

XVME-661 VMEbus Intel® Pentium® III Low Power Processor Module

With Integrated PMC Expansion Site

FEATURES

- Intel® Pentium® III Low Power 700 MHz CPU
- 100 MHz frontside bus
- Supports up to 256 MB of SDRAM (one 144-pin SODIMM)
- 256 KB on-chip L2 cache
- High-performance 64-bit AGP graphics controller with 4 MB SDRAM
- 32-bit PMC (PCI Mezzanine Card) site with electrical isolation
- PCI EIDE controller with Ultra DMA-33
- Dual 10/100 Base-T Ethernet controllers with front panel RJ-45 connectors and isolated ground
- Type I / II IDE CompactFlash™ site
- PCI-to-VMEbus interface with DMA
- Two high-speed 16550-compatible serial ports:
 - One RS-232 on front panel with electrical isolation
 - One RS-232 on P2 via optional XVME-974 breakout module
- Universal Serial Bus (USB) port on P2
- EPP or ECP parallel port on P2 (XVME-974)
- Combined PS/2 compatible keyboard / mouse port
- Watchdog timer
- Configurable hardware byte-swapping logic
- Electrical isolation and noise immunity on Ethernet ports, Serial Port, and PMC site
- Front panel ABORT/RESET switch with "pass" / "fail" LEDs
- Front panel System Controller LED indicator and user STATUS LED

OVERVIEW

The XVME-661 is a powerful VMEbus PC compatible processor module from XycomVME, the pioneer and leader in VMEbus PC technology. This powerful VMEbus processor integrates a Low Power Pentium III 700 MHz CPU with a PCI-to-VMEbus interface, allowing users to take advantage of the powerful multiprocessing capability of the VMEbus while using standard off-the-shelf PC software and operating systems.

The XVME-661 is a high performance, low power module built around the Intel® Pentium® III low power processor, supporting up to 256 MB of SDRAM (one 144-pin SODIMM). The XVME-661 allows for custom configuration and maximum flexibility with its 32-bit PMC site.

The XVME-661 offers many disk and storage choices and options including a Type I / II IDE CompactFlash™ site, a hard drive / floppy drive via optional single-slot module (XVME-977), and a hard drive / CD drive via optional single-slot module (XVME-979).

The XVME-661 module contains a wide breadth of I/O including PCI EIDE, dual Ethernet controllers, one Universal Serial Bus (USB) port (via XVME-974 breakout module on P2), two high-speed serial ports (COM2 on XVME-974), one EPP/ECP parallel port (via XVME-974 breakout module on P2), and a combined PS/2 style keyboard / mouse port. For I/O expansion, the 32-bit PMC site allows easy I/O expansion and configuration without the use of a carrier board.

XycomVME's I/O carrier modules (XVME-976) provide a mechanism for further I/O expansion using additional PMC, PC/104, PCI, and Short ISA modules.

The XVME-661 module is an unbeatable low power solution for high performance processing and I/O on a single-slot VMEbus module.



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Integrated Intel Chipset

The XVME-661 features a high-performance, highly integrated Intel® BX chipset that incorporates a host-to-PCI bus interface and PCI-to-ISA bridge with Universal Serial Bus host controller.

Display Support

The XVME-661 utilizes a high-performance Chips and Technologies 68030 AGP graphics controller. The 68030 has 4 MB of internal SDRAM and supports up to 1600x1200 resolution with 64K colors or 1280x1024 resolution with 16 million colors. The video output is available on the front panel via a standard 15-pin D shell connector.

Network Support

The XVME-661 contains dual, state-of-the-art Intel® 82559ER 10Base-T/100Base-TX Ethernet controllers with a 32-bit PCI bus mastering interface to sustain bus transfers of up to 100 Mbps. The transfer rate is autosensed and indicated by LEDs on the two front panel RJ-45 connectors.

VMEbus Interface

The Tundra Universe IID PCI-to-VMEbus bridge device provides users with a flexible mapping architecture to allow configurations that will support virtually all user applications. The bridge device supports multiple VME master and slave images with BLT and DMA capability for high-performance block data operations. The XVME-661 also contains onboard programmable hardware byte-swapping.

PMC Expansion

For I/O expansion, the XVME-661 has one PMC site. This site allows easy I/O expansion without the use of a carrier board. XycomVME also provides a variety of PMC expansion modules available. The XVME-976 expansion modules allow users of the XVME-661 to expand their systems with additional PMC, short PCI, PC/104, or short ISA expansion slots.

