

# 64-Channel Multibank Multiplexer

## NI PXI-2576 **NEW!**

- 16 4x1 (2-wire), octal 8x1 (2-wire), quad 16x1 (2-wire), dual 32x1 (2-wire), 64x1 (2-wire)
- Up to 100 VDC/100 VAC
- Up to 1 A switching
- Up to 30 W, 37.5 VA
- Full software programmability
- Onboard relay count tracking for predictive maintenance
- 145 channels/s

### Operating Systems

- Windows 2000/NT/XP
- Linux®

### Recommended Software

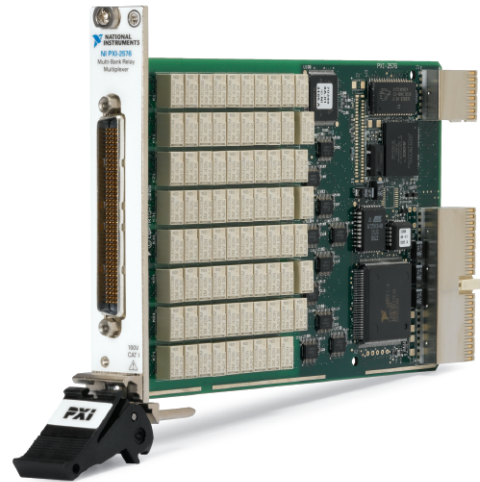
- NI Switch Executive
- LabVIEW
- LabVIEW Real-Time Module
- LabWindows/CVI
- Measurement Studio

### Other Compatible Software

- Visual Basic
- C/C++

### Driver/Services Software (included)

- NI-SWITCH
- NI-DAQmx



## Overview

The National Instruments PXI-2576 is a multibank multiplexing module with 16 banks of 4x1 2-wire multiplexers. With the flexible architecture of the NI PXI-2576, you can configure it in a variety of topologies that make it suitable for parallel measurement operations requiring low-channel counts. In addition, you can combine all multiplexers on the PXI-2576 to form a single high-channel-count multiplexer featuring 64 2-wire channels. The module can be programmed with a variety of software including NI-SWITCH and NI Switch Executive.

## Automatic Scanning

The PXI-2576 maximizes throughput in automated test applications using scanning. Scanning improves throughput by downloading a list of up to 32,000 connections to the switch and cycling through the list using an event (trigger) without any interruption from the host processor. Scanning is most efficiently accomplished by mating the PXI-2576 with an instrument, such as the NI PXI-4070 6½-digit FlexDMM, which issues a trigger after each measurement.

## Relay Count Tracking

The PXI-2576 counts relay closures on each relay. Relay counts are incremented each time a relay is actuated. You can retrieve the counts, stored on board the module, programmatically and use them for predictive maintenance to reduce unexpected system downtime.

## Software

All National Instruments PXI switch modules are shipped with NI-SWITCH, an IVI-compliant driver offering complete functionality for all switch modules. For additional assistance in configuring, programming, and managing higher-channel-count switching systems, NI Switch Executive software offers an easy-to-use, intelligent switch management and visual routing environment. Use the NI-SWITCH Soft Front Panel for simple relay operations or debugging switch code/execution.

### Ordering Information

NI PXI-2576 ..... 778572-76  
Includes NI-SWITCH and NI-DAQmx driver software.

### Accessories

NI TB-2676 terminal block ..... 779535-01  
NI Switch Executive  
Development System ..... 778546-01  
Deployment Engine ..... 778548-00

### **BUY NOW!**

For complete product specifications, pricing, and accessory information, call (800) 813 3693 (U.S.) or go to [ni.com/switches](http://ni.com/switches).



