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Find the *Pickering 40-785-521-T* at our website: ***Click HERE***

PXI Microwave Multiplexer 40-785

- Single or Dual 6 Channel Panel Mounted Multiplexer
- Up To 3 Remote Multiplexers From Single Slot Version
- 18GHz, 26.5GHz and 40GHz Versions
- 50Ω SMA Style Connectors
- 50Ω Terminated Versions
- 75Ω Version With 4GHz Bandwidth
- VISA, IVI & Kernel Drivers Supplied for Windows
- Supported by PXI or LXI Chassis
- 3 Year Warranty



The 40-785 range of PXI microwave multiplexers are suitable for switching 50Ω signals up to 40GHz. They are available in single or dual 6 channel configurations, with relays mounted on the front panel. Remote versions are also available which can support up to three multiplexers in a single slot.

The remote multiplexer versions, as well as occupying less PXI panel space, allow the microwave relays to be placed closer to the UUT and RF test equipment. This can shorten the length of cables and improve system performance. Remote multiplexers are supplied with a 1.5m interface cable.

The panel mounted 50Ω terminated version occupies 4 slots for the single version or 6 slots for the dual version.

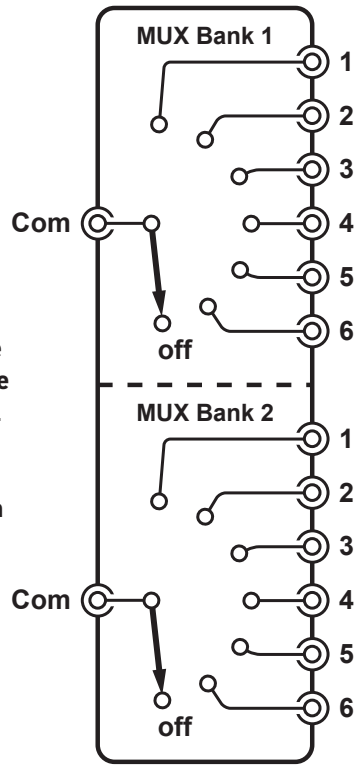
A 75Ω version is available with a bandwidth of 4GHz and uses Siemens 1.6/5.6 style connectors.

The 40-785 is suitable for constructing complex microwave switching networks and provides a range of switching configurations to suit most applications. Connection is by high performance front panel mounted SMA style connectors for 50Ω versions.



Single slot version controls up to 3 remotely mounted microwave multiplexers via interface cables

Model 40-785-522 Features 2 Separate 6 Channel Microwave Multiplexers (model 40-785-521 has 1 multiplexer bank) Default State Shown



These modules give you the highest RF and microwave switching performance available within a Pickering switching system. Although designed for microwave applications, they have many uses in the RF spectrum where extremely low insertion loss and ultra high isolation are critical.

Easy Repair

To allow fast in field repair, any relay may be replaced without removing the module from the PXI chassis.

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Specification - 18GHz Version

Characteristic Impedance:	50Ω
Maximum Frequency:	18GHz
Rise Time:	<3ps
Insertion Loss:	0.2dB (0-3GHz) 0.3dB (3-8GHz) 0.4dB (8-12.4GHz) 0.5dB (12.4-18GHz)
VSWR:	1:1.2 (0-3GHz) 1:1.3 (3-8GHz) 1:1.4 (8-12.4GHz) 1:1.5 (12.4-18GHz)
Isolation:	80dB (0-3GHz) 70dB (3-8GHz) 60dB (8-12.4GHz) 60dB (12.4-18GHz)
Non-Terminated Option	
Maximum Power Rating:	240W (0-3GHz) 150W (3-8GHz) 120W (8-12.4GHz) 100W (12.4-18GHz)
Expected Life (Low Power): Expected Life (Max Power):	$5x10^6$ ops. per position $3x10^5$ ops. per position
Terminated Option	
Maximum Power Rating:	120W (0-3GHz) 80W (3-8GHz) 60W (8-12.4GHz) 50W (12.4-18GHz)
Termination Power Rating:	1W per termination, 3W total per 6 channel multiplexer.
Expected Life (Low Power): Expected Life (Max Power):	$2x10^6$ ops. per position $3x10^5$ ops. per position
Maximum Voltage: Maximum Switch Current:	100VDC* 1A
Initial On Path Resistance: Off Path Resistance:	<200mΩ $>10^{10}$Ω (unterminated)
Vibration:	Sine 1mm, 5 - 60Hz Sine 10g 60 - 2000Hz
Switching Time:	15ms

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

Mechanical Characteristics

Front panel mounted versions occupy 3 slots, terminated front panel mounted versions occupy 4 (single) or 6 (dual versions) slots.

