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Find the *General Micro Systems V158 Mariner II-V* at our website: *Click HERE*

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VME Pentium III SBC with Dual PMC



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Key Features:

- Low Cost Embedded Pentium®III Processors from 366MHz to 1GHz
- 128 or 256KB of On Die L2 Cache, Clocked at CPU Speed
- 66/100 MHz Front Side Bus (FSB)
- Up to 1GB of Low Cost Memory
- 10/100Base-Tx Ethernet
- Two PMC Slots for User I/O
- Optional: AGP Graphics on PMC Module
- Only One VME Slot!
- Up to 144MB of Disk-On-Chip
- Optional (mounted on-board) High Capacity 2.5" HDD or Flash
- System Hardware Monitor
- Optional: Triple PMC Expansion Module
- Front or Rear Panel I/O
- Dual Ultra DMA-33 IDE, USB Ports, Comm Ports, Floppy, Mouse, Keyboard, Printer Port, RTC, Flash Bios, and Power-On-Self-Test(POST)
- Voltage Regulator Module (VRM) for using 3-row VME
- Support for Windows NT®4.0/2000, VxWorks®, Solaris®x86, and Linux® Operating Systems
- Utilizes 100% Intel® Embedded Chip Sets for Long Life Support

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General Description:

The V158 “Mariner II-V” is the second generation of VME Pentium® III processor modules from General Micro Systems. The “Mariner II-V” is designed with the very first Embedded Celeron®, or the powerful Coppermine-256 processors from Intel®. These processors provide users with the fastest Pentium processors available, and are supported by the Intel Embedded group for long lifecycle.

The V158 processor is upgradeable to accommodate the low-cost, high-performance, Celeron Processor, with 128KB of On-Die-Cache, which is clocked at CPU speed. The Celeron processor’s clock speed starts as low as 366MHz for ultra-low cost, low power consumption, and is currently available at up to 1GHz for more demanding applications.

The V158 can also be configured for the Pentium III Flip-Chip Coppermine-256 processor in a Pin Grid Array (PGA) package with 256KB of On-Die-Cache, which is also clocked at processor clock speed. The Clock speed on these processors starts as low as 500MHz, and reaches speeds as high as 1GHz. The processor is equipped with a high-performance ultra reliable heat sink/ fan assembly, or an optional passive heat sink for applications demanding fan-less operations.

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The Memory on the “Mariner II-V” is provided via two SO-DIMM modules, which support up to 1 GB of low cost, “off-the-shelf“ memory, with 66MHz or 100MHz Front Side Bus (FSB). Special attention has been paid to the sockets for these memory modules, as well as the CPU, for rugged applications where high shock and vibrations are present.

The “Mariner II-V” Single Board Computer is highly user-configurable for user I/O. The standard on-board I/O functions include one 10/100Base-Tx Ethernet port via the Intel 82559ER integrated MAC/PHY controller, dual IDE DMA-33, dual Serial ports, Floppy, dual USB ports, and Mouse/Keyboard Ports. Up to 144MB of Disk-On-Chip Flash Disk, which can be configured as a bootable drive for Diskless Systems, is also optional. In addition, a Real Time Clock /Calendar is provided, and is battery backed with a field replaceable battery. For custom I/O functions, the Mariner II provides the user with two PMC expansion modules in a single slot configuration. One of these modules can be used as a standard 32bit 33MHz PMC module, or as a 32bit 66MHz AGP graphics module, which is available from GMS. This AGP video module provides 8MB of high-speed memory for unmatched video performance without taking any PCI I/O bandwidth as standard PCI Video devices do.

To further enhance the single slot system capability of the Mariner II, in addition to the PMC AGP Video module, an optional 2.5 inch Ultra Thin / Rugged Hard Drive can be provided on board. This hard drive has a capacity of 20GB or larger, and is field replaceable. For applications demanding no rotating media, provisions have been made for a Flash IDE Drive with capacities of up to 1GB. The Boot device may be selected in the BIOS from the HDD/Flash drive or the on-board Disk-On-Chip as well as USB device. The V158 utilizes standard 5-row, VME-64x connectors for J1 and J2, to support all the system I/O functions. However, for systems requiring backward compatibility with 3-row VME connectors, a Voltage Regulator Module (VRM)converts the 5V supply to 3.3V for the on-board devices, as well as the PMC modules on board and a triple PMC expansion module.

The Mariner II Processor is provided in a single slot 6U VME form factor, using J1, J2 connectors for power and I/O. The Keyboard/ Mouse and Com1 are routed to the front panel and to the rear panel, along with Com2 and IDE ports. An optional 80mm (3U for VME) rear panel transition I/O module is available for easy interconnects to the IDE hard drive and rear panel I/O, using standard cabling for Com ports and printer ports.

To guarantee safe and reliable operation of the Mariner II, the System Health Monitor (SHM) is provided. This SHM reports the processor temperature, the voltages used on board, as well as the fan speed to the operating system. Further, full Power-On Self Test (POST) diagnostics are provided on board with dual binary LED displays which show the status of over 50 tests which are performed on the board each time power is applied to the board. To allow the on-board BIOS to be field upgraded, a 256KB of FLASH is provided with a unique programming sequence for additional security. For VxWorks applications and custom configurations, a 256-byte serial Flash ROM is provided which stores VxWorks boot parameters along with board specific data. This Flash is not accessible without a GMS provided code.

