- High Performance 8-Slot PXIe Backplane
- 7 Hybrid Compatible Slots
- Ultra-High Performance PCIe Switching With a Default Four-Link (4x4) System Slot
- High Data Bandwidth (Max. 4 GB/s Slot-to-Slot)
- Rear Panel External 10 MHz Clock Input/Output
- 600 W Industrial Grade Power Supply
- Compact Benchtop Footprint
- Low Profile 4U Rugged Design
- Remote Chassis Monitoring System
- Low Audible Operating Noise
- 3 Year Warranty
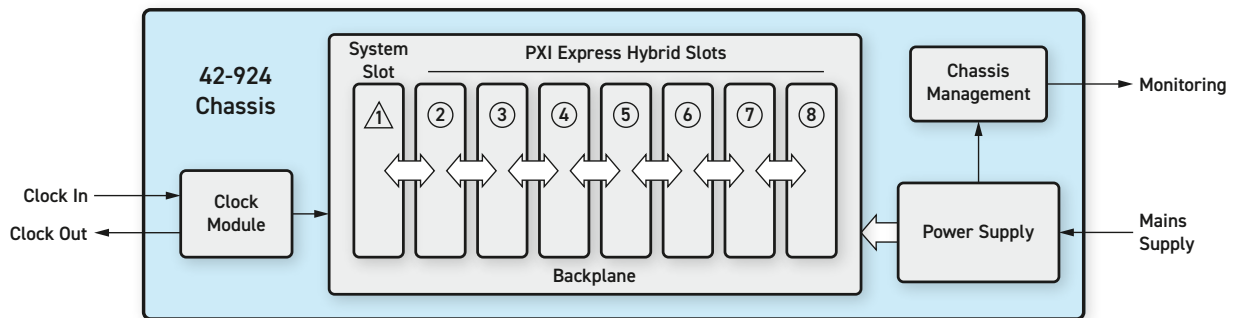
8-Slot Full Hybrid Chassis Overview (Part No. 42-924)

Rear of the Chassis Showing Cooling Air Outlets, Reference Clock Connectors, Monitoring Port and Power Connector

Pickering Interfaces' 42-924 PXIe Chassis provides seven hybrid-compatible slots for application flexibility. The chassis utilizes a single PCI segment with a dedicated PCIe-to-PCI bridge module for the hybrid slots. The PXI specific high accuracy clocks and trigger signals are generated and controlled by an independent clock module attached to the rear of the backplane.

The chassis is fitted with a 600 W industrial grade power supply mounted at the rear of the unit with sufficient capacity to support PXI modules with very high current demands.

An intelligent chassis management system monitors the power supply voltage, internal temperature and cooling fan speed. The current condition of the chassis can be monitored remotely via a port on the rear panel.

Two 80 mm fans insure maximum PXI module cooling and an efficient direct convection design allows the chassis to operate over an extended ambient temperature range of 0 °C to +50 °C.

Specifications

Number of Slots:	1 System slot with three expansion slots. 7 PXI Express Hybrid slots.
Bus Interface:	Four-link capacity PXI Express system slot. High data bandwidth (4 GB/s slot-to-slot) PXI-1 compatible with 32 bit / 33 MHz PCI bus.

Cooling

Airflow:	Front & bottom panel intake, rear exhaust.
Per-slot Cooling Capacity:	50 W per slot
Fans:	2 off 80 mm fans - 152.3 cfm

* Maximum per slot power dissipation at 50 °C with 15 °C temperature rise requires:
  Bottom air intake of the chassis is not blocked.
  If using on a bench the feet must be extended, If rack mounted, 1U rack space below is required.
  Module cooling can be affected by each module's resistance to airflow.

Power Supply

Input Voltage Range:	100 - 240 VAC full range
Input Frequency:	50 to 60 Hz

Supplied with a 600 W DC output power supply with the following total capacity:

DC Outputs	Max Current	Ripple
+3.3 V	25 A	±50 mV
+5 V	25 A	±50 mV
+5 V aux	1 A	±50 mV
+12 V	30 A	±100 mV
-12 V	2.5 A	±100 mV

Chassis Monitoring

Remote Interface:	Monitor port on rear panel

Frequency Standard

Source:	Either 10 MHz PXI compliant internal standard or external 10 MHz standard applied to rear panel BNC connector.

