LXI Dual 24x8 HF Matrix 60-760

- Single or Dual 24x8 50Ω HF Matrix
- Software Configurable As 48x8 Matrix
- 50MHz Bandwidth, Usable to 100MHz
- High Density SMB Coaxial Connectors
- Also Available With BNC Connectors
- Rack Mountable Enclosure
- LXI Standard 1.4 Compliant
- Program via Windows DLL or IVI Driver
- 3 Year Warranty

The 60-760 is a Dual 24x8 HF Matrix suitable for switching frequencies up to 50MHz. It has an impedance of 50Ω and uses SMB signal connectors or, with a larger case size, BNC connectors.

It is designed to provide a simple and scalable bidirectional matrix for radio frequencies and is intended for the easy construction of high performance switching systems.

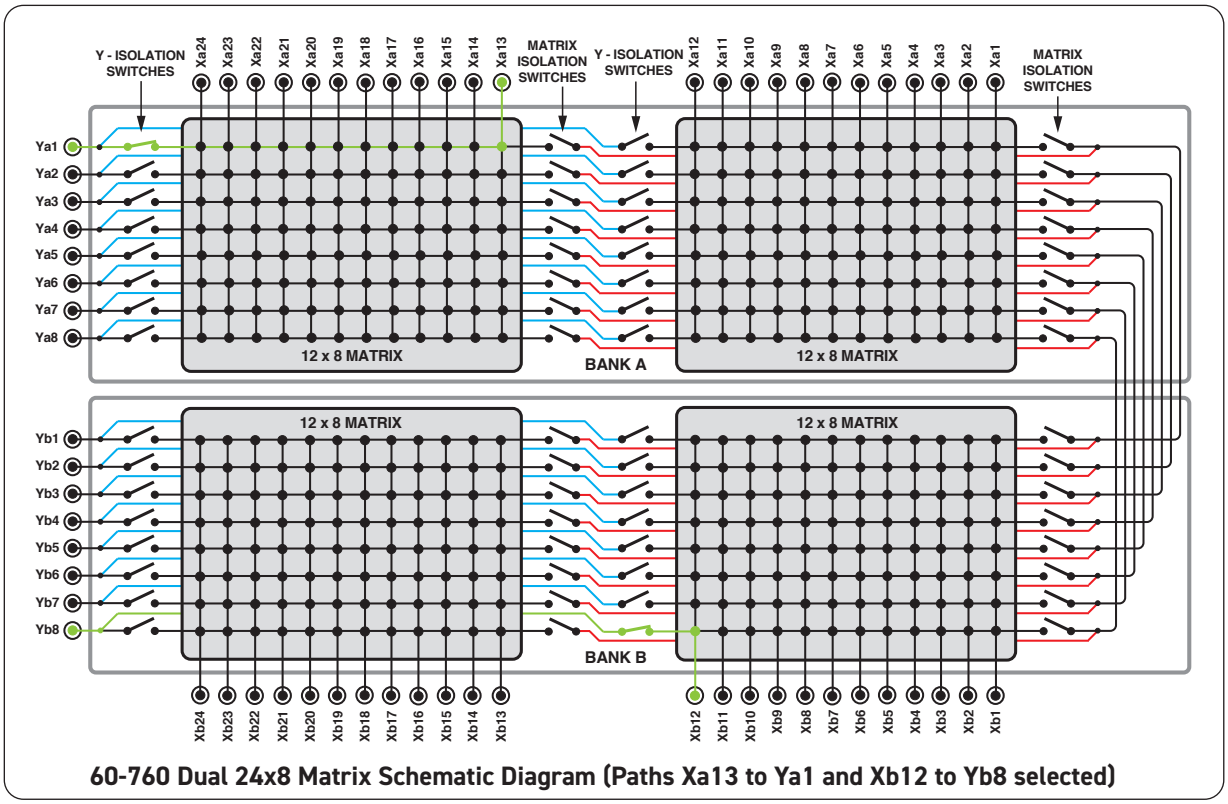
The 60-760 can be supplied in 2U format with BNC connectors

Software configuration allows the 60-760-002 matrix to be set as a dual 24x8, a single 48x8 and other configurations. Signal connections to the matrices are via the front panel.

