZIF) socket. The Intel Pentium 4 Processor-M maintains full compatibility with IA32 softare.

The Intel NetBurst micro-architecture features include hyper-pipelined technology, a rapid execution engine, a 400 MHz system bus, and an execution trace cache. The hyper-pipelined technology doubles the pipeline depth in the Intel Pentium 4 Processor-M allowing the processor to reach much higher core frequencies. The rapid execution engine allows the two integer ALUs in the processor to run at twice the core frequency, which allows many integer instructions to execute in 1/2 clock tick. The 400 MHz system bus is a quad-pumped bus running off a 100 Mhz system clock making 3.2 Gbyte/sec data transfer rates possible. The execution trace cache is a first level cache that stores approximately 12 kbyte decoded micro-operations, which removes the instruction decoding logic from the main execution path, thereby increasing performance.

PRELIMINARY

Additional features within the Intel NetBurst mico-architecture include advanced dynamic execution, advanced transfer cache, enhanced floating point and multimedia unit, and Streaming SIMD Extensions 2 (SSE2). The advanced dynamic execution improves speculative execution and branch prediction internal to the processor. The advanced transfer cache is a 512 kbyte on-die level 2 (L2) cache. A new floating point and multimedia unit has been implemented which provides superior performance for multimedia and mathematically intensive applications. Finally, SSE2 adds 144 new instructions for double-precision floating point, SIMD integer and memory management. Power management capabilities such as AutoHALT, Stop-Grant, Sleep, Deep Sleep, and Deeper Sleep have been incorporated. The processor includes an address bus powerdown capability which removes power from the address and data pins when the system bus is not in use. This feature is always enabled on the processor.

Ordering Options

Mar. 27, 2003 SSS-007805-000		A	B	C	–	D	E	F
VMIVME-7805	–				–			

A = Processor
- 1 = 1.7 GHz Pentium 4 Processor-M
- 2 = 2.2 GHz Pentium 4 Processor-M

B = System DDR SDRAM without ECC
- 0 = Reserved
- 1 = 256 Mbyte
- 2 = 512 Mbyte
- 3 = 1 Gbyte

C = CompactFlash
- 0 = No CompactFlash
- 1 = 128 Mbyte
- 2 = 256 Mbyte
- 3 = 512 Mbyte
- 4 = 1 Gbyte

The optional DVI-I adapter is vailable as VMIC P/N 312-000455-000

For Ordering Information, Call:
1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859
E-mail: info@vmic.com Web Address: www.vmic.com

SUPER VGA CONTROLLER — High-resolution graphics and multimedia-quality video are supported on the VMIVME-7805 using the 852GM chipset internal graphics controller. Screen resolutions up to 1,600 x 1,200 x 256 colors (single view mode) are supported by the graphics adapter.

Table 1. Partial List of Display Modes Supported

Resolution	Bits Per Pixel (Frequency in Hz)		
	8-bit Indexed	16-bit	24-bit
320 x 200	70	70	70
320 x 240	70	70	70
352 x 480	70	70	70
352 x 576	70	70	70
400 x 300	70	70	70
512 x 384	70	70	70
640 x 400	70	70	70
640 x 480	60, 70, 72, 75, 85	60, 70, 72, 75, 85	60, 70, 72, 75, 85
720 x 480	75, 85	75, 85	75, 85
720 x 576	60, 75, 85	60, 75, 85	60, 75, 85
800 x 600	60, 70, 72, 75, 85	60, 70, 72, 75, 85	60, 70, 72, 75, 85
1,024 x 768	60, 70, 72, 75, 85	60, 70, 72, 75, 85	60, 70, 72, 75, 85
1,152 x 864	60, 70, 72, 75, 85	60, 70, 72, 75, 85	60, 70, 72, 75, 85
1,280 x 720	60, 75, 85	60, 75, 85	60, 75, 85
1,280 x 960	60, 75, 85	60, 75, 85	60, 75, 85
1,280 x 1,024	60, 70, 72, 75, 85	60, 70, 72, 75, 85	60, 70, 75, 85
1,600 x 900	60, 75, 85	60, 75, 85	
1,600 x 1,200	60, 70, 72, 75		