Mechanical Specification

Cardcage:	Front loading 3U x 160 mm, 8 slots, IEEE 1101.1, 1101.10 and 1101.11
Dimensions:	Width: 245.5 mm (9.67") Height: 177 mm (6.97") Depth: 315 mm (12.40")
Weight:	3.9 kg (8.6 lbs) without PXI modules

Power Consumption

System Status	Urms	Irms	Ptotal
IDLE - AC present - 5Vaux present	232.89 V	0.145 A	10.33 W
ON - Empty - Inhibit "MAN" - Fans "AUTO"	232.89 V	0.243 A	24.52 W
ON - Empty - Inhibit "MAN" - Fans "MAX"	232.29 V	0.305 A	37.99 W
IDLE - AC present - 5Vaux present	110.03 V	0.133 A	9.98 W
ON - Empty - Inhibit "MAN" - Fans "AUTO"	109.71 V	0.233 A	21.69 W
ON - Empty - Inhibit "MAN" - Fans "MAX"	110.23 V	0.354 A	35.75 W

Operating/Storage Conditions

Operating Conditions:
(operating with specified airflow)
Operating Temperature: 0 °C to +50 °C
Humidity: 20 % to 80 % non-condensing

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

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 42-924 Chassis also complies with the European Restriction of Hazardous Substances directive (RoHS).

Product Order Codes

8-Slot, PXIe Full Hybrid Chassis (Gen 3)	42-924-001

Accessories

Optional 19" rack mounting hardware*	63-924-001

* Please refer to the 42-924 User Manual for information.

The 42-924 is part of a range of PXI and PXIe Hybrid chassis which includes PXI chassis with an LXI or USB control interface.

Pickering's Range of PXI & PXIe Chassis			
Chassis Type	Number of 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
PXIe Hybrid (Gen 2)	21	4U Full Rack	42-927
PXI with LXI/USB Control	7	4U Half Rack	60-102D
PXI with LXI/USB Control	18	4U Full Rack	60-103D
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

PXI Switching and Sensor Simulation

Pickering is a leading manufacturer of PXI switching and sensor simulation modules, available in PXI and PXIe formats. With our deep portfolio of over 1,000 modules, we provide the assurance that you can optimize your test system switching and simulation to exactly fit your needs. These modules range from the highest density switching matrices, RF/Microwave and optical switching, to sensor simulation, including programmable resistors, strain gauge, battery and thermocouple simulators.

Please refer to the categories below and visit **pickeringtest.com/pxi** to find the products you need:

Sensor Simulation

- Programmable Resistors
- Thermocouple Simulators
- LVDT/RVDT/Resolver Simulators
- Analog Output/Current Loop Simulators
- Strain Gauge Simulators
- Digital I/O and Prototype
- Power Supply & Battery Simulators
- Amplifier & Attenuator
- Waveform Generator
- Switch Simulators

