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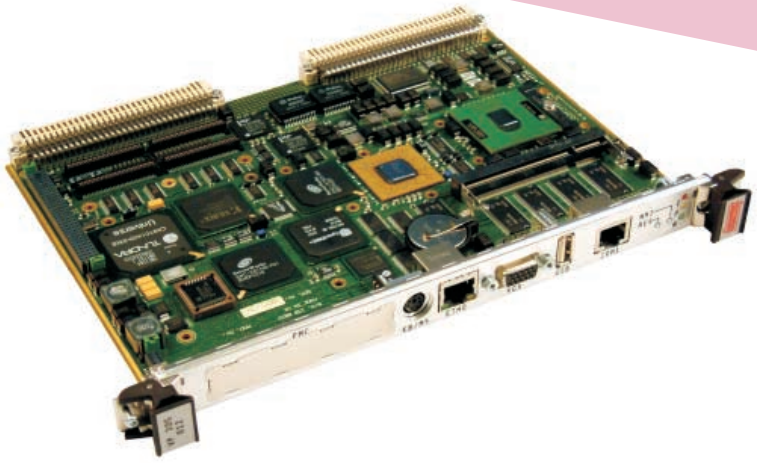
Find the *Concurrent Technologies VP 305/011-13U* at our website: *Click HERE*

VME

VP 305/01x

N, E - Series

Intel® Pentium® M Processor Single Board Computer



APPLICATIONS

The VP 305/01x is a PC-compatible high performance VME single board computer supporting the 1.6 GHz or 1.1 GHz Intel® Pentium® M processor, with extensive front and rear I/O functions. The board features up to 1.5 Gbytes DDR synchronous DRAM and a variety of interfaces including an option for an on-board Hard Disk Drive, CompactFlash™ or Hitachi GST MicroDrive™. Support for Gigabit Ethernet on VME64x backplanes is included (VITA 31.1). The VP 305/01x is suitable for a range of demanding applications within the industrial control, defense, telecomms, telemetry, scientific and aerospace markets. Its functionality can be further increased through the use of PMC modules. To simplify the board's integration many popular industry standard operating systems are supported. The board is plug compatible with the VP 307/01x family.

HIGHLIGHTS

- 1.6 GHz or 1.1 GHz Intel Pentium M processor:
  - 64 Kbytes L1 cache
  - 1 Mbyte L2 cache
  - no CPU fan needed; low power processor
- 1.8 GHz processor version available; see VP 307/01x datasheet
- Up to 1.5 Gbytes of DDR DRAM (with ECC)
- High performance EIDE interfaces with optional on-board disk drive (in a single slot)
- Supports optional CompactFlash or MicroDrive
- 1 x 10/100Mbps Ethernet interface (front panel)
- 2 x 10/100/1000Mbps Ethernet interfaces:
  - P2 I/O or Ethernet on VME64x backplanes (VITA 31.1)
- 32 Mbytes Application flash EPROM
- 512 Kbytes of BIOS Flash EPROM
- Floppy disk interface
- Front panel and P2 I/O combinations available:
  - analog and digital graphics interfaces
  - keyboard and mouse interfaces
  - 2 x RS232/RS422/RS485 serial channels
  - 2 x Universal Serial Bus (USB) ports
- 64-bit PMC module interface, operating up to 66 MHz:
  - expansion connector for dual site PMC carrier board
- Watchdog timer and Long Duration Timer
- VME64 Interface supporting A32/A24/A16/D64/D32/D16/D8(EO), MBLT64 and with support for fast hardware byte-swapping
- Single slot
- Extended temperature version available:
  - -25°C to +70°C (E-Series)
- Support for Linux®, Windows NT®, Windows® 2000, Windows® XP, Windows XP Embedded, RTX®, VxWorks®, QNX®, Solaris™ and MS-DOS®

