

GX7005A / GX7015A SERIES

6U PXI SMART CHASSIS

- GX7005A 6U PXI chassis with high capacity cooling and system power for GX5055 and GX5960 digital instrumentation
- Available with optional 6U MAC Panel Scout receiver for mass interconnect applications
- Cable tray, recessed card cage and top / bottom access to facilitate cable management and routing
- 20 slot PXI chassis supporting a 6U (embedded or remote) PXI controller and 19 6U / 3U PXI or cPCI instruments
- Built-in peripherals (hard disk drive, DVD-RW drive) for embedded controller configurations
- Integral Smart functions provide per slot temperature monitoring, system power supply monitoring, fan speed control, and PXI trigger mapping
- 550 W PXI system power supply and 4.4 KW system power for digital pin electronics



*Chassis shown with optional MAC Panel SCOUT receiver

DESCRIPTION

The GX7005A and GX7015A chassis are 20-slot, 6U PXI chassis that can accommodate up to 19 instruments as well as a PXI controller or a PXI bus expander interface allowing the chassis to be controlled via an external controller. The GX70x5A is designed specifically to support Geotest's high performance digital instrument cards. Up to 16 GX5055 or 17 GX5960 cards can be installed in one chassis, providing 512 or 528 bi-directional digital channels, respectively. The chassis offers high performance cooling and Smart system power supplies for the pin electronics which are actively managed to minimize total power dissipation for the digital subsystem boards. All system power is supplied via connectors located on the PXI backplane eliminating the need to use external power cables to power the digital pin electronics.

The GX70x5A is also available with the optional 6U MAC Panel SCOUT receiver. The SCOUT receiver offers system integrators a reliable and high performance method to connect test system resources to a mass interconnect receiver, minimizing the need for cable assemblies. The SCOUT receiver is a "pull-through" design which allows the use of pcb assemblies to provide a "wireless" connection between PXI system resources and the receiver interface – eliminating the need for cable harnesses and the associated reliability issues that come with cabled solutions. The result is a system interconnect design that is cost effective, reliable, maintainable and offers a high performance direct connect interface from the instrument to the receiver interface. The modular design of the SCOUT allows for the use of a broad range of receiver connectors including high density, high current, and coaxial types. The 6U SCOUT receiver can accommodate up to 21 connectors and over 8000 connections when fully populated.

FEATURES

System power for the GX70x5A consists of a 550 watt power supply which supports power to all of the PXI modules. Additionally, a 4.4 KW Smart power subsystem supplies programmable Vcc and Vee power to the digital pin electronics via the J5 connector located on the PXI backplane as well as 3.3 volts to the digital modules. Based on the programmed drive-high and drive-low levels, the Smart power subsystem automatically adjusts to provide the minimum required positive and negative rail voltages - minimizing power dissipation and overall cooling requirements.

To ensure adequate cooling, the GX70x5A's cooling system includes 8, 100 cfm fans, with four located under the card cage and four located at the rear of the chassis, providing positive airflow per the PXI specification and high capacity cooling for PXI modules. This cooling configuration, in conjunction with air plenums within the chassis, provides airflow for all module slots per the PXI specification and requires no additional rack space for inlet or outlet air. Additional cooling with dedicated fans is provided for the system power supplies which are located at the rear of the chassis.

Like all other Geotest PXI chassis, the GX70x5A chassis incorporates Smart features which support the monitoring of slot temperatures and system power supply voltages, automatic fan speed control, as well as providing the ability to program or map each PXI trigger line from one PCI segment to another. In addition, the user can program the temperature monitoring function for specific warning and shutdown limits. All user specific setups can be stored in non-volatile memory as a user configuration and can be used as the default setup for normal chassis operation. Each

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PXI slot's temperature is monitored by an on-board microcontroller. Upon the occurrence of an out-of-temperature condition, an audible alarm will sound, warning status can be obtained via a driver query to the microcontroller, and system power will be disabled if an absolute temperature limit is exceeded.

The GX70x5A chassis optionally supports the MAC Panel 6U SCOUT receiver or mass interconnect interfaces from several other manufacturers including Virginia Panel and ITT Cannon via the GX7500 Universal Receiver Interface. Both the GX7005A and GX7015A chassis include an integrated 2U cable tray facilitating cable routing to and from instrumentation. Additionally, these chassis include optional openings at the top and bottom of the chassis to facilitate cable routing and management to / from the PXI instrumentation.

CONFIGURATION

Slot 1 is dedicated to the system controller (embedded or remote, using a PXI bus expander). A PXI Star Trigger Controller or any PXI or cPCI instrument can be used in slot 2. Slots 3-15 support the PXI Star Trigger and any PXI or cPCI instrument. Slots 16-20 accommodate PXI or cPCI instruments without the Star Trigger. The GX7005A is configured for use with an embedded PXI controller. The GX7015A is configured as a slave chassis and is designed for use with a PXI bus expander interface such as the GX7990 or a MXI-4.

SOFTWARE

The GX70x5A is supplied with a virtual instrument panel which includes 32-bit DLL driver libraries and documentation. The virtual panel can be used to interactively set /display shutdown and alarm conditions based on defined temperature levels. In addition, defined warning and alarm limits can be saved or recalled or optionally, the use of factory setting can be invoked. Monitoring of all system power voltages and configuration of the PXI trigger lines is also supported.

