



# PXI-2576

## User Manual



Provided by:

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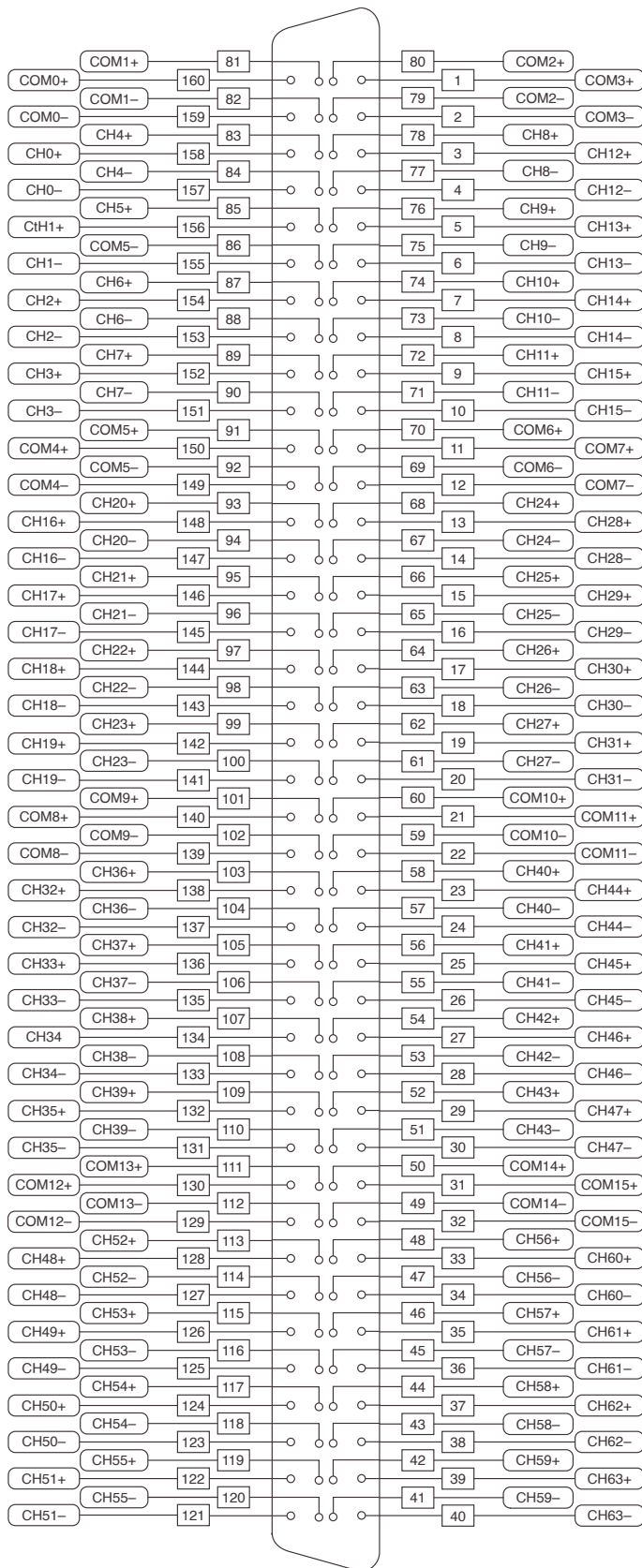
Integration  
Partner

