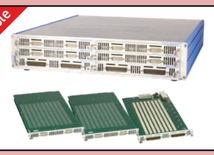
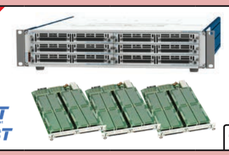
Pickering LXI Solutions Map - 2018

Low Frequency Matrices

185+

Number shows the quantity of units within a particular range

	High Density							
	Scalable							Scalable
	 30	 14	 19	 13	 7	 2		 100+
Features	• Scalable Matrix With Y size of 20 or 40 • User Configurable X Dimension • Loop-Thru Connections For Expansion	• Single Pole High Density Matrix • Up to 4096 Crosspoints • Dual Analog Bus		• Single Pole High Density Matrix • Up to 4096 Crosspoints • Dual Analog Bus	• Double Pole High Density Matrix • Up to 4096 Crosspoints • Dual Analog Bus	• Single Pole High Density Matrix • Up to 4096 Crosspoints • X and Y Axis Loop-Thru • Easily Expanded to Larger Sizes	• Single Pole High Density Matrix • Up to 4096 Crosspoints • Y Axis Loop-Thru • Easily Expanded to Larger Sizes	• Single Pole High Density Matrix • Up to 1600 Crosspoints • X and Y Axis Loop-Thru • Easily Expanded to Larger Sizes	• Wide choice of matrix sizes, multiple analog buses • Add between one and six plug-in modules • Built-In Scan Lists & Triggering reduce test times	
Model Family	**65-219**	**60-550**	**60-551**	**60-553**	**60-555** / **60-556**	**60-552**	**60-554**	**60-590**	**65-221** / **65-223** / **65-225** / **65-227**	
Configurations	Between 10x40 & 50x40 (60x40 with no Y access) or between 10x20 & 50x20 (60x20 with no Y access)	Between 128x8 and 512x8 1-Pole Matrix	Between 128x4 and 512x4 1-Pole Matrix	Between 256x4 and 1024x4 1-Pole Matrix	Between 192x8 and 512x8 2-Pole Matrix / Between 192x4 and 512x4 2-Pole Matrix	Between 16x64 and 50x64 1-Pole Matrix	Between 64x16 and 256x16 1-Pole Matrix	40x20 or 40x40 (can be used as Dual 40x20) Includes two "S" buses with isolation switching	128x4 to 1536x4, 12 or 6 Analog buses / 64x8 to 768x8, 6 Analog buses / 32x16 to 384x16, 3 Analog buses / 32x32 to 192x32, 1 Analog bus	
Relay Type	Electro-mechanical								Pickering Instrumentation Ruthenium Reed	
Max Switch Voltage	220VDC/125VAC	300VDC/250VAC		150VDC/100VAC	300VDC/250VAC	300VDC/250VAC		180VDC/130VAC	–	
Max Switch/Carry Current	2A								1A	
Max Switch Power	60W								–	
Typical Operate Time	4ms	3ms Crosspoint, 6ms Crosspoint + Isolation				3ms Crosspoint, 6ms Crosspoint + Isolation		3ms	2ms	
Connector Type	15-pin D-type & 50-pin D-type	78-pin D-type	160-pin DIN 41612			78-pin D-type	78-pin D-type & 25-pin D-type	50-pin D-type & 25-pin D-type	200-pin LFH	
Enclosure Size	2U High, Full Rack Width, 500mm Deep	1U High, Full Rack Width, 500mm Deep				1U High, Full Rack Width, 500mm Deep			2U High, Full Rack Width, 500mm Deep	
Mating Connectors and Cabling Datasheet	90-005D & 90-010D	90-006D		90-001D		90-006D	90-006D & 90-008D	90-005D & 90-008D	90-002D	
Spare Relay Kits	91-100-001								–	

