
PXI-2576

Features

2025-03-20



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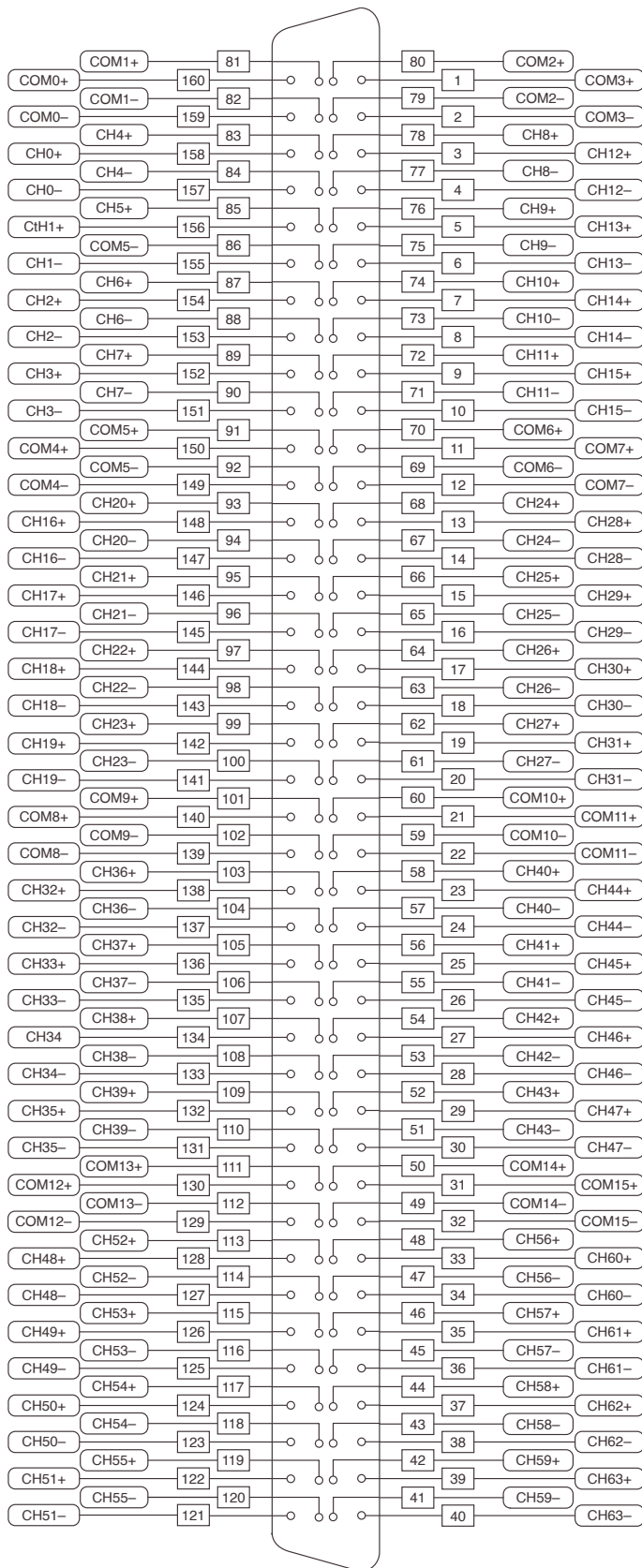