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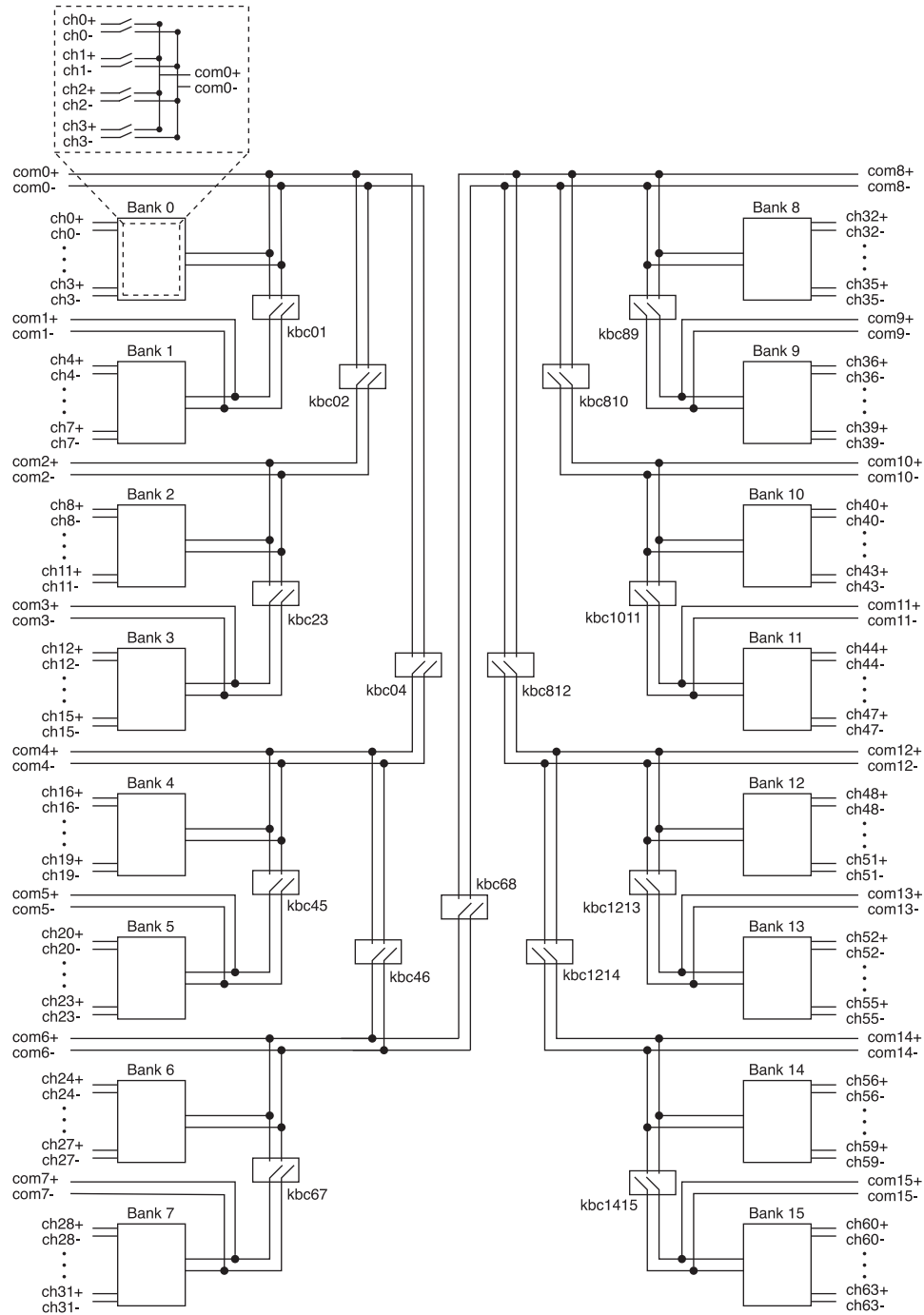


Figure 1. NI PXI-2576 Multibank Multiplexer Topology

# 64-Channel Multibank Multiplexer

## Specifications

All specifications are subject to change without notice.  
Visit [ni.com/manuals](http://ni.com/manuals) for the most current specifications.