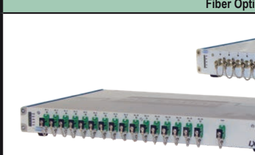
Low Frequency Matrices

53

	High Power		High Voltage		Low Thermal EMF	
	Scalable  30	 8	 3	 3	 eBIRST 9	
Features	• Scalable Matrix With Y size of 10 • User Configurable X Dimension • Loop-Thru Connections For Expansion	• Single Pole Power Matrix • Up to 256 Crosspoints • 10A Current Rating	• Double Pole High Voltage Matrix • Up to 600 Crosspoints • Up To 1000V Rating	• Double Pole High Voltage Matrix • Up to 900 Crosspoints • Up To 750V Rating	• 1-Pole Low Thermal EMF Matrix • Up to 1848 Crosspoints • Uses Instrumentation Grade Reed Relays	• 1-Pole Low Thermal EMF Matrix • Up to 1848 Crosspoints • Uses High Quality Electro-mechanical Relays
Model Family	**65-239**	**60-600**	**60-310**	**60-311**	**60-510**	**60-511**
Configurations	Between 10x10 & 60x10 (50x10 with no Y access) or between 8x10 & 48x10 (40x10 with no Y access)	Single 16x16, 16x8, 16x4, 32x8, 32x4, 64x4 1-Pole or Dual 16x8, 32x4 1-Pole Matrix	Single 100x2, 200x2 or 300x2 2-Pole Matrix	Single, Dual or Triple 75x4 2-Pole Matrix	Single, 56x33, 44x33, 42x33, 28x33 or 14x33 1-Pole Matrix	Single, 56x33, 44x33, 28x33 or 14x33 1-Pole Matrix
Relay Type	Electro-mechanical		High Voltage Rhodium Reed	Electro-mechanical	Pickering Instrumentation Ruthenium Reed	Electro-mechanical
Max Switch Voltage	125VDC/250VAC	400VDC/250VAC Cold Switching, 125VDC/250VAC Hot Switching	750VDC Working/1000VDC Typical Cold Switching, 500VDC Hot Switching	750VDC Continuous/1000VDC Pulse Cold Switching, 220VDC/250VAC Hot Switching	150VDC/100VAC	200VDC/170VAC
Max Switch/Carry Current	8A	10A	1A	2A Cold Switching, 1A Hot Switching	0.5A Switch, 1A Carry	1A
Max Switch Power	240W/2000VA	300W/2500VA	10W	30W Hot Switching	10W	60W
Typical Operate Time	10ms	10.5ms	0.5ms	3ms Crosspoint, 6ms Crosspoint + Isolation	0.5ms	3ms
Connector Type	20-pin GMCT	8-pin Power D-type	50-pin High Voltage D-type & 9-pin High Voltage D-type		37-pin D-type & 25-pin D-type	
Enclosure Size	2U High, Full Rack Width, 500mm Deep	1U High, Full Rack Width, 500mm Deep	2U High, Full Rack Width, 500mm Deep	3U High, Full Rack Width, 500mm Deep	2U High, Full Rack Width, 500mm Deep	
Mating Connectors and Cabling Datasheet	90-014D	90-012D	90-005D & 90-003D		90-007D & 90-008D	
Spare Relay Kits	–	91-100-071	91-100-053	–	–	–

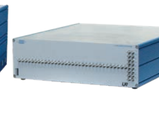
Optical Switching

36

	Fiber Optic Multiplexers	
	 36	
Features	• Single-Mode Fiber Support • MEMS Based Actuation For Long Life and Fast Operation • Loop-Thru Option For Easy Expansion	• Multi-Mode Fiber Support • MEMS Based Actuation For Long Life and Fast Operation • Loop-Thru Option For Easy Expansion
Model Family	**60-850**	**60-851**
Configurations	Single 8-Channel, Dual 4-Channel, Dual 8-Channel, Single 16-Channel or Single 32-Channel	Single 8-Channel, Dual 4-Channel, Dual 8-Channel, Single 16-Channel or Single 32-Channel
Switching Technology	MEMS (Micro Electro-Mechanical Systems)	
Wavelength	1240nm to 1640nm	700nm to 1700nm
Internal Fiber Type	SM 9/125	MM 62.5/125
Typical Operate Time	1ms	
Cycle Rate	500/sec	
Connector Type	FC/APC, FC/PC, SC/PC, MU, LC	SC, ST
Enclosure Size	1U High, Full Rack Width, 340mm Deep	

