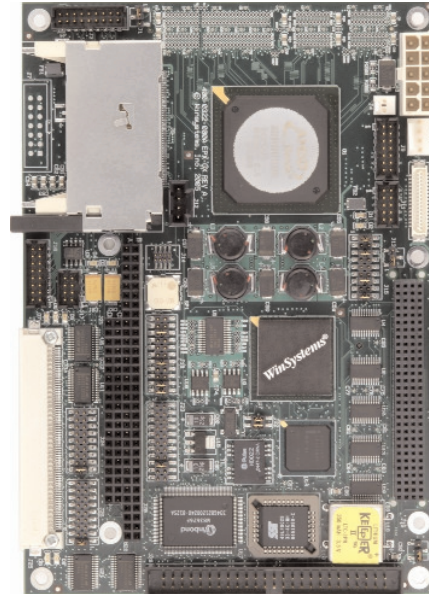
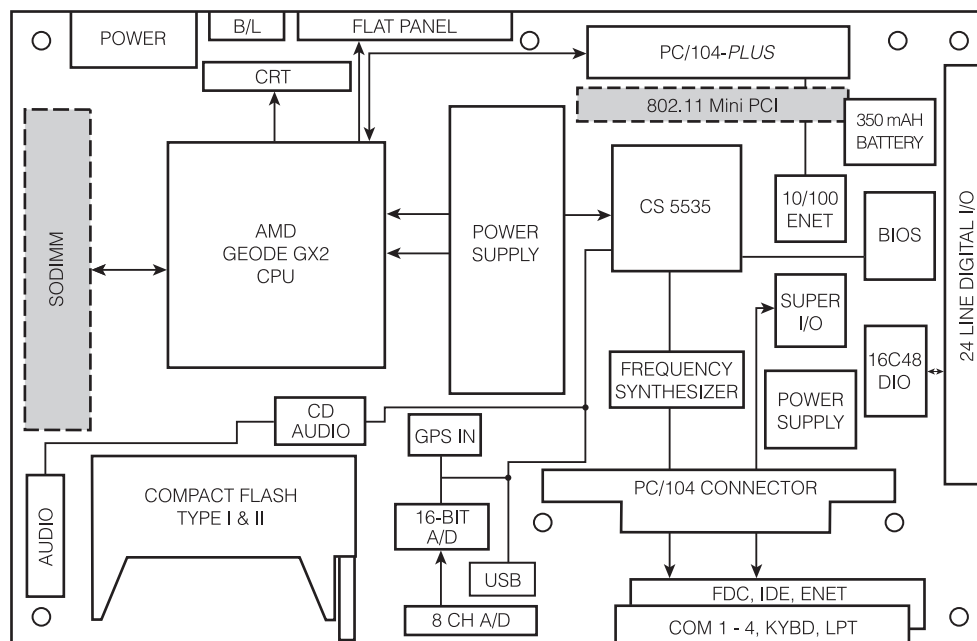


FEATURES

- AMD Geode™ GX500@1.0W processor
- EPIC-compliant board
- Up to 512MB of system DDR SDRAM supported in a 200-pin SODIMM socket
- Type I and II CompactFlash cards supported
- PC-compatible supports Linux, Windows® CE and XP embedded, plus other x86-compatible RTOS
- High-resolution video controller supports
 - CRT or LCD operation
 - Supports CRT resolutions up to 1600 x 1200
 - Supports panel resolutions up to 1024 x 768
 - Color panels supported with up to 18-bits/pixel
 - Backlight power supported
 - Optional LVDS adapter
- 10/100 Mbps Intel PCI Ethernet controller
- Four RS-232 serial ports with FIFO, plus COM1 and COM2 support RS-422/485
- Bi-directional LPT port supports EPP/ECP
- 24 bi-directional TTL digital I/O lines (WS16C48)
- Two USB 1.1 ports
- MiniPCI connector for 802.11 a/b/g wireless module
- Floppy disk controller supports up to 2 drives
- ATA-5 compatible controller with 66MB per second transfers in UDMA mode
- 12-bit A/D with up to 8 SE or 4 DI channels, input ranges of ±5V, ±10V, 0-5V, and 0-10V
- AC97 Audio support
- PC/104 and PC/104-Plus expansion connectors
- AT keyboard controller and PS/2 mouse support