DIGITAL VISUAL INTERFACE (DVI) — The VMIVME-7805 has a Digital Visual Interface that provides a high-speed digital connection for visual data types that are display technology independent. DVI is a display interface developed in response to the proliferation of digital flat-panel displays. For the most part, these displays are currently connected to an analog Video Graphics Array (VGA) interface and, thus, require a double conversion. The digital signal from the computer must be converted to an analog signal for the analog VGA interface, then converted back to a digital signal for processing by the flat-panel display. This inherently inefficient process takes a toll on performance and video quality and adds cost. In contrast, when a flat-panel display is connected to a digital interface, no digital-to-analog conversion is required.

DVI uses Silicon Image's PanelLink, a high-speed serial interface that uses Transition Minimized Differential Signaling (TMDS) to send data to the monitor. The DFP and VESA Plug and Display interfaces also use PanelLink. For this reason, DVI can work with these previous interfaces by using adapter cables (depending on the signal quality of the adapter.)

TMDS conveys data by transitioning between "on" and "off" states. An advanced encoding algorithm that uses Boolean exclusive OR (XOR) or exclusive NOR (XNOR) operations is applied to minimize the transitions. Minimizing transitions avoids excessive electromagnetic interference (EMI) levels on the cable. An additional operation is performed to balance the DC signal.

DVI also supports the VESA Display Data Channel (DDC) and the Extended Display Identification Data (EDID) specifications. DDC is a standard communications channel between the display adapter and monitor. EDID is a standard data format containing monitor information such as vendor information, monitor timing, maximum image size, and color characteristics. EDID information is stored in the display and is communicated over the DDC. EDID and DDC enable the system, display and graphics adapter to communicate so that the system can be configured to support specific features available in the display.

DVI CONNECTORS — The digital DVI connector has 24 pins that can accommodate up to two TMDS links and the VESA DDC and EDID services. The DVI specification defines two types of connectors (see Figure 1):

- DVI-Digital (DVI-D) supports digital displays only
- DVI-Integrated (DVI-I) supports digital displays and is backward compatible with analog displays

The DVI-D interface is designed for a 12- or 24-pin DVI plug connector from a digital flat panel. (Single-link DVI plug connectors implement only 12 of the 24 pins. Dual-link connectors implement all 24 pins.) The DVI-I interface accommodates a 12- or 24-pin DVI plug connector or a new type of analog plug connector that uses four additional pins, plus a ground plane plug to maintain a constant impedance for the analog RGB signals. The optional DVI-I interface is available from VMIC (VMIC P/N 321-000455-000 for the DVI-I adapter).

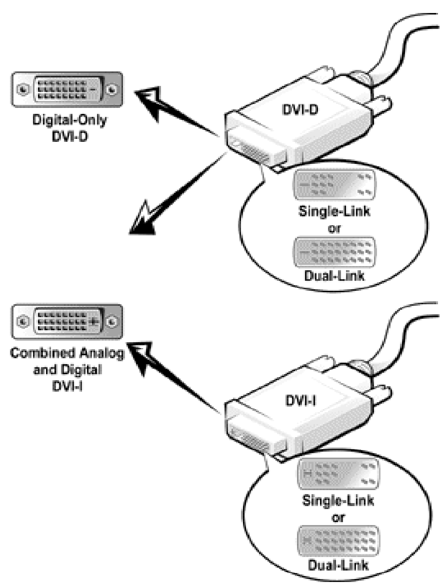

Figure 1. DVI-I and DVI-D Connectors

DRAM MEMORY — The VMIVME-7805 accepts two PC2100 DDR SDRAM SODIMMs for a maximum memory capacity of 1 Gbyte. The on-board SDRAM is dual ported to the VMEbus.

BIOS — System and video BIOS are provided in reprogrammable flash memory.

Ethernet CONTROLLER — The VMIVME-7805 supports Ethernet LANs with two Intel Ethernet controllers (one 82540EM Gigabit Ethernet controller and the other internal to Intel's chipset ICH2). 10BaseT, 100BaseTX and Gbit Ethernet options are supported via one RJ-45 connector. 10BaseT and 100BaseTX are supported via one RJ-45 connector. Remote LAN booting is supported.