Configurations.....	Sixteen 4x1, 2-wire multiplexers; Octal 8x1, 2-wire multiplexers; Quad 16x1, 2-wire multiplexers; Dual 32x1, 2-wire multiplexers; 64x1, 2-wire multiplexer
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## Input Characteristics

All input characteristics are VDC,  $V_{rms}$ , or a combination unless otherwise specified.

Maximum switching voltage	
Channel-to-channel .....	100 V
Channel-to-ground .....	100 V, CAT I
Maximum switching current.....	1 A
Maximum carry current.....	1 A
Maximum switching power .....	30 W, 37.5 VA
DC path resistance	
Initial .....	<1.1 $\Omega$ (0.5 $\Omega$ typical)
End of life .....	2 $\Omega$
Thermal emf .....	<10 $\mu$ V (3 $\mu$ V typical)

### Typical bandwidth

(50  $\Omega$  system)

4x1, 8x1 configurations .....	>30 MHz
16x1 configuration.....	>20 MHz
32x1 configuration.....	>15 MHz
64x1 configuration.....	>10 MHz

(100  $\Omega$  system)

4x1, 8x1 configurations .....	>60 MHz
16x1 configuration.....	>40 MHz
32x1 configuration.....	>20 MHz
64x1 configuration.....	>10 MHz

### Typical bank-to-bank crosstalk

(50 or 100  $\Omega$  system, 4x1 configuration)

100 kHz .....	<-75 dB
1 MHz.....	<-53 dB
10 MHz.....	<-35 dB

### Typical open-channel isolation

(50 or 100  $\Omega$  system, 4x1 or 8x1 configuration)

100 kHz .....	>79 dB
1 MHz.....	>52 dB
10 MHz.....	>40 dB

## Dynamic Characteristics

Maximum scan rate .....	145 channels/s
Relay operate time.....	3.4 ms (2 ms typical)
Expected relay life	
Mechanical .....	5x10 <sup>7</sup> cycles
Electrical .....	10 <sup>5</sup> cycles (30 V, 1 A)

## Physical Characteristics

Relay type .....	Electromechanical, latching
I/O connectors.....	LFH Matrix 50, 160 positions, male single-slot PXI, 3U
Dimensions.....	300 g (12 oz)
Weight.....	

## Environment

Operating temperature .....	0 to 55 °C
Storage temperature.....	-20 to 70 °C
Relative humidity .....	5 to 85% noncondensing
Pollution degree .....	2
Approved at altitudes up to 2,000 m. Indoor use only.	

## Safety and Compliance

### Safety

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

- IEC 61010-1, EN 61010-1
- UL 61010-1, CAN/CSA-C22.2 No. 61010-1

**Note:** For UL and other safety certifications, refer to the product label or visit [ni.com/certification](http://ni.com/certification), search by model number or product line, and click the appropriate link in the Certification column.

### Electromagnetic Compatibility

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

- EN 61326 EMC requirements; Minimum Immunity
- EN 55011 Emissions; Group 1, Class A
- CE, C-Tick, ICES, and FCC Part 15 Emissions; Class A

**Note:** For EMC compliance, operate this device according to product documentation.

### CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

- 73/23/EEC; Low-Voltage Directive (safety)
- 89/336/EEC; Electromagnetic Compatibility Directive (EMC)

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

### Waste Electrical and Electronic Equipment (WEEE)

**EU Customers:** At the end of their life cycle, all products must be sent to a WEEE recycling center. For more information about WEEE recycling centers and National Instruments WEEE initiatives, visit [ni.com/environment/weee.htm](http://ni.com/environment/weee.htm).

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integrators. Services range from start-up assistance to turnkey system integration.

Visit [ni.com/alliance](http://ni.com/alliance).



## OEM Support

We offer design-in consulting and product integration assistance if you want to use our products for OEM applications. For information about special pricing and services for OEM customers, visit [ni.com/oem](http://ni.com/oem).

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## Hardware Services

### NI Factory Installation Services

NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with [ni.com/pxiadvisor](http://ni.com/pxiadvisor).

### Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit [ni.com/calibration](http://ni.com/calibration).

### Repair and Extended Warranty

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