- Optional GPS support via Trimble Lassen module
- Activity LEDs onboard for visual status
- Two interrupt and DMA controllers
- -40°C to +85°C Operating temperature range
- +5 volt only operation and low power
- Watchdog timer with reset to 300 seconds
- Real time clock, and power fail reset
- Small size: 4.5" x 6.5" (115-mm x 165-mm)
- Long-term product availability



*SHADING INDICATES SOCKET ONLY

OVERVIEW

The EPX-GX500 is an AMD Geode GX500@1.0W-based, EPIC-compatible single board computer (SBC). AMD Geode processors have extremely low power dissipation which allows fanless operation making them ideal for industrial applications. The board is configured with up to 512MB DDR SDRAM plus a CompactFlash memory socket. Also, a 10/100 Ethernet controller, 12-bit analog-to-digital converter, video with CRT and flat panel interfaces, four serial COM channels, 24 digital I/O lines, six channels of AC97 audio, and the standard AT peripheral feature set are included. A miniPCI socket is onboard for 802.11 wireless networking.

The board measures 4.5 x 6.5-inches (115-mm x 165-mm) and is compliant with the EPIC (Embedded Platform for Industrial Computing) standard. It supports expansion with PC/104 and PC/104-Plus connectors plus two USB channels. The board will operate from -40° to +85°C for rugged applications requiring an embedded PC. Its x86 PC software compatibility assures a wide range of tools to aid in your applications program development and checkout.

FUNCTIONAL CAPABILITY

Processor - The AMD Geode™ GX 500@1.0W is the computing engine for this board. It combines low power, excellent performance and small size. The actual processor speed is 367MHz which yields a performance of 500MHz. The CPU is x86-compatible and includes 32KB of level 1 cache; 16KB instruction and 16KB data. Also an integrated fully pipelined Floating Point Unit (FPU) that supports the IEEE 754 standard. The instruction sets supported are x87, MMX and 3DNow!

Power Management - The EPX-GX500 has four standard power management modes to control and bring the power down on the board automatically. S0 is the full power-on mode. S1 is the standby mode. S4 suspends to disk before powering down. S5 turns all the power off (ATX mode only).

Memory - The system memory bus is 64-bits wide. Up to 512Mbytes of non-registered, unbuffered Double Data Rate (DDR) SDRAM with gold-plated fingers can be installed for the main systems memory.

The board is shipped from the factory with no memory installed. A 200-pin SODIMM connector permits the user to either install and/or upgrade the memory capacity in the field. WinSystems can supply the SODIMM200-G-27-128, -256, and -512 which are 128MB, 256MB, and 512MB RoHS-compliant memory devices qualified for use on this board.

CompactFlash - A connector is on the board that will accept Type I and II CompactFlash cards. The connector is wired to the IDE controller. A designer can use CompactFlash as data storage for applications where the environment is too harsh for rotational hard disks or floppy disk drives while offering significant speed advantage.

WinSystems offers industrial-grade CompactFlash (CF) cards that provide operational SSD storage from -40° to +85°C for high-capacity, harsh embedded applications. The sustained data transfer rate is very fast plus an on-card wear leveling algorithm allows over 2 million write cycles to the part. These RoHS-compliant modules will fit into any computer, SBC, or instrument with a CF socket. www.industrialcompactflash.com



WinSystems' Industrial Grade CompactFlash Cards

BIOS - An industry standard BIOS is on the board to provide configuration flexibility, performance and AT-compatibility. It is set with a factory default that can be modified by the user. The BIOS is located in an EEPROM that can be modified without removing the storage device from the board. It will support diskless, keyboardless, and videless operation.

For video-based applications, the start up splash screen can be customized. Please contact the factory for details.

Floppy Disk Support - Up to two 3.5" floppy disk drives are supported by the onboard controller. Two drives can be daisy chained on a single cable. A USB floppy disk drive can be attached which also has legacy DOS support.

Hard Disk Support - The EPX-GX500 incorporates an ATA-5 compatible (UDMA/66) bus mastering IDE interface. The IDE interface supports two devices that can operate in PIO modes 1 to 4, MDMA modes 0 to 2, or UDMA/66 modes 0 to 4.