Switching

- General Purpose Relay
- BRIC™ Large Matrices
- Matrices
- Multiplexers
- RF & Microwave
- Fault Insertion
- USB, Comms, Avionics & Optical
- 6U Switching
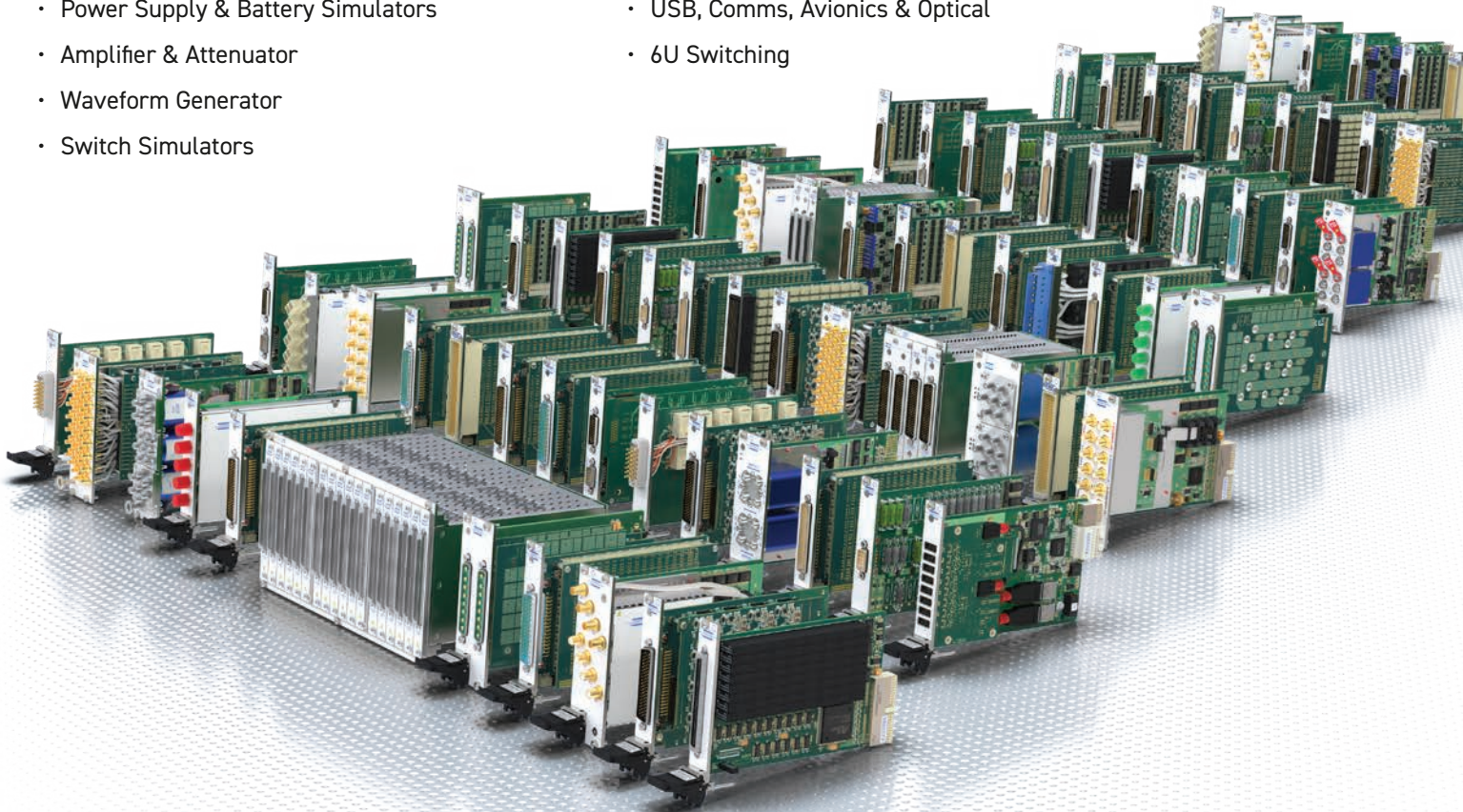
All of our PXI modules will plug into any PXI compliant chassis or a Hybrid Slot in a PXIe chassis and may also be used in our Ethernet controlled modular LXI switching chassis. Our PXIe modules will plug into any compliant PXIe slot or Hybrid Slot in a PXIe chassis.
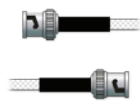
Connectivity Solutions

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. These accessories are detailed in Connector Accessories data sheets, where a complete list and documentation can be found for each accessory.

| Connectors & Backshells	Multi-way Cable Assemblies	RF Cable Assemblies	Breakouts	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.

