

- Fully Compliant LXI Interface (1.5)
- Ethernet 1000baseT Interface
- USB 3 Compatible
- Supports 1000+ Pickering PXI 3U Modules Including:
 - Programmable Resistors
 - Matrices
 - Multiplexers
 - General Purpose Relays
 - RF Switches
 - Fault Insertion
- Supports Six User Slots
- Built-In Scan List Sequence Stores With Triggering Capability
- Compact Full Rack Width 1U Form Factor
- 3 Year Warranty



The USB compatible and LXI compliant interfaces enable the chassis to be controlled directly through standard interfaces found on most personal computers, allowing for a very cost effective route into the modular test and measurement market.

The option of a Wi-Fi dongle is useful for control from mobile devices via HTML5 SFP.

The chassis can be controlled through built in software drivers. Chassis configuration and module control is possible through the W3C web page interface.

The 60-106 is powered from an internal AC mains supply.

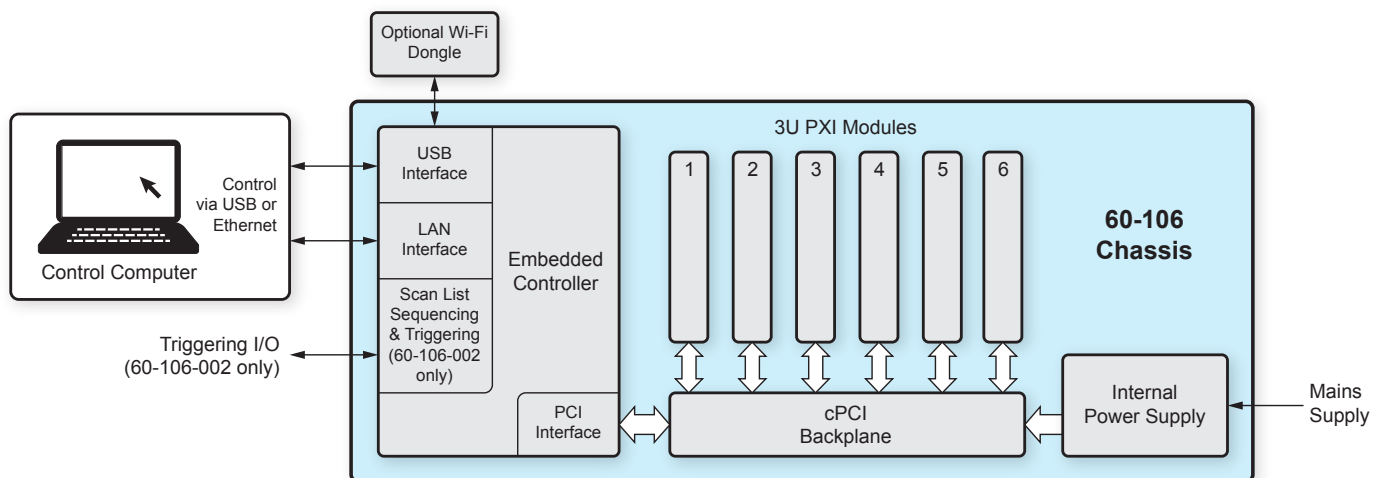
Pickering Interfaces' 60-106 modular chassis occupies only a small, 1U rack-height form factor, making it suitable for portable and space-restricted rack-mount applications. This chassis is also available with built-in scan list sequencing and triggering (model 60-106-002), see page three for more information.

The chassis supports from one to six Pickering PXI 3U modules; choose from over 1,000 module types including programmable resistors, matrices, multiplexers, general purpose relays, RF switches and fault insertion units.

Possible systems include switching matrices up to 3312 crosspoints (three 40-560 BRIC2 occupying three pairs of slots) or up to 108 channels of programmable resistor/sensor emulation (six 40-295 18-channel resistor modules occupying six slots).

For a list of compatible PXI modules, please refer to the 60-106 user manual.

