



- High Performance RF Multiplexer Suitable for Video Switching Applications
- 1GHz Bandwidth
- Available in 24, 48, 72, 96, 120 or 144-Channel Versions
- 75Ω Characteristic Impedance
- Automatic Termination of Unused Inputs

- Low Loss, High Isolation
- LED Indicator On Every Channel
- Consistent Performance Across All Channels
- Simple Remote Control Via LXI Interface
- LXI Standard 1.4 Compliant
- 3 Year Warranty

The 60-721A High Performance Video Multiplexer is designed for switching RF signals in 75Ω systems at frequencies up to 1GHz. It is ideal for monitoring applications that require the selection of one channel to be routed to measuring equipment.

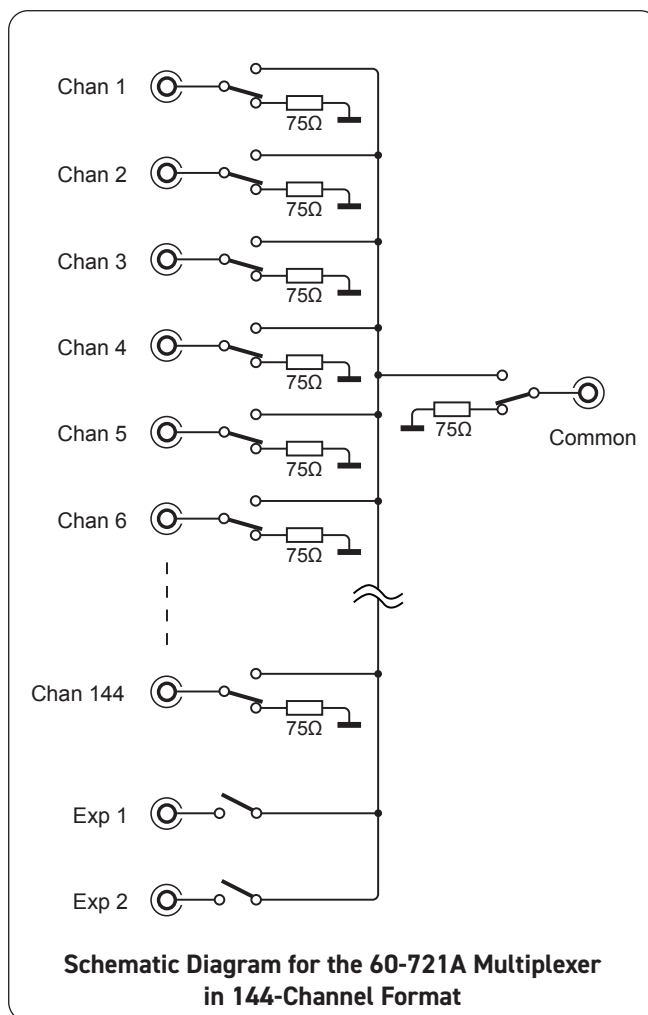
The automatic 75Ω termination of unused channels helps maintain signal integrity and minimizes the possibility of introducing unwanted responses. The common connection is also automatically terminated when unused. Front panel LEDs adjacent to each input connector provide identification of the active channel.

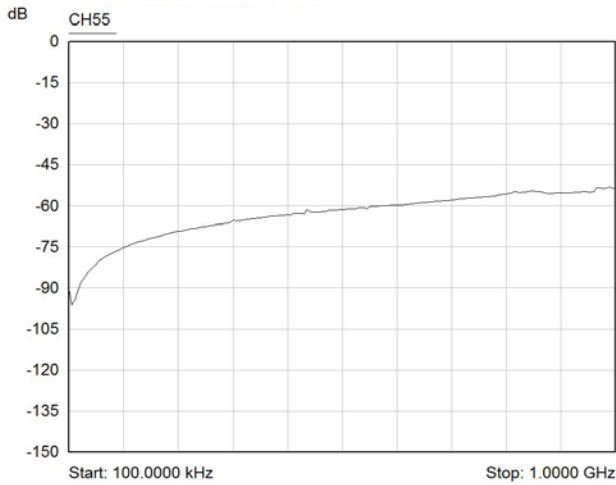
High signal isolation and low crosstalk ensure that an active channel is not disturbed by signals on unselected channels. Careful design ensures a smooth pass band response and insertion loss, which is consistent on all signal paths. This can be easily calibrated out to provide traceable measurements.

