

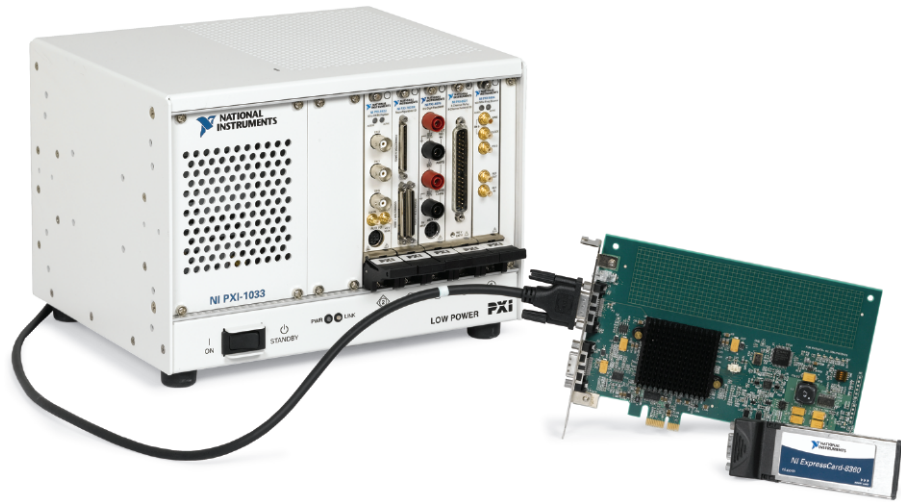
PXI Chassis with Integrated MXI-Express Remote Controller

NI PXI-1033 Series

- Low-cost chassis for remote control applications
- Controlled from either a PCI Express desktop host or an ExpressCard laptop host
- MXI-Express remote controller achieves up to 110 MB/s sustained throughput
- Rugged, compact package accepts up to 5 peripheral modules
- Acoustic noise as low as 38 dBA
- Accepts both 3U PXI and CompactPCI modules

Options

- Compatible with all PXI-103x family accessories
 - Rack-mount kit
 - Handle and feet kit



Overview

The National Instruments PXI-1033 Series chassis kits consist of a low-cost chassis designed with an integrated controller for remote control applications, either a host PCI Express board for desktops or a host ExpressCard for laptops, and a cable. The NI PXI-1033 Series reduces the already low entry cost of a PXI system by 50 percent when compared to a PXI-1031 4-slot chassis and MXI-Express controller. With an integrated MXI-Express controller in the chassis, the PXI-1033 provides a transparent, remote link with up to 110 MB/s sustained throughput. It offers five peripheral slots for I/O modules and features compact, rugged packaging as well as quiet operation, which makes it ideal for both portable and desktop ATE systems. The low cost and high performance of the PXI-1033 Series meet application needs in a variety of industries including automotive, ATE, and electronics.

Low-Cost PXI Remote Control System

A PXI-1033 chassis kit lowers the PXI setup cost by 50 percent when compared to 4-slot PXI-1031 chassis with a MXI-4 Express kit. With this low-cost PXI entry point, engineers can control up to five PXI/CompactPCI modules across a remote link that offers 110 MB/s of sustained bandwidth – more than a 40 percent increase compared to MXI-4 PCI remote control of PXI.

Lightweight, Portable System

The PXI-1033 chassis includes an integrated remote controller and five peripheral slots. The compact, rugged, and portable chassis weighs less than 12 lb and is small for portability. It features an operating temperature range of 0 to 50 °C.

Quiet Acoustic Emissions for Improved Development Environment

The PXI-1033 chassis offers an AUTO/HIGH fan-speed selector that provides a HIGH fan setting to maximize cooling and AUTO fan setting to minimize acoustic emissions. When set in AUTO, the PXI-1033 chassis monitors air intake temperature and adjusts fan speed accordingly. Table 1 shows PXI-1033 acoustic emissions.

Sound Pressure Level ¹ (dBA) (measured at operator interface)	
Auto Fan (25 °C ambient)	37.4
High Fan	51.5

¹Tested in accordance with ISO 7779

Table 1. PXI-1033 Acoustic Emissions

PXI Chassis with Integrated MXI-Express Remote Controller

Ordering Information

For online configuration of a complete PXI system, including chassis, modules, and all accessories, visit ni.com/pxiadvisor.

