

GX7910 SERIES

EMBEDDED PXI CONTROLLERS

- 6U embedded PXI controllers for use with GX7000 Series or GX7100 Series PXI chassis
- Supports Intel Pentium® 4 Processor, up to 2.4 GHz
- 512 MB RAM standard, 1.5 GB Max.
- On-board high performance AGP SVGA controller
- On-board Gigabit Ethernet
- One PMC slot for added I/O options such as GPIB
- Optional Flash Disk



FEATURES

The GX7910 is a single-slot embedded PXI 6U controller for use with Geotest's GX7100 PXI combo chassis and GX7000 PXI chassis. The GX7910 is available in multiple CPU and memory configurations and a full range of peripherals. When combined with the embedded storage peripherals of the GX7000 Series and GX7100 Series chassis, it is the ideal solution for system controllers.

CONFIGURATION

The GX7910 controllers offer multiple peripherals and I/O interfaces through either the PXI controller front panel or the rear I/O panel of the GX7000 and GX7100 Series. All storage devices (i.e., floppy disk, hard disk, and CD-ROM drives) that are built into the chassis are connected to the controller internally.

The front panel I/O is factory default configuration and is fully functional in any PXI or cPCI chassis. Rear panel I/O is only available when the controllers are used in conjunction with Geotest GX7100 Series or GX7100 Series PXI chassis.

The GX7910 6U embedded system controller adheres to the PXI and cPCI specifications and is PICMG 2.16 compatible.

APPLICATIONS

- Automatic Test Equipment (ATE)
- Data Acquisition
- Process Control
- Production Test
- Scientific Applications
- Industrial Systems
- Portable Systems

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SPECIFICATIONS

PROCESSOR AND MEMORY	
CPU	Intel Pentium® 4 Processor <ul style="list-style-type: none"> • Up to 2.4 GHz • 512 KB L2 on-die cache • 400 and 533 MHz PSB • 478-pin FC-PGA package
MEMORY	
MAIN MEMORY	<ul style="list-style-type: none"> • Up to 1 GB soldered DDR SDRAM memory • Up to 0.5 GB of additional memory capacity via a 200-pin SODIMM socket
FLASH MEMORY	<ul style="list-style-type: none"> • Two Firmware Hub Flash memory • 1 MB FWH for BIOS • 1 MB FWH extension for OS user
EEPROM	<ul style="list-style-type: none"> • Two 256 byte EEPROMs for storing CMOS data when operating without battery • Two 256 byte EEPROMs for user purposes
CHIPSET	
INTEL 845GV CHIPSET	Intel 82840GV Graphics Memory Controller Hub (GMCH): <ul style="list-style-type: none"> • Support for a single Pentium 4 processor • 64-bit AGTL/AGTL+ based System Bus interface at 400 MHz and 533 MHz • 64-bit System Memory interface with optimized support for DDR SDRAM memory at 200 MHz or 266 MHz • Integrated 2D and 3D graphics engines with 200 MHz core frequency • Integrated H/W motion compensation engine • Integrated 350 MHz DAC • Integrated Digital Video Out port • AGP 1X/2X/4X controller Intel 82801DB I/O Controller Hub (ICH4): <ul style="list-style-type: none"> • PCI Rev. 2.2 compliant with support for 32-bit/33 MHz PCI operations • Enhanced DMA controller • Power management logic
EXTERNAL INTERFACES	
CompactPCI BUS INTERFACE	Compliant with CompactPCI specification PICMG 2.0 R3.0 <ul style="list-style-type: none"> • System master operation • 64-bit /33 MHz master interface • 3.3 V/5.0 V compatible (default is 5.0 V)
SERIAL	
COM1 AND COM2	<ul style="list-style-type: none"> • Dual UART, 16C550 compatible • RS-232, RS-422, or RS-485 configurable • COM1: 9-pin D-sub connector on front panel • COM2 (through rear panel I/O): RS-232, RS-422, or RS-485 compatible
COM3 AND COM4	<ul style="list-style-type: none"> • 16C550 compatible UARTs • TTI level signals • Rear I/O interfacing only