A flexible isolation switch arrangement permits the matrices to be expanded with other modules while maximizing bandwidth.

The 60-760 is designed in accordance with the LXI Standard 1.4 and is supplied in a compact 1U high, rack width case with 340mm depth. The BNC version is housed in a 2U high case with 500mm depth.

It is programmable via the LAN interface using a variety of drivers. Industry standard (W3C) web browsers can be used to access and change configuration information and provide access to the soft front panels.



60-760 Dual 24x8 Matrix Schematic Diagram (Paths Xa13 to Ya1 and Xb12 to Yb8 selected)

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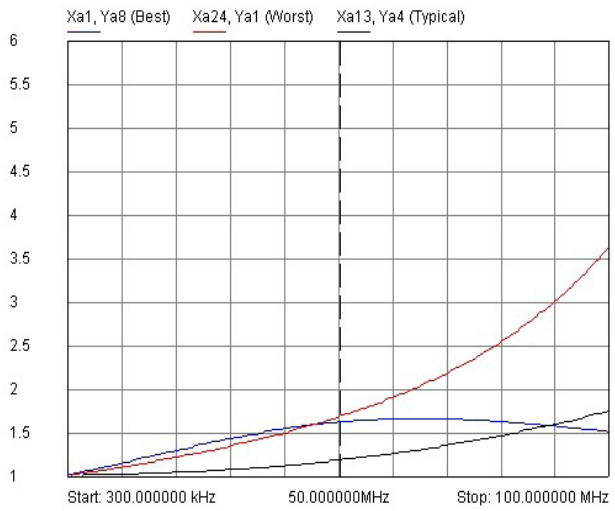
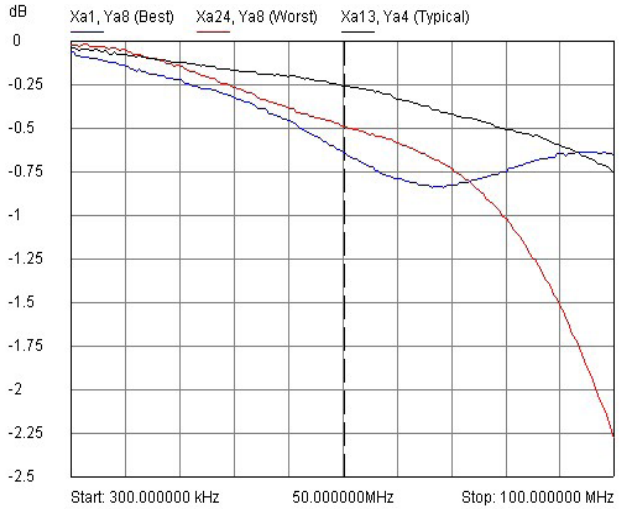
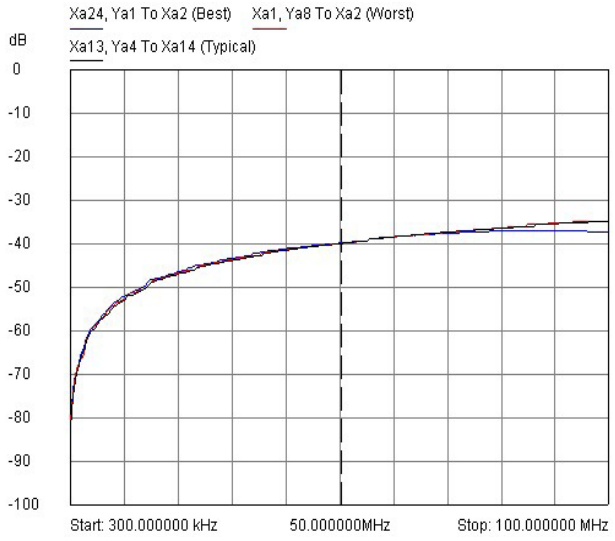