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Specification

Central Processor

- 1.6 GHz or 1.1 GHz Intel® Pentium® M processor:-
  - → 1.6 GHz uses µFC-PGA 478 (micro Flip-Chip Pin Grid Array) package
  - → 1.1 GHz uses µFC-BGA 479 (micro Flip-Chip Ball Grid Array) package
  - → 400 MHz Front Side Bus
  - → 64 Kbytes of primary (L1) on-die cache
  - → 1 Mbyte of secondary (L2) on-die cache
  - → no CPU fan; low power processor
- 1.8 GHz processor version available; see VP 307/01x datasheet
- utilizes 64-bit ServerWorks' GC-LE chipset
- ITP debug port

DRAM

- supporting up to 1.5 Gbytes of DDR ECC SDRAM:-
  - → 512 Mbytes soldered on-board DRAM
  - → up to 1 Gbyte provided via a SODIMM socket
  - → error correction up to 4-bits
- accessible from processor or VME bus

Hard Disk Interfaces

- EIDE interface:-
  - → supports up to Ultra-DMA 100 for high performance drives
  - → two channels (primary and secondary)
  - → primary channel is accessible via P2 connector
  - → connects to an optional hard/floppy/flash/CD-ROM drive board
  - → secondary channel can be used for on-board 2.5 inch disk drive or CompactFlash or MicroDrive Type II drive

Ethernet Interfaces

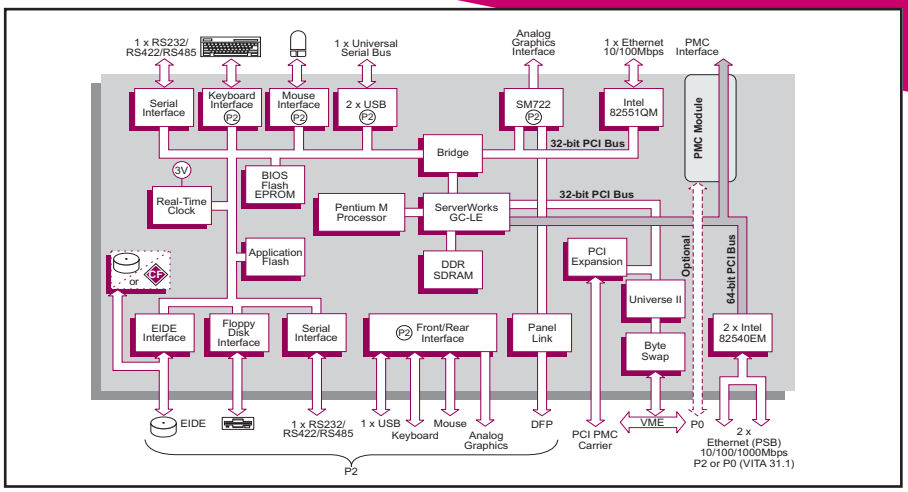
- 2 x channels supporting 10Base-T and 100Base-Tx, 1000Base-T:-
  - → implemented by 2 x Intel® 82540EM Controllers
  - → support via P0 or P2 configuration options (see Note 2)
  - → support for VITA 31.1 Gigabit Ethernet on VME64x backplane
- 1 x channel supporting 10Base-T and 100Base-Tx:-
  - → implemented by Intel® 82551QM Controller via front panel RJ45

Graphics Interface

- implemented by a Silicon Motion SM722 providing:-
  - → 8 Mbytes video memory
  - → resolutions up to 1280 x 1024
  - → supporting up to 16M colors
- analog VGA accessed via a 15-way high density connector on front panel or via P2 connector (see Note 2)
- flat panel supported by a Panel Link interface via P2 connector

PMC Interface

- 1 x PMC slot supporting:-
  - → I/O via front panel and optionally P0
  - → 32/64-bit, 33/66 MHz PCI operation
  - → 3.3V or 5V PCI signaling
- expansion connector to a PMC carrier board, giving two extra PMC sites



Serial Interface

- 2 x asynchronous RS232/RS422/RS485 serial channels:-
  - → 1 x channel accessed via a RJ45 connector on the front panel
  - → 1 x channel via P2 connector
- 16550 compatible UARTs
- both channels can be user configured for RS232, RS422 or RS485

