GX7900 SERIES

EMBEDDED PXI CONTROLLERS

- 6U cPCI/PXI controllers for use with GX7000 Series PXI chassis
- Supports Intel Pentium® III processor
- On-board high performance AGP SVGA controller
- One PMC slot for added I/O options such as GPIB
- Optional Flash Disk

DESCRIPTION

The GX7900 is a double wide 6U controller for use with Geotest's GX7000 Series PXI chassis. The GX7900 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 chassis, it is the ideal solution for system controllers.

FEATURES

The GX7900 controllers offer multiple peripherals and I/O interfaces through either the PXI controller front panel or the rear I/O panel of a GX7000 Series chassis. All storage devices (i.e., floppy disk, hard disk, and CD-ROM drives) that are built into the GX7000 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 the GX7000 Series PXI chassis.

The GX7900 embedded system controller adheres to the PXI and cPCI specifications.

APPLICATIONS

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

GX7900 SERIES

SPECIFICATIONS

PROCESSOR AND MEMORY	
CPU	Intel Pentium® III or Celeron™ processor
MEMORY	
MAIN MEMORY	•100 MHz system memory bus •256 kB L2 on-die full speed processor cache •64 MB up to 768 MB SDRAM with ECC via three DIMM sockets •512 kB Flash (or optional DIL SRAM with 256 kB or 512 kB) •Optional DiskOnChip™ module up to 96 MB
CHIPSET	
INTEL 845GV CHIPSET	Intel 82440BX PCI/AGP controller •GTL Processor interface •Integrated DRAM controller •AGP and PCI interface Intel 82371EB PCI/ISA IDE Xcelerator (PIIX4E) •Multifunction PCI to ISA bridge •Enhanced DMA controller •Interrupt controller based on two 82C59s •Timer based on 82C84 •Real-time clock •Power management logic •Supports two USB and two IDE interfaces
EXTERNAL INTERFACES	
CompactPCI BUS INTERFACE	Compatible with CompactPCI specification Rev. 2.1 •64-bit /33 MHz master interface •3.3 V/5.0 V compatible
SERIAL	COM1 and COM2: •Dual UART, 16C550 compatible •COM1: 9-pin D-sub •COM2: RS-232, RS-422, or RS-485 compatible
PARALLEL	Multi-Mode™ Parallel I/O interface: •Standard mode IBM PC/AT and PS/2 compatible bi-directional parallel I/O interface •Rear I/O interfacing only
USB INTERFACE	Four-pin USB ports: •Two USB connectors on front panel •Rear I/O interfaces •Maximum transfer rate of 12 Mbit •One on-board port connector
FAST ETHERNET	10Base-T/100Base-TX Intel 82559 Fast Ethernet Controller: •Two RJ-45 connectors on front panel •Support for rear I/O interfacing •Automatic mode recognition Cabling requirement: CAT 5, UTP, two-pair cable

INTERNAL INTERFACES	
VGA INTERFACE	Built-in graphics accelerator for enhanced graphics performance: •Supports resolutions of up to 1600x1200 by 16-bit at 60 Hz refresh rate •4 MB video memory •15-pin D-sub VGA display connector
KEYBOARD AND MOUSE	•Rear I/O interfacing for both keyboard and mouse •Front PS-2 style connector for both keyboard and mouse via Y-cable adapter (6-pin mini-DIN)
MASS STORAGE	
IDE ULTRA/DMA	•Two interfaces •Up to four devices (hard disks or CD-ROMs) •40-pin, 2.54 mm, male pin row connector
CompactFlash	Up to 96 MB module supported
FLOPPY DISK	•Rear I/O interfacing only •Supports 5.25 or 3.5 inch (1.44 or 2.88 MB) floppy drives
LPC	I/O extension interface: •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 compliant mezzanine interface: •32-bit master PCI electrical interface •Provides for either 3.3 V or 5.0 V signaling environment
REAR I/O	To optimize cabling, rear I/O is available via the J3, J5, and J4 (optional) connectors in conjunction with the rear I/O transition module CP-RIO6-05 •J3: Floppy COM3, keyboard, mouse, USB4, and either one EIDE port or PICMG 2.16 support •J4: VGA-CRT, two Ethernet channels without LEDs, USB5, COM1, COM2, control signals, PMC rear I/O connectivity •J5: parallel I/O interface, GPIO, IPMI fan control signals
MONITOR AND CONTROL	
LEDs	
SYSTEM STATUS:	•SCSI: SCSI activity •WDG: Watchdog timer status •TMP: Thermal control
FAST ETHERNET STATUS	•ACT: Network activity •LINK: Connection status •SPEED: Network speed
SWITCHES	Reset switch (RST): •Initiates cold start •Recessed to prevent accidental activation
WATCHDOG	Software configurable Watchdog generates IRQ, NMI, or hardware reset.

SPECIFICATIONS (CONT'D)

MONITOR AND CONTROL (CONT'D)	
SYSTEM MONITOR	LM81 hardware monitor supervision of: •System power voltages: +12 V, -12 V, +5 V, +3.3 V, and VCORE •RTC battery voltage •Fan speed
CPU TEMPERATURE MONITOR	MAX 1617 hardware monitor supervision of: •On-die CPU temperature •CPU surrounding board temperature
ENVIRONMENTAL	
MECHANICAL	6U, 4HP, CompactPCI compliant form factor
OPERATING TEMPERATURE	0° C to 60° C (standard - only with designated CPU types) -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, 4HP, CompactPCI compliant form factor
DIMENSIONS	233.35 mm x 160 mm
WEIGHT	690 g (8HP 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	1 front 1 or 2 rear	Select one option: 1 front OR 2 rear 1 front AND 1 rear
USB	2	1	—
Ethernet (10/100 Base T)	1	1	—
Gigabit Ethernet (1000 Base T)	—	—	—
Keyboard - PS2	1	1	Select one option*
Mouse - PS2	—	1	Select one option
VGA	1	—	—
EIDE	—	—	2 (Used internally by the chassis)
Floppy	—	—	Internal
SCSI	—	Optional	—
PMC	Optional	—	—

Note: Specifications are subject to change without notice.

*PS2 splitter can be used for the front PS2 connector to use keyboard and mouse.

ORDERING INFORMATION

PXI EMBEDDED CONTROLLERS*	
GX7900-1256	PXI controller for GX7000 Series, 1 GHz PIII/256 MB
PXI CONTROLLER ACCESSORIES	
GX7900-64M	64 MB memory upgrade to any GX79xx
GX7900-128M	128 MB memory upgrade to any GX79xx
GX7900-256M	256 MB Memory Upgrade to any GX79xx
GX7900-GPIB	GPIB interface for any GX79xx controller (PMC plug-in card)
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
PXI-INT1	Integration service for PXI instruments

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

COMPATIBILITY MATRIX

PRODUCT	GX7000	GX7002	GX7100	GX7102
GX7900	X	X		

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