The interface provides a variety of features to optimize system performance, including 32-bit disk access, post write buffers, bus master, MDMA, look-ahead read buffer and prefetch mechanism. A red LED blinks automatically while data is transferred to provide visual status information. The IDE controller is wired to the CompactFlash socket and to the multi-I/O connector on the edge of the board.

Video - A high performance 2D graphics controller is integrated into the AMD GX 500@1W processor that supports both CRT and flat panel displays. It provides resolutions up to 1600 x 1200 for a CRT and 1024 x 768 for a flat panel.

The video controller uses a shared memory architecture and includes hardware frame buffer compression to improve memory efficiency. The controller supports a wide variety of TFT active LCD panel displays as well as standard CRTs.

CRT Video Interface - The CRT video output signals are wired to a 14-pin dual-in-line connector at the edge of the board. An optional CBL-234-1 interface cable adapts it to a standard female 15-pin "D-Sub" type connector commonly used for VGA. Simultaneous operation of the CRT and LCD is not supported.

Flat Panel Display Support - The EPX-GX500 supports most TFT active flat panel display technologies. The board properly sequences the power for logic voltage and the backlight inverter to provide intelligent and safe power sequencing to the panel. Go to www.winsystems.com or contact a factory application engineer for the most current listing.

WinSystems uses a 31-pin flat panel interface system that connects to different panel technologies and suppliers. It has power, timing and control signals for various panel types. The logic levels are 3.3 volts but are 5 volt tolerant. LVDS and digital panels are supported through this interface.

WinSystems also supports a LVDS adapter board. It converts the 31-pin parallel cable data into a serial data stream for longer cable runs for panels that support low voltage differential signaling (LVDS).

Ethernet Controller - An Intel 82551ER is a 32-bit PCI Ethernet controller chip that provides high-speed data transfers. It has auto negotiation capability for speed, duplex, and flow control. It supports IEEE 802.3 10-BaseT and 100BaseT in either full- or half-duplex mode at both 10 and 100 Mbps. In full-duplex mode, it adheres to the IEEE 802.x Flow Control Specification.

Two large 3Kbyte transmit and receive FIFOs help prevent data underruns and overruns. It has fast back-to-back transmission support with minimum interframe spacing. It also has improved dynamic transmit chaining with multiple priorities transmit queues. There are three LEDs on the board that provide status information. The red LED indicates 100BaseT, the yellow indicates Link, and the green is the Rx/Tx packet data.

The 82551ER chip is very popular both in the commercial and industrial PC-compatible market. This means that most PC-compatible drivers, utilities and 10/100 Ethernet supported operating systems will work directly with the EPX-GX500. The configuration information describing the device's architecture, address, interrupt, etc. is stored in a serial EEPROM.

802.11 Wireless - The LBC-GX500 is shipped with an empty miniPCI socket so that a user can install their own cards from Intel, Broadcom, Foxconn (Atheros), and others or with an Intel® PRO/Wireless 2200BG Mini-PCI card installed by WinSystems. Normally 802.11 cards are automatically recognized by operating systems such as Windows® XP. Also, the individual miniPCI card manufacturer will typically have drivers either with their card or at their web site. Please contact them directly for specific operating systems that their card will support.

An optional Intel PRO/Wireless 2200BG card can be supplied by WinSystems. It is a standards-based and Wi-Fi Certified wireless local area network (WLAN) solution that allows up to 54 million bits of data to be transferred per second. It is designed to maintain high throughput at longer ranges depending upon the type of antenna used. The Intel PRO/Wireless 2200BG is also software upgradeable to provide future security and other service enhancements. The Intel PRO/ Wireless 2200BG network connection fully supports today's security standards such as Wi-Fi Protected Access (WPA) and can be upgraded via software downloads for future security standards such as 802.11i when it becomes available.

Remote Booting - The EPX-GX500 supports remote booting with an onboard EPROM socket for use as a diskless network computer. Contact a WinSystems' application engineer for companies that supply this software.