Table 1. Signal Descriptions

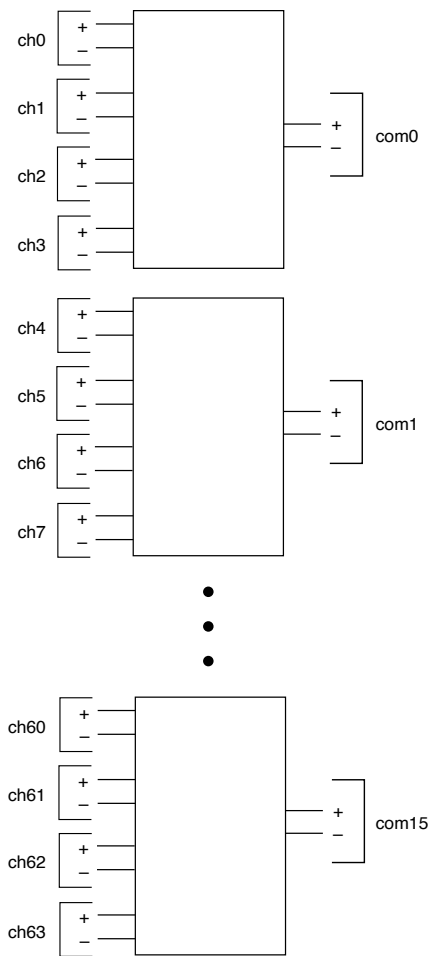
| Signal | Description |
|--------|---|
| CHx+ | Positive signal connection |
| CHx- | Negative signal connection |
| COMx+ | Routing destination for corresponding positive signal connections |
| COMx- | Routing destination for corresponding negative signal connections |

PXI-2576 Topology

Each topology supports immediate and scanning operation modes.

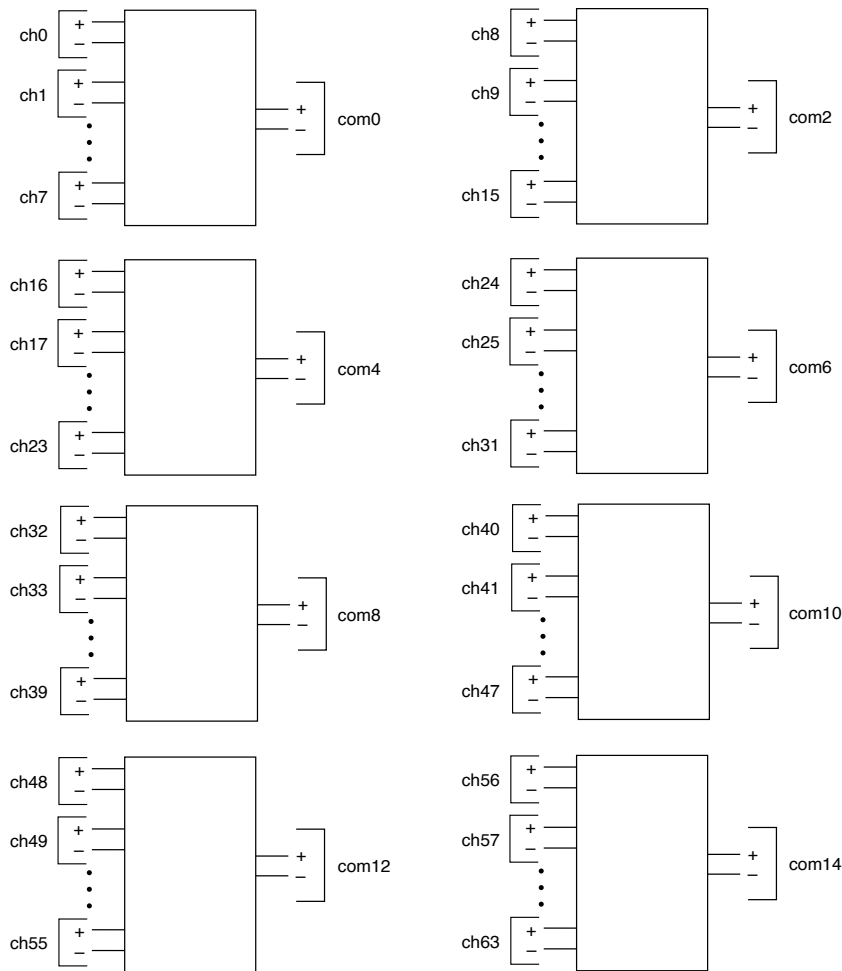
2-Wire Sixteen 4×1 Multiplexer

Software name: 2576/2-Wire Sixteen 4x1 Mux
(NISWITCH_TOPOLOGY_2576_2_WIRE_SIXTEEN_4X1_MUX)