REMOTE Ethernet BOOTING — The VMIVME-7805 utilizes a ROM BIOS that provides the ability to remotely boot the VMIVME-7805 using NetWare, TCP/IP or RPL network protocols.

Remote Ethernet Features:

- NetWare, TCP/IP, RPL network protocol support
- Unparalleled boot sector virus protection
- Detailed boot configuration screens
- Comprehensive diagnostics
- Optional disabling of local boots
- Dual-boot option lets users select network or local booting

SERIAL PORTS — Two 16550-compatible serial ports are featured on the VMIVME-7805 front panel. The serial channel has a 16-byte FIFO to support baud rates up to 1.5 Mbaud. Requires two micro-DB-9 to standard DB-9 adapters (VMIC P/N 360-010050-001).

KEYBOARD AND MOUSE PORTS — The VMIVME-7805 has a combined PS/2 keyboard and mouse connector. A Y-adapter cable is included.

FLASH MEMORY — The VMIVME-7805 provides up to 1 Gbyte of IDE CompactFlash memory accessible through the secondary IDE port. The VMIVME-7805 BIOS includes an option to allow the board to boot from the Flash memory.

TIMERS — The VMIVME-7805 provides the user with two 16-bit timers and two 32-bit timers (in addition to system timers). These timers are mapped in I/O space, and are completely software programmable.

WATCHDOG TIMER — The VMIVME-7805 provides a software-programmable watchdog timer. The watchdog timer is enabled under software control. Once the watchdog timer is enabled, on-board software must access the timer within the specified timer period or a timeout will occur. A user jumper allows the timeout to cause a reset. Independent of the jumper, software can enable the watchdog timeout to cause a nonmaskable interrupt (NMI) or a VMEbus SYSFAIL.

NONVOLATILE SRAM — The VMIVME-7805 provides 32 Kbyte of nonvolatile SRAM. The contents of the SRAM are preserved when +5 V power is interrupted or removed from the unit.

PMC EXPANSION SITE — The VMIVME-7805 supports IEEE-1386 common mezzanine card specification with a 5 V PCI mezzanine card expansion site. The PMC site provides for standard I/O out of the VMEbus front panel. An optional I/O connection to the VMEbus P2 connection can be provided.

Contact VMIC for more information concerning PMC modules and compatibility.

UNIVERSAL SERIAL BUS (USB) — The VMIVME-7805 provides a front panel dual USB 2.0 connection. High-Speed USB 2.0 allows data transfers of up to 480 Mbyte/sec. This rate is 40 times faster then USB 1.0. USB 2.0 is backward compatible with USB 1.0.

VMEbus INTERFACE — The VMIVME-7805 VMEbus interface is based on the Universe IIB high-performance PCI-to-VMEbus interface from Newbridge/Tundra.

SYSTEM CONTROLLER — The on-board VMEbus system controller capabilities allow the board to operate as a slot 1 controller, or it may be disabled when another board is acting as the system controller. The system controller may be programmed to provide the following modes of arbitration:

Round Robin (RRS)
Single Level (SGL)
Priority (PRI)

The system controller provides a SYSCLK driver, IACK* daisy-chain driver, and a VMEbus access timeout timer. The system controller also provides an arbitration timeout if BBSY* is not seen within a specified period after a BGOUT* signal is issued. This period is programmable for 16 or 256 µs.

VMEbus REQUESTER — The microprocessor can request and gain control of the bus using any of the VMEbus request lines (BR3* to BR0*) under software control. The requester can be programmed to operate in any of the following modes:

Release-On-Request (ROR)
Release-When-Done (RWD)
VMEbus Capture and Hold (VCAP)

MAILBOXES — The VMEbus interface provides four 32-bit mailboxes, which are accessible from both the microprocessor and the VMEbus providing interprocessor communication. The mailboxes have the ability to interrupt the microprocessor when accessed by VMEbus.