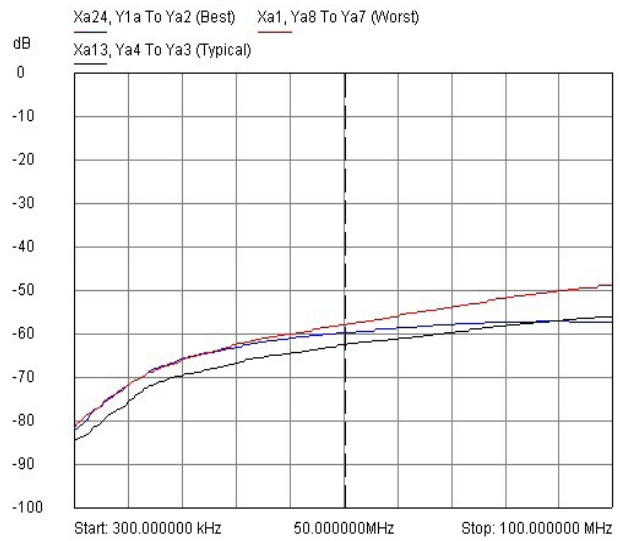
VSWR Plot for Dual 24x8 HF Matrix



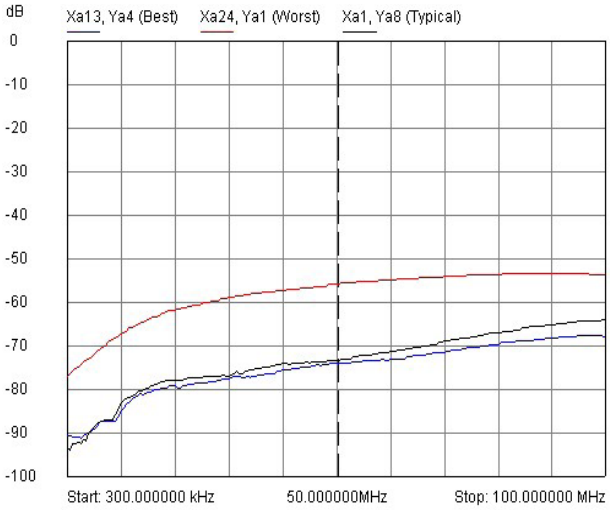
Insertion Loss Plot for Dual 24x8 HF Matrix



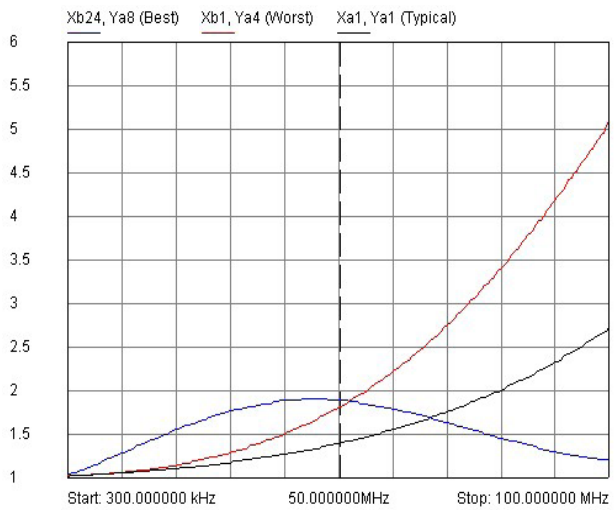
Crosstalk Plot for Dual 24x8 HF Matrix (between X-Y path and X connection with 50Ω load)



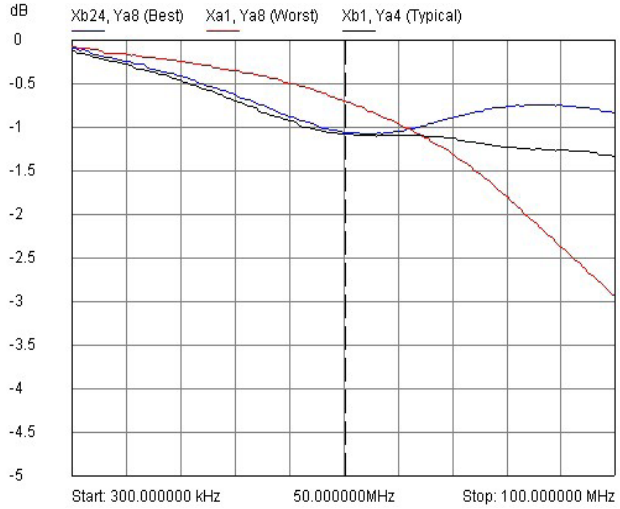
Crosstalk Plot for Dual 24x8 HF Matrix (between X-Y path and Y connection with 50Ω load)