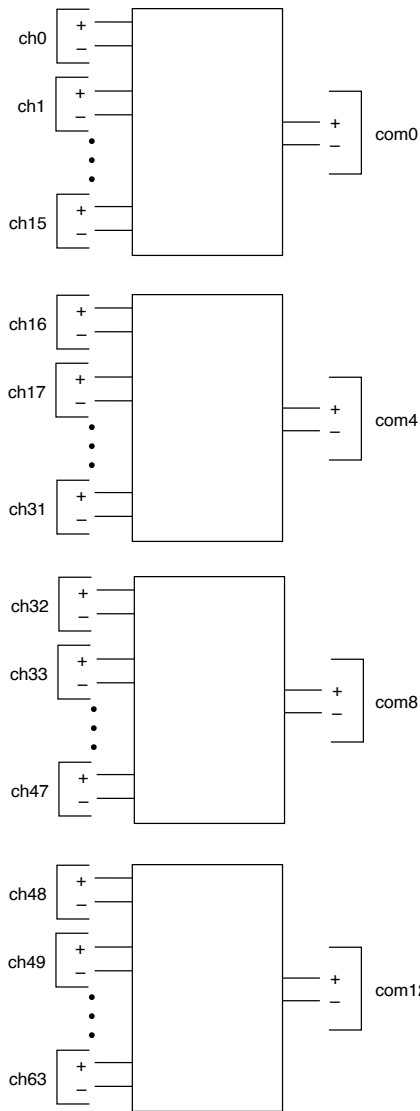
2-Wire Octal 8×1 Multiplexer

Software name: 2576/2-Wire Octal 8x1 Mux
 (NISWITCH_TOPOLOGY_2576_2_WIRE_OCTAL_8X1_MUX)



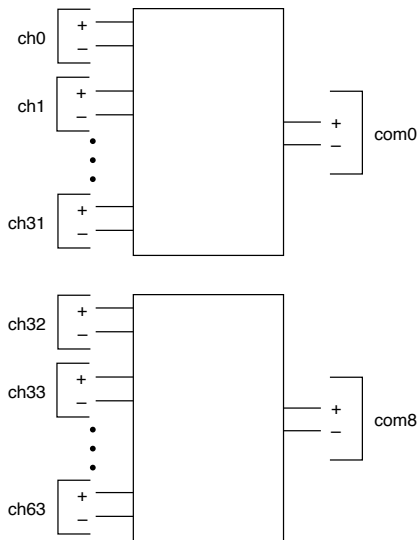
2-Wire Quad 16×1 Multiplexer

Software name: 2576/2-Wire Quad 16x1 Mux
(NISWITCH_TOPOLOGY_2576_2_WIRE_QUAD_16X1_MUX)



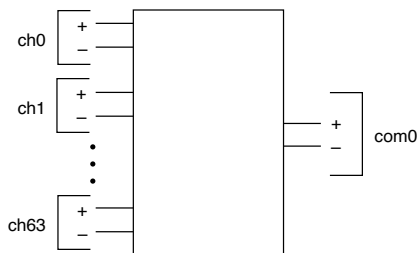
2-Wire Dual 32×1 Multiplexer

Software name: 2576/2-Wire Dual 32x1 Mux
 (NISWITCH_TOPOLOGY_2576_2_WIRE_DUAL_32X1_MUX)