INTERRUPT HANDLER — The interrupt handler monitors, and can be programmed to respond to any or all VMEbus IRQ* lines. All normal-process VMEbus-related interrupts can be mapped to PCI INTA# or SERR# interrupts. These include:

Mailbox interrupts
VMEbus interrupts
VMEbus interrupter IACK cycle (acknowledgment of VMIVME-7805 VMEbus-issued interrupts)

All error processing VMEbus-related interrupts can be mapped to PCI INTA# or SERR#. Note: PCI SERR# initiates an SBC NMI. These include:

ACFAIL* interrupt
BERR* interrupt
SYSFAIL* interrupt

The interrupt handler has a corresponding STATUS/ID register for each IRQ* interrupt. Once the handler receives an IRQ*, it requests the VMEbus and, once granted, it performs an IACK cycle for that level. Once the IACK cycle is complete and the STATUS/ID is stored in the corresponding ID register, an appropriate interrupt status bit is set in an internal status register, and a PCI interrupt is generated. The PCI interrupt can be mapped to PCI INTA# or SERR#.

INTERRUPTER — Interrupts can be issued under software control on any or all of the seven VMEbus interrupt lines (IRQ7* to IRQ1*). A common ID register is associated with all interrupt lines. During the interrupt acknowledge cycle, the interrupter issues the ID to the interrupt handler.

The interrupter can be programmed to generate a PCI INTA# or SERR# interrupt when a VMEbus interrupt handler acknowledges a software-generated VMEbus interrupt.

BYTE SWAPPING — The Intel 80x86 family of processors use little-endian format. To accommodate other VMEbus modules that transfer data in big-endian format (such as the 680x0 processor family), the VMIVME-7805 incorporates byte-swapping hardware. This provides independent byte swapping for both the master and slave interfaces. Both master and slave interface byte swapping are under software control.

The VMIVME-7805 supports high throughput DMA transfers of bytes, words and longwords in both Master and Slave configurations.

If endian conversion is not needed, we offer a special “bypass” mode that can be used to further enhance throughput. (Not available for byte transfers.)

MASTER INTERFACE — MA32:MBLT32:MBLT64 (A32:A24:A16:D32:D16:D8 (EO):BLT32)

The VMEbus master interface provides nine separate memory windows into VMEbus resources. Each window has separate configuration registers for mapping PCI transfers to the VMEbus (that is, PCI base address, window size, VMEbus base address, VMEbus access type, VMEbus address/data size, etc.). The maximum/minimum window sizes for the nine windows are as follows:

Window	Minimum Size	Maximum Size
0, 4	4 Kbyte	4 Gbyte
1 to 3, 5 to 7	64 Kbyte	4 Gbyte
Special Cycle	64 Mbyte	64 Mbyte

SLAVE INTERFACE — Memory Access SAD032:SD32:SBLT32:SBLT64 (A32:A24:A16:D32:D16:D8 (EO): BLT32)

The VMEbus slave interface provides eight separate memory windows into PCI resources. Each window has separate configuration registers for mapping VMEbus transfers to the PCI bus (that is, VMEbus base address, window size, PCI base address, VMEbus access type, VMEbus address/data size, etc.). The maximum/minimum window sizes for the eight windows are as follows:

Window	Minimum Size	Maximum Size
0, 4	4 Kbyte	4 Gbyte
1 to 3, 5 to 7	64 Kbyte	4 Gbyte

In addition, each window can be programmed to operate in coupled or decoupled mode. In decoupled mode, the window utilizes a write-posting FIFO and/or a read prefetching FIFO for increased system performance. In coupled mode, the FIFOs are bypassed and VMEbus transactions are directly coupled to the PCI bus (that is, transfers on VMEbus are not completed until they are completed on the PCI bus).

ENHANCED BUS ERROR HANDLING — Enhancements over the Universe chip’s bus error handling features are provided. A latch and register are provided to allow the SBC to read the VMEbus address that caused the bus error in all modes. The Universe chip’s support is limited to decoupled mode. Support for bus cycle timeout and assertion of bus error is provided. The board may be configured to assert bus error upon timeout regardless of its status as system controller. The Universe chip asserts bus error only if it is system controller. In addition, this board may be configured to assert an interrupt upon bus cycle timeout.

