ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *National Instruments PXI-2536* at our website: *Click HERE*

SPECIFICATIONS

NI PXI-2536

544-Crosspoint FET Matrix

This document lists specifications for the NI PXI-2536 544-crosspoint, FET matrix (NI 2536). All specifications are subject to change without notice. Visit *ni.com/manuals* for the most current specifications.

Topology	1-wire 8 × 68 matrix

Caution To ensure the specified EMC performance, operate this product only with shielded cables and accessories.

Caution Refer to the *Read Me First: Safety and Electromagnetic Compatibility* document for important safety and electromagnetic compatibility information. To obtain a copy of this document online, visit *ni.com/manuals* and search for the document title.

Related Information

Refer to the NI Switches Help for detailed topology information.

About These Specifications

Specifications characterize the warranted performance of the instrument under the stated operating conditions.

Typical Specifications are specifications met by the majority of the instrument under the stated operating conditions and are tested at 23 °C ambient temperature. Typical specifications are not warranted.

All voltages are specified in DC, AC_{pk}, or a combination unless otherwise specified.

Caution The protection provided by the NI 2536 can be impaired if it is used in a manner not described in this document.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Input Characteristics

Maximum switching voltage (channel-to-ground)	±12 VDC, 8 VAC
Maximum switching power (per channel, resistive)	1.2 W
Maximum switching current	100 mA
DC isolation resistance (between open terminals)	>1 GΩ, typical at 23° C >334 MΩ, typical at 55° C
Current leakage between column and ground (closed path)	10 nA, typical (12 VDC applied at 25 °C)
Offset voltage	10 µV, typical
Overvoltage protection	
Powered on	±36 VDC
Powered off	±40 VDC
Total path resistance, row-to-column	
Typical	10 Ω
Maximum	15.5 Ω

RF Performance Characteristics

Test setups for RF characteristics used two 1-meter cables and two NI TBX-68 connector blocks.

Single crosspoint bandwidth (50 Ω system, one row to one column)	>1 MHz, typical
Crosstalk (50 Ω system)	
10 kHz	<-53 dB, typical
100 kHz	<-33 dB, typical
1 MHz	<-30 dB , typical

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Dynamic Characteristics

FET operate time[1]	
Typical	12 µs
Maximum	16 ms

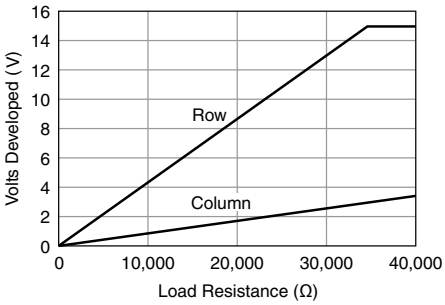
Note Certain applications may require additional time for proper settling.

Maximum scan rate	50,000 crosspoints/s
Simultaneous drive limit	544 switches
Expected relay life	Unlimited, when operated within specified limits

Caution During chassis power up, the row and column connections may produce a charge injection. Refer to the following figures for information about how this might affect loads that are connected to the front panel I/O connectors and referenced to earth ground.

Chassis power-up charge injection	
Row	7.5 µC (<500 µA for a 20 ms time interval, typical)
Column	1.5 µC (<40 µA for a 20 ms time interval, typical)

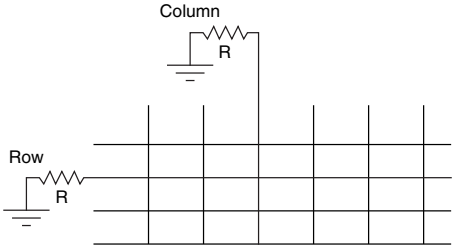
Figure 1. Impact of Charge Injection at Power Up: Typical Voltage Developed vs. Resistive Load (Using Test Setup in Figure 2)



[1] Operate time is the time from trigger received by hardware to switch output activation.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Figure 2. Test Setup for Row and Column Connections



Related Information

Refer to the NI Switches Help for information about including additional settling time.