Step 1. Select the chassis/host.

Chassis for PCI Express host

NI PXI-1033 with	
3 m cable	779756-01
No cable	779757-01

Chassis for ExpressCard host

NI PXI-1033 with	
3 m cable	779758-01
No cable	779759-01
Chassis only (no host card or cable)	779760-01

Step 2. Select additional cables, if necessary.

MXI-Express Cable

1 m	779500-01
3 m	779500-03
7 m	779500-07

Step 3. Select one or more power cords.

AC Power Cords

U.S. 120 VAC	763000-01
Japanese 100 VAC	763000-01
United Kingdom 240 VAC.....	763064-01
Swiss 220 VAC	763065-01
Australian 240 VAC	763066-01
Universal Euro 240 VAC	763067-01
North American 240 VAC.....	763068-01

Step 4. Select additional accessories.

PXI-103x rack-mount kit	778948-01
PXI filler-panel kit for chassis ¹	778933-01
PXI-103x side-handle and rubber-feet kit	778949-01
PXI chassis slot-blocker kit (2 single-slot blockers)	778678-01

¹Every PXI-1033 includes four single filler panels.

Step 5. Select system setup and installation services.

Receive this system with software installed and an additional one-year warranty on all components. Order through Factory Installation Services. PXI 4 and 6-Slot FIS and Extended Warranty

960597-04

BUY NOW!

For complete product specifications, pricing, and accessory information, call (800) 813 3693 (U.S. only) or go to ni.com/pxi.

PXI Chassis with Integrated MXI-Express Remote Controller

Specifications

Complies with PXI Hardware Specification, Revision 2.2. Accepts modules compliant with CompactPCI and PICMG.

Electrical

AC Input

Input voltage range.....	100 to 240 VAC
Operating voltage range ¹	90 to 264 VAC
Input frequency.....	50/60 Hz
Operating frequency range ¹	47 to 63 Hz
Input current rating.....	4 to 2 A
Efficiency.....	>70% at full load, normal input voltage
Power disconnect.....	The AC power cable provides main power disconnect. The front-panel power switch controls the internal chassis power supply that provides DC power to the PCI/CompactPCI backplane.

¹The operating range is guaranteed by design.

DC Output

Voltage (V)	Current (A) 0 to 50 °C
+3.3	10
+5	15
+12	2.5
-12	0.8

DC current capacity (I_{MP})

Overcurrent protection..... All outputs protected from short circuit and overload

Low-Power Compliance

The PXI-1033 is designed for portable applications and surpasses the power requirements outlined in the PXI specification for low-power chassis. As a result, depending on some of the modules used, power budgeting may be required.

Nominal Voltage (V)	Active Range (V)	
	Minimum	Maximum
+3.3	3.76	4.3
+5	5.74	7.0
+12	13.4	15.6

Overvoltage Protection

Chassis Cooling

Per-slot cooling capacity.....	25 W
Slot airflow direction.....	P1 to P2, bottom of module to top of module
Module cooling system.....	Forced air circulation (positive pressurization) through a High Flow fan with HIGH/AUTO speed selector
Intake.....	Bottom of chassis
Exhaust.....	Along rear, right side, and top of chassis
Power supply cooling	
System.....	Forced air circulation through integrated fan
Intake.....	Front side of chassis
Exhaust.....	Rear side of chassis

Environmental

Maximum altitude.....	2,000 m (800 mb) (at 25 °C ambient)
Measurement Category.....	II
Pollution Degree.....	2
For indoor use only.	