PARALLEL	Multi-Mode™ Parallel I/O interface: <ul style="list-style-type: none"> • Standard mode IBM PC/AT and PS/2 compatible bi-directional parallel I/O interface • TTI level signals • Rear I/O interfacing only
USB INTERFACE	Five USB 2.0 ports supporting UHCI and EHCI: <ul style="list-style-type: none"> • Two USB type connectors on the front panel • Two rear I/O interfaces • On on-board port connector
GIGABIT ETHERNET	Two 10/100/1000 MB/s Gigabit Ethernet interfaces based on the Intel 82540EM (Kenai-32) Ethernet PCI bus controller: <ul style="list-style-type: none"> • Two RJ-45 connectors on front panel • Support for two Gigabit Ethernet channels on packet switching backplane (PICMG 2.16, R1.0 compliant) • Any given channel may only be operated at one or the other of the above interfacing points • Automatic mode recognition • Automatic cabling configuration recognition Cabling requirement: CAT 5, UTP, two-pair cable
FAST ETHERNET	10Base-T/100Base-TX Intel 82559 Fast Ethernet Controller integrated within the ICH4 controller (82559-style): <ul style="list-style-type: none"> • One RJ-45 connector on front panel • Support for one channel of rear I/O interfacing • May only be operated at one or the other of the above interfacing options • Automatic mode recognition Cabling requirement: CAT 5, UTP, two-pair cable
INTERNAL INTERFACES	
VGA INTERFACE	Built-in Intel 3D graphics accelerator for enhanced graphics performance: <ul style="list-style-type: none"> • Supports resolutions of up to 2048x1536 by 16-bit at 60 Hz refresh rate • Hardware motion compensation for software MPEG2 and MPEG4 decoding • Flexible allocation of video memory up to 64 MB • 15-pin D-sub VGA CRT-display connector with analog video signals
KEYBOARD AND MOUSE	<ul style="list-style-type: none"> • Rear I/O interfacing for both keyboard and mouse • Separate on-board keyboard connector (5-pin); requires adaptor to connect regular keyboard
MASS STORAGE	
EIDE ULTRA ATA/100/66/33	<ul style="list-style-type: none"> • Two interfaces • Up to four devices (hard disks or CD-ROMs) • 40-pin, 2.54 mm, male pin row connector (standard) • Optional 44-pin, 2.0 mm, male pin row connector for mounting 2.5" disk drive on board
CompactFlash	<ul style="list-style-type: none"> • CompactFlash type II socket (true IDE mode) • Supports type I and II CompactFlash cards and IBM Microdrive™

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SPECIFICATIONS (CONT'D)

LPC	I/O extension interface: <ul style="list-style-type: none"> • 22-pin female, pin row connector • Supports up to two LPC devices • Designed to support custom, fixed mounted mezzanine boards
PMC	CMC/PMC IEEE P1386/Draft 2.4a compliant mezzanine interface: <ul style="list-style-type: none"> • Jn1, Jn2, and Jn4 PCI mezzanine connectors for standard PMC modules • 32-bit/33 MHz master interface • 3.3 V or 5.0 V compatible • Rear I/O supported through CompactPCI J5 connector
MONITOR AND CONTROL	
WATCHDOG	Software configurable Watchdog generates IRQ, NMI, or hardware reset.
THERMAL MANAGEMENT	CPU over temperature protection is provided by: <ul style="list-style-type: none"> • Internal processor temperature control unit • CPU shut down via hardware monitor • Custom designed heat sinks
SYSTEM MONITOR	LM81 hardware monitor supervision of: <ul style="list-style-type: none"> • System power voltages: +12 V, -12 V, +5 V, +3.3 V, and VCORE • RTC battery voltage • Up to two fan speed inputs
CPU TEMPERATURE MONITOR	MAX 1617 hardware monitor supervision of: <ul style="list-style-type: none"> • On-die CPU temperature • CPU surrounding board temperature
ENVIRONMENTAL	
MECHANICAL	6U, 4HP, CompactPCI/PXI compliant form factor
OPERATING TEMPERATURE	0° C to 60° C -25° C to 75° C (optional - only with designated CPU types)
STORAGE TEMPERATURE	-55° C to 85° C
HUMIDITY	93% RH at 40° C, non-condensing
PHYSICAL	
MECHANICAL	6U PXI
DIMENSIONS	233.35 mm x 160 mm
WEIGHT	546 g (4HP variants with heat sink and without mezzanine boards)
BATTERY	3.0 V lithium battery for RTC with battery socket. Recommended types: VARTA CR2025 and Panasonic BR2020

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INTERFACE	FRONT	REAR	COMMENTS
Parallel (LPT)	1	1	Select one option
Serial (RS-232)	1	2	Select one option
USB	2	1	—
Ethernet (10/100 Base T)	1	1	—
Gigabit Ethernet (1000 Base T)	1	—	—
Keyboard	1	1	Select one option
Mouse	1	1	Select one option
VGA	1	—	—
EIDE	—	—	2 (Used internally by the chassis)
Floppy	—	—	—
SCSI	—	—	—
PMC	Optional	—	—

Note: Specifications are subject to change without notice.

ORDERING INFORMATION

PXI EMBEDDED CONTROLLERS*	
GX7910-22512	PXI controller for GX7100 Series and GX7000 Series. 2.2 GHz P4/512 MB
GX7910-17512E	PXI controller for GX7100 Series and GX7002, 1.7 GHz P4/512 MB, extended temperature range
PXI CONTROLLER ACCESSORIES	
GX7900-GPIB	GPIB interface for any GX79xx controller (PMC plug-in card)
GX7910-512M	512 MB memory upgrade to any GX7910 (one upgrade per GX7910)
GX7910-1G	1 GB memory upgrade to any GX7910 (one upgrade per GX7910)
GT90004	Micro GPIB cable for GX7900-GPIB, shielded, 2 meters
GX79x0-NT	Upgrade any GX7900 to Windows® NT operating system
GX79x0-XP	Upgrade any GX7900 to Windows XP operating system

*Call Geotest for additional configurations for applications requiring different speed processors.

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