Isolation Plot for Dual 24x8 HF Matrix (all relays off)

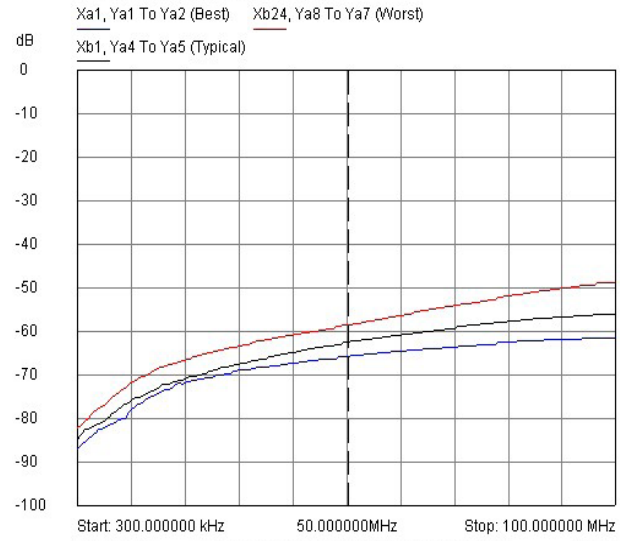


VSWR Plot for Single 48x8 HF Matrix

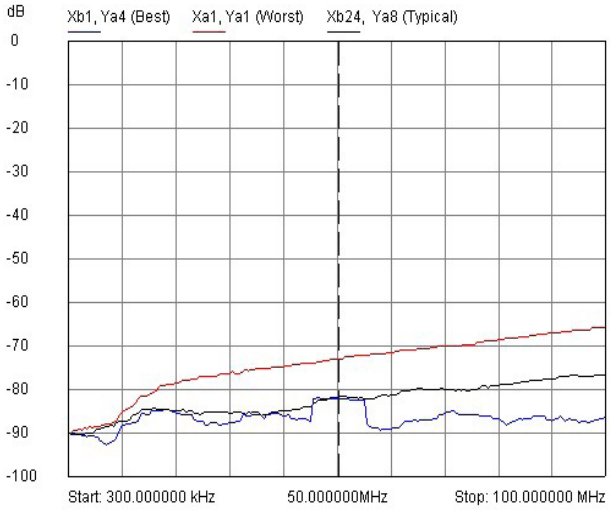


Insertion Loss Plot for Single 48x8 HF Matrix

Crosstalk Plot for Single 48x8 HF Matrix (between X-Y path and X connection with 50Ω load)



Crosstalk Plot for Single 48x8 HF Matrix (between X-Y path and Y connection with 50Ω load)



Isolation Plot for Single 48x8 HF Matrix (all relays off)

Relay Type

The 60-760 is fitted with electro-mechanical signal relays with palladium-ruthenium, gold covered contacts. These are leaded relays (not SMT relays) so field maintenance is greatly simplified. In addition a total of 8 spare relays are fitted to the dual 24x8 matrix and 4 are fitted to the single 24x8 matrix. This allows easy maintenance with minimum downtime.

Specification

Characteristic Impedance:	50Ω
Frequency Range:	DC to 50MHz (useable to 100MHz)
Insertion Loss:	1dB typical at 50MHz 3dB typical at 100MHz
VSWR:	<1.2:1 at 5MHz <1.3:1 typical at 10MHz <1.8:1 typical at 50MHz
Crosstalk:	Better than 30dB, Typically better than 40dB at 50MHz
Isolation:	Typically better than 60dB at 50MHz
Operating Life:	$1x10^8$ for power less than 100mW $1x10^7$ at maximum power
Maximum HF Power:	10W at 50MHz
DC Rating:	100V max, 1A max, 30W
Operating Time:	<3ms

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 60-760 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.

Mechanical Characteristics

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

Dimensions:

- SMB Connectors: 1U high, full rack width, 340mm depth
- BNC Connectors: 2U high, full rack width, 500mm depth

Weight: 4.6Kg

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

Connectors

Signals via front panel 50Ω SMB or 50Ω BNC 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.

