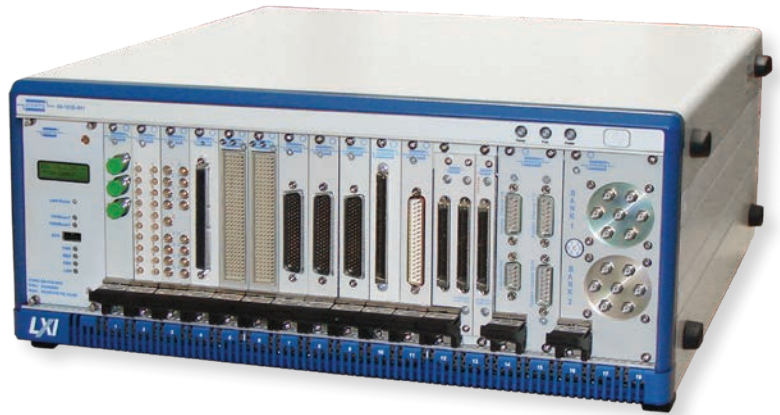


- Gigabit Ethernet Interface
- Accepts More Than 1000 Pickering Interfaces 3U PXI Switch and Simulation Modules
- Accepts most Pickering Interfaces 3U PXI Instrumentation Modules
- Applications From Simple Switching to RF, Microwave and Optical
- Front Panel IP Address Display
- Low Audible Operating Noise
- 3 Year Warranty



The 60-103B is compliant with the LXI Standard 1.4 and supports Pickering Interfaces 3U PXI switching and simulation modules as though they are an LXI compliant device, complete with a driverless soft front panel. The 60-103B supports up to 18 off 3U modules and is equivalent to a 19 slot PXI chassis.

The chassis allows all switching and simulation 3U PXI modules from Pickering and most† instrumentation products (such as digital I/O, attenuators, power supplies) to be installed and controlled through an Ethernet interface. It is supplied with a built-in generic IVI driver to control the modules in accordance with the LXI specification, but can also be controlled through a kernel driver.

Modules available for installation cover a large variety of functions including switches, matrices and multiplexers capable of switching μA up to 40A. RF, microwave and optical switches are supported as well as some instrument functions such as variable resistor modules. For more information on compatible PXI modules, please refer to the 60-103B User Manual.

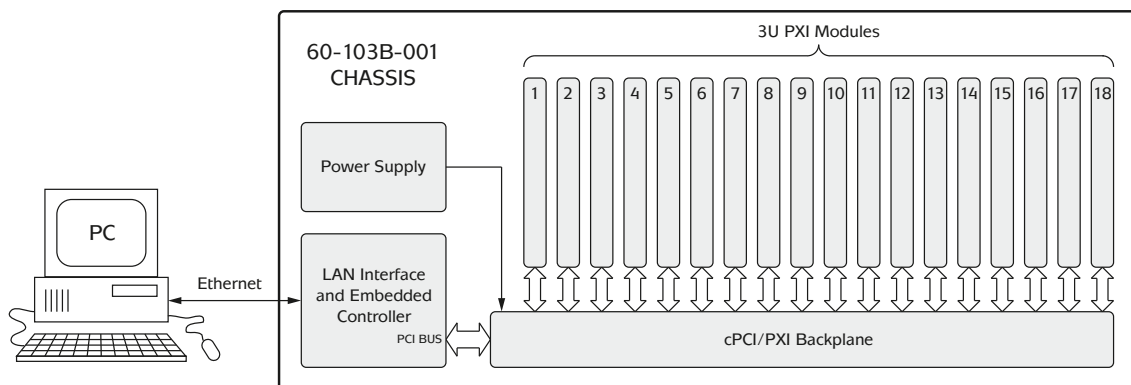
The Ethernet interface enables the chassis to be controlled through a LAN connection with a front panel display showing the IP address. The chassis allows the remote operation of switching modules over long distances including world wide networks. The separation of the chassis from the controller's PCI bus simplifies power-on sequencing of systems and provides independence from the migration of the Windows and VISA environment.

