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Find the *Pickering 40-725-511* at our website: ***Click HERE***

40-725
8 x 9 RF Coaxial Matrix

- 8 x 9 RF Coaxial Matrix
- 500MHz Bandwidth
- 50Ω and 75Ω Versions Available
- High Quality Ruthenium Reed Relays
- High Density Coaxial Connectors: SMB, BT Type 43, 1.0/2.3 and mini-SMB
- Choice of Front Panel Mounted Coaxial Connectors
- 75Ω Version Suitable for Telecoms and High Quality Video Switching
- VISA/IVI Drivers Supplied for Windows 2000/NT/XP
- Supported by PXI or LXI Chassis
- 2 Year Warranty

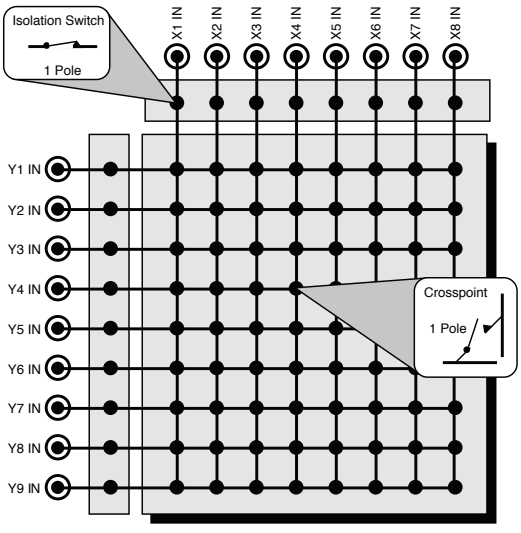


The 40-725 is an 8 x 9 RF Matrix Module suitable for switching frequencies to beyond 500MHz. The 40-725 is available in either 50Ω or 75Ω versions with a choice of coaxial connectors. It is intended for the easy construction of high performance bidirectional matrix switching systems.

Automatic Isolation Switches are located on all coaxial connectors (refer to drawing), these disconnect the matrix from the external test fixture. This maximises isolation and RF performance.

Matrix Operation

The 40-725 is a true 8 x 9 high density matrix, any combination of crosspoints may be selected. Only the signal is switched, all grounds are common.



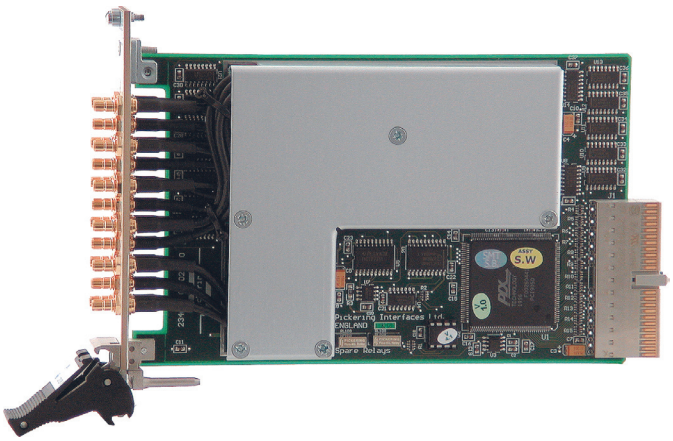
8 x 9 Coaxial Matrix Schematic Diagram

Special Version With Loop Thru on Y9

A version is available which is compatible with the VXI 30-728-721 and MAX 20 (Mobus card). This is a 75Ω matrix, but uses 50Ω SMB coaxial connectors. Also a loop thru is retained on Y9 (used for external self test).

Relay Type

The 40-725 matrix uses Sputtered Ruthenium Reed Relays, these offer very stable switch contact resistance with expected life of 10^9 operations when switching typical RF signals.
Spare RF Relays are built onto the circuit board to facilitate easy maintenance with minimum downtime.