The 60-721A includes two expansion ports Exp1 and Exp2 which allow the common signal to be routed to two further 60-721As. This allows the easy construction of large multiplexers.

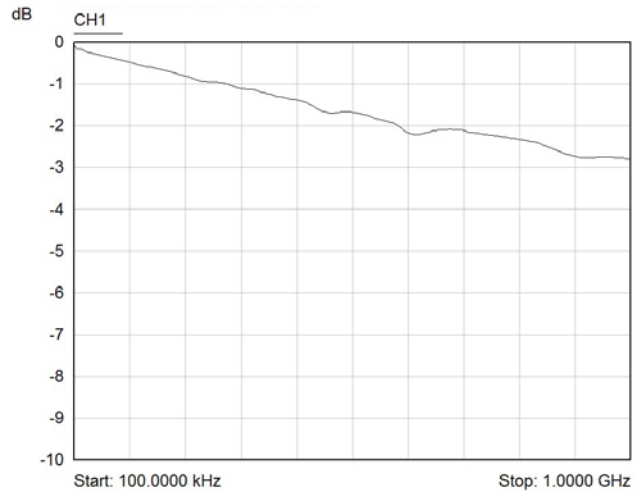
Controlling the MUX

The 60-721A is controlled through an LXI interface based on Ethernet 1000base-T connectivity. It provides a quick and easy method of installation and a simple way of controlling the unit in a remote location through its API or built in soft front panel. The ability to control the unit at a distance aids the testing of systems without the need for a physical presence.

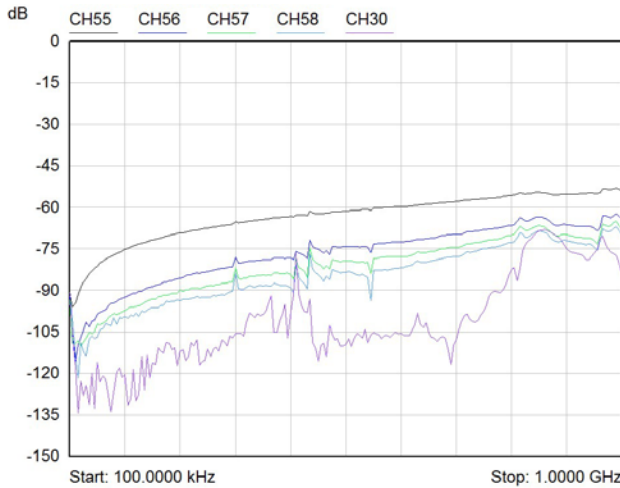




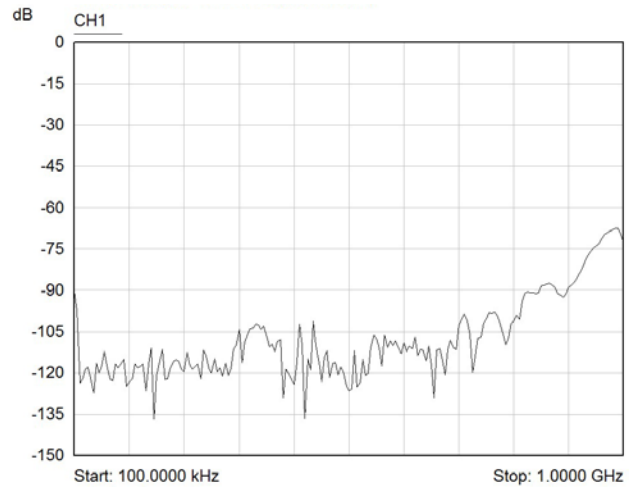
Typical Crosstalk Plot for the 60-721A Multiplexer (between adjacent channels)