2-Wire 64×1 Multiplexer

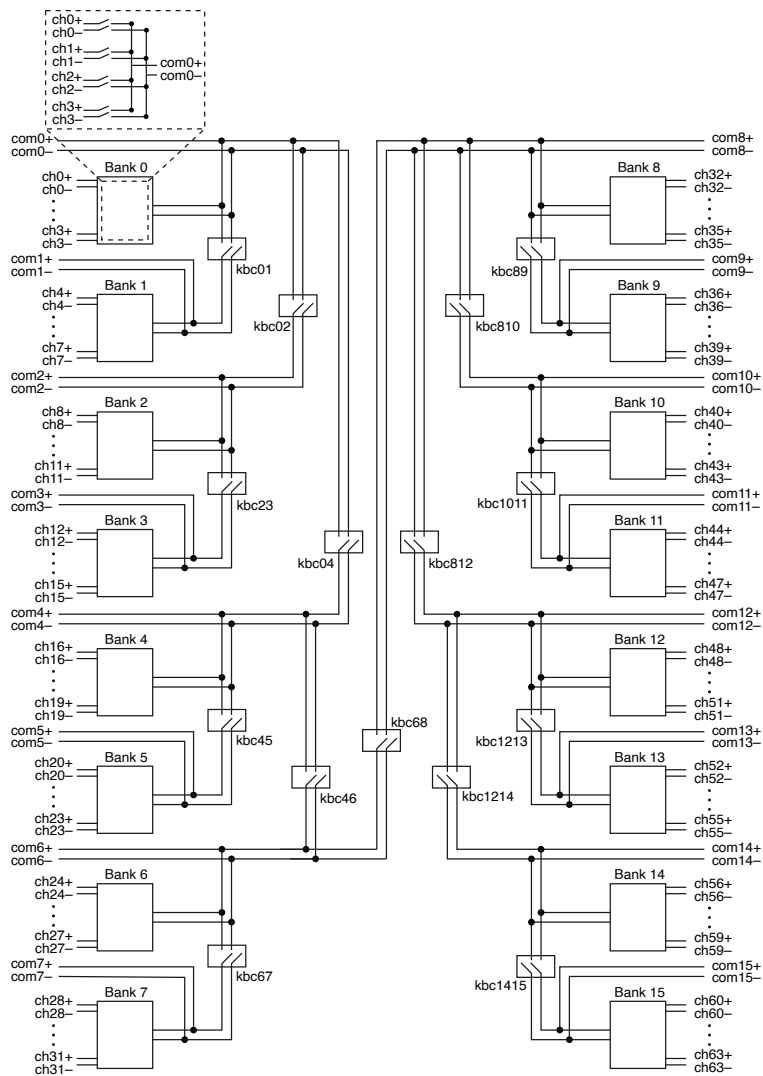
Software name: 2576/2-Wire 64x1 Mux
(NISWITCH_TOPOLOGY_2576_2_WIRE_64X1_MUX)



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.

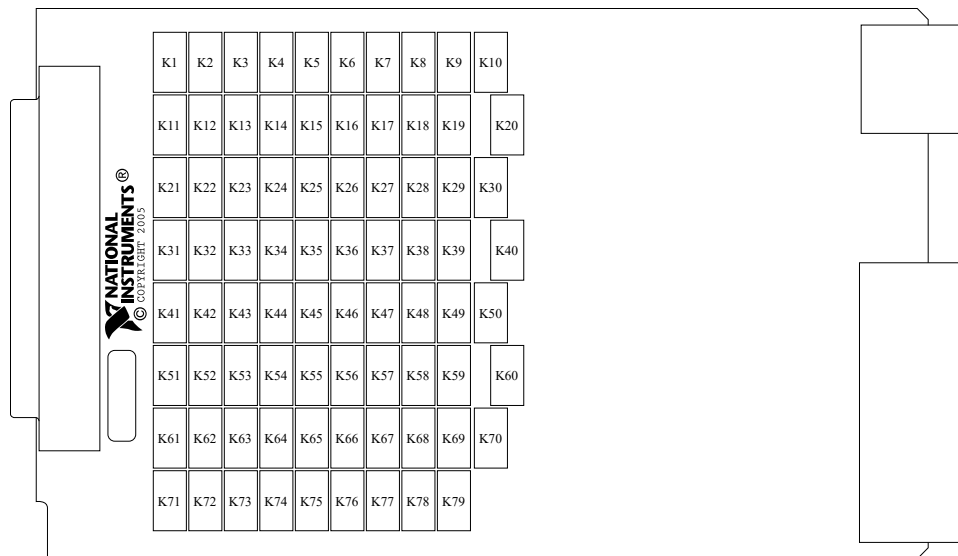
Locate the Relay

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.