Mass Storage Support

Floppy, CD and hard drive functions are supported by bus mastering EIDE and PC-compatible controllers. Signals for both the floppy and EIDE interfaces are routed to the A and C rows of the module's P2 connector, allowing the XVME-661 to access a variety of mass-storage options. These options include XycomVME single-slot hard and floppy disk modules (XVME-977), solid-state mass storage modules or externally mounted mass storage devices using the XVME-974 adapter module. XycomVME also provides a single-slot CD-ROM drive (XVME-979) in both CD-R and CD-RW formats.

Nonvolatile Storage

An onboard CompactFlash™ site provides flash memory storage using the Type I or Type II CompactFlash™ cards found in many of today's palm-size PCs and digital cameras. The CompactFlash™ site resides on the IDE bus and therefore does not require unique software drivers. The 661 can be configured to boot from the CompactFlash™ card when the use of a hard disk is not preferred.

I/O Support

Other functions provided on the XVME-661 include one Universal Serial Bus (USB) port, two 16550-compatible RS-232C serial ports, one ECP/EPP parallel port, one combined PS/2 style keyboard/mouse port. USB, COM2, and the parallel port are accessible via P2 using the XVME-974. All other I/O connections are available on the front panel.

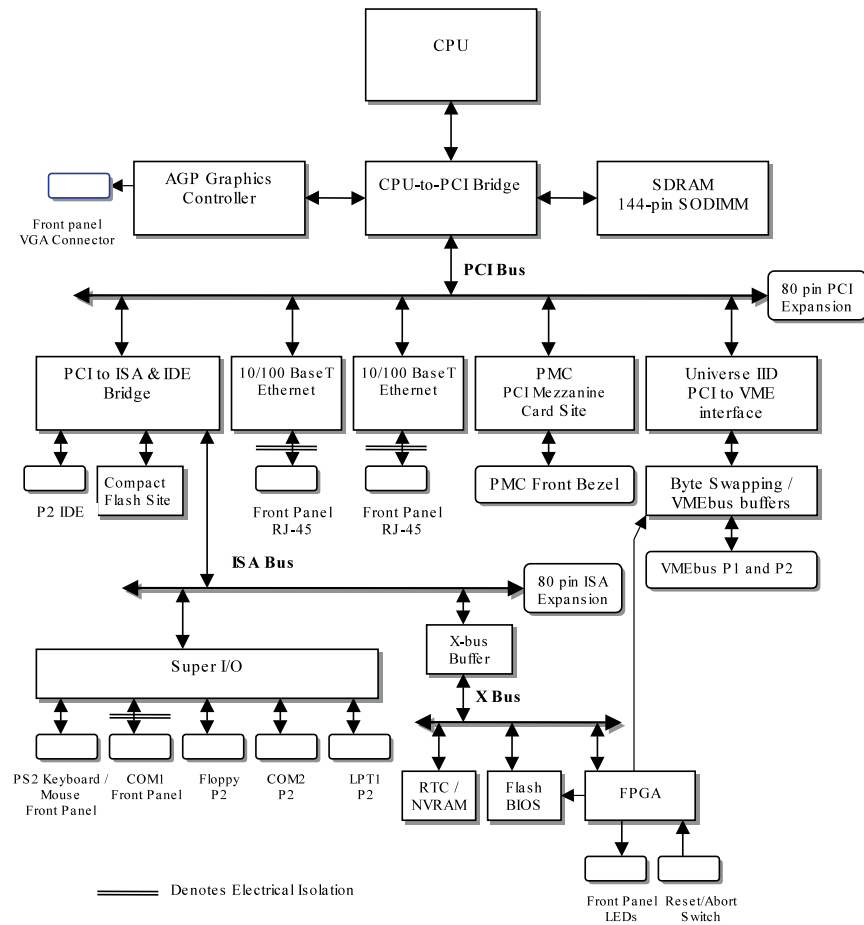
Software Support

Even with all of the power and features packed into the XVME-661, a processor board is only as good as its support software. Although the XVME-661 is fully PC-compatible and will run "off-the-shelf" PC software, most packages will not be able to access the features of the VMEbus. To solve this problem, XycomVME has developed extensive Board Support Packages (BSPs) that simplify the integration of VMEbus data into PC software applications. XycomVME's BSPs provide users with an efficient high-level interface between their applications and the Tundra Universe IID VMEbus-to-PCI bridge device. Board Support Packages are available for MS-DOS, Window 3.x®, Windows NT®, Windows 2000®, and QNX®.