RF & Microwave Matrices

100

	Video Matrix	High Frequency Matrix	Wideband Matrix	RF Matrix - 1GHz			RF Matrix - 2.4GHz			Microwave Matrix	
	 7	 4	Scalable  46			 11			 11	 21	
Features	• Single or Dual 24x8 Matrix • Suitable For Video Switching Applications • Choice of RF Connectors	• Single or Dual 24x8 Matrix • 50MHz Bandwidth, Useable to 100MHz • SMB or BNC RF Connectors	• User Configurable For X and Y Dimensions • Plug In As Many Cards As Required • Built In Self-Test Checks all Relays	• High Bandwidth 75Ω Matrix • Useable to 1.5GHz • Automatic Termination of Unused Inputs			• High Bandwidth 50Ω Matrix • Y Axis Loop-Thru • Automatic Termination of Unused Inputs			• Versatile Microwave Matrix Switching Solution • Loop-thru Option for Easy Expansion • Internal Termination Option	
Model Family	**60-711**	**60-760**	**65-110**	**60-730**	**60-731**	**60-732**	**60-770**	**60-771**	**60-772**	**60-750**	**60-751**
Configurations	Single or Dual 24x8 (software configurable)	Single or Dual 24x8 (software configurable)	RF matrix with sizes between 24x8 and 104x8 or between 16x16 and 104x16	32x16 terminated, 24x16 terminated 16x16 terminated	32x8 terminated, 24x8 terminated 16x8 terminated, 8x8 terminated	32x4 terminated, 24x4 terminated 16x4 terminated, 8x4 terminated	32x16 terminated, 24x16 terminated 16x16 terminated	32x8 terminated, 24x8 terminated 16x8 terminated, 8x8 terminated	32x4 terminated, 24x4 terminated 16x4 terminated, 8x4 terminated	Single or Dual 3x3, Single or Dual 4x4, Single 8x4, Optional Loop-thru and/or Terminations	Single 3x3, Single 4x4, Optional Loop-thru and/ or Terminations
Impedance	75Ω	50Ω	50Ω	75Ω			50Ω			50Ω	
Frequency Range	DC to 25MHz	DC to 50MHz (useable to 100MHz)	200MHz Useable to 500MHz	DC to 1GHz (useable to 1.5GHz)			DC to 2.4GHz			DC to 10GHz	DC to 20GHz
Insertion Loss	<0.53dB	<1dB	<1dB to 50MHz	<2.5dB			<2.5dB			<3.6dB	<4.5dB
VSWR	<1.8:1	<1.8:1	<1.4:1	<1.8:1			<1.6:1			<1.6:1	
Max Power	30W	10W	0.25W (limited by termination resistors)	0.125W (limited by termination resistors)			0.5W (limited by termination resistors)			100W (1W for termination resistors)	
Typical Operate Time	3ms	3ms	5ms	3ms			3ms			18ms	
Relay Type	Electro-mechanical	Electro-mechanical	Electro-mechanical	Electro-mechanical			Electro-mechanical			Microwave Relay	
Connector Type	SMB, MCX or BNC	SMB or BNC	SMB	F-type			SMA			SMA	
Enclosure Size	1U High, Full Rack Width, 340mm Deep or 2U High, Full Rack Width, 500mm Deep	1U High, Full Rack Width, 340mm Deep or 2U High, Full Rack Width, 500mm Deep	4U High, Full Rack Width, 500mm Deep	6U High, Full Rack Width,500mm Deep	3U High, Full Rack Width, 500mm Deep	2U or 3U High, Full Rack Width, 500mm Deep	6U High, Full Rack Width, 500mm Deep	3U High, Full Rack Width, 500mm Deep	2U or 3U High, Full Rack Width, 500mm Deep	2U High, Full Rack Width, 500mm Deep	

