- AMD Geode LX 800 processor
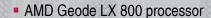- 256 MB soldered-on DDR memory
- Integrated video
- CompactFlash socket
- Extended temp. operation
- RoHS-compliant

Highlights

PC/104-*Plus* Form Factor
Small footprint. Multi-vendor support.

AMD Geode LX 800 Processor
500 MHz performance with low power draw.

256 MB DDR Memory
Soldered-on RAM for high reliability.

High-performance Video
Analog and LVDS flat panel outputs for 18 and 24-bit displays.

Network Support
Dual 10/100 Ethernet provides fast network access and boot ROM support.

USB Ports
Four USB 2.0 ports provide flexible I/O options for keyboard, mouse, floppy drives, and other devices.

Integrated I/O
Three COM ports (two RS-232, one RS-422/485) and one IDE interface.

CompactFlash Socket
Removable non-volatile media has no moving parts and is bootable.

Fanless Operation
No moving parts required for CPU cooling.

Embedded BIOS
OEM embedded features and firmware support. Field-upgradeable, customization available.

MIL-STD-202G
Qualified for high shock / vibration environments.

Overview

The Cougar is a feature-rich, mid-performance single board computer that offers very low power consumption without sacrificing performance. The highly efficient AMD Geode LX 800 processor provides fanless extended temperature operation, while soldered-on memory ensures high reliability. Equipped with dual 10/100 Ethernet, USB 2.0 ports, and RS-232/422/485 COM ports, the Cougar is ideal for defense, aerospace, homeland security, medical, and other embedded computing applications.

Like all VersaLogic products, this small and efficient SBC is designed to support OEM applications where high reliability and long-term availability are required. From application design-in to 5+ years production life, its quality and longevity provide a cost-effective, long-term solution. Customization is available on as few as 100 pieces. The Cougar is manufactured and tested to the highest quality standards, is compliant with RoHS regulations, and is backed by a two-year limited warranty.

Details

The Cougar features the AMD Geode LX 800 processor, which offers 500 MHz performance while drawing less than 5 watts of power. This highly-integrated processor, along with its companion chip, provide the majority of the Cougar's on-board I/O, including USB 2.0 support, high-performance video, and RS-232/422/485 COM ports. The high-resolution video output can be configured for either standard desktop-type displays or LVDS flat panels.

The Cougar features a Phoenix Technologies Embedded BIOS with OEM enhancements. This field-reprogrammable BIOS supports custom defaults and the addition of firmware and firmbase applications for security processes, remote booting, and other pre-OS software functions. The Cougar is compatible with a variety of popular operating systems, including Windows, Windows Embedded, Linux, VxWorks, and QNX**.**

RoHS

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Ordering Information

VL-EPM-14h ....AMD Geode LX 800, Extended Temp., RoHS

Accessories

VL-CBR-1008*..................................ATX power adapter cable (RoHS)
VL-CBR-1201* ....SVGA connector cable (RoHS)
VL-CBR-2010 ....20" 18-bit LVDS flat panel (Hirose) (RoHS)
VL-CBR-2011..........................20" 18-bit LVDS flat panel (JAE) (RoHS)
VL-CBR-4405*................................2 mm to 0.1" IDE adapter (RoHS)
VL-CBR-4406*...2.5" IDE drive cable (RoHS)
VL-CBR-5009A..18" I/O ribbon cable (RoHS)
VL-CBR-5011* .... Cable/paddle assembly Cougar (RoHS)
VL-CDD-IDE1 ....IDE CD-RW, DVD-ROM drive
VL-CF-CLIP1 ....CompactFlash retention clip
VL-CKR-COUG .... Development cable kit (RoHS)
VL-DEV-CD-L6 ....Debian Linux Board Support Package
VL-ENCL-5C ....Development enclosure
VL-FDD-144U .... USB floppy drive
VL-HDD25-xxx ....2.5" IDE hard disk drive (RoHS)
VL-HDW-101*.......................Mounting standoffs, metric thread (RoHS)

* Included in VL-CKR-COUG cable kit

SPECIFICATIONS

General	Processor	AMD Geode LX 800
	Chipset	AMD Geode CS5536
	Power Requirements	+5V only with 256 MB RAM, keyboard, mouse, running Windows XP: 4.5W
	System Reset and Hardware Monitors	Watchdog timeout Voltage rail monitoring
	Compatibility	PC/104-*Plus*: supports 3.3V PCI signaling (2.2 compliant). RoHS: compliant
Mechanical	Board Size	PC/104 standard: 90 mm x 96 mm (3.55" x 3.78")
	Storage Temperature	-40° to +85°C
	Operating Temperature	-40° to +85°C
	Thermal Shock	5°C/min. over operating temperature
	Vibration, Sinusoidal Sweep	MIL-STD-202G, Method 204, Modified Condition A: 2g constant acceleration from 5 to 500 Hz, 20 minutes per axis
	Vibration, Random	MIL-STD-202G, Method 214A, Condition A: $0.02g^2$/Hz (5.35g rms), 15 minutes per axis
	Mechanical Shock	MIL-STD-202G, Method 213B, Condition J: 30g half-sine, 11 ms duration per axis
	Humidity	Less than 95%, noncondensing
Memory	System RAM	256MB DDR memory. Soldered-on.
	Flash Interface	High-retention CompactFlash socket. DMA supported.
Video	General	Integrated high-performance video. Up to 1600 x 1200 with 32-bit color. MMX™ + 3DNow!™
	Desktop Display Interface*	Standard analog output. 2 mm IDC connector.
	OEM Flat Panel Interface‡	18/24-bit LVDS interface. CMOS-selectable TFT panel types.
Network Interface	Ethernet*	Dual Autodetect 10BaseT/100BaseTX ports. Horizontal RJ45 connectors.
	Network Boot Option	Firmware-based Argon Managed Boot Agent. Supports PXE, RPL, NetWare, TCP/IP (DHCP, BOOTP) remote boot protocols.
Device I/O	USB*‡	4 USB 2.0/1.1 ports
	IDE Interface	ATA-5, UDMA66 interface. 44-pin 2 mm connector.
	COM 1 & 2 Interface*	RS-232, 16C550 compatible. 115 Kbps.
	COM 3 Interface*	RS-422/485 selectable. 16C550 compatible. 460 Kbps.
Software	BIOS	Phoenix Technologies Embedded BIOS with OEM enhancements. Field reprogrammable. Support for USB keyboard/mouse and USB boot. User-configurable CMOS defaults.
	Operating Systems	Compatible with most x86 operating systems, including Windows, Windows Embedded, Linux, VxWorks, and QNX

*TVS protected port (enhanced ESD protection)
‡ Power pins on this port are protected with a self-resetting fuse

Data represents standard operation at 25°C with +5V supply unless otherwise noted.
Specifications are subject to change without notice. PC/104 and PC/104-Plus are trademarks of the PC/104 Consortium.

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