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# PXI-2576 Overview

## PXI-2576 Pinout



**Table 1.** Signal Descriptions

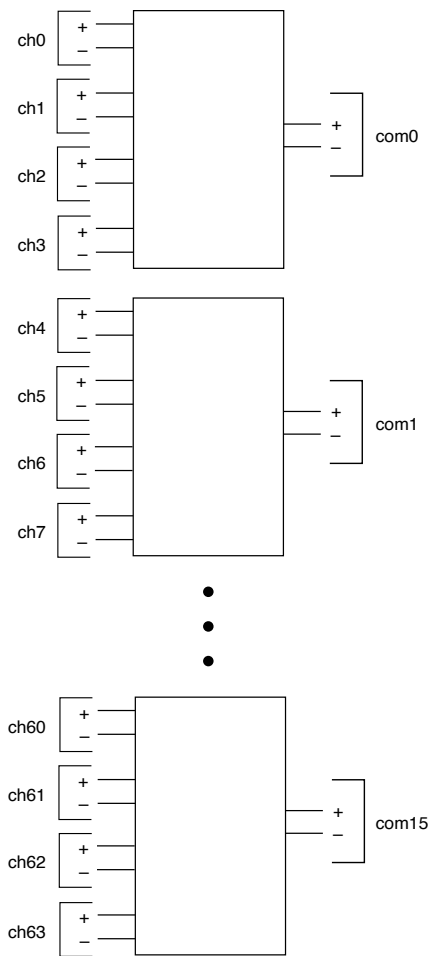
Signal	Description
CHx+	Positive signal connection
CHx-	Negative signal connection
COMx+	Routing destination for corresponding positive signal connections
COMx-	Routing destination for corresponding negative signal connections

## PXI-2576 Topology

Each topology supports immediate and scanning operation modes.

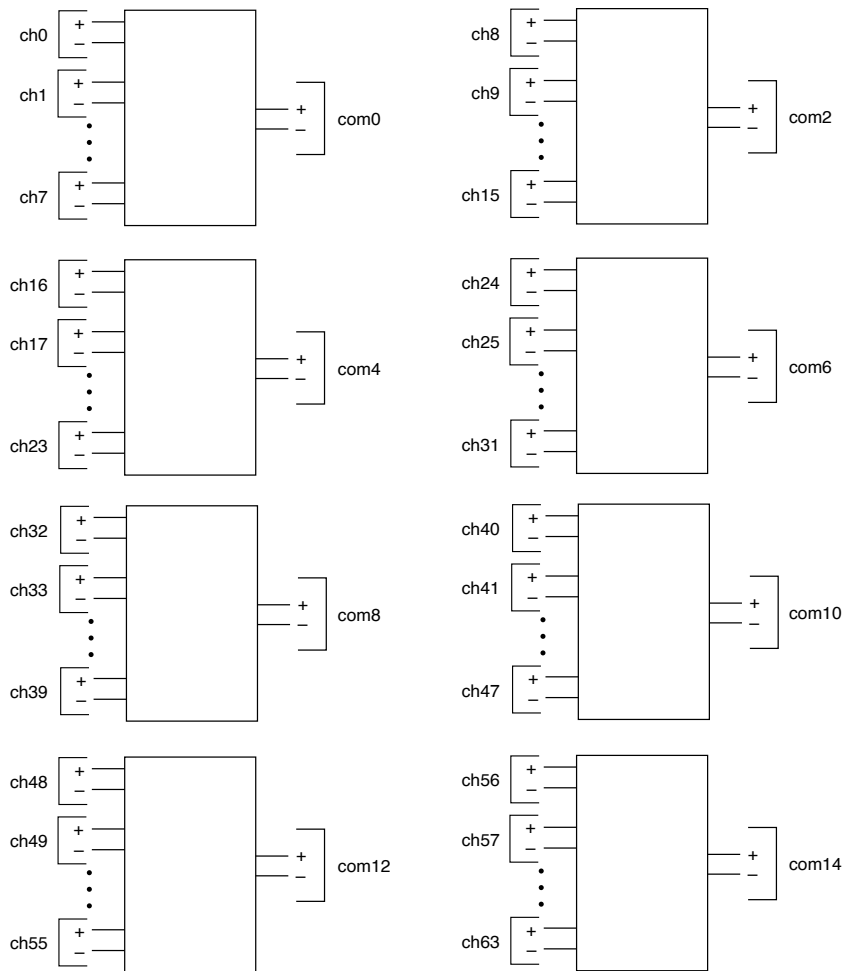
### 2-Wire Sixteen 4×1 Multiplexer

Software name: 2576/2-Wire Sixteen 4x1 Mux  
(NISWITCH\_TOPOLOGY\_2576\_2\_WIRE\_SIXTEEN\_4X1\_MUX)