In addition, an API is supplied that supports a variety of programming tools and languages such as ATEasy, LabVIEW, Microsoft® .NET, Visual C++, Borland® C/C++, Microsoft Visual Basic®, Borland Delphi, and LabWindows.

APPLICATIONS

- Automatic Test Equipment (ATE)
- High Performance Digital Test
- Production Test
- Depot and I-Level test for LRU and SRU assemblies

SPECIFICATIONS

CHASSIS	GX7005A GX7015A
INPUT AC POWER	120 / 208 VAC, 3 phase configuration 20 A per phase, 47/60 Hz
TOTAL AVAILABLE DC POWER	PXI voltages: 550 W Pin electronics: 4400 W
PXI POWER SUPPLY +5V +3.3V +12V -12V	60 A (MAX) 40 A (MAX) 32 A (MAX) 3 A (MAX) NOTE: MAXIMUM POWER FOR THE +5V AND +3.3V CANNOT EXCEED 300 WATTS
PIN ELECTRONICS POWER SUPPLY VCC: + 10 - +29 VDC VEE: -18 - -3 VDC +3.3 VDC	80 A (max) 80 A (max) 56 A (max)
WEIGHT GX7005A GX7015A GX7005A-MP GX7015A-MP	64 lbs 61 lbs 90 lbs 87 lbs
DIMENSIONS GX70X2A-HPD GX70X2A-HPD-MP	10U (17.5")H x 17.6"W x 19.7"D 10U (17.5")H x 17.6"W x 24.3"D
COOLING	Eight 100 CFM temperature controlled fans for instruments. Separate fans for system power supplies.
POWER SUPPLY MONITORING	Monitored voltages: +3.3, +5, +12, -12, VIO value, Accuracy: +/- 2% of reading
PXI TRIGGERS	Slots: 2- 20 Number: 8 per segment Software controlled segment mapping supports: <ul style="list-style-type: none">• Isolate a trigger line within a segment• Map a trigger line left to right• Map a trigger line right to left
CLOCK	Integrated 10 MHz PXI clock with auto-detect function. Presence of an external 10 MHz PXI clock will disable the internal clock. PXI clock is distributed to all peripheral slots. 10MHz PXI clock accuracy: ±100ppm.
SLOTS	20 PXI or cPCI Slots (19 instruments max)

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OPTIONAL RECEIVER	MAC PANEL 21 SLOT, 6U SCOUT
RECEIVER / ITA CONNECTOR OPTIONS	<ul style="list-style-type: none">• Dual 78 pin sub-D / HDI 200 position adapter – supports GX6616, GX6264• 3 x 50 pin sub-D / dual 96 position adapter – supports GX6315• 68 pin SCSI & 9 pin sub-D / HDI 200 position adapter – supports GX5055• Other adapters: contact factory
DIRECT ACCESS KIT (DAK) OPTIONS FOR GEOTEST PXI PRODUCTS	<ul style="list-style-type: none">• Dual 78 pin sub-D / HDI 200 position adapter – supports GX6616, GX6264• 3 x 50 pin sub-D / dual 96 position adapter – supports GX6315• 68 pin SCSI & 9 pin sub-D / HDI 200 position adapter – supports GX5055• Other adapters: contact factory
ENVIRONMENTAL TEMPERATURE RANGE	
OPERATING:	0° C to 50° C
STORAGE:	-20° C to 60° C
CE COMPLIANCE	EN61010-1 (pending) EN61326

Note: Specifications are subject to change without notice.

ACCESSORIES / OPTIONS	
GX98605	GX5055 6U DAK - GX5055 interface for 6U SCOUT receiver (200 pin interface)
GX98604	GX5050 / GX5051 6U DAK for 6U SCOUT receiver (200 pin interface)
GX98603	GX5731 / GX5732 6U DAK for 6U SCOUT receiver (2 x 200 pin interface)
GX98602	GX6315 / GX6325 / GX6338 6U DAK for 6U SCOUT receiver (2 x 96 pin, 10A interface)
GX98601	GX6616 / GX6264 6U DAK for 6U SCOUT receiver (200 pin interface)
GX97005	3U to 6U Panel Adapter (allows a 3U instrument to fit into a 6U chassis)
GX97011	6U Blank Panel, 1-Slot wide
GX97012	6U Blank Panel, 2-Slots wide
GX97014	6U Blank Panel, 4-Slots wide
GX97920	Installation and integration of PXI modules. Includes 2nd year warranty Contact factory for DAK module development / integration / installation.

ORDERING INFORMATION

CHASSIS	
GX7005A	High performance, 6U, 20 Slot PXI Chassis with built-in CD-RW, Hard Disk, rack mount, and cable tray
GX7015A	High performance, 6U, 20 Slot PXI Chassis for use with GX7990 PXI Bus Expander, rack mount, and cable tray
GX7005A-MP	High performance, 6U, 20 Slot PXI Chassis with built-in CD-RW, Hard Disk, rack mount, cable tray and 6U MAC Panel SCOUT receiver
GX7015A-MP	High performance, 6U, 20 Slot PXI Chassis for use with GX7990 PXI Bus Expander, rack mount, cable tray and 6U MAC Panel SCOUT receiver

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