OPERATING SYSTEM AND SOFTWARE SUPPORT — The VMIVME-7805 provides embedded features beyond PC/AT functionality. These features are supported by VMIC software products aimed at developers who are incorporating VMIC's SBCs, I/O boards, and workstations into systems. Windows NT/Windows 2000 and VxWorks are the most common operating systems supported by VMIC software products.

Windows NT/Windows 2000 — The IOWorks® software family is a set of software components that can work together or separately to provide a total development environment for any application in a Windows NT/ Windows 2000 OS.

VMISFT-9420 VMEbus Access™ for Windows NT/Windows 2000 — The VMEbus Access product is specifically designed for accessing the advanced VMEbus Access architecture of the VMIVME-7805. Running on Windows NT/Windows 2000, VMEbus Access is both sophisticated and easy to use.

The function library, VMEbus toolset and open architecture VMEbus Access offers make it one of the most powerful products on the market today. It provides compatibility with both existing VMIC VMEbus PC platforms and with future VMIC VMEbus PC platforms.

The VMEbus Access development package gives you everything you need to develop applications for your VMEbus operations. This package includes the *VMEmanager*™ function library and four utilities that enable you to easily configure a VMEbus, dynamically monitor VMEbus activities, manage VMEbus data, and use DDE-client applications.

VMEbus Access provides powerful tools for developing, debugging and monitoring VMEbus applications and increasing VMEbus performance. The flexible design of VMEbus Access enables you to incorporate it as a stand-alone solution, or use it to open your VMEbus operations to the IOWorks product suite. VMEbus Access manipulates the hardware behind the scenes. With VMEbus Access, you can develop applications in or use existing applications developed in most programming environments. For example, VMEbus Access enables your VMEbus to recognize applications developed in these popular programming environments:

- IOWorks Manager™
- LabVIEW
- Citect
- Wonderware InTouch
- Visual IOWorks®
- Visual Basic®
- Visual C++®

VxWorks OS SUPPORT

VMISFT-7418 BOARD SUPPORT PACKAGE — The VMISFT-7418 is Wind River Systems, Inc.'s certified board support package (BSP) for VMIC's series of VMEbus Pentium processor-based computers, which is required to run the VxWorks OS. With the SBC, VxWorks, the BSP, and other VMEbus equipment from VMIC, implementations can be created for a wide variety of applications including real-time factory automation, simulation, instrumentation and control, and process control and monitoring.

The BSP is linked with VxWorks OS, thus allowing software applications created with Wind River Systems, Inc.'s development system to load and run on the particular VMIC SBC hardware being used. Serial ports, parallel ports, keyboard, text mode video and Ethernet transceivers are all supported, as well as floppy and IDE hard disk drives that can be connected to the computer boards. The BSP provides Flash boot, NVRAM and timer support. The BSP allows VxWorks applications to have access to the VMEbus. When hardware includes single cycle and block transfers using DMA devices, they are supported by the BSP, as well as interprocessor communications with mailbox registers. VMEbus interrupt handling and error handling are supported. Since the VMEbus environment often contains a mixture of devices from various manufacturers, the byte-swapping feature is provided to allow big-endian and little-endian devices to share data correctly.

QNX OS SUPPORT

VMISFT-7417 BOARD SUPPORT PACKAGE — The VMISFT-7417 BSP provides QNX support and includes a VMEbus manager, user API and configuration files needed to run the QNX BSP on VMIC's VMIVME-7xxx SBC products. This BSP provides customizable VMEbus access. Using the QNX OS on the VMIVME-7xxx SBCs provides a computing platform suitable for real-time applications. QNX provides the applications programmer with a real-time extensible POSIX OS. VMIC's VMISFT-7417 is designed to tailor QNX's x86 OS to the VMIVME-7xxx platform. This combination provides a self-hosted development environment which runs entirely on the VMIVME-7xxx SBC boards without requiring any external host systems.