All major operating systems such as WindowsNT® 4.0/2000, VxWorks®, Solaris® x86, and Linux® are supported on the V158.

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Specifications:

Physical Specifications	
Form Factor	1-Slot, 6U form factor VME Card Assembly
Long Axis	233.35 mm
Short Axis	160 mm
Front Panel Dimensions	261.9 mm x 40.3 mm
Edge-to-trace Distance at card guide edges	2.54 mm
Electrical Specifications	

Power Requirements

Board Input Voltage Requirements	+5.0V +0.25/-0.125 Max Ripple/Noise 50mV		
	+12V +0.60/-0.36 Max Ripple/Noise 50mV		
	-12V +0.60/-0.36 Max Ripple/Noise 50mV		
Power Dissipation	Voltage	Current	Power
500 MHz Celeron™ 64-MB SDRAM		Idle state:	Idle state:
		Nominal:	Nominal:
		Max. state:	Max. state:
	5 Volts	Idle state: 5.8 Amps	Idle state: 29 Watts
		Nominal: 6.5 Amps	Nominal: 32.5 Watts
		Max. state: 8.3 Amps	Max. state: 41.5 Watts
	+/-12 Volts	Idle state: 0.05 Amps	Idle state: 0.6 Watts
		Nominal: 0.05 Amps	Nominal: 0.6 Watts
		Max. state: 0.1 Amps	Max. state: 1.2 Watts

Environmental Specifications

When measuring the operating environment air temperature for the v158 board, measure the air temperature as close to the air intake port on the enclosure as possible. For cooling purposes, air should flow vertically along the long axis of the v158 single board computer on both sides of the printed circuit board.

Operating

Description	Minimum Value	Maximum Value
Temperature Range	0°C	50°C

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Humidity Range (relative non-condensing at 104°F (40°C)	5%	90%
Altitude Range	0 feet	10,000 feet
Shock	6g, 11msec, 1/2 sine wave	
Vibration	0.01G^2/Hz 50-500-Hz Random Vibrations	

Non-Operating

Description	Minimum Value	Maximum Value
Temperature Range	-20°C	75°C
Humidity Range (relative non-condensing at 104°F (40°C)	5%	95%
Altitude Range	0 feet	40,000 feet
Shock	6g, 11msec, 1/2 sine wave	
Vibration	0.01G^2/Hz 50-500-Hz Random Vibrations	

Mean Time Between Failures (MTBF)

226,640.7441 Hours (Per Mil-HDBK-217E-2)

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Ordering Information:

V158 Mariner II
VME Single Slot, Single Celeron/Coppermine-128/256 Embedded Computer

GMS Sales Part Number	Description	GMS Mfg. Part Number	Availability
	The V158 utilizes the Low Cost, High Performance, Up to 1GHz, Celeron Processor, with 66/100 MHz FSB or the Pentium III Processor, Up to 1GHz with 100MHz FSB and 256/512KB of On-Die L2 Cache. Up to 1GB of Low Cost SO-DIMM and Highly User-Configurable Custom I/O via Two PMC Slots. Standard Functions Include: One 10/100Base-Tx Ethernet Port, Dual IDE DMA 33, Dual Serial Ports, Floppy, Dual USB Ports, Real-Time Clock/Calendar, Mouse/Keyboard Ports and 512B of Serial ROM for VxWorks Boot Parameters. Optional Features Include: Passive Cooling, Disk-On-Chip, PMC Video with AGP Interface, On Board 2.5" IDE HDD/Flash Drives and I/O Expansion Module for Three Additional PMC Modules. All Modules are shipped with AMI Flash Bios, with Power On Self-Test (POST), VME Master/Slave with D64 support via Tundra Universe II, 5 Row VME J1 and J2 Connectors, Active Cooling (Fan/Heat Sink) and Mouse/Keyboard/Com Port Cable Assembly. Specify Options.		

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V158	Specify CPU Type / Speed and Memory **V158 SBC with:** Full-up less CPU and RAM	95-370-0	Call
	V158 Options		
V158BO	Breakout Module - 3U 5 Row, rear panel I/O, with accommodation for mouse/keybord, com2 with RS232 /422 buffers, floppy, printer port, USB and provision for IDE drive.	95-378-0	Call
V158BO-3R	Same as above, but for use with 3 Row VME backplane, less printer port, mouse/keyboard, com2, and USB	95-378-1	Call
V158-PMC-5V	PMC Expansion Module - with 5 Row VME Connectors and no J0. Supports up to three (3) PMC Modules with 5V signaling. PMC rear panel I/O via VME P2 for one PMC Module and Optional J0 for second PMC Module.	95-335-0	Call
V158-PMC-5V-J0	Same as above but with J0 option	95-335-1	Call
V158-PMC-3V	PMC Expansion Module - with 5 Row VME Connectors and no J0. Supports up to three (3) PMC Modules with 3V signaling. PMC rear panel I/O via VME P2 for one PMC Module and Optional J0 for second PMC Module.	95-335-2	Call
V158-PMC-3V-J0	Same as above but with J0 option	95-335-3	Call
V158-PASS-	Passive Cooling Heat Sink	65-205-0	Call

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