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XVME-66 I BLOCK DIAGRAM



PRODUCT SPECIFICATIONS AND RATINGS

Hardware

CPU	<ul style="list-style-type: none"> Intel® Pentium® III Processor (700 MHz) CPU Temperature Sensor with SMBus Serial Interface
Cache (Onboard L2)	<ul style="list-style-type: none"> 256 KB
Onboard Memory	<ul style="list-style-type: none"> One 144-pin SODIMM site (32 to 256 MB)
AGP Graphics Controller	<ul style="list-style-type: none"> C+T 68030 1600x1200 maximum, 24-bit color maximum 4 MB SDRAM
Dual PCI Ethernet Controller	<ul style="list-style-type: none"> Intel® 82559ER controllers; 10 Base-T/100 Base-TX Fast Ethernet Two RJ-45 connectors on module front panel
Serial Ports	<ul style="list-style-type: none"> Two RS-232C-compatible (COM1 on front panel, COM2 on P2) One Universal Serial Bus (USB) port on P2
Parallel Interface	<ul style="list-style-type: none"> One EPP/ECP compatible on P2
VME Interface	<ul style="list-style-type: none"> Tundra Universe IID Utilizes a 160-way AMP connector (VME 64) Compatible with 96-pin AMP connectors (VME 32) and 160 pin AMP (VME 64)
Power Specifications	<ul style="list-style-type: none"> +5V 4.4A (max), 3.7A (typical)
Voltage Specifications	<ul style="list-style-type: none"> +5 V, +12 V, -12 V (all +/- 5%)
Regulatory Compliance	<ul style="list-style-type: none"> European Union – CE (Electromagnetic Compatibility – 89/336/EEC)

Environmental

	Operating	Nonoperating
Thermal	0° to 55°C (32° to 131°F) with 100 CFM airflow	-40° to 85° C (-40° to 185° F)
Humidity	10% to 90% RH, non-condensing	10% to 90% RH, non-condensing
Shock	30 g peak acceleration, 11 msec duration	50 g peak acceleration, 11 msec duration
Vibration 5-2000 Hz	.015" (.38 mm) peak-to-peak displacement, 2.5 g maximum acceleration	.030" (.76 mm) peak-to-peak displacement, 5.0 g maximum acceleration
Altitude	Sea level to 10,000 ft.(3048 m)	Sea level to 40,000 ft.(12192 m)

VME Compliance

- Complies with VMEbus Specification, VME-64 (ANSI/VITA 1-1994)
- A32/A24/A16:D64/D32/D16/D08(EO) DTB Master
- A32/A24/A16:D64/D32/D16/D08(EO) DTB Slave
- R(0-3) Bus Requester
- Interrupter I(1)-I(7) DYN
- IH(1)-IH(7) Interrupt Handler
- SYSCLK and SYSRESET Driver
- PRI, SGL, RRS Arbiter
- RWD, ROR bus release
- Form factor: 6U DOUBLE 233.7 mm × 160.0 mm (9.2" × 6.3")

ORDERING INFORMATION

Processor Board

Order Number	Description	where:
XVME-661/71X	700 MHz Intel® Pentium® III CPU with 256 KB of on-chip cache	x=0 No DRAM x=3 32 MB DRAM x=4 64 MB DRAM x=5 128 MB DRAM x=6 256 MB DRAM

Expansion Modules

Order Number	Description
XVME-973/1	Drive adapter module for floppy and hard drive
XVME-973/5	Same as XVME-973/1, except cables out front of VME rack
XVME-976/201	One PMC, one PC/104 site expansion module
XVME-976/202	One 16-bit short ISA card site expansion module (2-slot)
XVME-976/203	Two PMC sites expansion module
XVME-976/204	Two PC/104 sites expansion module
XVME-976/205	One short PCI card site expansion module (2-slot)
XVME-977/11	Single-slot mass storage module
XVME-979/1	CD-ROM, external floppy connector
XVME-979/2	CD-ROM, hard drive, external floppy connector
XVME-979/3	CD-RW, external floppy connector
XVME-979/4	CD-RW, hard drive, external floppy connector
9000-EXF	External floppy for use with XVME-979 modules (hot-swappable)

Warranty Information: The XVME-661 carries a two-year parts and labor warranty.

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