LynxOS x86 OS SUPPORT

VMISFT-7419 BOARD SUPPORT PACKAGE — The VMISFT-7419 BSP includes all of the device drivers and configuration tables needed to install the LynxOS x86 development system (available separately from Lynx Real-Time Systems, Inc.) onto VMIC's VMIVME-7805.

Using LynxOS on VMIC's SBCs provide a computing platform suitable for hard real-time applications. LynxOS provides the applications programmer with a stable development environment based on industry-wide standards such as POSIX and Motif.

I/O SUPPORT

VMISFT-9450 IOWorks BOARD DRIVERS — This driver supports VMIC's extensive line of VME I/O boards, and is available for Windows NT/Windows 2000 and VxWorks. IOWorks board drivers take advantage of all the key benefits and features of each supported I/O board and new I/O boards are constantly being added.

IOWorks board drivers contain both a C++ class library and a C function library that provide a common interface to VMIC I/O products for reading, writing and configuring. You do not need to know the details of how an individual board is programmed. For instance, you can use the SetAttributes function on any supported VMIC board; the WriteAnalog function controls the output from any VMIC analog output board; or the GetScanMode function retrieves the scan mode for any VMIC analog board.

SPECIFICATIONS

6U Eurocard Format, Single Slot:

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

Power Requirements:

+5 VDC (±5 percent), TBD (typical), TBD maximum

+12 VDC (±5 percent), TBD (typical), TBD maximum

-12 VDC (±5 percent), TBD (typical), TBD maximum

Note: The currents at +12 and -12 VDC are specified with the serial connectors open.

Operating Temperature: 0 to 50 °C (Air flow requirement as measured at outside of heatsink is to be greater than 350 LFM)

Storage Temperature: -25 to 80 °C

Relative Humidity: 10 to 90 percent, noncondensing

VMEbus Interface:

DTB Master:	BLT32/BLT64, A32/D32, A24/D32, A16/D32
DTB Slave:	BLT32/BLT64, A32/D32, A24/D32, A16/D32
Requester:	Programmable, BR(3 to 0), ROR, RWD, BCAP
Interrupt Handler:	IH(1 to 7) D8(O)
Interrupter:	Programmable, IRQ7* to IRQ1*
Arbiter:	SGL, PRI, RRS
BTO:	Programmable (4 to 1,024 µs)
Compliance:	Rev. C.1

PMC Expansion Site Connector:
5 V signaling, types 1 and 2
32-bit PCI bus, 33 MHz maximum
MTBF: 118,633 hours (Bellcore)

COMPATIBLE PRODUCTS

The VMIVME-7805 can be used with a number of VMIC PMC bus and VMEbus products.

Floppy/Hard Disk: VMIC produces floppy/hard drive modules to support the built-in IDE and floppy controller ports. The VMIVME-7452 provides up to 18.0 Gbyte of hard disk storage and a 3.5-inch 1.44 Mbyte floppy drive. The unit fits into a standard VMEbus 6U single-slot form factor. The VMIACC-0562 converts P2 IDE/floppy signals to 40- and 34-pin headers for use at the rear of the VMEbus backplane.

PMC Capability: VMIC supports PMC via the on-board PMC expansion site. This expansion site allows the VMIVME-7805 to take advantage of the many commercially available PMC boards available from third-party sources.

CD-ROM Support: Since much of today's advanced software is delivered on CD-ROM, the VMIVME-7455 provides CD-ROM capability within a single 6U VMEbus slot.

VMEbus: The VMIVME-7805 enables access to VMIC's wealth of VMEbus products. If you have real-world control, monitoring and real-time networking requirements, VMIC has a solution for you. Today's system requirements demand state-of-the-art solutions. Our advanced I/O features such as Built-in-Test, self-test, isolation, digital autocalibration, and intelligent on-board DSP processing give our customers those solutions.

The I/O Solution for Your I/O Problem: VMIC's 16 years of experience in supplying high-performance deterministic controllers for multiple markets has led to the development of IOWorks software with features, benefits, and capabilities to solve just about any I/O problem. From PLC alternatives to data servers that support the seamless interconnection of dissimilar systems, VMIC has the solution for simple to complex, high-speed, deterministic requirements. IOWorks PC platforms, target, OS and I/O independency provide the flexibility for solutions.

