



EXTENDED TEMPERATURE Pentium CPU Board

GESPAC's PCISYS-58X is a Single Slot 3U CompactPCI® CPU Board based on the rugged Intel Pentium® MMX fanless processor running at 166MHz. Ideally suited for systems requiring reliability and small, robust form factor, the PCISYS-58X is a perfect fit for industrial embedded real time machine control, industrial automation, transportation, defence and any other harsh environment targeted applications.

Keeping the flexibility of the 16-bit PC/104 extension port and an excellent performance to price ratio, the new PCISYS-58X processor board is a real step ahead in the GESPAC's Intel based rugged CPUs road map, improving the overall performances of the existing rugged, railway certified, STPC Industrial CPU board PCISTI-1. Key points of the new design are the low power & passive heat sink operation capability along with the -40° to +85°C industrial temperature operating range, assured by a 166MHz clocked Pentium low power processor.

In addition to all of the standard PC functions available for the development phase, the PCISYS-58X board offers many extended temperature features including Fast Ethernet and dual USB. Flash Disk capability for high reliability data storage up to 192+MB is also supported by using either the Ata-Disk-Chip or the Compact Flash technology (adaptor needed). One SO-DIMM socket allows the installation of 128+ MB of SDRAM for optimum performance, while the board boots on 256 kB of Flash EPROM. Analogue monitor & Digital flat-panel display support (high

performance AGP Graphics with 4MB of fast VRAM), are available as well for the development phase through a DVI-I connector incorporating PanelLink® Digital technology (Silicon Image). The user can disable the graphics whenever extended temperature operations are required.

The 10Base-T/100Base-Tx Ethernet interface is implemented by using the Intel 82559ER controller while the dual USB 1.1, along with the on-board RTC, Watchdog and Reset circuitry, is directly handled by the PCI to ISA bridge. The Intel 82439TX chipset takes care of the 512kB Level 2 Cache memory and the SDRAM management. The 256kB of Flash EPROM boot are soldered on board.

Standard PC interfaces are implemented through a PC/104 extended temperature mezzanine module (PCCEXT-58X), which provides RS-232/485 standard 16Cx5x 1000V isolated COM1&2. For the development phase is always possible to use the development mezzanine module referenced as PCCEXT-58 and which provides COM1 to 4, LPT1, keyboard, mouse and floppy disk. A standard IDE interface is available both on-board (adaptor needed) and through the rear I/O J2 connector.

The PCISYS-58X's 4HP front panel includes status LEDs and standard connectors for dual USB, Fast Ethernet and DVI-I. The PCISYS-58X is fully compatible with EMC regulations and with the CompactPCI® specifications PICMG™ 2.0 R3.0. The board handles a 32-bit 33 MHz CompactPCI® Bus Access and 3.3V/5V signalling.

The PCISYS-58X is 100% PC compatible, allowing it to run popular operating systems such as DOS, Window®9X, WindowsNT™/00, Windows®CE, and Linux, as well as embedded Real Time operating systems such as VXWorks® and QNX®.



133 166 266
120 166 266
90 166 266
500 600
MHz

Windows® 2000

Linux

Windows® 98

Windows NT™



Windows® CE



Technical features

CPU

- Fanless, Low Power processor Intel Pentium® MMX @166+MHz. - 40° to 85°C operating temperature
- Intel 82439TX Chipset

Memory

- 512 kB Level 2 pipelined burst cache memory
- SO-DIMM memory module socket for 128+MB SDRAM
- 256 kB soldered Flash EPROM Boot
- 192+MB ATA-Disk-Chip IDE-Flash disk memory
- 192+MB ATA Compact Flash socket (adaptor needed)

Video (i)

- Analogue monitor & Digital flat-panel display support by Digital Visual Interface connector incorporating PanelLink® Digital technology (Silicon Image)
- Asiliant M69030 AGP SVGA up to 1600x1200x16bpp high colour resolution with 4MB of integrated VRAM

Ethernet controller

- Intel 82559ER Ethernet Controller on PCI Bus
- Fast Ethernet 10Base-T/100Base-Tx (10/100 Mbps) full-duplex

Peripheral ports

- Ultra ATA UDMA/33 IDE connector (adaptor needed)
- Dual USB 1.1
- 232/485 standard 16Cx5x 1000V isolated COM1&2 (ii)
- 16-bit PC/104 Extension Port