USB - The EPX-GX500 has two Universal Serial Bus (USB 1.1) ports that offer connectivity with peripheral devices. Each port has overcurrent and in-rush protection provided by a National Semiconductor LM3526 power switch. Each device is a dual-stage design including a thermal protection circuit. During a short-circuit/overcurrent event, the switch dissipating excessive heat is turned off, allowing the second switch to continue to

function uninterrupted. Therefore, a fault on one channel will not affect the other. No fuses are required since protection is done electronically.

The pair of USB ports is wired to an 8-pin connector. An optional CBL-275-1 is the interface cable adapter with two standard female USB connectors.

The EPX-GX500 system BIOS supports legacy DOS operation of a USB keyboard, mouse, and booting from a USB floppy disk, USB keys, and other USB-connected mass storage devices.

Serial Communications - Four independent, full-duplex, RS-232 serial asynchronous channels are onboard. All serial channels are configured as Data Terminal Equipment (DTE). Both the send and receive registers of each channel has a 16-byte FIFO. This device is a dual 16C550 compatible UART that offers software compatibility with PC-type driver programs.

Independent control of transmit, receive, line status, data set interrupts and modem handshake control signals are supported on all channels. Each channel is setup to provide internal diagnostics such as loopback and echo mode on the data stream. Plus an independent on-chip software programmable baud rate generator is selectable from 50 through 115.2 kbits/sec.

RS-232 interface levels are supported on all channels. The RS-232 drivers have an on-chip charge pump to generate the plus and minus voltages so that the EPX-GX500 only requires +5 volts to operate.

COM1 and COM2 also have jumper selectable RS-422/485 support. The RS-422/485 provides separate balanced transmit and receive signal pairs. For RS-485 multi-drop lines, one signal pair can be used for "party line" network structures.

Additional Serial Port - This board supports an optional Lassen IQ GPS receiver. This is a very low power GPS solution designed to provide position, velocity, and time (PCT) data using the most popular standard protocols: TSIP (Trimble Standard Interface Protocol) TAIP (Trimble ASCII Interface Protocol) and NMEA 0183. These protocols are compatible with most commercial navigation or map software packages. Data is accessed through a standard serial TTL-compatible, general purpose serial port with RX and TX only is wired from the AMD CS5535 companion chip.

WinSystems offers an optional ADP-GPS board that will cable directly to the board for use with location and time-base measurement applications. Please contact the factory for details.

24-line parallel I/O - The EPX-GX500 contains a highly versatile WS16C48 digital I/O controller. Each I/O line is individually programmable for input, output, or output with read-back operation. Each output channel is latched and has an open collector driver (with a pull-up resistor) capable of sinking 12mA of current.

The major feature of this controller is its ability to monitor all 24 of the lines for both rising and falling digital edge transitions, latch them and then interrupt the processor notifying it that a change-of-input status has occurred. Transition polarity is programmable and enabled on a bit-by-bit basis. Each line's transition is latched by the event so that even short duration pulses will be recognized. An interrupt ID register is maintained for each line for writing more efficient Interrupt Service Routines. This is an efficient way of signaling the CPU of real-time events without the burden of polling the digital I/O points.

The EPX-GX500's I/O lines are connected to a 50-pin connector. Twenty-four data lines are alternated with 24 ground lines for reduced noise and crosstalk. Also +5 volts and ground are included in the cable. The pinout is compatible with the industry standard 4 to 24 position I/O module mounting racks (Dataforth, Opto-22, etc.) for use with high-level AC and DC optically isolated solid state relays. An optional CBL-115-4, 50-pin conductor ribbon cable connects the EPX-GX500 to one I/O rack.

Analog Input - The EPX-GX500 also provides an onboard 12-bit, analog-to-digital converter (A/D). The input consists of an 8-channel multiplexer that can be programmed as single-ended, differential or a combination of both. Using on-die resistors and switches, it provides an attenuation and offset that can be programmed for each channel on the fly. The precision, factory-trimmed attenuators ensure accurate input ranges. Because they precede the multiplexer, errors due to multiplexer on-resistance are eliminated.

All channels are fault protected so that a fault on one channel will not affect the conversion result of another channel. Also overrange protection is provided on unselected channels so that an unused channel will not affect the conversion result on the selected channel. There is $\pm 25V$ protection on all the inputs.