Ordering Information

Product Order Codes

LXI Single 24x8 HF Matrix, SMB, 50Ω	60-760-001
LXI Dual 24x8 HF Matrix, SMB, 50Ω	60-760-002
LXI Single 24x8 HF Matrix, BNC, 50Ω	60-760-005
LXI Dual 24x8 HF Matrix, BNC, 50Ω	60-760-006

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.

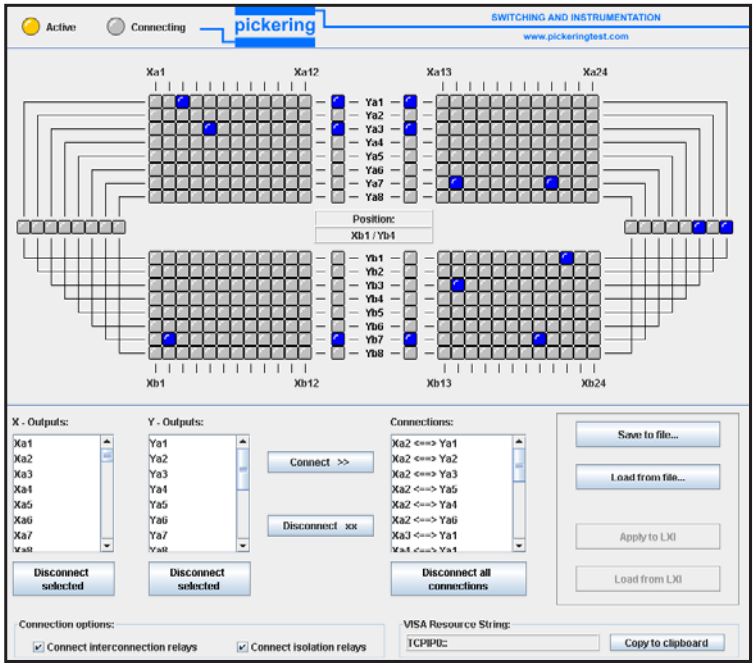
Customization can include:

- 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.

Mating Connectors & Cabling

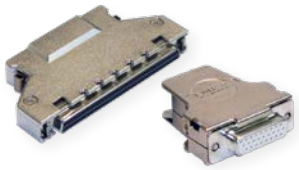
For connection accessories for the 60-760 please refer to the 90-011D RF Cable Assemblies data sheet where a complete list and documentation can be found for accessories, or refer to the Connection Solutions catalog.



Soft Front Panel for the 60-760 Dual 24x8 Matrix

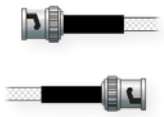
Connectivity Solutions

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

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.

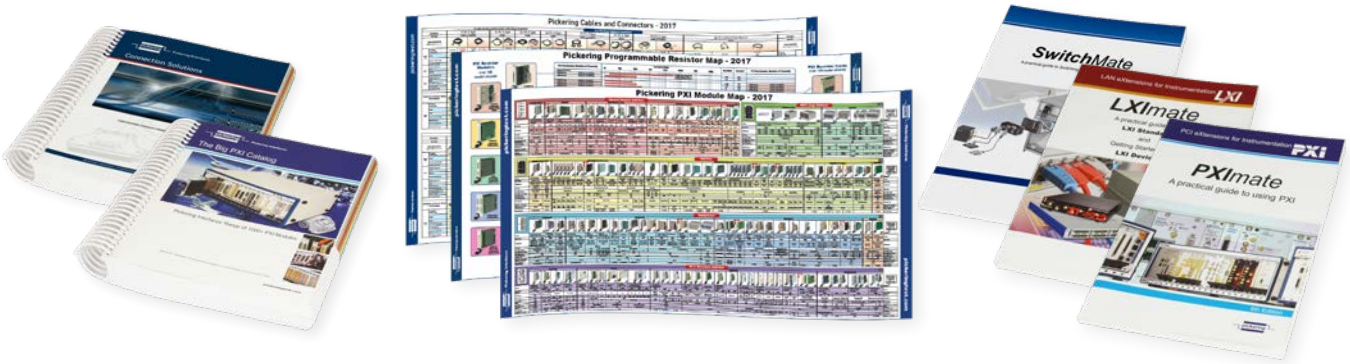
To learn more, please go to: pickeringtest.com/ebirst

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