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General Switching Specification

Maximum Voltage:	100V DC
Maximum Power:	10W
Maximum Switch Current:	0.5A
Maximum Carry Current:	0.5A
Characteristic Impedance:	50Ω or 75Ω
On Path Resistance:	<500mΩ
Off Path Resistance:	>10^8Ω
Thermal Offset:	<30µV
Expected Life (Low Power):	1x10^9 operations
Expected Life (Max Power):	>5x10^6 operations
Operate Time:	<1.0ms, 0.5ms typ
Release Time:	<1.0ms, 0.5ms typ

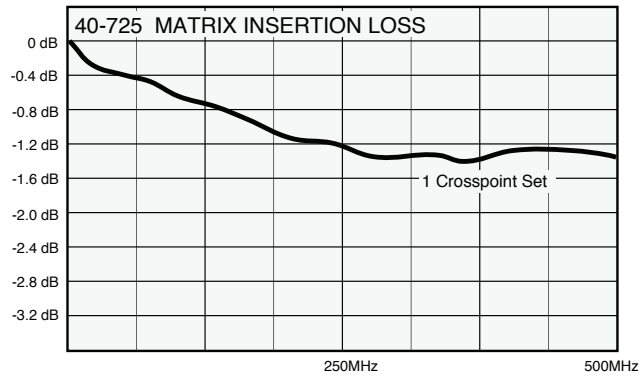
RF Specification

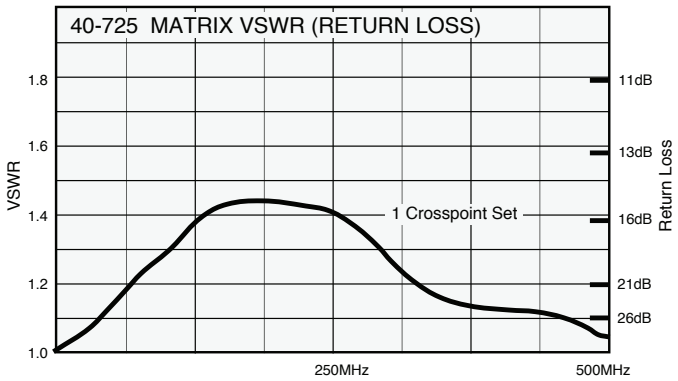
Maximum Frequency:	500MHz
Typical Rise Time:	800ps †
Insertion Loss (<500MHz):	<3dB †
V.S.W.R. (<500MHz):	<1:1.8 †
Isolation (<500MHz):	>70dB
Crosstalk (<500MHz):	>60dB

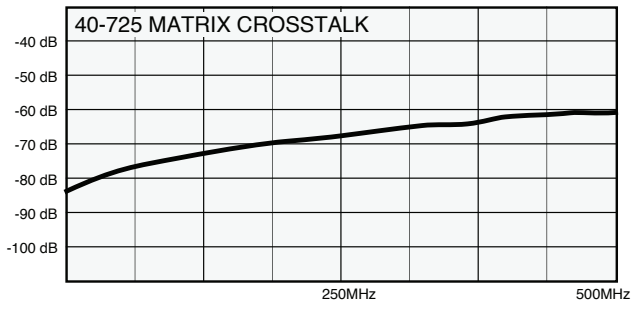
Loop Thru RF Specification (1 Pole)

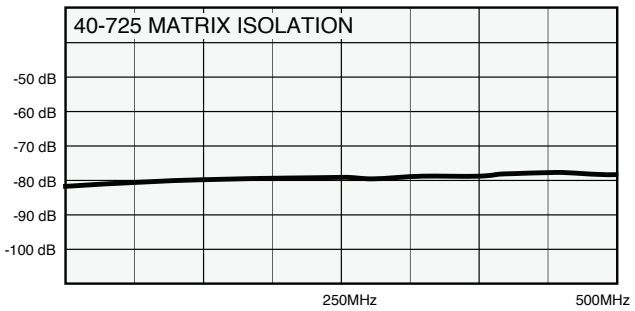
Insertion Loss (<100MHz):	<1dB
V.S.W.R. (<100MHz):	<1:1.05