TRADEMARKS

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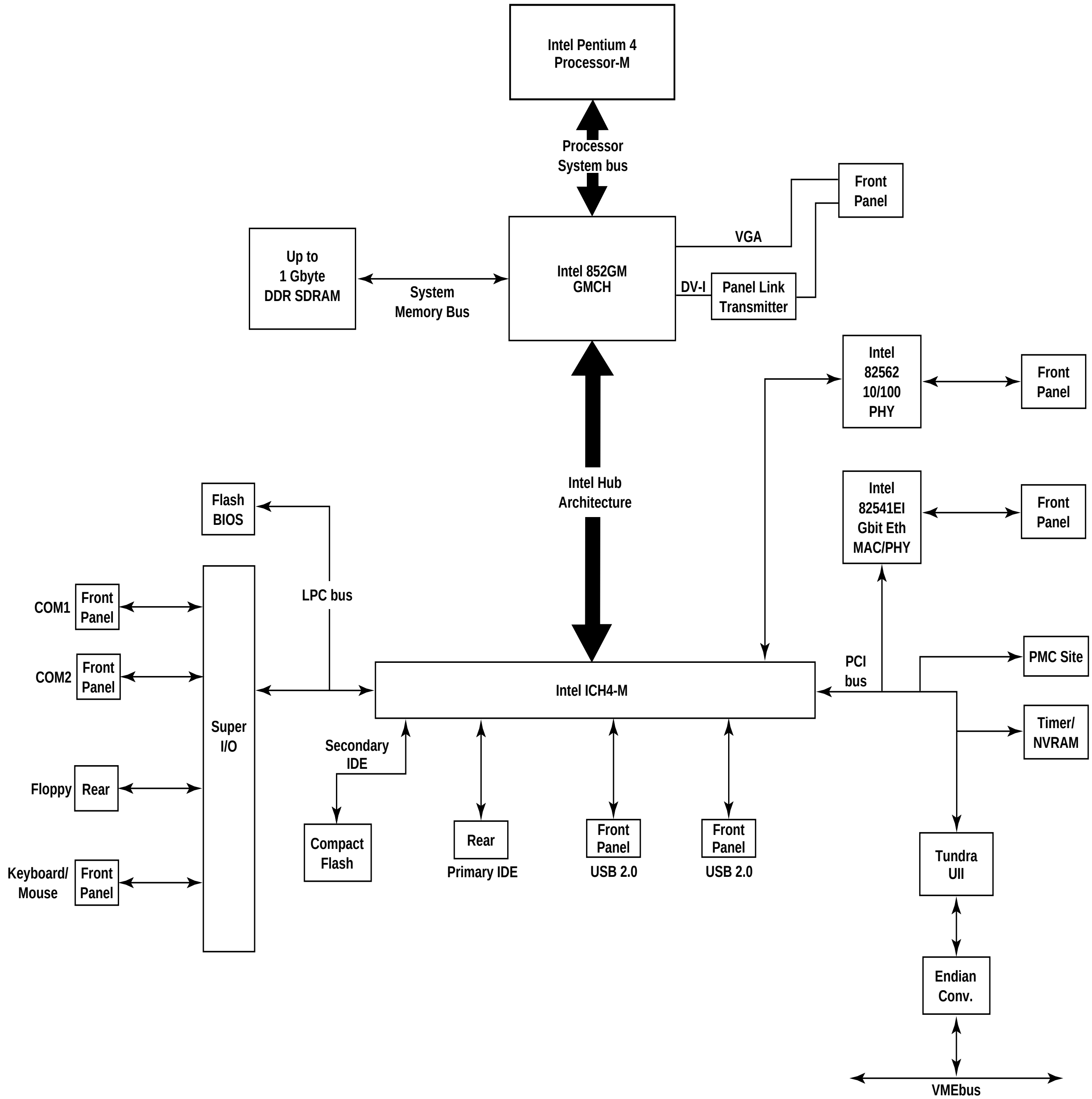

Figure 2. VMIVME-7805 Functional Block Diagram