Pickering's Range of PXI & PXIe Chassis			
Chassis Type	Slots	Chassis Size	Model No.
PXI	8	4U Full Rack	40-908
PXI	14	4U Full Rack	40-914
PXI	19	4U Full Rack	40-923A
PXI	8	4U Half Rack	40-924
PXIe Hybrid (Gen 3)	8	4U Half Rack	42-924
PXIe Hybrid (Gen 3)	18	4U Full Rack	42-925
PXIe Hybrid (Gen 2)	18	4U Full Rack	42-926
PXI with LXI Control	7	4U Half Rack	60-102C
PXI with LXI Control	18	4U Full Rack	60-103B
PXI with LXI/USB Control	2	1U Half Rack	60-104
PXI with LXI/USB Control	4	2U Half Rack	60-105
PXI with LXI/USB Control	6	1U Full Rack	60-106

The compact 4U height of the 60-103B allows efficient use of rack space. Three fans ensure maximum module cooling and an efficient direct convection design allows operation over an extended temperature range.

The 60-103B can be configured over its LXI compliant interface using any standard web browser. The interface can be used to load soft front panels for the installed modules, so they can be manually accessed without the need for drivers on the controller.

† For the compatibility of Pickering's PXI modules other than switching or simulation functions, please check the module's data sheet.



Plugging Pickering Interfaces PXI modules into the 60-103B LXI Modular Switching Chassis provides an LXI compliant switching platform. A simple Ethernet lead is the only physical control connection required.

The screenshot shows the 'Instrument Home Page' for the LXI 60-103B chassis. The page has a navigation menu on the left with links: Home, LAN Configuration, Security, Instrument Control, Session Control, Instrument Identification, Diagnostics, System Monitoring, Documents & Drivers, and Help. The main content area displays a table of instrument details.

Instrument Home Page	
Instrument Model	60-103B-001
Manufacturer	Pickering Interfaces Ltd.
Serial Number	L290000
Description	Pickering 60-102B-001 - L290000
Extended Functions	None
LXI Version	1.4 LXI Core 2011
Hostname	P102B-290000.local
MAC Address	00:0C:C6:77:EF:1D
TCP/IP Address	192.168.10.160
Firmware Revision	4.01
Instrument Address String	TCPIP::192.168.10.160::INSTR

At the bottom right, it says 'Lan eXtensions for Instrumentation' with the LXI logo.

The home page for the 60-103B provides fast access to configuration information for the LXI chassis through any web browser.

The screenshot shows the 'Instrument Control' web page. It features a navigation menu on the left and a main content area titled 'Instrument Control'. The page includes a 'Java control applet' section with instructions: 'Use the Java control applet to control the cards in the chassis. In order for the panel to function, you must have Java installed on your system.' Below this, there are sections for 'Plugged cards' and 'Card info'. The 'Plugged cards' section lists two cards: 40-139-202 and 40-513-022. The 'Card info' section provides details for the selected card (40-513-022), including its type (MATRIX(24X4), serial number (261069), and status (Card is functional and stable). A control panel for the selected card is shown, featuring a grid of buttons and a status indicator. The bottom of the page mentions 'Sub-units in selected card: (1) Output - MATRIX(24X4)'.

The 60-103B provides soft front panels to enable manual operation through the web interface, in this example for a 40-513 matrix module.

The back window is the Instrument Control web page, the middle window lists all the modules installed in the chassis and the control panel for the selected module is at the front.

Specifications

Chassis Backplane:	64 bit backplane, compliant with cPCI/PXI specification. Provides trigger, local bus support (subject to module support).
Chassis Capacity:	18 off 3U user slots available.