Other Peripheral Interfaces

- keyboard and mouse interfaces via a single PS/2™ type connector on front panel and via P2 connector (see Note 2)
- floppy disk interface via P2 connector
- 2 x USB (Universal Serial Bus) interfaces:-
  - → 1 x USB interface accessed via a USB connector on front panel
  - → 1 x USB interface via P2 connector (see Note 2)
- 3 x General Purpose I/O bits via P2 connector (see Note 2)
- legacy speaker interface via P2 connector (See Note 2)
- PC-compatible Real Time Clock (Year 2000 compliant)
- watchdog timer
- 1 x 32-bit Long Duration Timer with processor interrupt capability

Firmware Support

- Phoenix® ServerBIOS™
- comprehensive Power-On Self-Test (POST)
- LAN boot firmware included

Software Support

- support for Linux, Linux, Windows NT, Windows 2000, Windows XP, Windows XP Embedded, VxWorks, RTX, QNX, Solaris and MS-DOS

Flash EPROM

- 512 Kbytes of BIOS Flash EPROM - 8-bits wide
- 32 Mbytes of Application Flash

Safety

- PCB (PWB) manufactured with flammability rating of 94V-0

VME Interface

- using the Tundra® Universe II™ device
- VME Master/Slave
- A32/A24/A16/D64/D32/D16/D8(EO)/MBLT64
- fast hardware byte swapping
- auto system controller detect
- full interrupter / interrupt handler support
- bus error interrupt hardware

Electrical Specification

- +5V@7.0A (typical at 1.6 GHz with 512 Mbytes DRAM)
- +12V@0A: -12V@0A
- +12V and -12V routed to PMC expansion slot

Environmental Specification

- operating temperatures:-
  - → 0°C to +55°C (N-Series)
  - → -25°C to +70°C (E-Series)
- 10% to 90% Relative Humidity (operating, non-condensing)
- -40°C to +70°C (storage)
- 10% to 90% Relative Humidity (storage, non-condensing)

Mechanical Specification

- 6U form-factor 9.2 inches x 6.3 inches (233mm x 160mm)
- single slot: 0.8 inches (20.3mm)
- shock:
  20g, 11ms, ½ sine (operating);
  30g, 11ms, ½ sine (non-operating)
- vibration:
  5Hz-2000Hz at 2g, 0.38mm peak displacement (operating);
  5Hz-2000Hz at 5g, 0.76mm peak displacement (non-operating)
- utilizes a 160-way DIN connector for P1 and P2:-
  - → compatible with 96-way DIN connectors
- optional P0 (for VME64x backplanes only)

Note 1: specific variants are supplied with VME64x handles

Note 2: 5-row backplane is required to provide P2 access to dual Ethernet, analog VGA, keyboard, mouse, USB, legacy speaker and GP I/O interfaces

ORDERING INFORMATION

Order Number	Product Description (Hardware)
VP 305/011-xy	1.1 GHz Pentium M Processor
VP 305/012-xy	1.6 GHz Pentium M Processor
AD CR2/PMC-zz	PMC Carrier Board for 2 PMC modules
AD 200/001-01	CompactFlash/MicroDrive carrier
AD CP1/DR1-z2	2.5 inch Hard Disk Drive (HDD) assembly
DS MSS/IFP-zz	Board with HDD, CD, FDD
DS MSS/00x-zz	Board with HDD, CD-RW/DVD, CompactFlash, FDD

For z options please contact your local sales office:

Replace the order number suffix (xy) with selections from the following:

Where x = P2/P0 Breakout combinations	Where y =
1 - 5-row, dual Ethernet via P2, no PMC rear I/O	1 - 512 Mbytes
2 - 5-row, dual Ethernet via P2, PMC rear I/O via P0	2 - Reserved
3 - 5-row, VITA 31.1 via P0, PMC rear I/O via P0	3 - 1 Gbyte
4 - 3-row, EIDE, floppy disk, DFP, RS232/422/485 via P2	4 - 1.5 Gbytes

When x = 1, 2 or 3, the board provides VGA, keyboard, mouse, USB, legacy speaker and GP I/O interfaces via 5 row P2, in addition to the interfaces shown for x = 4

For extended temperature, E-Series, please contact your local sales office

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Specification subject to change; E and OE.

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