Trigger Characteristics

Input trigger	
Sources	PXI trigger lines 0 to 7
Minimum pulse width	70 ns
Output trigger	
Destinations	PXI trigger lines 0 to 7
Pulse width	Programmable (1 µs to 62 µs)

Physical Characteristics

Relay type	FET switch
I/O connector	Four 68-pin receptacle VHDCI
Power requirement	1.7 W at 3.3 V, typical, 1.3 W at 12 V, typical
Dimensions (L × W × H)	3U, one slot, PXI/cPCI module, 21.6 × 2.0 × 13.0 cm (8.5 × 0.8 × 5.1 in.)
Weight	159 g (5.6 oz)

Environment

Operating temperature	0 °C to 55 °C
Storage temperature	-40 °C to 70 °C
Relative humidity	5% to 85%, noncondensing

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Pollution Degree	2
Maximum altitude	2,000 m

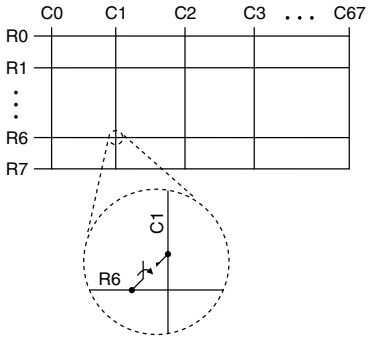
Indoor use only.

Shock and Vibration

Operational Shock	30 g peak, half-sine, 11 ms pulse (Tested in accordance with IEC 60068-2-27. Test profile developed in accordance with MIL-PRF-28800F.)
Random Vibration	
Operating	5 Hz to 500 Hz, 0.3 g_{rms}
Nonoperating	5 Hz to 500 Hz, 2.4 g_{rms} (Tested in accordance with IEC 60068-2-64. Nonoperating test profile exceeds the requirements of MIL-PRF-28800F, Class 3.)

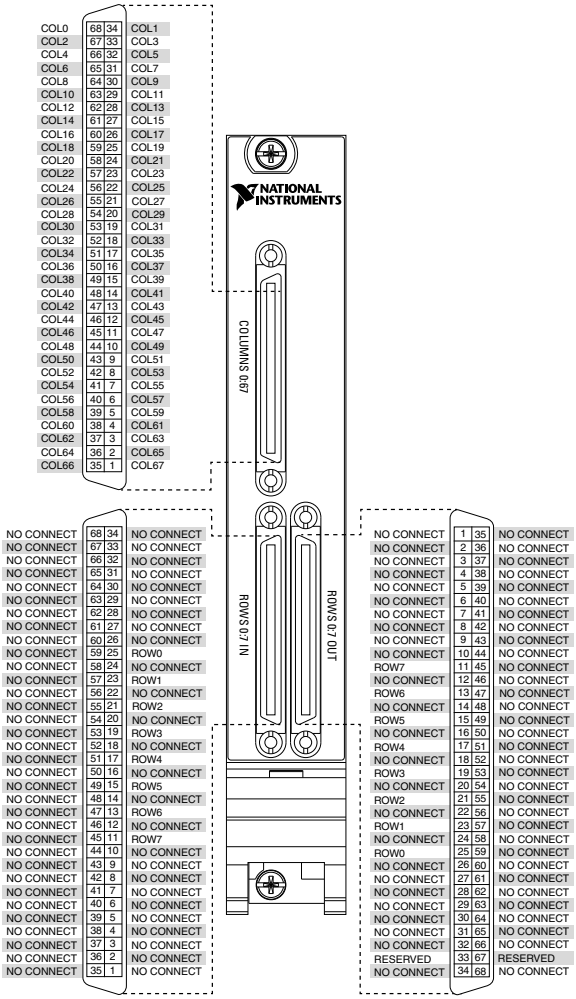
Diagrams

Figure 3. NI 2536 Hardware Diagram



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Figure 4. NI 2536 Connector Pinout



Related Information

For topology-specific connection information, refer to your device in the NI Switches Help.

Accessories

Visit *ni.com* for more information about the following accessories.