- Fully supported on modern browsers and tablet operating systems.
- Built-in tutorials and videos allow you to get quickly up to speed.
- Store cable assemblies in the Cloud and develop over time.
- Each cable design has a downloadable PDF documentation file detailing all specifications
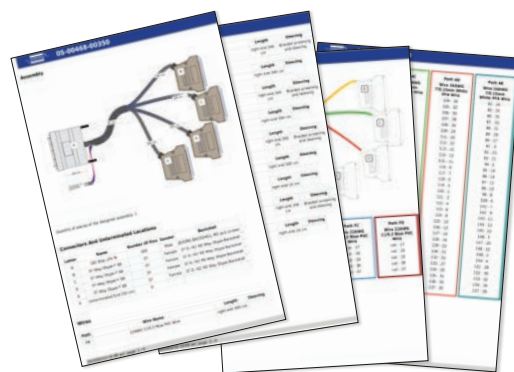
Start designing your custom cabling, go to pickeringtest.com/cdt

Mass Interconnect

We recommend the use of a mass interconnect solution when an Interchangeable Test Adapter (ITA) is required for PXI/LXI based test systems. Our modules are fully supported by 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 go to pickeringrelay.com
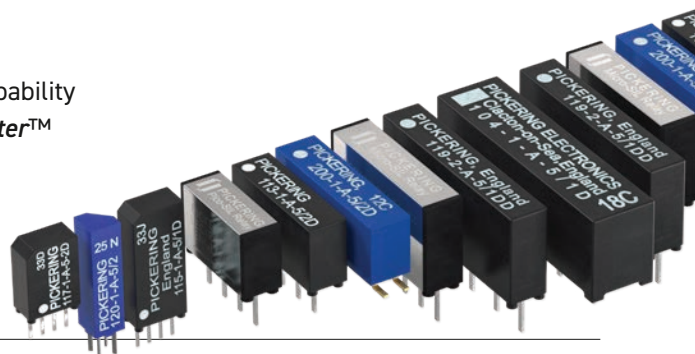
Programming

Pickering provide kernel, IVI and VISA (NI & Keysight) drivers which are compatible with all Microsoft supported versions of Windows and popular older versions.

For more information go to 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, Simulink**
- **Marvin** ATEasy
- **MTQ Testsolutions** Tecap Test & Measurement Suite

Drivers for popular Linux distributions are available, other environments are also supported, please contact Pickering with specific enquiries. We provide Soft Front Panels (SFPs) for our products for familiarity and manual control, as well as comprehensive documentation and example programs to help you develop test routines with ease.

To learn more about software drivers and development environments 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 go to pickeringtest.com/spm
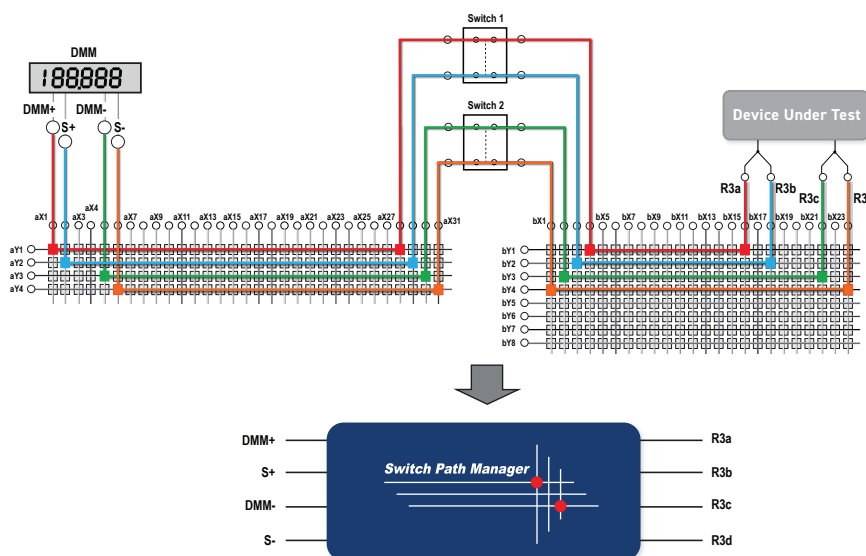
Diagnostic Relay Test Tools

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 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 three years from the date of delivery to the original purchaser. Extended warranty and service agreements are available with various levels for 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 go to pickeringtest.com/support

Available Product Resources

We have a library of resources including success stories, product and support videos, articles and white papers as well as application-specific brochures to assist you. We have also published reference books on switching technology and the PXI and LXI standards.

To view, download or request any of our product resources go to pickeringtest.com/resources