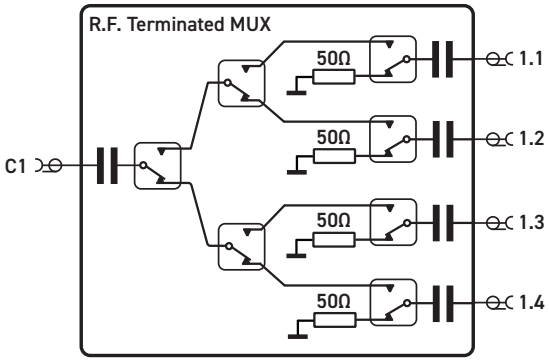
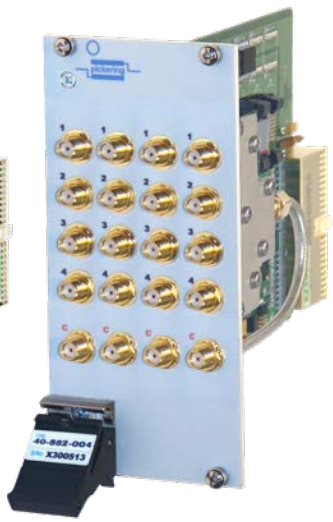
PXI 50 Ω SP4T Terminated 6 GHz Multiplexer 40-882

- Wide Frequency Range 10 MHz to 6 GHz
- High Performance Solid State Switch
- 4 Channel Multiplexer
- Single, Dual, Triple and Quad Versions
- Automatic Termination of Unused MUX Channels
- +30 dBm Input Power Handling
- Excellent Crosstalk & Isolation
- SMA Coaxial Connectors
- VISA, IVI & Kernel Drivers Supplied for Windows
- Supported by PXI or LXI Chassis
- 3 Year Warranty



40-882-001 Single SP4T Terminated 6 GHz MUX Switching Diagram

40-882-002 Dual SP4T Terminated 6 GHz MUX



40-882-004 Quad SP4T Terminated 6 GHz MUX

The 40-882 is a 50 Ω SP4T 6 GHz multiplexer which can operate to frequencies beyond 6 GHz. It is available in single format in one PXI slot, dual format in two PXI slots, or triple and quad formats in three PXI slot modules.

The 40-882 exhibits low VSWR over the full operating frequency range and consistent insertion loss. The use of solid state switches ensures a long service life with no wear out mechanism, making the 40-882 ideal for ATE systems requiring frequent and fast operating RF switching. The 40-882 can handle RF input power up to +30 dBm and is able to sustain frequent hot switching without performance degradation.

The module is fitted with SMA connectors, ensuring module compatibility with commonly used cables.

The 40-882 is supplied with drivers that allow users to support the module in all popular PXI software environments. In addition the 40-882 can be supported in Pickering Interfaces LXI/PXI Modular Switching chassis, permitting users to choose their switching platform with the same high performance characteristics and driver environment.

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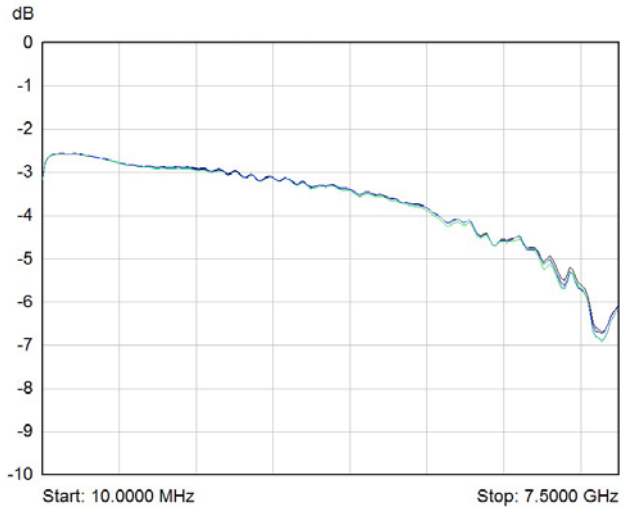
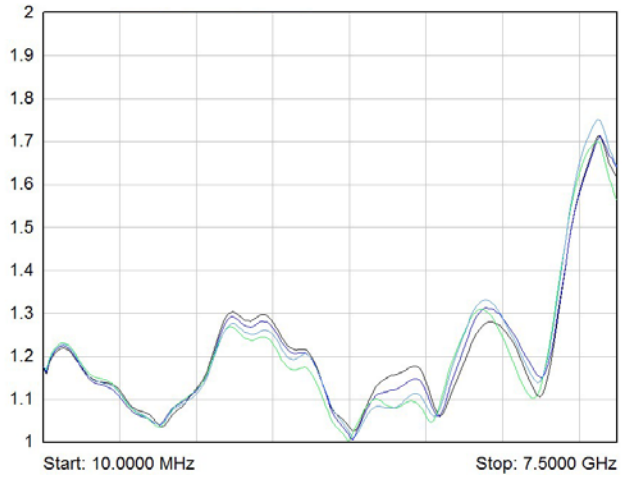
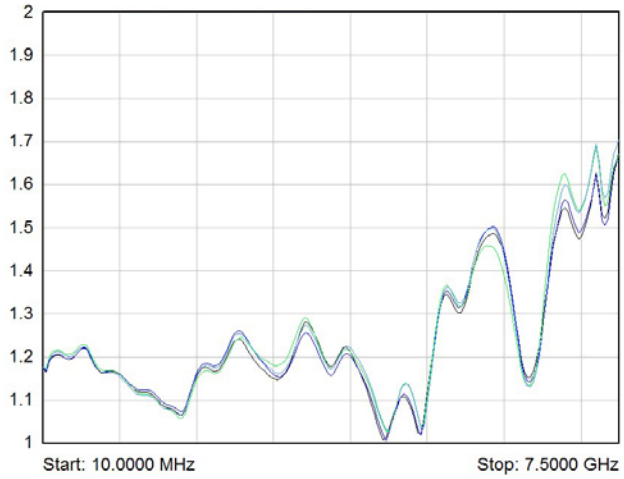