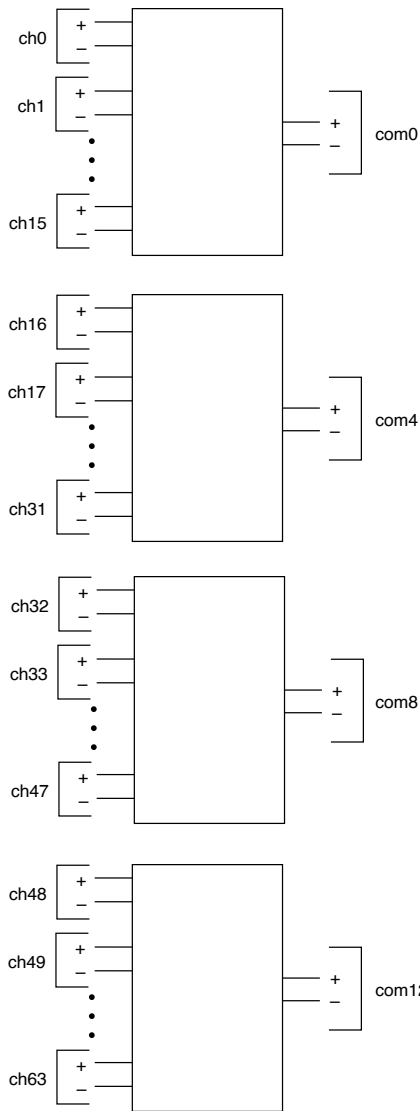
## 2-Wire Octal 8×1 Multiplexer

Software name: 2576/2-Wire Octal 8x1 Mux  
 (NISWITCH\_TOPOLOGY\_2576\_2\_WIRE\_OCTAL\_8X1\_MUX)



## 2-Wire Quad 16×1 Multiplexer

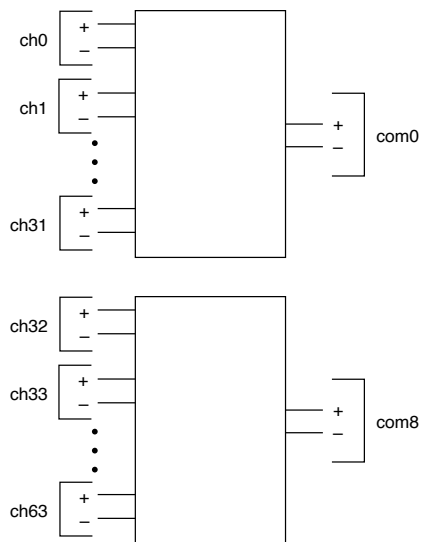
Software name: 2576/2-Wire Quad 16x1 Mux  
(NISWITCH\_TOPOLOGY\_2576\_2\_WIRE\_QUAD\_16X1\_MUX)



## 2-Wire Dual 32×1 Multiplexer

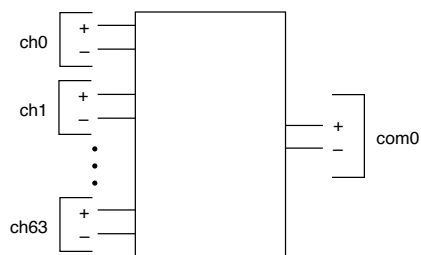
Software name: 2576/2-Wire Dual 32x1 Mux  
 (NISWITCH\_TOPOLOGY\_2576\_2\_WIRE\_DUAL\_32X1\_MUX)