RF & Microwave Multiplexers

56

	Video MUX	RF MUX - High Isolation	Microwave MUX			
	 6	 2	 12	 16	 16	 4
Features	• High Performance Multiplexer Suitable For Video Switching Applications • Automatic Termination of Unused Inputs	• High Performance 12-Channel Multiplexer • 1GHz Bandwidth • Single or Dual Multiplexer Banks	• High Performance 6-Channel Multiplexer • Up to 16 Multiplexer Banks • Terminated Versions Available		• High Performance 6-Channel Multiplexer • Up to 16 Multiplexer Banks	• High Performance 4-Channel Multiplexer • Up to 16 Multiplexer Banks	• High Performance 6-Channel Multiplexer • Up to 16 Multiplexer Banks • Low Loss High Isolation	
Model Family	**60-721A**	**60-722**	**60-800**		**60-801**	**60-802**	**60-820**	
Configurations	24, 48, 72, 96, 120 or 144-Channel MUX With Terminations	Single or Dual 12-Channel MUX	6-Channel MUX With 4, 8, 12 or 16 Banks	6-Channel Terminated MUX With 2, 4, 6 or 7 Banks	6-Channel MUX With 4, 8, 12 or 16 Banks	4-Channel MUX With 4, 8, 12 or 16 Banks	6 Channel MUX With 4, 8, 12 or 16 Banks	
Impedance	75Ω	75Ω	50Ω				75Ω	
Frequency Range	1GHz	1GHz	18GHz	26.5GHz	6GHz, 18GHz, 26.5GHz or 40GHz		2.5GHz	
Insertion Loss	3.5dB	1.3dB	0.5dB	0.7dB	0.2dB (up to 3GHz)		0.3dB	
VSWR	1.7:1	1.5:1	1.5:1	1.5:1	1.2:1 (up to 3GHz)		1.3:1	
Max Power	0.5W (limited by termination resistors)	400W	240W	1W Terminated	220W (up to 3GHz)		400W	
Typical Operate Time	5ms	20ms	18ms		13ms		18ms	
Relay Type	Electro-mechanical	Microwave Relay	Microwave Relay					
Connector Type	F-Type	F-Type	SMA		SMA or SMA-2.9 (40GHz)		DIN 1.6/5.6	
Enclosure Size	2U or 3U High, Full Rack Width, 500mm Deep	2U High, Full Rack Width, 500mm Deep	2U High, Full Rack Width, 500mm Deep					

Simulation

	LXI Simulation Tool
	
Features	• Simulates All Pickering PXI & LXI Switching Products • More Than 1000 Switching Product Configurations Available • Allows Code Development Independently From The Application Hardware
Model Family	**60-901**
Capacity	Over 18 simulated user slots available
Display	Dual function LED matrix shows IP address and switch status
LAN Interface	RJ45 Connector
Connection Speed	100baseT
Power Supply	Supplied with a 5V 1A DC in line power supply
Enclosure Size	Width 94mm, Height 76mm, Depth 32mm

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Pickering LXI Solutions Map - 2018

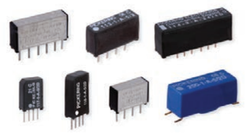
LXI from Pickering Interfaces

Pickering Interfaces were early adopters of the LXI standard as a means of providing a standardized interface for Ethernet (LAN) controlled instruments.

- We offer a wide range of switching functions including low frequency, high density matrices, RF and microwave matrices and multiplexers, and optical switching.
- Our LXI and LXI/USB modular chassis support over 1,000 of our PXI switch and simulation modules.
- Custom switching solutions available—existing products can be adapted to meet a specific requirement or a completely custom solution can be created.
- Compatible with all popular software: Windows®, Visual Studio®, LabVIEW™, LabVIEW RT™, LabWindows/CVI™, VISA (NI and Agilent), IVI, NISE, Agilent VEE, Mathworks Matlab, Marvin Test ATEasy and our Switch Path Manager. For details, go to: **pickeringtest.com/os**
- We are Strategic Member of the LXI Consortium.