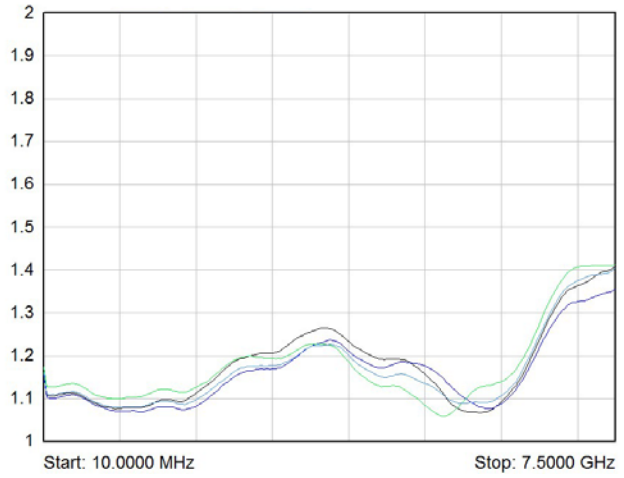
Insertion loss for 40-882-001 showing all paths up to 6 GHz



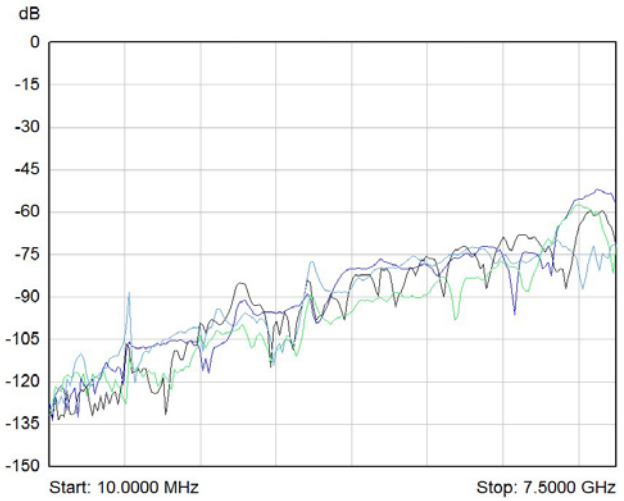
VSWR Channel to COM for 40-882-001 showing all paths up to 6 GHz



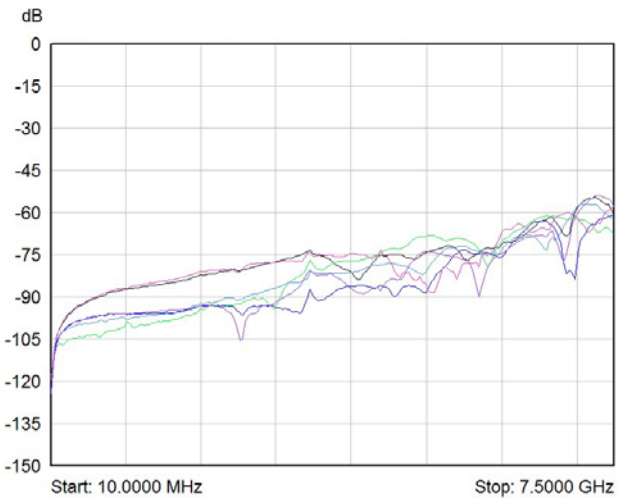
VSWR COM to Channel for 40-882-001 showing all paths up to 6 GHz