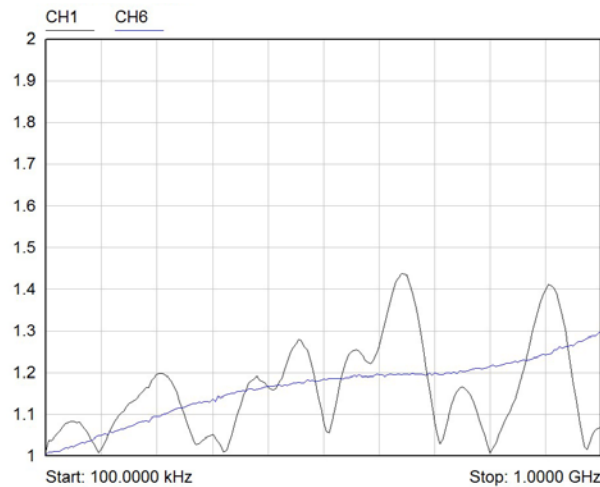
Typical Insertion Loss Plot for the 60-721A Multiplexer (between selected channel and Common)



Typical Crosstalk Plot for the 60-721A Multiplexer (taken between channel 54 and channels 55, 56, 57, 58 and 30)



Typical Isolation Plot for the 60-721A Multiplexer (all relays off)



Typical Insertion VSWR Plot for the 60-721A Multiplexer (black trace is from channel to terminated Common, blue trace is from channel to internal termination)

General Multiplexer Information

MUX Configurations:	24-Channel, 48-Channel, 72-Channel, 96-Channel, 120-Channel, or 144-Channel.
Connectors:	Front panel F-Type, 75Ω.
Operating Time:	5ms (limited by relays)
Maximum Power:	0.5W (limited by termination resistors).
Expected Life Low Power:	> 2x10 ⁶ operations

Multiplexer RF Specification

Characteristic Impedance:	75Ω
Insertion Loss:	< 3.5dB at 1GHz
VSWR (selected channel):	< 1.5:1 to 1GHz
VSWR (terminated channel):	< 1.4:1 to 1GHz
Crosstalk:	50dB typical at 1GHz, adjacent channel. >50dB at 1GHz for all other channels.
Isolation:	> 65dB to 1GHz

Power Source

Universal AC mains supply, 90-120/200-240V 50-60Hz	
Power Inlet:	Male IEC connector
Power Rating:	100VA maximum
Fuse Rating:	2.5A, 250V

LAN Interface

Compliant to LXI Standard 1.4, the 60-721A has a 1000Base-T Ethernet Interface via a standard RJ-45 connector mounted on the rear panel with an LCD display showing the unit's IP address*.

***Note:** Legacy units may not have 1000Base-T support or be fitted with an LCD display.

LXI Status Indicators

Front panel mounted LEDs:

- Power
- Ready
- Error
- LAN
- Active

MUX Status Indicators

Green LED indicates selected channel.

Mechanical Characteristics

Supplied with front panel ears to enable rack mounting on a shelf or other rear support mechanism.

Dimensions:

- 24, 48 & 72 channel versions:
2U high, full 19" rack width, 500mm depth.
- 96, 120 & 144 channel versions:
3U high, full 19" rack width, 500mm depth.

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

Connectors

Signals via front panel F-type 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

Safety & CE Compliance

All products 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

2U Height Products:

24-Channel 1GHz Video Multiplexer	60-721A-001
48-Channel 1GHz Video Multiplexer	60-721A-002
72-Channel 1GHz Video Multiplexer	60-721A-003

3U Height Products:

96-Channel 1GHz Video Multiplexer	60-721A-004
120-Channel 1GHz Video Multiplexer	60-721A-005
144-Channel 1GHz Video Multiplexer	60-721A-006

Mating Connectors & Cabling

For connection accessories for the 60-721A 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.

