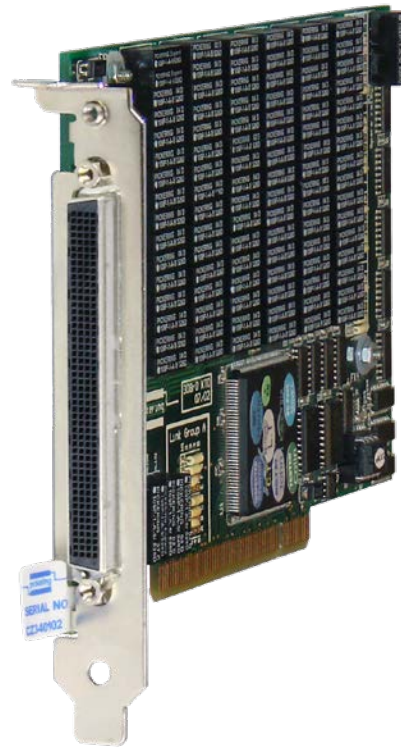


- Very High Density Multiplexer
- 4 Banks, 24-Channel, 2-Pole
- Uses High Reliability Pickering Reed Relays
- Fast Operating Speed 500µs Typical per Relay
- Switch up to 100 Volts, 1.2A with 20W Max Power
- Automatic Isolation Switches Reduce Capacitive Loading in Large Systems
- VISA, IVI & Kernel Drivers Supplied for Windows
- Supported by **eBIRST™**
- 3 Year Warranty



The 50-671 is a 24-channel 2-pole very high density multiplexer with 4 separate banks. Typical applications include signal routing in ATE and data acquisition systems.

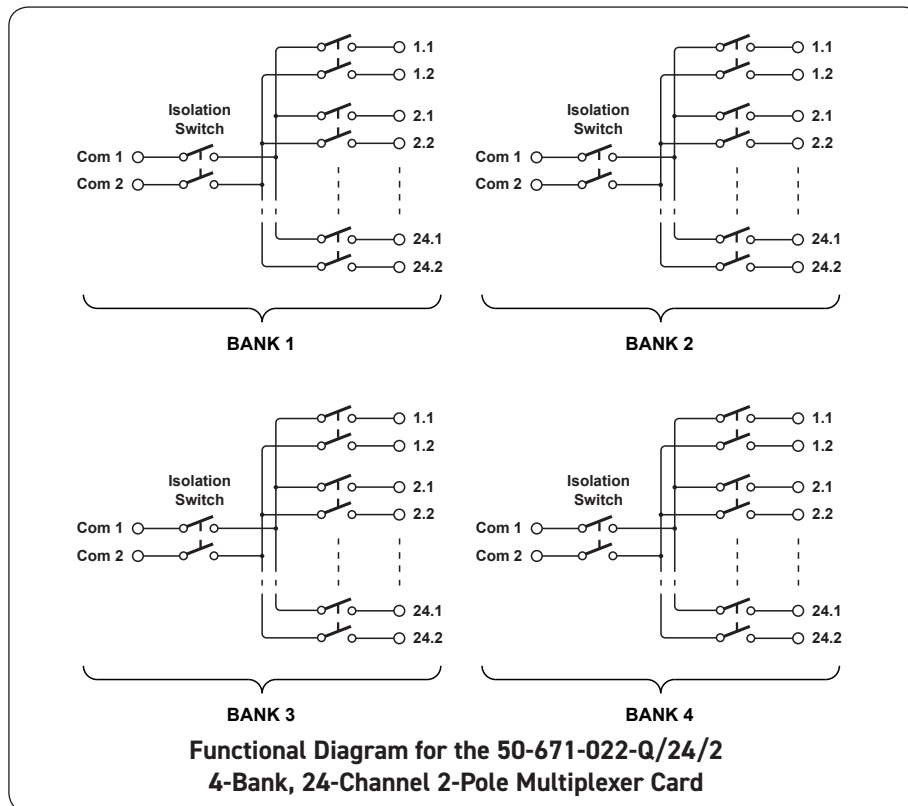
The multiplexer allows multiple channels to be simultaneously selected. Alternatively, a product variant can be supplied that operates as a conventional multiplexer with break-before-make action when a new channel is selected.

Built in Automatic Isolation Switching connects only the currently active multiplexer bank on to the analogue common, thereby keeping capacitive loading and leakage currents in large multiplexer systems to a minimum. Larger multiplexers may be constructed by daisy chaining the common signals from multiple cards.