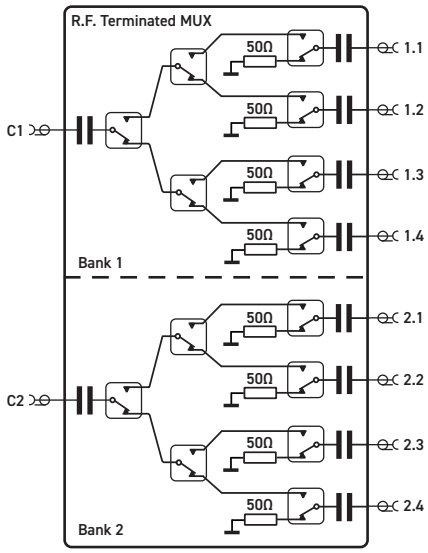
VSWR Terminated Channel for 40-882-001 showing all paths up to 6 GHz



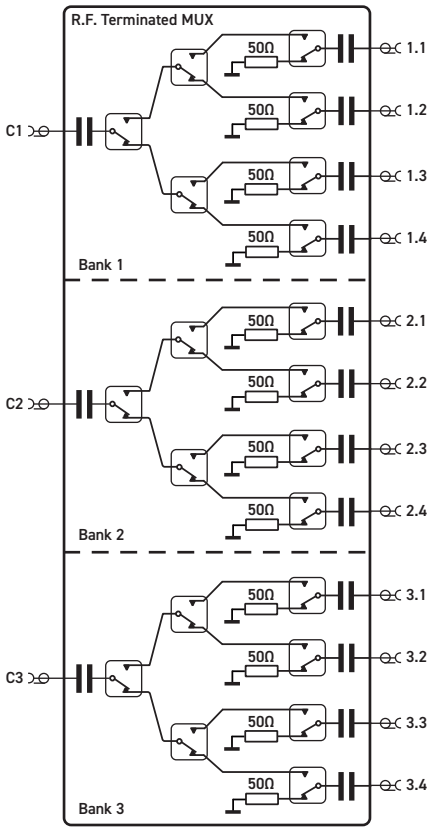
Max isolation for each channel with distant path selected for 40-882-001 up to 6 GHz



Crosstalk between adjacent channels for 40-882-001 showing all paths up to 6 GHz



40-882-002 Dual SP4T Terminated 6 GHz MUX Switching Diagram



40-882-003 Triple SP4T Terminated 6 GHz MUX Switching Diagram

RF Specification

RF Frequency Range:	10 MHz to 6 GHz (useable to 7 GHz)
Insertion Loss:	Typically <3.5 dB @ 10 MHz Typically <3.5 dB to 3 GHz Typically <5.0 dB to 6 GHz
VSWR Channel to COM:	Typically <1.4:1 to 6 GHz
VSWR COM to Channel:	Typically <1.4:1 to 5 GHz Typically <1.55:1 to 6 GHz
VSWR Internal termination:	Typically <1.4:1 to 6 GHz
Isolation:	Typically >80 dB to 3 GHz Typically >65 dB to 6 GHz
Crosstalk:	Typically <-75 dB to 3 GHz Typically <-60 dB to 6 GHz
Maximum RF Power:	+30d Bm (hot or cold switching)
Maximum DC Voltage:	16 V (AC coupled)
Life Expectancy:	Indefinite when used within ratings
Operate Time:	50 µs
RF Switching Time:	10 µs typical rise and fall time
RF Connectors:	SMA

Power Requirements

+3.3 V	+5 V	+12 V	-12 V
30 mA	100 mA	0	0

Mechanical Characteristics

- Single version: 1 slot 3U PXI module (40-882-001)
- Dual version: 2 slot 3U PXI module (40-882-002)
- Triple version: 3 slot 3U PXI module (40-882-003)
- Quad version: 3 slot 3U PXI module (40-882-004)

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 SMA 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

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.

Product Order Codes

Single SP4T 6 GHz MUX, SMA, Terminated	**40-882-001**
Dual SP4T 6 GHz MUX, SMA, Terminated	**40-882-002**
Triple SP4T 6 GHz MUX, SMA, Terminated	**40-882-003**
Quad SP4T 6 GHz MUX, SMA, Terminated	**40-882-004**

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 40-882 module 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.

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:

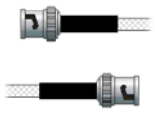
- Ethernet or USB control enables remote operation
- Low-cost control from practically any controller
- LXI provides manual control via Web browsers
- Driverless software support
- Power sequencing immunity
- Ethernet provides chassis/controller voltage isolation
- Independence from Windows operating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

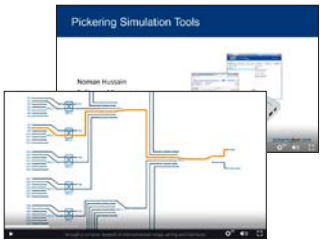
eBIRST Switching System Test Tools are designed specifically for our PXI, PCI or LXI products, these tools simplify switching system fault-finding by quickly testing the system and graphically identifying the faulty relay.
To learn more, please go to: pickeringtest.com/ebirst

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