## 2-Wire 64×1 Multiplexer

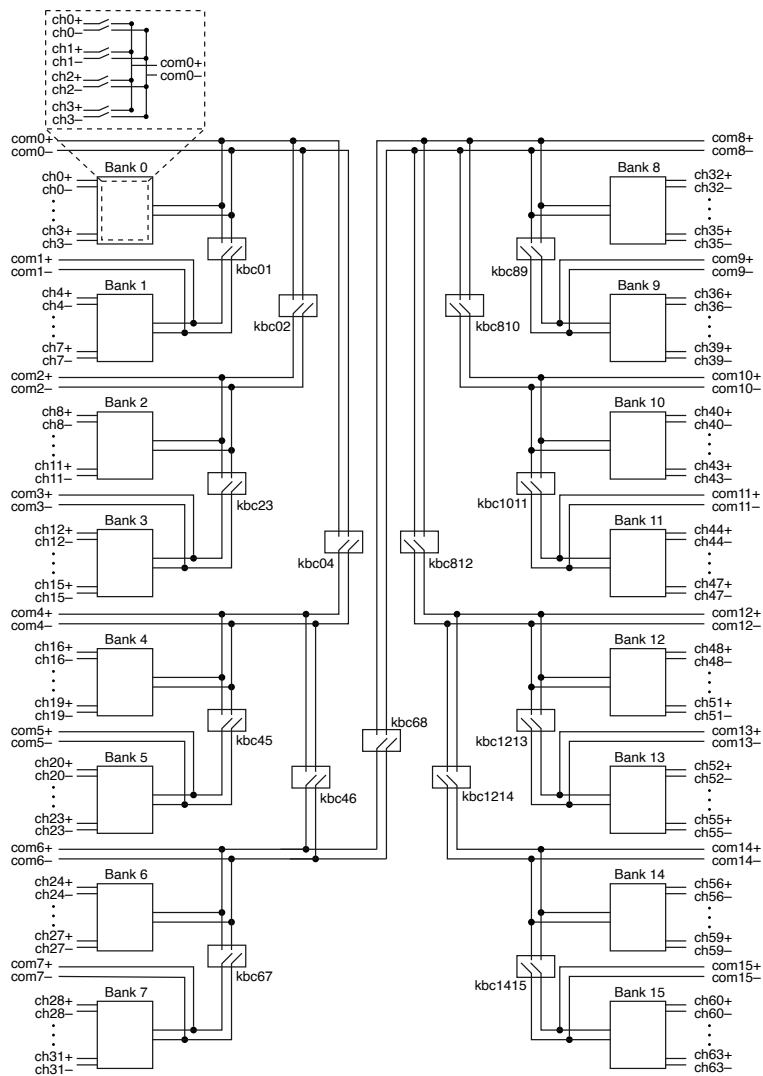
Software name: 2576/2-Wire 64x1 Mux  
(NISWITCH\_TOPOLOGY\_2576\_2\_WIRE\_64X1\_MUX)



## Independent

Software name: 2576/Independent (NISWITCH\_TOPOLOGY\_2576\_INDEPENDENT)

When using the module in the independent topology, connect the signals using the NI TB-2676 terminal block.



## Making a Connection

Positive leads (ch0+ through chx+) route to com0+, and negative leads (ch0- through chx-) route to com0-. The pair com0+ and com0- is addressed collectively as com0 in software.

Both the scanning command, `ch2->com0;`, and the immediate operation, `niSwitch Connect Channels VI` or the `niSwitch_Connect` function with parameters `ch2` and `com0`, result in the following connections:

- signal connected to ch2+ is routed to com0+
- signal connected to ch2- is routed to com0-

With the independent topology, you can let NI-SWITCH determine the path between two specified channels by setting the intermediate channels as reserved for routing and using the `niSwitch Connect Channels VI` or the `niSwitch_Connect` function, or you can control individual relays using the `niSwitch Relay Control VI` or the `niSwitch_RelayControl` function.

## PXI-2576 Relay Replacement

The module uses electromechanical armature relays.

Replacement Relay	Part Number
OMRON	G6JU-2P-Y DC4.5
National Instruments (10 relays)	780383-01

Complete the following steps to replace a failed relay.

