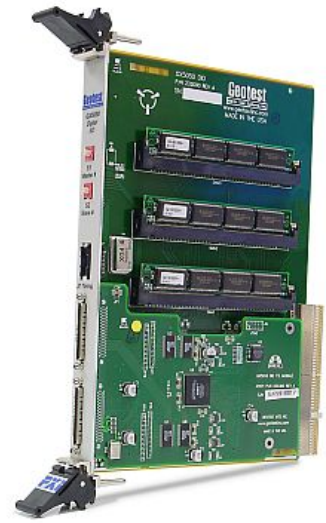


GX5050



DYNAMICALLY CONTROLLED HIGH SPEED DIGITAL I/O PXI CARD, 8 MB MEMORY

- 32 Bi-directional I/O pins (16 cards may be daisy-chained for a total of 512 pins)
- 8 MB of on-board memory
- External and programmable internal clock rates from 5 Hz to 50 MHz
- Dynamically controlled sequencer supports branching, looping, subroutines, & advanced features for UUT synchronization
- Multiple I/O options include TTL, PECL, LVDS, and Programmable levels



DESCRIPTION

The GX5050 is a high speed Dynamic Digital I/O card that provides a full set of features that is comparable to high speed I/O products found in large functional test systems. The card shares an identical architecture with the GC5050, but the GX5050 is a PXI card (6U) and the GC5050 is a PCI card. Both have the ability to operate independently of the host computer when in RUN mode.

FEATURES

The GX5050 provides real-time digital stimulus and capture with 32 pins per card. Up to 16 cards can be daisy-chained for a total of up to 512 pins. The 32 pins can be configured as input or output groups of eight. The direction of each group can be changed dynamically with the sequencer, externally, or via both methods. There is also a 16-bit external bus for triggering and synchronization with external events.

Clock and strobe signals are distributed to the cards via a daisy-chained ribbon cable. These signals can be generated internally or externally. The external control signals allow full synchronization with the unit under test (UUT) and minimize the initialization part of the test.

Algorithmic Sequencer Technology (AST™)

An innovative, state-of-the-art algorithmic sequencer allows users to create loops and branches to manipulate the output vectors. All of the sequencer commands can be conditioned using the External Event bus and may be programmed using the Graphical Vector Editor using Windows® API command or via a script language. This gives the GX5050 the capability to generate test vectors indefinitely at maximum test rates. Internal and external trigger and pause commands are available in several modes.

On-Board Memory

The GX5050 is supplied with 8 MB of onboard memory. Separate memories are provided for output data, response data, and test step sequencing commands. The separate memory for response data lets the application read the activity on the UUT pins independent of the bi-directional mode. This is an important feature lacking in most high speed digital I/O instruments.

Compatibility

The GX5050 operates in any 6U PXI slot that provides both 3.3 V and 5 V power supplies and is compatible with the Marvin Test Solutions GT50 and GT25 test vectors. Additionally, firmware can be upgraded using the unique In-System-Programming front panel.



GX5050



I/O MODULES

The GX5050 offers a variety of I/O modules with input and output levels that meet the requirement of any digital test application, including TTL, PECL, ECL, Programmable Levels, LVDS, and custom modules. I/O module type and memory size must be specified at the time the GX5050 is ordered.

CONFIGURATION

The GX5050 can be configured as a Master or as a Slave. The Master provides timing signals for up to 15 Slaves.

PROGRAMMING AND SOFTWARE

The board is supplied with GTDIO/DIOEasy, a software package that includes vector editing, a virtual instrument panel, and 32/64-bit DLL driver libraries and documentation. The virtual panel can be used to interactively program and control the instrument from a window that displays the instrument's current settings and status. In addition, interface files are provided to support access to programming tools and languages such as ATEasy, LabView, C/C++, Microsoft Visual Basic®, Delphi, and Pascal. On-Line help file and PDF User's Guide provides documentation that includes instructions for installing, using and programming the board.