Caution NI products typically must be operated with shielded cables and accessories to ensure compliance with Electromagnetic Compatibility (EMC)

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

requirements. To determine if shielded cables or accessories are required for this product, refer to the EMC specifications in the *Electromagnetic Compatibility* section of this document. If shielded cables or accessories are required for EMC compliance, do not use unshielded cables or accessories unless they are installed in a shielded enclosure with properly designed and shielded input/output ports, and are connected to the NI product using a shielded cable. If unshielded cables or accessories are not properly installed and shielded, the EMC specifications for the product are no longer guaranteed.

Table 1. NI Accessories for the NI 2536

Accessory	Part Number
CB-68LP/R unshielded, 68-pin I/O connector block	777145-01, 777145-02
NI TBX-68 unshielded, I/O connector block with DIN-rail mounting	777141-01
SH68-68, 68 pin VHDCI to 68 pin SCSI, twisted pair cable with basic shielding for use with connector blocks (1 m, 2 m)	191945-01, 191945-02
SHC68-C68-S, 68 pin VHDCI to 68 pin VHDCI, shielded cable (0.5 m, 2 m)	186380-0R5, 186380-02

Compliance and Certifications

Safety

This product is designed to meet the requirements of the following electrical equipment safety standards for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1

Note For UL and other safety certifications, refer to the product label or the *Online Product Certification* section.

Electromagnetic Compatibility

This product meets the requirements of the following EMC standards for sensitive electrical equipment for measurement, control, and laboratory use:

- EN 61326-2-1 (IEC 61326-2-1): Class A emissions; Basic immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- AS/NZS CISPR 11: Group 1, Class A emissions

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions

Note In the United States (per FCC 47 CFR), Class A equipment is intended for use in commercial, light-industrial, and heavy-industrial locations. In Europe, Canada, Australia and New Zealand (per CISPR 11) Class A equipment is intended for use only in heavy-industrial locations.

Note Group 1 equipment (per CISPR 11) is any industrial, scientific, or medical equipment that does not intentionally generate radio frequency energy for the treatment of material or inspection/analysis purposes.

Note For EMC declarations and certifications, and additional information, refer to the *Online Product Certification* section.

CE Compliance CE

This product meets the essential requirements of applicable European Directives, as follows:

- 2014/35/EU; Low-Voltage Directive (safety)
- 2014/30/EU; Electromagnetic Compatibility Directive (EMC)

Online Product Certification

Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for this product, visit *ni.com/certification*, search by model number or product line, and click the appropriate link in the Certification column.

Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the *Minimize Our Environmental Impact* web page at *ni.com/environment*. This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

Waste Electrical and Electronic Equipment (WEEE)

EU Customers At the end of the product life cycle, all NI products must be disposed of according to local laws and regulations. For more information about how to recycle NI products in your region, visit *ni.com/environment/weee*.

电子信息产品污染控制管理办法（中国 RoHS）

中国客户 National Instruments 符合中国电子信息产品中限制使用某些有害物质指令(RoHS)。关于 National Instruments 中国 RoHS 合规性信息，请登录

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

ni.com/environment/rohs_china。(For information about China RoHS compliance, go to ni.com/environment/rohs_china.)

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Refer to the *NI Trademarks and Logo Guidelines* at ni.com/trademarks for information on National Instruments trademarks. Other product and company names mentioned herein are trademarks or trade names of their respective companies. For patents covering National Instruments products/technology, refer to the appropriate location: **Help**»**Patents** in your software, the patents.txt file on your media, or the *National Instruments Patent Notice* at ni.com/patents. You can find information about end-user license agreements (EULAs) and third-party legal notices in the readme file for your NI product. Refer to the *Export Compliance Information* at ni.com/legal/export-compliance for the National Instruments global trade compliance policy and how to obtain relevant HTS codes, ECCNs, and other import/export data. NI MAKES NO EXPRESS OR IMPLIED WARRANTIES AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN AND SHALL NOT BE LIABLE FOR ANY ERRORS. U.S. Government Customers: The data contained in this manual was developed at private expense and is subject to the applicable limited rights and restricted data rights as set forth in FAR 52.227-14, DFAR 252.227-7014, and DFAR 252.227-7015.

© 2007—2015 National Instruments. All rights reserved.

374625D-01 Sep15

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP