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TECHNOLOGY GROUP

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with experienced engineers and technicians on staff.

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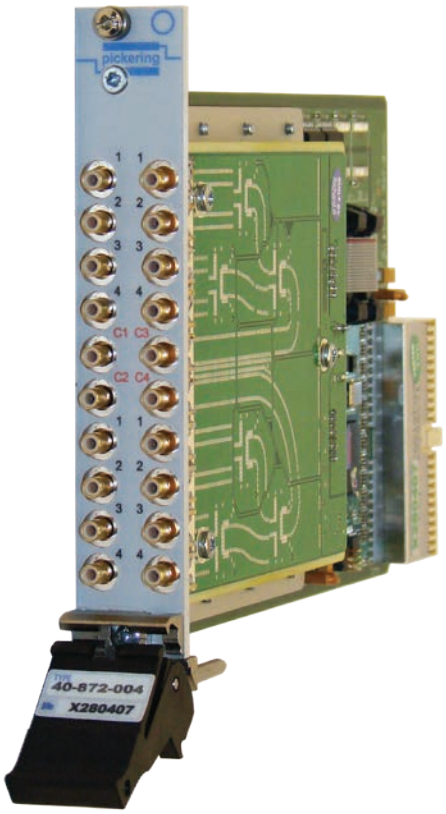
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Visit our website - *Click HERE*

PXI 50 Ω 4-Channel RF Multiplexer

40-872

- 3 GHz RF Multiplexer
- Single, Dual and Quad Versions
- SMB or MCX Connector Versions
- High Performance, Low Cost
- VISA, IVI & Kernel Drivers Supplied for Windows
- Supported by PXI or LXI Chassis
- 3 Year Warranty



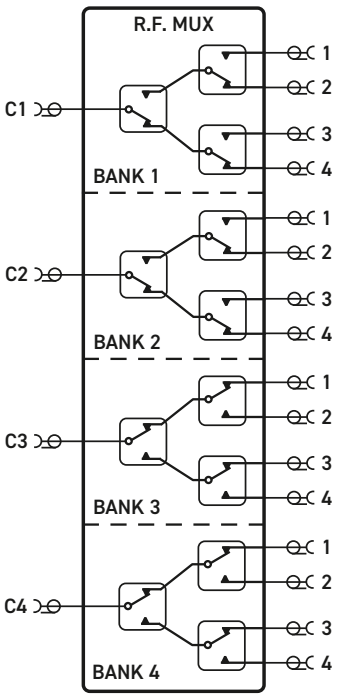
The 40-872 is a 50 Ω 4 to 1 RF MUX available with 1, 2 or 4 banks in a single PXI slot.

The module has low insertion loss and VSWR through the use of modern RF relay technology at an affordable cost. The multiplexers have excellent and repeatable RF characteristics to 3 GHz with each path having a nominally equal insertion loss. The 40-872 minimizes the injection of noise and unwanted signals into the signal path by careful attention to the mechanical and electrical design.

Versions with MCX or SMB connectors are available, allowing users to simplify cabling issues by matching them to other connectors in their test system.

The 40-872 is supplied with drivers that allow users to support the module in all popular PXI software environments. It can also be supported in all Pickering's LXI Modular Switching chassis, allowing the use of a PXI or LAN controlled switching solution with the same high levels of performance.

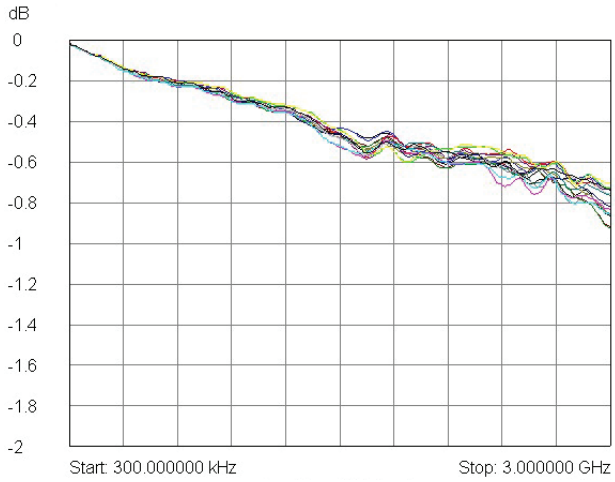
A 75 Ω version of the 40-872 is also available, the 40-832.