PXI Module compatibility

The chassis is supplied with drivers for Pickering PXI (System 40) switching modules and selected instrument modules.	
Switching Support:	All of 3U Pickering Interface's PXI switching modules. Includes (but not limited to): All BRIC modules, reed relay solutions, EMR modules, RF and optical switches.
Instrumentation support:	Programmable resistor and potentiometer modules, RF attenuators, battery simulators, programmable power supplies and digital I/O modules.
Soft Front Panel:	All supported PXI modules can be controlled through a W3C compliant web browser (Internet Explorer, Firefox, Netscape and others).
For a selection guide on the range of modules capable of being hosted by the 60-103B chassis, please see the PXI Module Selection Guide in the LXI Product Guide. This is available as a download from the On-Line Catalogs section of our website: pickeringtest.com	

Power Supply

Input Voltage Range:	90 - 264VAC
Input Voltage Frequency:	47 to 63Hz
Input Current Rating	12A 115VAC or 6A 230VAC

Integrated power supply with the following capacity for the user modules:

DC Output	+3.3V	+5V	+12V	-12V
Max Current	42A	45A	15A	4.75A

Cooling

Airflow:	Bottom intake, top exhaust
Per-slot Cooling Capacity:	25W at 55°C ambient 40W at 40°C ambient
Fans:	3 off 185.9cfm fans

Monitoring

LXI Interface Status LEDs:	Power, Ready, Error, LAN, 100BaseT, 1000BaseT
Chassis Status LEDs:	Power, Temperature, Fan Speed
Web Page Monitoring:	Chassis air temperature, Backplane supply voltage levels, Fan speeds

LAN Interface

Designed to comply with the LXI Standard Version 1.4	
Connector:	RJ45 Connector.
Connection Speed:	1000BaseT interface

Other Connectors

Rear panel Diagnostics Port on 9 pin D connector, front panel Aux connection on USB style connector. Neither connection is intended for normal use, see manual for more information.
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Supporting Documentation

Manuals, drivers and a copy of the LXI Product Guide are stored internally and are accessible through any browser compliant with W3C standards
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Mechanical Specification

Dimensions:	Width: 444mm (17.48") Height: 178mm (7.01") Depth: 455mm (17.91") For rack mounting, recommended to be mounted in 5U to allow free bottom intake of air.
Weight:	13.8kg (30.4 lbs) without PXI modules

Operating/Storage Conditions

Operating Conditions

Operating Temperature:	0°C to +55°C
Humidity:	10% to 95% non-condensing

Storage and Transport Conditions

Storage Temperature:	-20°C to +70°C
Humidity:	10% to 90% non-condensing

Safety, CE & RoHS 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.

The 60-103B Chassis also complies with the European Restriction of Hazardous Substances directive (RoHS).

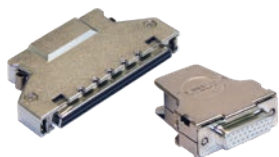
Product Order Codes

LXI Modular Chassis, 18-Slot	60-103B-001
Optional 19" rack mounting hardware*	63-103-001

* Please refer to the 60-103B User Manual for information on the optional chassis mounting hardware.

Connectivity Solutions

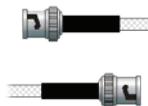
We provide a full range of supporting cable and connector solutions for all our switching products—20 connector families with 1200+ products. We offer everything from simple mating connectors to complex cables assemblies and terminal blocks. All assemblies are manufactured by Pickering and are guaranteed 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 Relay Division. 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 support is provided for LabVIEW Real Time Operating Systems (Pharlap and Linux-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++)
- **Programming Languages** C, C++, C#, Python
- **Keysight** VEE and OpenTAP
- **Mathworks** Matlab
- **Marvin** ATEasy
- **MTQ Testsolutions** Tecap Test & Measurement Suite

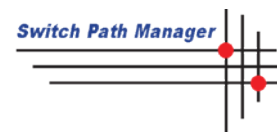
As well as various open source environments such as:

- **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 & 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 and white papers as well as application specific product brochures to assist when looking for the switching, simulation and connection 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