APPLICATIONS

- Automatic Test Equipment (ATE)
- High-speed functional digital test
- Vector capture
- Hybrid and digital device test
- Memory testing
- Event sequencer, logic pattern capture



GX5050



SPECIFICATIONS

| TIMING | |
|---|--|
| Internal Test Clock | 5 Hz to 50 MHz |
| Resolution | 1 Hz or 0.01% (whichever is greater) |
| Auxiliary Internal Clock B | 1 MHz to 100 MHz |
| Resolution | 1 Hz or 0.2% (whichever is greater) |
| Internal Strobe | 10 to 25 ns before next clock |
| External Test Clock | 0 to 50 MHz |
| Skew | 3 ns max on the same card 5 ns max between cards |
| I/O | |
| The I/O levels are I/O module dependent. I/O modules support TTL, PECL, LVDS, and Programmable Levels | |
| Number of I/O Channels | 32 per Card |
| Direction | Input or Output per step (in groups of eight) |
| Memory | 8 Mb per I/O pin |
| Triggering | Software generated trigger External Input trigger override Conditional triggering (Conditioned by one or two sequential external events) |
| Pause | Software generated pause External Input pause override Conditional pause (Conditioned by an external event) Sequencer Pause command |
| EXTERNAL CONTROL AND STATUS | |
| Output Enable | Tri-state control for groups of eight (8) I/O pins |
| External Clock Enable | Internal, external clock selection |
| Clock Output | The selected clock |
| External Strobe | The selected strobe |
| Pause | External pause override input |
| Trigger | External trigger override input |
| Run | Run indicator output |
| B Clock | Auxiliary clock output |
| V _{CC} | +5 V _{DC} output |

| ENVIRONMENTAL | |
|-----------------------|---------------------------|
| Operating Temperature | 0 °C to +50 °C |
| Storage Temperature | -20 °C to +70 °C |
| Vibration | 5 g @ 500 Hz |
| Shock | 10 g for 6 ms ½ sine |
| Size | 6U PXI |
| Weight | 1.2 lbs (520 g) |
| CONNECTIONS | |
| Timing | 68 position SCSI III Type |
| I/O Module | 68 position SCSI III Type |
| Control | 68 position SCSI III Type |

Note: Specifications are subject to change without notice

GX5050



ORDERING INFORMATION

| | |
|--------------------------------|--|
| GX5050 | Dynamically Controlled High Speed Digital I/O PXI Card, 8 MB memory |
| I/O MODULE (SELECT ONE) | |
| GX5910 | TTL I/O Module |
| GX5930 | Programmable Level I/O Module |
| GX5940 | PECL I/O Module |
| GX5960 | LVDS I/O Module |
| SOFTWARE | |
| DIOEasy | Digital I/O Vector Development Software |
| DIOEasy-DS | 2 days DIOEasy training at Marvin Test Solutions (Irvine, CA) for 1-3 persons. Call for larger groups. |
| DIOEasy-DS2 | On-site, 2-days DIOEasy training seminars for 1-3 persons. Call for larger groups. |
| ACCESSORY | |
| GT95015 | Connector Interface for all Gx5xxx/GX3xxx, SCSI to 100 Mil Grid, Differential |
| GT95021 | 2 ft. Shielded Cable for all 5xxx/35xx (68 Pin) |
| GT95022 | 3 ft Shielded Cable for all 5xxx/35xx (68 Pin) |
| GT95022E | 3 ft Shielded Cable for all 5xxx/35xx (68 Pin) Not Terminated One End |
| GT95025 | Connector Interface, 68-Pin SCSI to TTI Testron 170-Pin Signal Block |
| GT95028 | 10 ft shielded cable for 5xxx/35xx products (68 Pin) |
| GT95031 | 6 ft Shielded Cable for all 5xxx/35xx (68 Pin) |
| GT95035E-48 | Shielded Flying Lead Cable for all 5xxx/35xx (68 Pin), 48". |
| GX98604 | 6U "Wireless" Scout Adapter for GX5050/GX5051 (200-Pin Scout Signal Connectors) |
| GT95028E | 10 ft shielded cable for 5xxx/35xx products (68 Pin) not terminated one end |
| GT95014 | Connector Interface for GT5xxx/GX5xxx/GC5xxx, SCSI to 100 Mil Grid, Single Ended |
| GT95018 | Connector Interface Transition Board |