Supported by eBIRST

eBIRST switching system test tools simplify switching system fault-finding by quickly testing the system and graphically identifying the faulty relay.

For more information go to: pickeringtest.com/ebirst



Relay Type

The 50-671 is fitted with ruthenium sputtered reed relays, these offer very long life with good low level switching performance and excellent contact resistance stability. Spare reed relays are built onto the circuit board to allow easy maintenance with minimum downtime.

All reed relays are manufactured by our sister company Pickering Electronics: pickeringrelay.com

Switching Specification

Switch Type:	Ruthenium Reed
Max Switching Voltage:	100V*
Max Power:	20W
Max Switch Current:	1A
Max Carry Current:	1.2A
Path Resistance On (Single Card):	<800mΩ (600mΩ typical)
Path Resistance Off (Single Card):	>10 ⁹ Ω
Differential Thermal Offset:	<10μV
Bandwidth (3dB, 1 card):	>5MHz
Noise Level (0 to 1MHz in 50Ω system):	<-80dBm
Operate Time:	1ms typical, 500μs for multi-channel mode
Expected Life (operations)	
Low power load:	>1x10 ⁹
Full power load:	>1x10 ⁶

* For full voltage rating, signal sources to be switched must be fully isolated from mains supply and safety earth.

Power Requirements

+3.3V	+5V	+12V	-12V
0	Min: 160mA Typical: 280mA Max: 360mA	0	0

Mechanical Characteristics

Single slot short PCI format.

3D models for all versions in a variety of popular file formats are available on request.

Connections

Signals via a 200-pin female LFH connector, for pin outs please refer to the operating manual.

Operating/Storage Conditions

Operating Conditions

Operating Temperature: 0°C to +55°C
 Humidity: Up to 95% non-condensing
 Altitude: 5000m

Storage and Transport Conditions

Storage Temperature: -20°C to +75°C
 Humidity: Up to 95% non-condensing
 Altitude: 15000m

PCI Compliance

The 50-671 card complies with the PCI Specification 2.0 (issued Aug 2000).

Signalling Environment: 33MHz, 32-bit Universal (+5V only).

Safety & CE Compliance

All cards are fully CE compliant and meet applicable EU directives: Low-voltage safety EN61010-1:2010, EMC Immunity EN61326-1:2013, Emissions EN55011:2009+A1:2010.

Product Order Codes - Very High Density Multiplexer

Channel Selection	Model Variant	Order Code
Multiple	4-Bank, 24-Channel, 2-Pole	50-671-022-Q/24/2

Note: Contact factory if the above card is required in single channel selection mode.

Product Customization

Pickering PCI modules are designed and manufactured on our own flexible manufacturing lines, giving complete product control and enabling simple customization to meet very specific requirements.

Customization can include:

- Alternative reed relay types
- Mixture of reed relay types
- Alternative number of relays
- Different performance specifications

All customized products are given a unique part number, fully documented and may be ordered at any time in the future. Please contact your local sales office to discuss.

Support Products

eBIRST Switching System Test Tool

This product is supported by the eBIRST test tools which simplify the identification of failed relays, the required eBIRST tools are below. For more information go to: pickeringtest.com/ebirst

Product	Test Tool	Adaptor
50-671	93-002-001	Not Required

Spare Relay Kits

Kits of replacement relays are available for the majority of Pickering's PCI switching products, simplifying servicing and reducing down-time.

Product	Relay Kit
50-671	91-100-008

For further assistance, please contact your local Pickering sales office.

Mating Connectors & Cabling

For connection accessories for the 50-671 card please refer to the [90-002D](#) 200-pin LFH Connector Accessories data sheet where a complete list and documentation can be found for accessories, or refer to the Connection Solutions catalog.



Pickering can supply mating 200-pin connectors and cable assemblies to enable easy integration of the 50-671 multiplexer



Connectivity Solutions

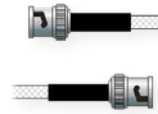
We provide a full range of supporting cable and connector solutions for all our switching products—20 connector families with 1200+ products. We offer everything from simple mating connectors to complex cables assemblies and terminal blocks. All assemblies are manufactured by Pickering and are guaranteed to mechanically and electrically mate to our modules.



Connectors & Backshells



Multiway Cable Assemblies



RF Cable Assemblies



Connector Blocks

We also offer customized cabling and have a free online Cable Design Tool that can be used to create custom cable solutions for many applications.