Pickering's Range of PXI/LXI/USB Chassis		
Part Number	Description	Control Options
60-104-001	2-Slot LXI/USB Modular Chassis	LXI/USB
60-105-001	4-Slot LXI/USB Modular Chassis	LXI/USB
60-106-001	6-Slot LXI/USB Modular Chassis	LXI/USB
60-102B-001	7-Slot LXI Modular Switching Chassis	LXI
60-103B-001	18-Slot LXI Modular Switching Chassis	LXI
40-922A-001	8-Slot PXI Chassis	Remote interface / Embedded controller
40-923A-001	19-Slot PXI Chassis	Remote interface / Embedded controller



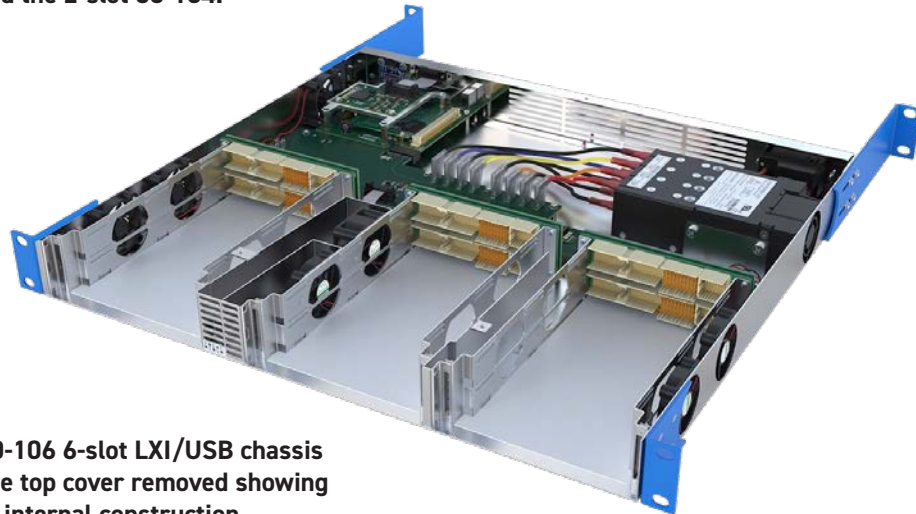
60-106 Modular Chassis Block Diagram

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The 60-106 is part of a family of LXI/USB chassis capable of supporting Pickering's range of 3U PXI modules. Shown here, along with the 6-slot 60-106, are the 4-slot 60-105 and the 2-slot 60-104.

The 60-106 LXI/USB chassis can be controlled via cable using the Ethernet or USB 3 interface. Alternatively, it can be controlled wirelessly using the optional WiFi dongle.



The 60-106 6-slot LXI/USB chassis with the top cover removed showing internal construction.



Rear view of the 60-106 LXI/USB chassis - the 60-106 is suitable for fitting into a 19 inch rack using the supplied front and rear mounting ears.

Sequencing Service and Triggering

The Sequencing service provides the user with the ability to set a series of pre-determined sequences on an LXI instrument. These sequences can be triggered by software or - for the 60-106-002 - by one of the sixteen software configurable open collector triggers.

As the operations are grouped together, it will minimize the number of control transactions required to achieve a composite change of target switch state, condensing multiple operations in a single sub unit into a single operation, thus reducing the overall system switch settling time. For example, if a user wants to operate X1-Y1, X4-Y1, X2-Y2, in the first sequence, only one operation, and one delay, will be used.

Additionally, as the switch state sequences are stored within the LXI controller itself, the burden on the Host CPU and Ethernet traffic is greatly reduced, so the overall system latency is reduced.

The 60-106-002 version features a software reset line which provides the ability for a user supplied reset to be applied to the unit, triggering a software reset of the relays, returning all relays in the unit to their default state. The 60-106-002 also has a software fault line available that will be triggered if there is any error detected within the unit. Please note that while these reset and fault lines use dedicated physical connections to the unit, they are software control lines and as such should not be used for safety interlocks etc.

Specifications

Chassis Backplane:	32-bit cPCI backplane, compatible with PXI.
Chassis Capacity:	6 off 3U user slots available.