The ADC supports four input voltage ranges: 0-5V, 0-10V, $\pm 5V$ and $\pm 10V$. Any input range is independently software selectable for each channel. No jumpers are required.

The entire input channel configuration is done under software control using a command protocol. Software drivers are available in C, Windows, and Linux. Please contact an applications engineer or visit the web site for details.

The EPX-GX500's analog input is compatible with the Dataforth® SensorLex® 8B Isolated Signal Conditioners. These are small, cost-effective modules designed to protect, filter, and isolate input signals from electrical transients and industrial equipment power-line voltages, while reducing electrical noise in measured signals. There are many models available to interface to a wide variety of voltage, current, temperature, position, frequency, and strain gauge measuring devices.

Line Printer Port - The EPX-GX500 has a parallel port that may be operated in standard (SPP) bi-directional as well as Extended Capabilities Port (ECP - IEEE-1284) and Enhanced Parallel Port (EPP) modes. The output can support 14mA per line.

The printer port can also be used as two additional general-purpose I/O ports if a printer is not required. The first port can be configured as 8 input or output only lines. The other port can be configured as 5 input and 3 output lines.

AC97 Audio - The EPX-GX500 has an AC97 digital audio controller. An 18-pin, 2-mm connector provides access to Line Out, Audio In, and Microphone In.

Keyboard/Mouse Controller - An 80C42-type controller supports a PC/AT-compatible keyboard. Also, a standard PS/2 mouse is supported through the multi-I/O cable as well. The mouse and keyboard can be attached via the USB cable.

I/O Access - Connector space is limited on the EPX-GX500 because of its high I/O content. Two, 80-pin connectors provide access to the disk controllers, serial channels, LPT port, mouse, keyboard, Ethernet, reset and LED signals. WinSystems offers two optional cables that breakout the signals into individual connectors for each I/O function.

CBL-251-1 is a 1 foot long, multi-I/O cable for COM1 through COM4, LPT1, push button reset, PS/2 mouse, Ethernet, and keyboard controllers. COM1, COM2, COM3, and COM4 are 9-pin male "D" with strain relief. LPT1 is a 25-pin "D" female socket with strain relief. The keyboard is a standard 6-pin mini-DIN female PS/2 connector. The mouse is a 6-position PS/2 mouse socket. Reset is a simple 2-wire push button. The Ethernet cable connects to the onboard 8-pin, 2-millimeter connector with a RJ-45 female socket on the other end.

CBL-252-1 is a 1-foot long multi-drive cable for the floppy disk drives and IDE hard disk drives plus USB. The floppy disk portion is terminated in a 34-pin socket on 0.100" centers that can be plugged directly into a drive.

The IDE cable is terminated into a 40-pin socket on 0.100" centers that can be plugged directly into a drive. The USB is wired to a 10-pin header on 0.100" centers.

Interrupts - Two 82C59A compatible interrupt controllers accept inputs from the onboard peripherals and the PC/104 Bus for a total of twelve software selectable interrupt sources. Also four PCI interrupt sources are supported on the PC/104-Plus Bus which are PnP compliant.

Status LED - A green status LED is also available to monitor system activity. Under a user's program control, it can indicate error conditions or blink different patterns to provide a visual indication of system status.

Real Time Clock - An MC146818A-compatible clock supports a number of features including periodic and alarm interrupt capabilities. In addition to the time and date keeping functions, the system configuration is kept in CMOS RAM contained within the clock section.

Watchdog Timer - A software enabled, retriggerable watchdog timer is provided. The timeout period is software adjustable to 1.5, 30, or 300 seconds. The time period can be changed by writing to a register even after initial boot up. If enabled, the watchdog timer must be updated at least once during the period otherwise a failure is assumed and the board will be reset. This circuit is important for use in remote and unattended applications.

Speaker - An onboard speaker is available for sound generation. A beep code is generated that corresponds to any BIOS error codes (if required) during the power up or reset sequence

Power - Power is supplied to the board through a 10-pin Molex connector. Both ± 12 volts are wired directly to the PC/104 and PC/104-Plus connector. The +12V is also wired to the switch for the panel back light control. The ± 12 V is not used on board.

