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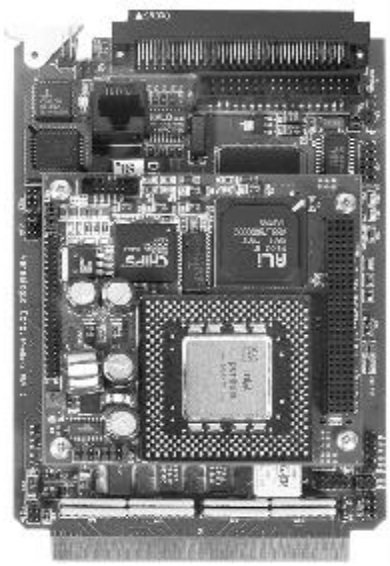
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Find the *Versalogic VL-686-2s* at our website: ***Click HERE***

VL-686-2

Pentium-class Processor Board

High speed CPU board with 10 / 100 Ethernet, video, and PC/104-Plus expansion site.



Features

- **Full Socket 7 CPU Support**
- **256 KB Level 2 cache, 512 KB on VL-686-2s**
- **8 to 256 MB system RAM**
- **10 / 100 dual-speed Ethernet**
- **PCI based video**
- **Flat panel display support**
- **DiskOnChip® Flash support**
- **128 to 512 KB battery backed SRAM site**
- **PC/104-*Plus* high speed expansion site**
- **Two PCI-based IDE controllers**
- **Dual USB interfaces**
- **2 COM + 1 LPT port**
- **Keyboard port**
- **OEM extras**
  - RS-232/422/485 COM port
  - Three user counter/timers
- **CPU temperature sensor**
- **Watchdog timer**
- **Industrial quality battery**
- **Vcc sensing reset circuit**
- **Flash BIOS with OEM enhancements**
- **Ethernet remote boot option**
- **Single supply (+5V) operation**
- **Latching I/O connectors**
- **Customizing available**
- **Fanless operation available**
- **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

Description

The VL-686-2 is a performance-oriented processor board for STD 32 bus systems. It is specifically designed for OEM control projects requiring fast processing, compact size, flexible memory options, high reliability, and long product lifespan / availability.

The VL-686-2 is a complete single board computer and may be used alone or with additional CPU or I/O boards. In addition to its STD 32 bus interface, it features a PC/104-*Plus* expansion site for on-board use of fast (PCI-based) PC/104 and PC/104-*Plus* modules.

It is fully compatible with a wide selection of popular operating systems including most Windows and Real Time Operating Systems.

Up to 256 MB of low power system RAM is supported in a high-reliability latching 144-pin SODIMM socket. Bootable DiskOnChip Flash modules are supported for non-volatile program and data file storage without the use of mechanical disk drives. A battery backed SRAM site is available for non-volatile storage of rapidly changing data. An extra IDE port allows the use of a remotely located CompactFlash adapter.

The high reliability design and construction of this board features latching I/O connectors, watchdog timer, and voltage sensing reset circuit. Additional high-reliability features include an industrial long-life battery and a self-resetting fuse on the 5V supply to the keyboard, mouse, and USB ports. An onboard programmable CPU temperature sensor is included for use in difficult thermal situations. The sensor output can be used to turn on additional fans, create local or remote warnings, or take other action through software triggers.

VERSALOGIC CORPORATION

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VL-686-2

Pentium-class Processor Module

The VL-686-2 delivers both full performance and product longevity by utilizing only standardized components in its design. Features such as full Socket 7 compatibility were made possible by its unique mezzanine card design with PC/104-*Plus* interconnect.

This exceptional processor card was designed from the ground up with a focus on longevity and reliability. It is fully supported by the VersaLogic design team. Both hardware and software (BIOS) customization are available in quantities as low as 100 pieces. Each board is subjected to a 48-hour burn-in and 100% functional testing and backed by a limited five-year warranty.

Ordering Information

VL-686-2x . . . . . Pentium / K6 Processor (2 board set)

x = Processor type. Specify one of the following:

c – 233 MHz Intel Pentium
g – 400 MHz AMD K6-2
s – 266 MHz Intel Tillamook low power, fanless

*Note: Processor options **b** through **h** may not be appropriate for new designs, depending on required product life span. For more information, see the roadmap at* www.versalogic.com/support/rdmp/rdmp.asp

Accessories

VL-CBL-100A . . . . 1' Breakout cable for connector J1
VL-CBL-1007 . . . . 1' 10-pin 2mm socket/15-pin VGA
VL-CBL-3403 . . . . . 1.5' 34-pin/two 34-pin floppy
VL-CFA-1c . . . . . Type I/II CompactFlash adapter
VL-DOC-xxx. . . . xxx MB DiskOnChip Flash module
VL-FD1-1 . . . . . Floppy drive card
VL-HD1-540 . . . . . 540 MB hard drive card
VL-HDW-201. . . . . PC/104 extraction tool
VL-MM4S-xxx . . . . . 16-256 MB SDRAM module
VL-SRAM-512. . . . . 512 KB low power SRAM

Specifications

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

Size:
Two board set. Requires 3 to 4 card cage slots.
North Bridge: 3.55" x 3.775" (PC/104 standard).
South Bridge: Meets all STD and STD 32 Bus mechanical specifications.

Storage Temperature:
– 40° C to +85° C

Free Air Operating Temperature:
0° C to +60° C (free air, no airflow)

Power Requirements: (with 32 MB RAM, keyboard, mouse, running Win95 with Ethernet)
+5V ±5% @ 4.7A typ. 23.5W (VL-686-2c)
+5V ±5% @ 5.96A typ. 29.8W (VL-686-2g)
+5V ±5% @ 3.3A typ. 16.4W (VL-686-2s)
Note: ±12V required by some expansion modules

System Reset:
Vcc sensing, resets below 4.70V typ.
Watchdog timeout

DRAM Interface:
One 144-pin SODIMM socket, 8 to 256 MB, EDO (60 ns) or 3.3V SDRAM (66 MHz or PC-100).

Flash Interface:
One DiskOnChip socket. (Height limit of 0.33")

Battery-Backed SRAM Interface:
One 32-pin JEDEC DIP socket. Accepts static RAM chips. Chip accessed in 64K blocks.

Video Interface:
Based on C&T 69000/69030 chip. 2 MB VRAM standard. 4 MB VRAM on VL-686-2s. Resolutions to 1280 x 1024. 44-pin flat panel display interface.

IDE Interface:
Two channel PCI-based Mode 4 and Ultra DMA drives.

Floppy Disk Interface:
Supports two floppy drives.

Ethernet Interface:
Autodetect 10BaseT / 100BaseTX based on AMD 79C973. RJ-45 Ethernet cable connector.

COM 1 Interface:
RS-232, 16C550 compatible, 115K baud max.

COM 2 Interface:
RS-232/422/485, 16C550 compatible, 460K baud max.

LPT Interface:
Bi-directional/EPP/ECP compatible.

Connectors:
I/O: One high-density 100-pin (break out to standard .1" IDC components).
Video: 10-pin 2mm CRT connector.
44-pin 2mm FPD connector.

BIOS:
Embedded BIOS enhanced for OEM applications.
Field upgradable.

Bus Speed:

CPU External:	66 MHz
PCI, PC/104-*Plus*:	33 MHz
PC/104:	8.25 MHz
STD 32:	8.25 MHz

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, 3.3V (5V tolerant) or 5V modules

Specifications are subject to change without notice. Pentium is an Intel Corporation trademark. PC/104 is a trademark of the PC/104 Consortium. DiskOnChip is a trademark of M-Systems.

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