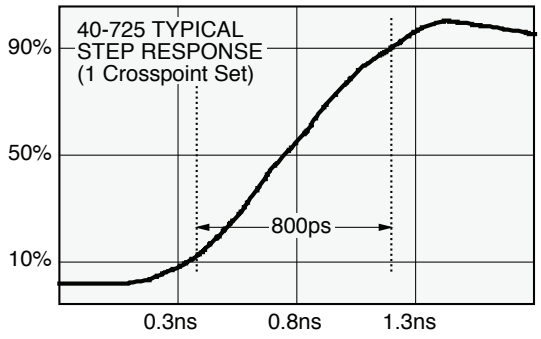
† Matrix RF Performance is entirely dependant upon the combination of crosspoints currently selected, these figures are for **one** selected crosspoint on any X or Y channel only, refer to graphs.











RF Performance Plots for 40-725 75Ω 500MHz RF Matrix Module

Typical curves are shown for matrix rows/columns with 1 crosspoint set. For optimum insertion loss and VSWR (reflection) performance ensure only one crosspoint is set in any one row/column. Multiple crosspoints can be set on any one row or column but this will seriously degrade RF performance.

Programming

Pickering provide kernel, VISA and IVI drivers which are compatible with Windows 2000/NT/XP operating systems, the VISA driver is also compatible with the LabVIEW RT operating system.

These drivers may be used with a variety of programming environments and applications including :-

National Instruments products (LabVIEW/LabWindows/CVI/ Switch Executive/MAX/TestStand etc.)

Microsoft Visual Studio products (Visual Basic/Visual C+)

Agilent VEE

Mathworks Matlab

Other environments are also supported, please contact Pickering with specific enquiries.

Power Requirements

+3.3V	+5V	+12V	-12V
0	320mA (typ 240mA)	0	0

Width and Dimensions

Single slot 3U PXI (CompactPCI card). Except the SMZ/BT Type 43 option which is 2 slot (40-725-711).

PXI & CompactPCI Compliance

All Pickering Interfaces PXI modules comply with the PXI Specification 2.1. Local Bus, Interrupts, Trigger Bus and Star Trigger are not implemented.

Safety & CE Compliance

All modules are fully CE compliant and meet applicable EU directives: Low-voltage safety EN61010-1:2001, EMC Immunity EN61000-6-1:2001, Emissions EN55011:1998.

Connectors

PXI bus via 32 bit P1/J1 backplane connector. Signals via 17 front panel mounted coaxial connectors.

Product Order Codes

PXI 8 x 9 500MHz Coaxial Matrix	
SMB Version, 50Ω	**40-725-511**
BT Type 43/SMZ Version, 75Ω (2 slot module)	**40-725-711**
1.0/2.3 Version, 75Ω	**40-725-731**
Mini SMB Version, 75Ω	**40-725-751**
Special version of the 75Ω Coaxial Matrix, 400MHz Bandwidth with Loop Thru on Y9 position. 75Ω Impedance (but using 50Ω SMB connectors)	**40-725-721**

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

Mating Connectors & Cabling

Examples of connectors and cabling for the 40-725 are:

40-977-511-1M	Cable, 50Ω SMB, Plug to Plug, 1 Meter Length.
40-977-711-1M	Cable, 75Ω SMZ/Type 43, Plug to Plug, 1 Meter Length.
40-977-731-1M	Cable, 75Ω 1.0/2.3, Plug to Plug, 1 Meter Length.
40-977-751-1M	Cable, 75Ω Mini SMB, Plug to Plug, 1 Meter Length.

Please refer to the Pickering Interfaces "**Interconnection Solutions**" catalog for the full list of connector/cabling options, including drawings, photos and specifications. This is available in either print or as a download. Alternatively our web site has dynamically linked connector/cabling options, including pricing, for all Pickering PXI modules.



Latest Details

Please refer to our Web Site for Latest Product Details.

www.pickeringtest.com

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