CompactPCI® interface

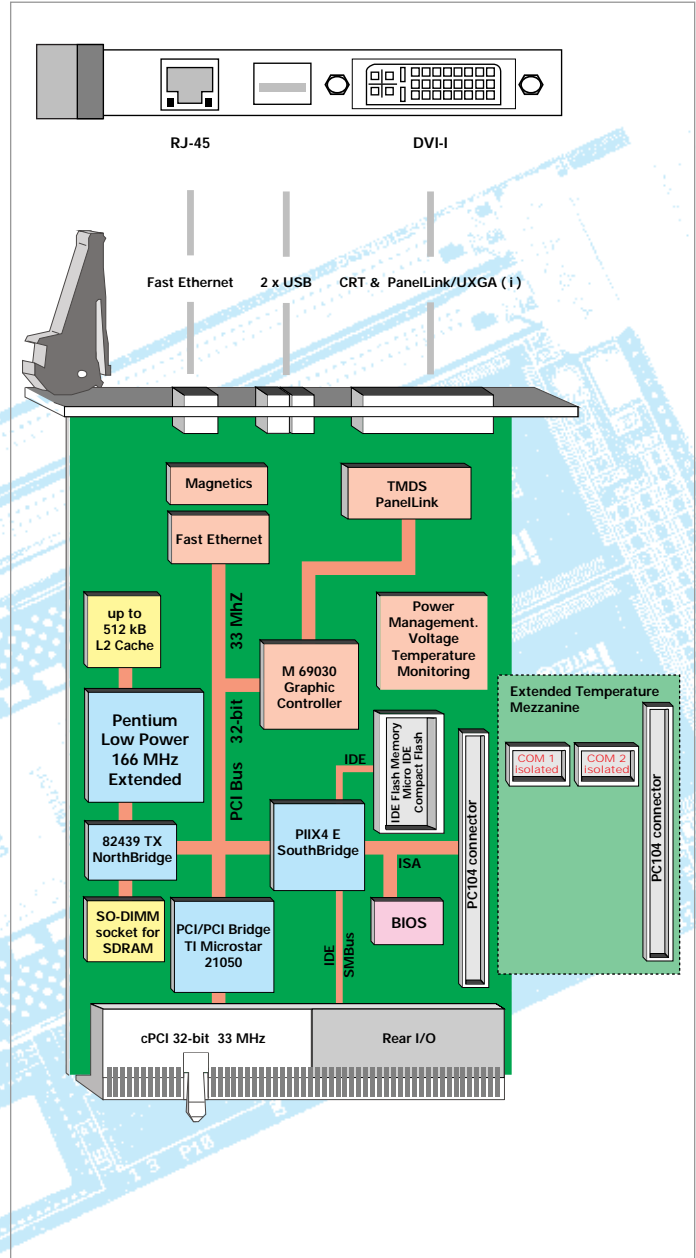
- Single slot 3U format (100x160mm)
- 3.3V/5V signalling system slot adapter
- Fully compliant with CompactPCI® Bus specifications PICMG™ 2.0 R3.0
- 32-bit 33 MHz CompactPCI® Bus Access
- Full hot swap controller
- Secondary IDE/SMB signals, VIO, Vcc, +12V, +3.3V available through the rear I/O J2 connector

Additional features

- Real Time Clock, Watchdog
- Temperature management, monitor & protection
- Phoenix BIOS

(i) for development phase only. Can be disabled for extended temperature operations

(ii) provided through the PC/104 development mezzanine module in extended temperature



Order Information

ZA PCISYS-58AXB9:	Fanless cPCI 3U 4HP SBC with Intel Pentium-MMX LP @ 166MHz, -40° to +85°C operating temperature
ZA PCISYS-58BxB9:	Fanless cPCI 3U 4HP SBC without Video, with Intel Pentium-MMX LP @ 166MHz, -40° to +85°C operating temperature
ZA PCCEXT-58X:	PC/104 module with standard RS-232/485 16Cx5x 1000V isolated COM1&2
ZA EXTIDE-58:	Standard IDE adaptor for ZA PCISYS-58/58X board
ZA EXTCFL-58:	Compact Flash memory adaptor for ZA PCISYS-58/58X board
	SO-DIMM memory module and ADC Flash Disk device on request



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