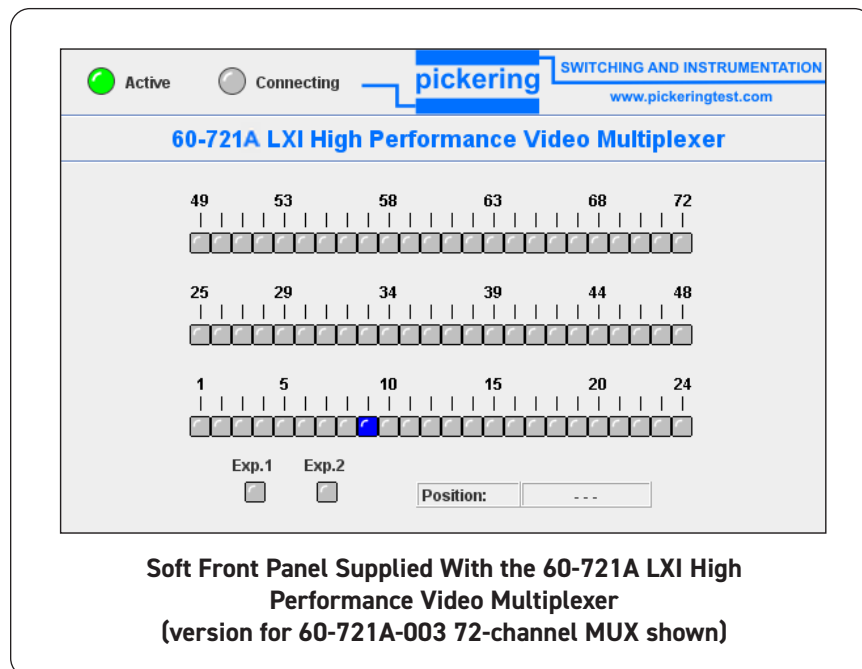
Product Customization

Pickering LXI units 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:

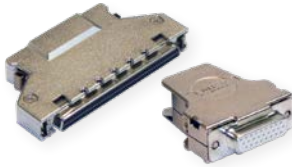
- Alternative relay types
- Mixture of relay types
- Alternative number of relays
- Different performance specifications

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.



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



Multiwire 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

All LXI devices are supplied with built-in software drivers, web pages for configuration and soft front panels as required by the LXI specification. A variety of drivers are provided (C, .NET, IVI, SOAP) 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 drivers may be used in many commonly used 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++, Visual C#)
- **Keysight** VEE and OpenTAP
- **Mathworks** Matlab
- **Marvin** ATEasy
- **MTQ Testsolutions** Tecap Test & Measurement Suite

As well as various open source environments such as:

- **Sharp Develop**
- **Dev-C++**

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

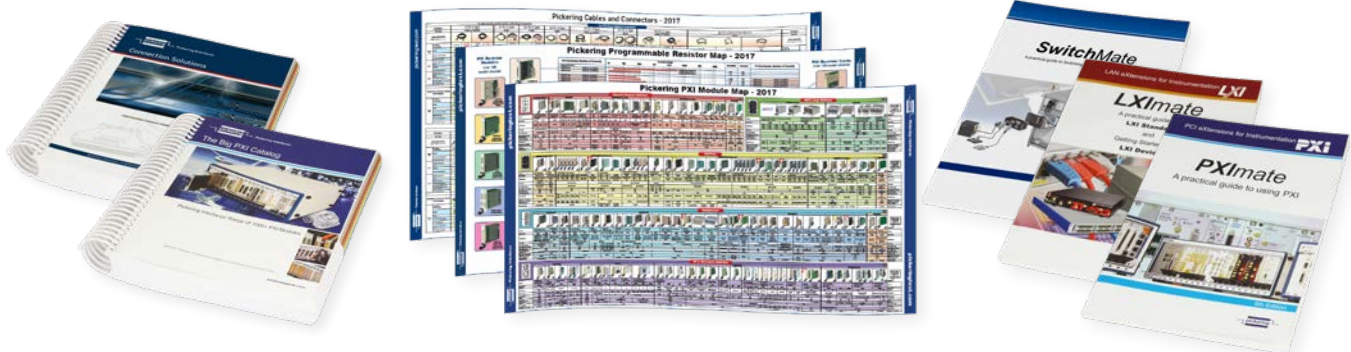


Three Year Warranty

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 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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