Pentium III or Celeron EBX Single Board Computer with 10/100 Ethernet, AGP video, sound and industrial I/O.

Features	Benefits
850 MHz Pentium III version	High speed processing
Low Power Celeron versions	Extended temperature version
ATI Rage Mobility video chip	High speed 3-D rendering, MPG-2 decoding, flat panel support
32-pin DiskOnChip socket	On-board non-mechanical storage
10/100 Ethernet Dual USB	High-speed I/O
TVS devices on user I/O ports	Enhanced ESD protection
Industrial I/O	Analog input option, 16 Opto-22 compatible channels, two RS-422 COM ports
CPU temperature sensor	Control system cooling programmatically
Watchdog timer	Stops runaway applications
Intel 440BX chipset	High speed Front Side Bus

This feature-rich single board computer is designed for OEM applications requiring fast processing, industrial I/O, flexible memory options, designed-in reliability and long-term product availability.

It features full socket 370 compatibility to support a number of Celeron and Pentium III CPUs, with speeds up to 850 MHz. An extended temperature model is available. See the Ordering Information section for the models available.
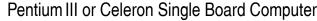
The VSBC-8 also features the ATI Rage Mobility video processor for high speed rendering, with standard CRT and LVDS interface. Fast Ethernet (10/100) and USB ports are also included on board.

Up to 256 MB of SDRAM is supported in a high-reliability latching DIMM socket. Application programs and files can be stored in a bootable DiskOnChip Flash device. A battery-backed SRAM can be used in lieu of the DiskOnChip.

The VSBC-8 features high reliability design and construction including latching I/O connectors, watchdog timer, long-life battery, and voltage sensing reset circuit. It also features low EMI clock generation, and a self-resetting fuse to the powered I/O ports (keyboard, mouse, USB, and Opto 22). An onboard 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 actions through software triggers. Transient voltage suppression devices on most I/O ports provide enhanced protection against damage from external electrostatic discharge.

The CPU's effective operating speed can be "throttled back" from its normal 100% performance to decrease the board's overall power draw. It can be slowed in increments of 12.5% down to 25% of normal CPU speed. The throttling is controlled by a CMOS startup option, and can also be enabled, disabled or changed via a simple write to an I/O port.

The VSBC-8 is fully compatible with a wide selection of popular X86 operating systems including most Windows and Real Time Operating Systems. This exceptional SBC was designed from the ground up for OEM applications with longevity and reliability as the focus. Each board is subjected to environmental stress screening and complete functional testing and is backed by VersaLogic Corp. service and support. Both hardware and software (BIOS) customization is available in quantities as low as 100 pieces.

Data represent standard operation at 25° C with 5.0V supply unless otherwise noted.

Specifications are subject to change without notice.

General

Processor: Intel Celeron 350 MHz, Celeron 566 MHz or Pentium III 850 MHz.

Chipset: Intel 440BX.

System Reset: Vcc sensing, resets below 4.7V typ. Watchdog timeout.

Bus Speed:
CPU External: 66 or 100 MHz (processor dependent)
PCI, PC/104-*Plus*: 33 MHz
PC/104: 8 MHz

Compatibility:
EBX: Full compliance.
PC/104: Full compliance.
PC/104-*Plus*: Full compliance, 3.3V or 5V modules.

Mechanical

Board size: 5.75" x 8" (146.05mm x 203.2mm)

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

Operating Temperature:
0° C to +50° C free air, no airflow (VSBC-8 h, k)
0° C to +60° C 100 FPM airflow (VSBC-8 h, k)
– 40° C to +85° C free air, no airflow (VSBC-8m)

Humidity: Less than 95%, noncondensing.

Power Requirements:
+5V ±5% 4.0A typ. 20.1W (VSBC-8h)
+5V ±5% 5.5A typ. 27.4W (VSBC-8k)
+5V ±5% 3.3A typ. 16.5W (VSBC-8m)

Memory

DRAM Interface: One 168-pin DIMM socket, up to 256 MB 3.3V SDRAM (PC100 or faster).

Flash / BBSRAM Interface: One 32-pin JEDEC DIP socket. Accepts battery-backed static RAM chip or DiskOnChip. Chip accessed in 64K blocks.

Video

Video Interface: ATI Rage Mobility chip AGP interface and 4 MB integrated RAM. CRT, LVDS and DVO (TTL) outputs. Resolutions up to 1280x1024 with 16.7 million colors. Supports MPEG-2 decoding, 3-D, edge anti-aliasing, specular shading and texture mapping.

Network Interface

Ethernet Interface: 10/100BaseT based on Intel 82551 chip.*

I/O

IDE Interface: Two channels. Supports up to four IDE devices. Supports high speed IDE Type 4 and Ultra DMA drives.

Floppy Disk Interface: Supports two floppy drives.

Audio Interface: 16-bit Sound Blaster Pro compatible. PCI-based. Non-amplified Line Out and Line In supported.

Analog Input Option: 8-channel, 12-bit, single-ended, 6 microsecond, input range: ±5, ±10, 0 to +5V, 0 to +10V, channel independent.

COM 1-2 Interface: RS-232, 16C550 compatible, 115K baud max.*

COM 3-4 Interface: RS-232/422/485, 16C550 compatible, 460K baud max.*

LPT Interface: Bidirectional/EPP/ECP compatible.*

Opto 22 / Digital Interface: 16 channel, full compliance, 24 ma outputs.

USB Interface: Two ports (1.1 protocol)*

AT Peripherals: Keyboard and PS/2 mouse port*

Software

Operating Systems: Compatible with most X86 operating systems, including Windows, QNX, Linux and VxWorks.

Board Support Packages: BSPs for many popular RTOSs. See www.VersaLogic.com for details.

BIOS: General Software Embedded BIOS with OEM enhancements.

*TVS protected port

VSBC-8x........................Single Board Computer

x = Processor type. Specify one of the following:
    h - Intel Celeron 566 MHz
    k - Intel Pentium III 850 MHz
    m - Intel Celeron 350 MHz (equivalent) extended temperature

Accessories

VL-CBL-0501.. Dual USB transition cable
VL-CDD-IDE1...CD-RW, DVD-ROM drive
VL-CFA-1c .... Type I/II CompactFlash adapter
VL-CKT-008 .... Development cable kit
VL-DOC-xxx ....xxxMB DiskOnChip Flash module
VL-ENCL-3 (VersaBox)...............................Development enclosure
VL-FDD-144 .... Floppy drive (black face)
VL-HDD35-80..3.5" IDE hard disk drive
VL-HDW-201 ....PC/104 extractor tool
VL-HDW-301 ....Analog input chip, 0 to +60°C (RoHS)
VL-HDW-302 ....Analog input chip, – 40 to +85°C (RoHS)
VL-LATCH-06 .... Connector latch set
VL-MM3S-xxx ....xxx MB SDRAM module
VL-PS200-ATX .... Development power supply