Power Fail Reset - A precision voltage comparator monitors the +5 volt status. Upon detection of an out-of-tolerance condition, the board is reset. This action is critically important in order to detect brownout or power fail conditions. The reset circuit also ensures that the power is nominal before executing a power-on reset.

Battery - A 350 mAH battery supplies the EPX-GX500 board with standby power for the real time clock and CMOS setup RAM. A power supervisory circuit senses the off-board voltage and automatically switches to internal power when it drops below normal.

The board will operate without a battery since there is an EEPROM on board to store the CMOS set up data. However, current time and date information would not be maintained after power is removed from the board.

PC/104 Expansion - The EPX-GX500 has both a 16-bit PC/104 and a 32-bit PC/104-Plus interface and connector. PC/104 is electrically equivalent to the ISA bus and PC/104-Plus is equivalent to the PCI bus for I/O functions requiring higher data transfer speeds.

The EPX-GX500 provides a common computer core from which engineers can add off-the-shelf or user-designed, application-specific PC/104 and PC/104-Plus modules. PC/104 and PC/104-Plus modules are self-stacking and plug together in a "piggy back" configuration to serve as a mezzanine expansion bus.

PC/104 modules are very compact, measuring only 3.6 x 3.8 inches, 90-mm x 96-mm, and are offered by WinSystems and a number of third party companies worldwide. Module functions include communications specialty serial I/O, digital I/O, analog I/O, GPS, GSM or CDMA cellular modems, ZigBee, SCSI. Please visit our web site for additional PC/104 information which includes white papers, products, and specifications.

<http://pc104.winsystems.com/products/pc104/index.htm>

Enclosure - The EPX-GX500 can be housed in a low-cost enclosure designed specifically for EPIC-based single board computers. The interior of the ENC-EPX-1000 enclosure is large enough to install any PC/104 module, even a module with latching I/O connectors.



Enclosure for EPIC single board computers

This heavy duty extruded aluminum enclosure allows a designer to package a variety of system configurations quickly and easily. The ENC-EPX-1000 can be attached vertically on a wall, on a table, under a counter or inside a larger piece of equipment. For additional information please visit the ENC-EPX-1000 product page or contact a WinSystems' application engineer

SOFTWARE SUPPORT

Software - The EPX-GX500 is an x86-compatible SBC. It is designed to run both 16-bit and 32-bit x86 instruction set software and is compatible with Microsoft's Windows® CE and XP embedded operating systems as well as the applications that run on them. It also supports Linux and many other PC-compatible x86 operating systems such as QNX, VxWorks or other real-time executives that require a PC hardware environment.

Developer Kits - WinSystems offers Developer Kits to provide the necessary hardware, software and cables to begin program development with the EPX-GX500 board. The kit's packaging permits easy access to the SBC, PC/104 modules and peripherals during program development.

The kit consists of a DVD-ROM drive, floppy disk drive, hard disk drive and power supply mounted in a black, light-weight, aluminum enclosure. Also included is the selected operating system, cables, and the PCM-POST, a PC/104 module, for debugging support.

Board Support Packages for select operating systems are also available with our Developer Kits. Currently Windows® XP embedded, Windows® CE, Linux and DOS/sockets OS are supported. Additional support may be offered for other operating systems. Please contact a [WinSystems' Applications Engineer](#) if you need support for an OS that is not listed above.

In general, Developer Kits provide a specific OS "sample image" that is preloaded on a Flash disk and is ready to run right out of the box. Most kits also include Quick Start Guides, documentation designed to lead you through the process of recreating the embedded OS sample image that was provided in the kit.

These Quick Start Guides provide a wealth of valuable, time-saving information that will help you quickly overcome a large portion of the learning curve if you are new to a particular operating system. Please visit the [Developer Section](#) of our website for more details.

SPECIFICATIONS

Electrical

- PC/104 Interface: 8/16-bit, non-stackthrough
- PC/104-Plus Interface: 32-bit PCI, non-stackthrough
- Ethernet Data Rate: 10/100 megabits per second
- Serial Interface: Four serial channels with RS-232 levels plus RS-422/485 on COM1 and COM2
- USB: Two ports that are version 1.1 compatible
- LPT Interface: Bidirectional LPT with ECP/EPP

Parallel Interface: 24 I/O lines, TTL compatible
 UDMA 66/33 EIDE Interface: Supports two drives
 Floppy Disk Interface: BIOS supports one or two
 1.44M drives
 Vcc = +5V \pm 5% at 1.5 Amps (typ.)