Remote multiplexer versions occupy one slot and are supplied with a 1.5m interface cable for each of the supplied microwave relays.

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

Switching Specification - Un-terminated 26.5GHz Version

Insertion Loss:	<0.7dB
VSWR:	<1:1.7
Isolation:	>50dB
Expected Life:	$5x10^6$ operations

Switching Specification - Terminated 26.5GHz Version

Insertion Loss:	<0.7dB
VSWR:	<1:1.7
Isolation:	>55dB
Expected Life:	$>2x10^6$ operations

Additional Specification - 40GHz Version

Insertion Loss:	<1.1dB
VSWR:	<1:2.2
Isolation:	>50dB
Expected Life:	$2x10^6$ operations

Additional Specification - 75Ω Version

Insertion Loss:	<0.3dB to 2.5GHz, typically <1.5dB to 4GHz
VSWR:	<1:1.3 to 2.5GHz typically <1:1.3 at 4GHz
Isolation:	>70dB to 2.5GHz
Expected Life:	$2x10^6$ operations

Power Requirements

+3.3V	+5V	+12V	-12V
0	0.2A	0.75A	0

Connectors

PXI bus via 32-bit P1/J1 backplane connector.
Signals via coaxial connectors on microwave switches:

- 20GHz & 26.5GHz versions - SMA
- 40GHz versions - SMA-2.9
- 75Ω versions - 1.6/5.6 75Ω connectors

Operating/Storage Conditions

Operating Conditions

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

Storage and Transport Conditions

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

PXI & CompactPCI Compliance

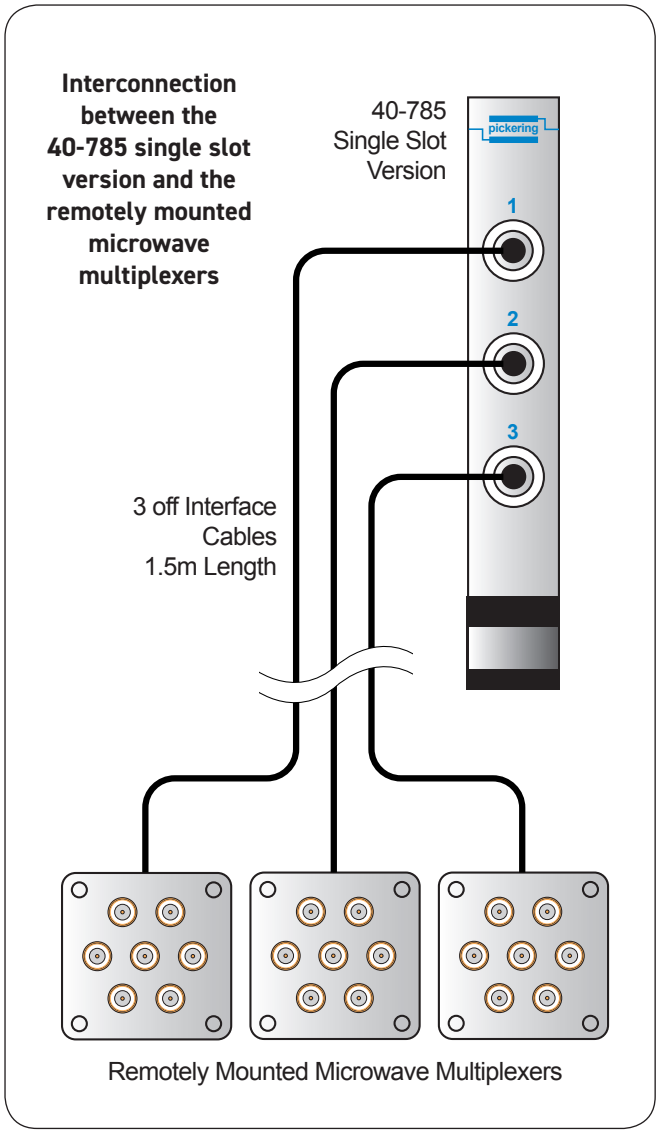
The module is compliant with the PXI Specification 2.2. Local Bus, Trigger Bus and Star Trigger are not implemented.

Uses a 33MHz 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.

Ordering Information



Mating Connectors & Cabling

For connection accessories for the 40-785 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.

Product Customization

Pickering PXI 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 relay types
- Mixture of 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.