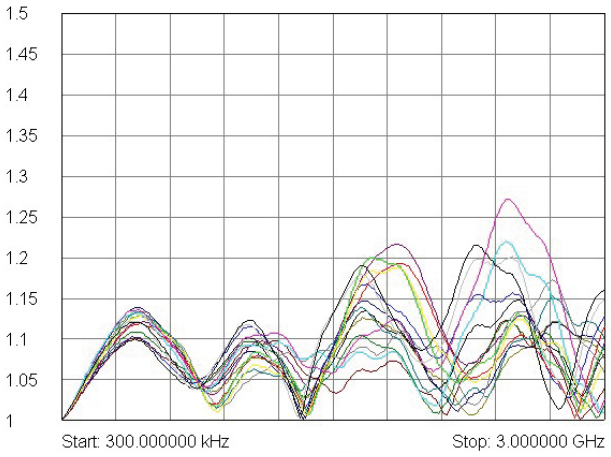
40-872 Quad 4 to 1 RF MUX Functional Diagram (Default Switch Paths Shown)

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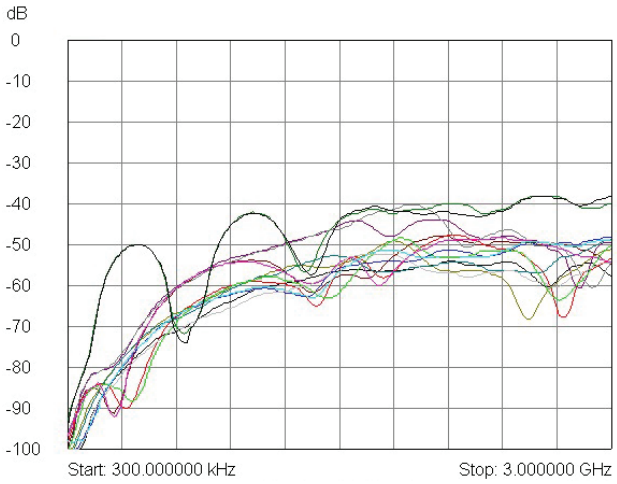
40-872 RF Performance Plots
(Plots taken from typical sample showing all connecting paths for parameter)



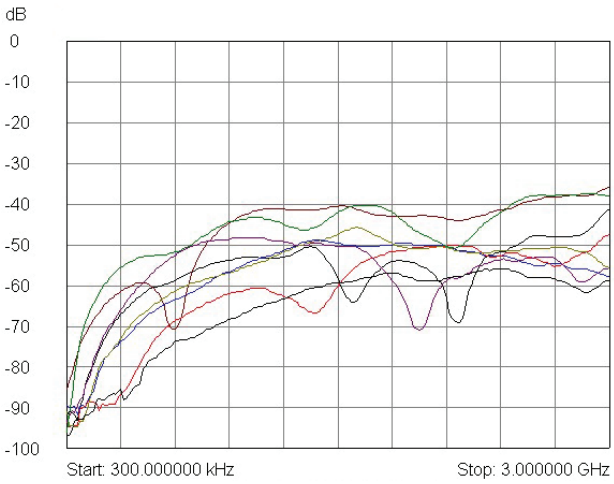
40-872 Typical Insertion Loss Plot For Each Signal Path



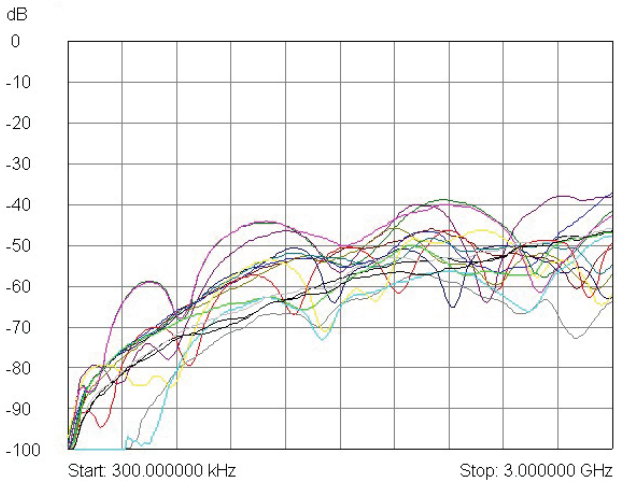
40-872 Typical VSWR Plot For Each Signal Path



40-872 Typical Crosstalk Plot Between Signal Paths



40-872 Typical Crosstalk Plot Between MUX Banks



40-872 Typical Isolation Plots for each input channel

RF Specification

RF Frequency Range:	DC to 3 GHz, usable to 3.5 GHz
Insertion Loss:	Typically <0.4 dB to 1 GHz Typically <0.7 dB to 2 GHz Typically <1.0 dB to 3 GHz
VSWR:	Typically <1.4:1 to 3 GHz
Isolation:	Typically >43 dB to 1 GHz Typically >36 dB to 3 GHz
Crosstalk:	Typically <-42 dB to 1 GHz Typically <-35 dB to 3 GHz
Maximum RF Power:	10 W at 3 GHz

Other Switching Specifications

Maximum DC Voltage:	30 V
Maximum DC Current:	1 A
Operating Time:	3 ms typical
Life Expectancy:	10 million operations at <100 mW

Power Requirements

+3.3V	+5V	+12V	-12V
0.03A	0.27A	0	0

Mechanical Characteristics

Single slot 3U PXI (CompactPCI card).
3D models for all versions in a variety of popular file formats are available on request.