PXI Module compatibility

The chassis is supplied with drivers for Pickering PXI modules.	
Switching Support:	All of Pickering's 1 & 2 slot 3U PXI switching modules. Includes (but not limited to): All 2-slot 3U BRIC matrices, featuring up to 3312 crosspoints.
Simulation support:	All programmable resistor & potentiometer modules offering up to 108 channels, RF attenuators, digital I/O and other simulation modules.

Power Supply

Input Voltage Range:	100 - 240Vrms
Input Voltage Frequency:	50 - 60Hz
Max Input Current Rating:	6.5A at 120Vrms

Cooling

Airflow:	Crossflow
Per-slot Cooling Capacity:	25W at 40°C ambient
Fans:	8 off 7.7 cfm fans

Acoustic Noise Emissions

With fans on maximum:	53dBA typical
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Slot Capacity (Per Slot)

+3.3V	+5V	+12V	-12V
6A	6A	1A	1A

NOTE: +3.3V and +5V can provide 6A simultaneously to a maximum of 4 slots or 24A distributed over all slots.

LAN Interface

Designed to comply with the LXI Standard Version 1.5	
Connector:	RJ45 Connector.
Connection Speed:	1000BaseT interface.

USB Interface

Designed to be compatible with USB3 (backwardly compatible with USB/USB2)	
Connector:	USB3 type B
Connection Speed:	400MBps

Mechanical Specification

Dimensions:	Width: 440mm (17.32")
	Height: 44.3mm (1.74")
	Depth: 400mm (15.75")
Weight:	5.6kg without PXI modules

Scan List Sequencing

Capable of storing 5000 predefined test sequences, loaded from the host Controller to the LXI unit at process initialization, with the ability to be triggered through software or from any of the sixteen software configurable triggers.

Triggering (60-106-002)

16x Software Configurable Bidirectional Open Collector Triggers
 1x Dedicated Software Reset Line
 1x Dedicated Software Fault Line

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 & RoHS 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.

The 60-106 Chassis also complies with the European Restriction of Hazardous Substances directive (RoHS).

Product Order Codes

LXI/USB Modular Switching Chassis, 6-Slot 60-106-001

LXI/USB Modular Switching Chassis, 6-Slot with Triggering 60-106-002

Accessories

Optional Wi-Fi Dongle 63-104-002

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.



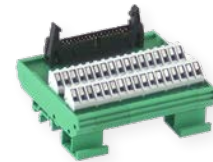
Connectors & Backshells



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**
- **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

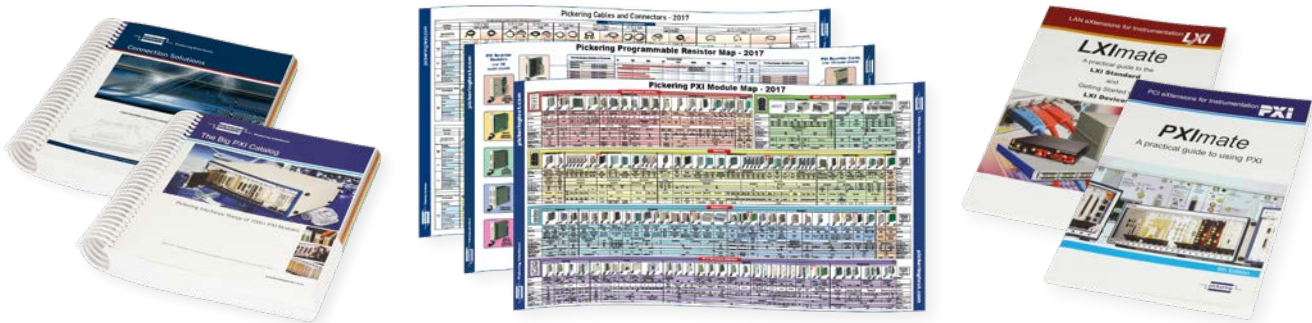


Three Year Warranty

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 for the PXI and LXI standards.



To view, download or request any of our product resources, please visit: pickeringtest.com/resources