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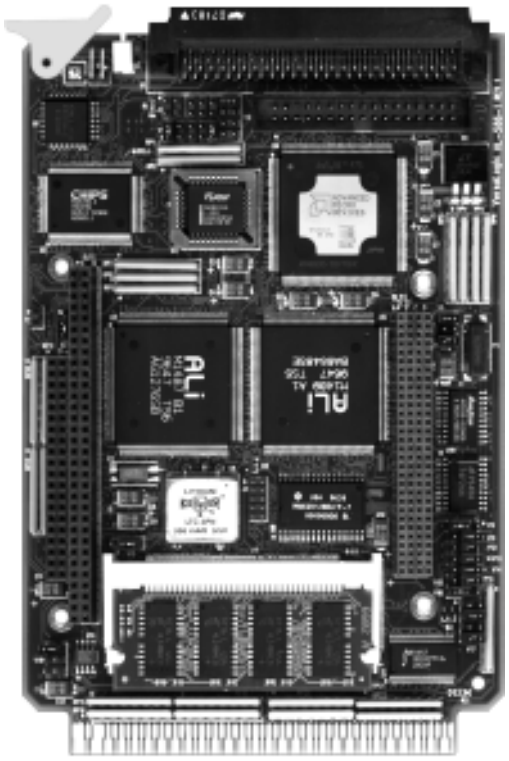
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Find the *Versalogic VL-586-1* at our website: ***Click HERE***

VL-586-1

586 CPU Card - 133 MHz

Pentium 75 equivalent STD 32 CPU with PC/104-Plus expansion site.



Features

- **586 133 MHz CPU (Pentium™ 75 equivalent)**
  -16K write-back cache
  - 3.3V low power CPU
  - 33 MHz local bus
  - Convection cooled
- **4, 8, 16, 32, or 64 MB system RAM**
  - One 72-pin SO DIMM gold plated socket
  - Supports standard or EDO memory modules
  - Supports both 3.3V and 5V memory
- **512K byte battery backed static RAM**
- **PC/104-*Plus* expansion site**
  - Supports both PC/104 and PCI (32-bit, 33MHz) based modules
- **2 COM ports, 1 LPT port**
  - COM2 is RS-232/422/485 selectable
  - LPT supports Bidirectional/EPP/ECP
- **Floppy and IDE interfaces**
  - PCI based IDE, modes 1 to 4 supported
- **AT style motherboard peripherals**
  - With additional 3 channels of 8254 type timer / counters (6 total)
- **AT keyboard interface**
- **Watchdog timer / reset circuit**
- **STD 32 Compatible**
  - 8/16 bit data bus
  - Multiple bus masters
- **Multiprocessor Capable**
  - Two CPU cards per card cage (on-board arbiter)
  - Up to 7 CPUs per cage with arbiter card
- **5V only operation**

Description

The VL-586-1 is a complete DOS compatible computer. It combines standard DOS/Windows hardware with VersaLogic's customized BIOS firmware, and an interface to the STD/STD 32 Bus. The result is familiar DOS based operating systems on an industrial I/O platform unsurpassed for durability and economy.

The VL-586-1 board features an AMD 5x86 processor chip. This cool-running chip is rated for use in ambient temperatures of 0° to 60° C with a small heat sink only. No fan or special cooling is necessary. Its strong performance is shown with benchmark tests that rate slightly faster than a Pentium 75. In addition, the 5x86 chip is part of AMD's embedded products line which assures its long term availability.

The VL-586-1's PC/104-*Plus* expansion site allows a PC/104 or PC/104-*Plus* module to be stacked directly on the board. This permits the use of high speed video modules and "local" I/O expansion in systems using multiple processor cards. Use of on-board PC/104 modules requires an empty card slot space next to the VL-586-1 board.

In addition to system RAM and Flash memory options, this board includes an optional 512K of battery-backed static RAM. This supports requirements for non-volatile storage without the write-cycle limitations of Flash memory.

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Software Development

Because the VL-586-1 is a standard DOS hardware/firmware platform, software development follows the same path as on a desktop PC. Your favorite DOS or Windows-based tools and utilities can be executed directly on the VL-586-1 target system during development.

Once the application program has been developed and tested, a target configuration can be created. The target system normally includes the operating system and the application program on a bootable media such as solid state Flash memory, floppy disk or a hard disk.

To facilitate initial loading and field updating of the Flash Disk, Manufacturing Mode support is included in the VL-586-1 BIOS. It allows an entire Flash Disk image as well as the system CMOS RAM parameters to be uploaded or downloaded from another machine via a COM port.

A copy of Embedded DOS is included for the final runtime system. This is a compact version of DOS designed to run an embedded application program from the Flash Disk.

On-Board Memory

The board accommodates 4 to 64 MB of system RAM in a high reliability SO DIMM socket. This supports the use of operating systems from a small "mini-DOS" to Windows NT. Standard or EDO type modules may be used.

Up to 2.5 MB of on-board Flash capacity supports an optional Flash File System (solid state DOS disk drive). It allows standard DOS based applications to boot and run without the use of mechanical disk drives.

512 KB of battery-backed static RAM provides a fast, non-volatile data storage area that can withstand unlimited write cycles (unlike Flash memory).

Industrial Features

This rugged CPU board includes additional features specific to the industrial control environment. A voltage monitoring circuit resets the CPU if supply voltage falls below a reliable voltage level. A watchdog timer resets the CPU in the event of a run-away program. An on-board programmable LED is provided for user diagnostic programs. A vibration-tolerant 72-pin SO DIMM socket provides enhanced reliability. The COM2 serial port is user selectable for standard RS-232, RS-422, or RS-485 multi-drop operation. Three extra 8254-style counter/timers are also available for application use.

PC-AT Compatibility

The VL-586-1 comes standard with a PC-AT compatible LPT port, two COM ports, keyboard controller, real time clock, CMOS RAM, interrupt controller, DOS counter/timers, and DMA controller. It is fully DOS and Windows compatible.

Specifications

Specifications are typical at 25° C with 5.0V supply unless otherwise noted.

Board Size:
Meets all STD and STD 32 Bus mechanical specifications.
Free Air Operating Temperature:
0° to 65° C
Storage Temperature:
–40° to +85° C
Power Requirements: (with 8MB DRAM, 512K Flash, 512K SRAM, Keyboard)
5V ±5% @ 1570 ma typ.
±12V may be required by some expansion modules
System Reset:
Vcc sensing, resets below 4.70V typ.
LPT/Parallel Interface:
Data Lines:
Output low voltage: 0.5V @ 24 ma
Output high voltage: 2.4V @ 12 ma
Control Lines:
Output low voltage: 0.5V @ 24 ma
Output high voltage: 2.4V @ 150 µa
Memory Sites:
DRAM:
4, 8, 16, 32, or 64 MB 3.3V system dynamic RAM in one 72-pin SO DIMM gold plated socket
Flash:
2.5 MB
One 32-pin PLCC socket and one 48-pin TSOP site
SRAM:
128K / 512K byte battery backed static RAM in a JEDEC compatible 32-pin SOP site
Connectors:
High density I/O connector: Breaks out to standard .1" based IDC components
Floppy: 34-pin .1" header
Bus Compatibility:
STD 80: Full compliance, 8.33 MHz bus speed
STD 32: Permanent Master, SA16, SA8 I, MB, MX
STD 32: Temporary Master, SA16, SA8 I, MB, {MX}
PC/104: Full compliance
PC/104-*Plus*: Full compliance

Specifications are subject to change without notice. Pentium is an Intel Corporation trademark. PC/104 and the PC/104 logo are trademarks of the PC/104 Consortium.

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