Visit: pickeringtest.com/cdt to start your design.

Mass Interconnect

We recommend the use of a mass interconnect solution when an Interchangeable Test Adapter (ITA) is required for a PXI or LXI based test system. Our modules are fully supported by both Virginia Panel and MacPanel.

Pickering Reed Relays

We are the only switch provider with in-house reed relay manufacturing capability via our sister company, Pickering Electronics. These instrument grade reed relays feature **SoftCenter®** technology, ensuring long service life and repeatable contact performance

To learn more, please go to: pickeringrelay.com



Programming

Pickering provide kernel, IVI and VISA (NI & Keysight) drivers which are compatible with all Microsoft supported versions of Windows and popular older versions. For a list of all supporting operating systems, please see: pickeringtest.com/os

The VISA driver is also compatible with Real-Time Operating Systems such as LabVIEW RT. For other RTOS support contact Pickering. These drivers may be used with a variety of programming environments and applications including:

- **Pickering Interfaces Switch Path Manager**
- **National Instruments** products (LabVIEW, LabWindows/CVI, Switch Executive, MAX, TestStand, VeriStand, etc.)
- **Microsoft Visual Studio** products (Visual Basic, Visual C+)
- **Keysight VEE**
- **Mathworks Matlab**
- **Marvin ATEasy**
- **MTQ Testsolutions** Tecap Test & Measurement Suite

Drivers for popular Linux distributions are available, other environments are also supported, please contact Pickering with specific enquiries.

We provide Soft Front Panels (SFPs) for our products for familiarity and manual control, as well as comprehensive documentation and example programs to help you develop test routines with ease.

To learn more about software drivers and development environments, please go to: pickeringtest.com/software

Signal Routing Software

Our signal routing software, Switch Path Manager, automatically selects and energizes switch paths through Pickering switching systems. Signal routing is performed by simply defining test system endpoints to be connected together, greatly accelerating Test System software development.

To learn more, please go to: pickeringtest.com/spm



Diagnostic Relay Test Tools

eBIRST Switching System Test Tools are designed specifically for our PXI, PCI or LXI products, these tools simplify switching system fault-finding by quickly testing the system and graphically identifying the faulty relay.

To learn more, please go to: pickeringtest.com/ebirst

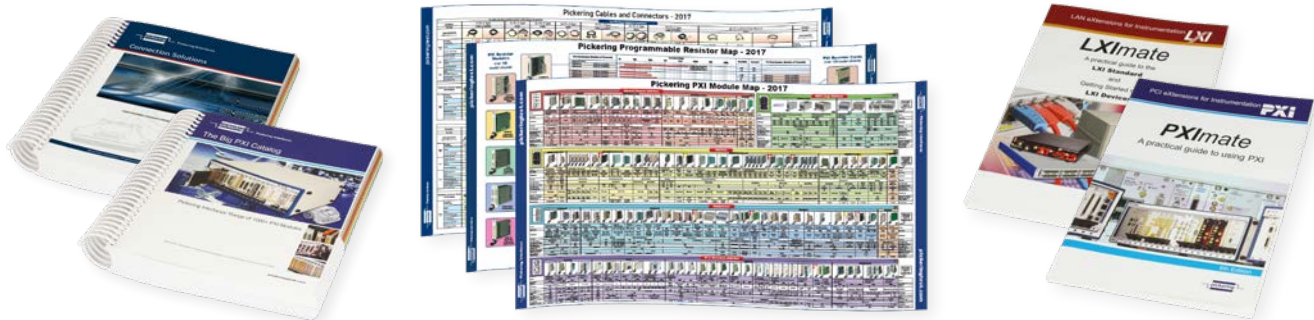


Three Year Warranty & Guaranteed Long-Term Support

All standard products manufactured by Pickering Interfaces are warranted against defective materials and workmanship for a period of three years from the date of delivery to the original purchaser. Extended warranty and service agreements are available for all our modules and systems with various levels to suit your requirements. Although we offer a 3-year warranty as standard, we also include guaranteed long-term support—with a history of supporting our products for typically 15-20 years. To learn more, please go to: pickeringtest.com/support

Available Product Resources

We have a large library of product resources including success stories, product and support videos, articles, as well as complete product catalogs and product reference maps to assist when looking for the switching, simulation and cable and connector solutions you need. We have also published handy reference books for the PXI and LXI standards.



To view, download or request any of our product resources, please visit: pickeringtest.com/resources

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