Connectors

PXI bus via 32-bit P1/J1 backplane connector.
Signals via front panel SMB or MCX connectors.

Operating/Storage Conditions

Operating Conditions

Operating Temperature:	0 °C to +55 °C
Humidity:	Up to 90 % non-condensing
Altitude:	5000 m

Storage and Transport Conditions

Storage Temperature:	-20 °C to +75 °C
Humidity:	Up to 90 % non-condensing
Altitude:	15000 m

Product Order Codes

Single 4:1 RF MUX, SMB	**40-872-001**
Dual 4:1 RF MUX, SMB	**40-872-002**
Quad 4:1 RF MUX, SMB	**40-872-004**
Single 4:1 RF MUX, MCX	**40-872-101**
Dual 4:1 RF MUX, MCX	**40-872-102**
Quad 4:1 RF MUX, MCX	**40-872-104**

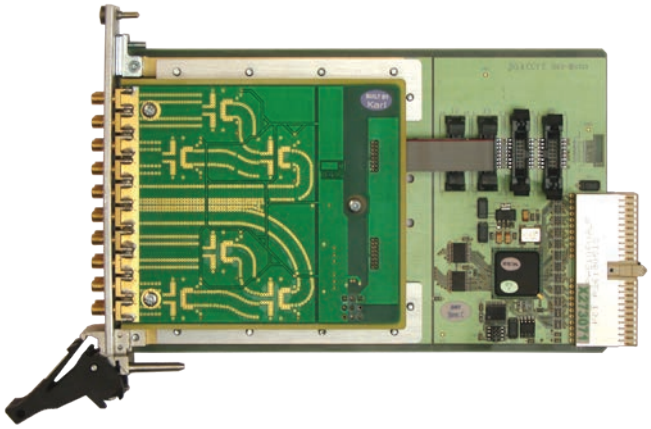
Product Customization

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

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.

Mating Connectors & Cabling

For connection accessories for the 40-872 range please refer to the 90-011D RF Cable Assemblies data sheet where a complete list and documentation can be found for accessories, or refer to the Connection Solutions catalog.



PXI & CompactPCI Compliance

The module is compliant with the PXI Specification 2.2. Local Bus, Trigger Bus and Star Trigger are not implemented.

Uses a 33 MHz 32-bit backplane interface.

Safety & CE Compliance

All modules 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.

Chassis Compatibility

This PXI module must be used in a suitable chassis. It is compatible with the following chassis types:

- All chassis conforming to the 3U PXI and 3U Compact PCI (cPCI) specification
- Legacy and Hybrid Peripheral slots in a 3U PXI Express (PXIe) chassis
- Pickering Interfaces LXI or LXI/USB Modular Chassis

Chassis Selection Guide



Standard PXI or hybrid PXIe Chassis from any Vendor:

- Mix our 1000+ PXI switching & simulation modules with any vendor's PXI instrumentation
- Embedded or remote Windows PC control
- Real-time Operating System Support
- High data bandwidths, especially with PXI Express
- Integrated module timing and synchronization

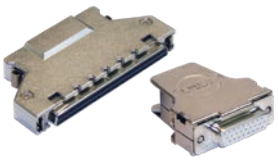


Pickering LXI or LXI/USB Modular Chassis—only accept our 1000+ PXI Switching & Simulation Modules:

- Ethernet or USB control enables remote operation
- Low-cost control from practically any controller
- LXI provides manual control via Web browsers
- Driverless software support
- Power sequencing immunity
- Ethernet provides chassis/controller voltage isolation
- Independence from Windows operating system

Connectivity Solutions

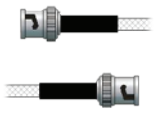
We provide a full range of supporting cable and connector solutions for all our switching products—20 connector families with 1200+ products. We offer everything from simple mating connectors to complex cables assemblies and terminal blocks. All assemblies are manufactured by Pickering and are guaranteed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

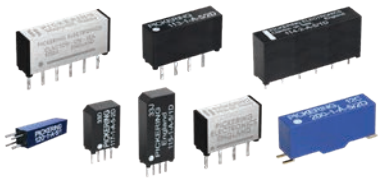


Mass Interconnect

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 Relay Division. 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 and OpenTAP
- **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



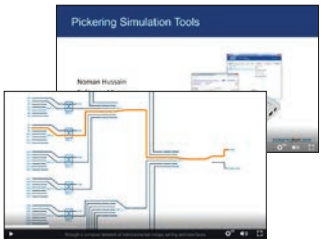
eBIRST Switching System Test Tools are designed specifically for our PXI, PCI or LXI products, these tools simplify switching system fault-finding by quickly testing the system and graphically identifying the faulty relay.
To learn more, please go to: pickeringtest.com/ebirst

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 and white papers as well as application specific product brochures to assist when looking for the switching, simulation and connection solutions you need. We have also published handy reference books on Switching Technology and 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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Pickering Interfaces maintains a commitment to continuous product development, consequently we reserve the right to vary from the description given in this data sheet.

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.

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

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