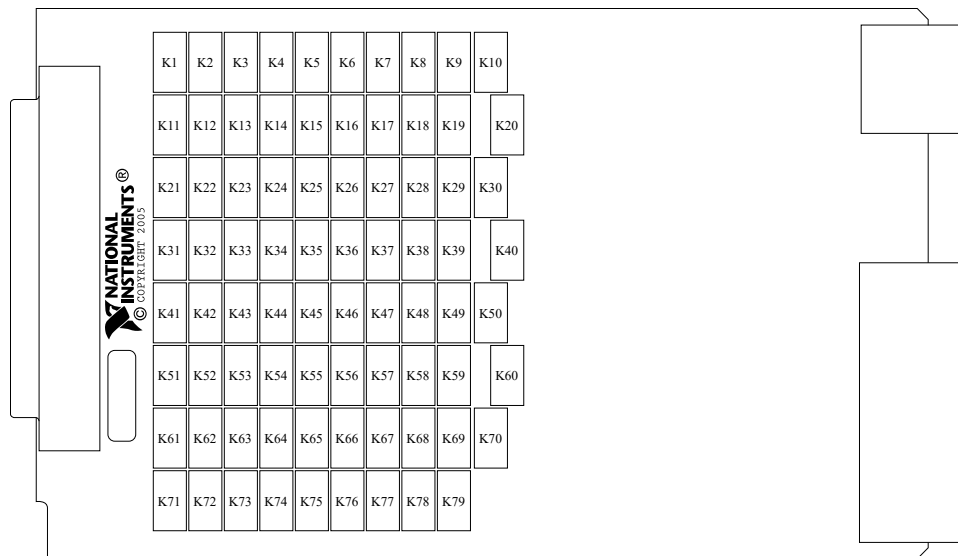
### Locate the Relay

1. Ground yourself using a grounding strap or a ground connected to your PXI chassis.



**Note** Properly grounding yourself prevents damage to your module from electrostatic discharge.

2. Refer to the following figure and table to locate the relay you want to replace.



Relay Name	Reference Designator	Relay Name	Reference Designator
k0	K6	k40	K56
k1	K7	k41	K57
k2	K8	k42	K58
k3	K9	k43	K59
k4	K1	k44	K51
k5	K2	k45	K52
k6	K3	k46	K53
k7	K4	k47	K54
k8	K16	k48	K66
k9	K17	k49	K67
k10	K18	k50	K68
k11	K19	k51	K69
k12	K11	k52	K61
k13	K12	k53	K62
k14	K13	k54	K63
k15	K14	k55	K64
k16	K26	k56	K76

Relay Name	Reference Designator	Relay Name	Reference Designator
k17	K27	k57	K77
k18	K28	k58	K78
k19	K29	k59	K79
k20	K21	k60	K71
k21	K22	k61	K72
k22	K23	k62	K73
k23	K24	k63	K74
k24	K36	kbc01	K5
k25	K37	kbc23	K15
k26	K38	kbc45	K25
k27	K39	kbc67	K35
k28	K31	kbc89	K45
k29	K32	kbc1011	K55
k30	K33	kbc1213	K65
k31	K34	kbc1415	K75
k32	K46	kbc02	K10
k33	K47	kbc46	K30
k34	K48	kbc810	K50
k35	K49	kbc1214	K70
k36	K41	kbc04	K20
k37	K42	kbc812	K60
k38	K43	kbc68	K40
k39	K44	—	

3. Locate the assembly and serial number labels on the board with the relay you want to replace. White labels indicate the board was assembled using lead solder (Sn 63 Pb 37). Green labels indicate the board was assembled using lead-free solder (Sn 96.5 Ag 3.0 Cu 0.5). Lead-free assemblies have assembly numbers

ending in L

## Replace the Relay

Ensure you have the following:

- Temperature-regulated soldering iron
  - Set to 371 °C (700 °F) for lead-free solder rework
  - Set to 316 °C (600 °F) for lead solder rework
- Solder
  - 96.5/3.0/0.5 Tin/Silver/Copper solder (flux core) for lead-free solder rework
  - 63/37 Tin/Lead solder (flux core) for lead solder rework
- Solder wick
- Fine pick
- Isopropyl alcohol
- Cotton swabs



**Note** NI recommends using lead-free solder for relay replacement on lead-free assemblies, and lead solder for relay replacement on lead assemblies.



**Notice** Do not rework lead assemblies using a lead-free work station. Lead solder from the unit could contaminate the station.



**Notice** If a lead-free assembly is reworked with lead solder, label the assembly to indicate this. This can prevent the same unit from being reworked later on a lead-free solder station, which could contaminate the station.

Replace the relay as you would any other through-hole part.



**Tip** Use the NI-SWITCH Switch Soft Front Panel to reset the relay count after you have replaced a failed relay. Refer to the **Switch Soft Front Panel Help** for more information.