Product Order Codes

18GHz Multiplexer Versions - 50Ω	
Single 6 Chan, Panel mount, 50Ω SMA	40-785-521
Dual 6 Chan, Panel mount, 50Ω SMA	40-785-522
Single 6 Chan, Panel mt, 50Ω SMA, Term.	40-785-521-T
Dual 6 Chan, Panel mt, 50Ω SMA, Term	40-785-522-T
Single 6 Chan, Remote mount, 50Ω SMA	40-785-521-E
Dual 6 Chan, Remote mount, 50Ω SMA	40-785-522-E
Triple 6 Chan, Remote mount, 50Ω SMA	40-785-523-E
Single 6 Chan, Remote, 50Ω SMA, Term.	40-785-521-TE
Dual 6 Chan, Remote, 50Ω SMA, Term	40-785-522-TE
Triple 6 Chan, Remote, 50Ω SMA, Term	40-785-523-TE
26.5GHz Multiplexer Versions - 50Ω	
Single 6 Chan, Panel mount, 50Ω SMA	40-785-531
Dual 6 Chan, Panel mount, 50Ω SMA	40-785-532
Single 6 Chan, Panel mt, 50Ω SMA, Term.	40-785-531-T
Dual 6 Chan, Panel mt, 50Ω SMA, Term	40-785-532-T
Single 6 Chan, Remote mount, 50Ω SMA	40-785-531-E
Dual 6 Chan, Remote mount, 50Ω SMA	40-785-532-E
Triple 6 Chan, Remote mount, 50Ω SMA-	40-785-533-E
Single 6 Chan, Remote, 50Ω SMA, Term.	40-785-531-TE
Dual 6 Chan, Remote, 50Ω SMA, Term	40-785-532-TE
Triple 6 Chan, Remote, 50Ω SMA, Term	40-785-533-TE
40GHz Multiplexer Versions - 50Ω	
Single 6 Chan, Panel mount, 50Ω SMA-2.9	40-785-541
Dual 6 Chan, Panel mount, 50Ω SMA-2.9	40-785-542
Single 6 Chan, Panel mt, 50Ω SMA-2.9, Term	40-785-541-T
Dual 6 Chan, Panel mt, 50Ω SMA-2.9, Term	40-785-542-T
Single 6 Chan, Remote mount, 50Ω SMA-2.9	40-785-541-E
Dual 6 Chan, Remote mount, 50Ω SMA-2.9	40-785-542-E
Triple 6 Chan, Remote mount, 50Ω SMA-2.9	40-785-543-E
Single 6 Chan, Remote, 50Ω SMA-2.9, Term	40-785-541-TE
Dual 6 Chan, Remote, 50Ω SMA-2.9, Term	40-785-542-TE
Triple 6 Chan, Remote, 50Ω SMA-2.9, Term	40-785-543-TE
4GHz Multiplexer Versions - 75Ω	
Single 6 Chan, Panel mount, 75Ω 1.6/5.6	40-785-751
Dual 6 Chan, Panel mount, 75Ω 1.6/5.6	40-785-752
Single 6 Chan, Remote mount, 75Ω 1.6/5.6	40-785-751-E
Dual 6 Chan, Remote mount, 75Ω 1.6/5.6	40-785-752-E
Triple 6 Chan, Remote mount, 75Ω 1.6/5.6	40-785-753-E

Accessories:

Microwave relay bracket for remote mounting
- Contact Pickering Interfaces for information.

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

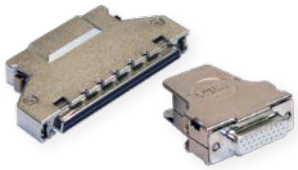
Pickering LXI or LXI/USB Modular Chassis—only accept our 1000+ PXI Switching & Simulation Modules:

- 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

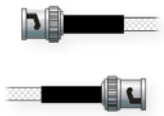
We provide a full range of supporting cable and connector solutions for all our switching products—20 connector families with 1200+ products. We offer everything from simple mating connectors to complex cables assemblies and terminal blocks. All assemblies are manufactured by Pickering and are guaranteed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



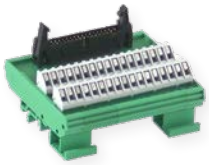
Connectors & Backshells



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 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

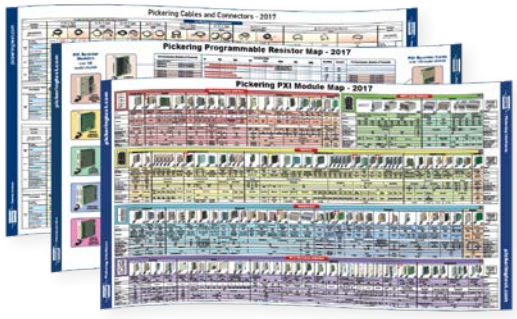
Three Year Warranty & Guaranteed Long-Term Support

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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Pickering Interfaces maintains a commitment to continuous product development, consequently we reserve the right to vary from the description given in this data sheet.

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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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