Pickering is the **only provider of PXI and LXI switching products with in-house reed relay manufacturing capability.** These instrument grade reed relays feature ***SoftCenter***® technology, ensuring long service life and repeatable contact performance (for further information visit: **pickeringrelay.com**). In addition, most of our switch modules use through-hole technology relays (as opposed to surface mount) allowing easy replacement without the need for special tools.

New from Pickering, the High Density Series 120 reed relay with the world's smallest footprint of 4mm x 4mm. Switching up to 20 Watts, 1 Amp. Ideal for high density matrices and multiplexers.



BiRST Built-In Relay Self-Test — Select high density matrix solutions are supplied with Built-In Relay Self-Test. This allows the easy detection of faulty or deteriorating relay contacts to help in the diagnosis and verification of complex switching systems. For more information go to: **pickeringtest.com/birst**

eBiRST — Most of our switching solutions are supported by our eBIRST test tools. These simplify switching system fault-finding by quickly testing the system using an externally fitted tool and graphically identifying the faulty relay. For more information go to: **pickeringtest.com/ebirst**

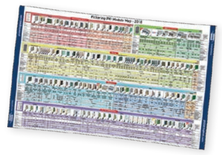
Additional LXI Literature Available

LXImate Book

We have released the third edition of the LXImate book. The 122 page LXImate is an overview of the LXI Standard - an open, accessible standard identifying specifications and solutions relating to the functional test, measurement and data acquisition industry. This new edition has been updated to reflect the change in how products are offered, moving away from a class structure to a structure describing a Core Specification and a set of optional Extended Functions. To downloard or request a copy of LXImate, go to: **pickeringtest.com/lximate**

The PXI Module Map

A fold-out product guide outlining our full range of over 1000 PXI compatible switching and simulation modules. The majority of these can be supported in our LXI Modular Chassis allowing remote control over Gigabit Ethernet.



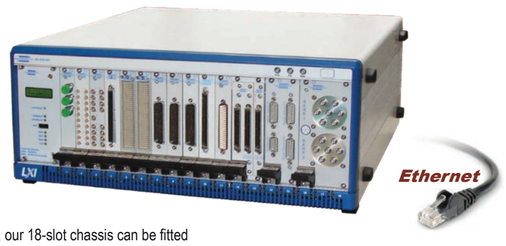
All literature can be ordered from one of our sales offices or downloaded from: **pickeringtest.com/resources/literature**

LXI Modular Chassis & Associated Modules

7-Slot LXI Modular Chassis (60-102B)

2-Slot LXI/USB Modular Chassis (60-104)

4-Slot LXI/USB Modular Chassis (60-105)



18-Slot LXI Modular Chassis (60-103B)

All of our LXI Modular chassis are capable of hosting an extensive range of our PXI switching & simulation modules in an LXI environment, allowing remote control over a gigabit Ethernet connection.

In our PXI switching range, these include general purpose relays, matrices, multiplexers, RF switches and special switching functions such as fault insertion and serial communications. In our simulation range, these include a selection of modules such as programmable resistors, digital I/O, power supplies, battery simulators and attenuators.

For example, our 18-slot chassis can be fitted with a combination of high density relay modules, matrix modules, multiplexers, power relays, microwave relays and programmable resistors as shown above. Giving you enormous flexibility to define a switching/T&M system that exactly meets your requirements.

Additionally, the 2 and 4-slot chassis can be controlled via a USB3 port.

For more information go to: **pickeringtest.com/lxi**

Choosing a Chassis for PXI Modules

Standard PXI or Hybrid PXIe Chassis from any vendor:

- **Mix our 1000+ PXI Switching & Simulation modules with any vendors' PXI instrumentation**
- **Embedded controllers available**
- **Real-time Operating System support**
- **High data bandwidths, especially with PXI Express**
- **Integrated Module Timing and Synchronization**

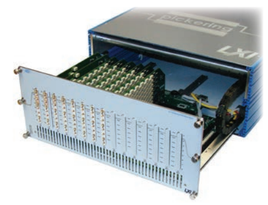
Pickering LXI & LXI/USB Modular Chassis—only accept our 1000+ PXI Switching and Simulation Modules:

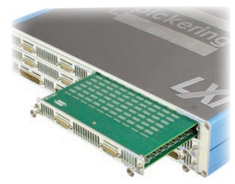
- **Ethernet or USB control enables remote operation**
- **Low-cost control from practically any controller**
- **LXI provides manual control via Web browsers**
- **Driverless software support**
- **Power sequencing immunity**
- **Ethernet provides chassis/controller voltage isolation**
- **Independence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

NEW

LXI System 65 Scalable Matrix Solutions

Our range of LXI System 65 Scalable Matrices offer the user solutions that can be easily re-configured by the removal and insertion of sub-cards. Each unit is purchased as an empty chassis fitted with the quantity of System 65 sub-cards initially required. As the user's requirements evolve, additional cards can be easily fitted and the control software automatically detects the new configuration. You can find these solutions, product ranges 65-110, 65-219, 65-239 & 65-22x, listed on the opposite page.





Connectivity

Cables & Connectors

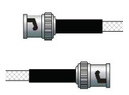
To support our products we offer a comprehensive range of cable & connector solutions:

- 20 connector product families
- Over 1000 individual products
- Customized cabling
- Online Cable Design Tool

For more information please refer to our website: **pickeringtest.com/cables-connectors**

Connectors & Backshells

Multiway Cable Assemblies



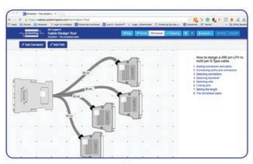
RF Cable Assemblies

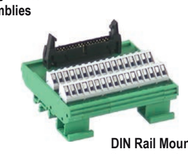
Cable Design Tool

Our Cable Design Tool is an online tool that allows you to define a cable assembly to exactly meet your requirements.

- Graphical design of customized cable assemblies
- Built-in library of standard cable sets can be used as the basis for customization, or cables can be defined from scratch
- The ability to store cable assemblies in the Cloud and develop them over time
- Each cable design has a PDF documentation file detailing all the specifications
- Allows detailed design including; connector types, wire type, pin definitions, pin & cable labelling, cable bundling, length selection, sleeving, comments, etc.
- Add your own connectors and wires
- Fully supported on major tablet operating systems

For more information vist:**pickeringtest.com/cdt**





DIN Rail Mounted Connector Blocks

Module Mounted Connector Blocks

Mass Interconnect

We recommend the use of a mass interconnect solution when an Interchangeable Test Adapter (ITA) is required to be used with test system based on PXI or based on a 7 or 18-slot LXI Modular Chassis. The complete range of our PXI modules are fully supported by both VPC and MacPanel mass interconnect solutions.

VPC Virginia Panel Corporation
www.vpc.com

MAC-PANEL Interconnect Solutions & Services Since 1958
www.macpanel.com

Modular Breakout System

Breakout Box & Fault Insertion Unit

- Modular Patch Panel Optimized for Fault Insertion
- Designed for our PXI and 7 & 18-slot LXI Modular Chassis
- Designed to Work with Specific Pickering FIU Modules
- Many Options for Different Current and/or Voltage Requirements
- Customized Versions Available to Match Specific Requirements

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LXI Solutions Map

Ethernet Controlled Switching Solutions
for Test, Measurement and Data Aquisition

- **150+** Switching Systems
- Chassis support for **1000+** Modular Solutions

LXI
LAN eXtensions for Instrumentation

Pickering's **LXI Solutions Map** is a single sheet reference to our range of LXI Switch Systems and LXI Modular Solutions, including their basic specifications and cabling options.

3 Year Warranty

2018

pickering Pickering Interfaces

LXI Solutions Map

LXI
LAN eXtensions for Instrumentation

- **Extensive Range of Switching:** Matrix, MUX and General Purpose
- Comprehensive Range of Cables and Connectors
- Standard Three Year Warranty on all Modules and Switch Systems
- RF/Microwave Switching to 65 GHz
- High Current to 40 A, High Voltage to 1 kV
- Gigabit Ethernet control interface
- USB Support

Switching | Simulation | Programmable Resistors | Custom Design | Connectivity & Cables

hkaco.com/pt10

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