Note: A flat panel backlight inverter usually requires
 +12V to operate, refer to the manufacturer's
 specification for their current requirements.

System Memory

Addressing: Up to 512 Megabytes (user installed)
 in a 200-pin DDR SODIMM

Solid State Disk

CF Device: One Type I or II CompactFlash card
 USB Device: USB mass storage devices such as
 keys, jump drives, CF adapters, etc.

Mechanical

Dimensions: 4.5" x 6.5" (115-mm x 165-mm)
 Jumpers: 2-mm compatible square posts

Connectors

COM 1-4, LPT, KYBD, ENET: 80-pin on 2-mm grid
 Floppy and IDE: 80-pin on 2-mm
 CompactFlash: 50-pin, 2-mm Type I and II
 Parallel I/O: 50-pin on 0.100" grid
 CRT: 14-pin on 2-mm grid
 Flat Panel: 31-pin Hirose
 CD Audio: 4-pin 0.100"
 Analog In: 16-pin on 2-mm grid
 GPS In: 8-pin on 0.05" grid
 PC/104 Bus: 64-pin 0.100" socket
 40-pin 0.100" socket
 PC/104-Plus: 120-pin (4 x 30; 2-mm) stackthrough
 with shrouded header
 USB: 8-pin on 2-mm grid (2 ports)
 Audio: 18-pin, 2-mm
 Mouse: 5-pin Molex
 Power: 10-pin Molex

Environmental

Operating Temperature: -40°C to +85°C

WinSystems reserves the right to make changes to products
 and/or documentation without further notification.

Product names of other companies may be trademarks of
 their respective companies.

ORDERING INFORMATION

EPX-GX500 EPIC SBC with video and Ethernet

Developer Kits

DV-S-322-C-CF Windows® CE Developer Kit, includes soft-
 ware, hardware, enclosure, and cables
 DV-S-322-L20 Linux (2.6 kernel) Developer Kit, includes
 software, hardware, enclosure, and cables
 DV-S-322-XP-SP2 Windows® XP Developer Kit, includes
 software, hardware, enclosure, and cables

System Memory - DDR PC2700 SDRAM

SODIMM200-G-27-128 128Mbyte RoHS device
 SODIMM200-G-27-256 256Mbyte RoHS device
 SODIMM200-G-27-512 512Mbyte RoHS device

-40°C to +85°C Industrial CompactFlash Memory

CFLASH-G-128M-I 128MB CFlash - RoHS
 CFLASH-G-256M-I 256MB CFlash - RoHS
 CFLASH-G-512M-I 512MB CFlash - RoHS
 CFLASH-G-1024M-I 1GB CFlash - RoHS
 CFLASH-G-2048M-I 2GB CFlash - RoHS
 CFLASH-G-4096M-I 4GB CFlash - RoHS
 CFLASH-G-8192M-I 8GB CFlash - RoHS

Cables

CBL-SET-322-1 Cable Set includes:
 CBL-234-1 14-pin Hirose to 15-pin D-sub
 CBL-251-1 Multi I/O breakout
 CBL-252-1 IDE/Floppy disk drive interface
 CBL-265-2 Power cable (unterminated)
 CBL-270-3-1.5B Audio input/output cable
 CBL-275-1 Dual USB adapter cable
 CBL-276-1 Analog interface cable

Enclosure

ENC-EPX-1000 Enclosure for EPIC SBC

GPS Adapter Kit

KIT-GPS-1 Kit includes adapter module,
 antenna, and cables
 ADP-GPS Adapter for GPS module
 mounting

Flat Panel Adapter and Cable

ADP-LVDS-T-1 LVDS adapter board
 CBL-296-1-1.5A LVDS adapter to panel cable

Wireless Development Kit

KIT-SBC-WIRELESS-1 Kit includes wireless module,
 antenna, and cable