PXI Chassis with Integrated MXI-Express Remote Controller

Operating Environment

Ambient temperature.....	0 to 50 °C (tested in accordance with IEC-60068-2-1 and IEC-60068-2-2; meets MIL-PRF-28800F Class 3 low temperature limit and high temperature limit)
Relative humidity.....	20 to 80%, noncondensing (tested in accordance with IEC-60068-2-56)

Storage Environment

Ambient temperature.....	-40 to 85 °C (tested in accordance with IEC-60068-2-1 and IEC-60068-2-2; meets MIL-PRF-28800F Class 3 limits)
Relative humidity.....	10 to 95%, noncondensing (tested in accordance with IEC-60068-2-56)

Backplane

Size	3U-sized; integrated controller and 5 peripheral slots. Compliant with IEEE 1101.10 mechanical packaging. Compliant with PXI Hardware Specification, Revision 2.2. Accepts both PXI and CompactPCI 3U modules.
V(I/O) ¹	+5 V
Backplane bare-board material	UL 94 V-0 recognized
Backplane connectors.....	Conform to IEC 917 and IEC 1076-4-101, and are UL 94 V-0 rated

¹ V(I/O) is connected to the +5 V DC power plane, so the same specifications apply to V(I/O) and +5 V.

10 MHz System Reference Clock (10 MHz REF)

Maximum clock skew between slots.....	250 ps
Built-in 10 MHz clock accuracy	±25 ppm (guaranteed over the operating temperature range)
External clock source	
Connectors.....	Slot 2 J2 (pin D17)
Input frequency.....	10 MHz ±100 ppm
Input amplitude	5 or 3.3 V TTL signal

Mechanical

Overall dimensions (standard chassis)	
Height.....	177 mm (6.97 in.)
Note: 12.7 mm (0.50 in.) is added to height when feet are installed.	
Width	257.1 mm (10.12 in.)
Depth.....	212.8 mm (8.38 in.)
Weight.....	5 kg (11.0 lb)
Chassis materials.....	Sheet aluminum, extruded aluminum, cold-rolled steel, nylon
Finish	Clear chromate conversion coat on aluminum; electrodeposited nickel plate on steel, polyester urethane powder paint

Shock and Vibration

Operational shock.....	20 g peak, half-sine, 11 ms pulse (tested in accordance with IEC-60068-2-27; meets MIL-PRF-28800F Class 2 limits)
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Random Vibration

Operating	5 to 500 Hz, 0.3 g _{rms}
Nonoperating	5 to 500 Hz, 2.4 g _{rms} (tested in accordance with IEC-60068-2-64; nonoperating test profile exceeds the requirements of MIL-PRF-28800F, Class 3)

Acoustic Emissions

Sound Pressure Level (at operator's position)

PXI-1033	
Auto fan (at 25 °C ambient).....	37.4 dBA
High fan	51.5 dBA
	(tested in accordance with ISO 7779; meets MIL-PRF-28800F requirements)

PXI Chassis with Integrated MXI-Express Remote Controller

Sound Power

PXI-1033

Auto fan (at 25 °C ambient).....	43.8 dBA
High fan	60.9 dBA

(tested in accordance with ISO 7779)

Safety and Compliance

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- EN 61010-1, IEC 61010-1
- UL 61010-1, CAN/CSA-C22.2 No. 61010-1

Note: For UL and other safety certifications, refer to the product label, or visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

This product is designed to meet the requirements of the following standards of EMC for electrical equipment for measurement, control, and laboratory use:

- EN 61326 EMC requirements; Minimum Immunity
- EN 55011 Emissions; Group 1, Class A
- CE, C-Tick, ICES, and FCC Part 15 Emissions; Class A

Note: For EMC compliance, operate this device according to printed documentation.

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

- 73/23/EEC; Low-Voltage Directive (safety)
- 89/336/EEC; Electromagnetic Compatibility Directive (EMC)

Note: Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Waste Electrical and Electronic Equipment (WEEE)

EU Customers: At the end of their life cycle, all products must be sent to a WEEE recycling center. For more information about WEEE recycling centers and National Instruments WEEE initiatives, visit ni.com/environment/weee.htm.

NI Services and Support



NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing. Visit ni.com/services.

Training and Certification

NI training is the fastest, most certain route to productivity with our products. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application life cycle. We schedule instructor-led courses in cities worldwide, or we can hold a course at your facility. We also offer a professional certification program that identifies individuals who have high levels of skill and knowledge on using NI products. Visit ni.com/training.

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Our Professional Services Team is composed of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 600 independent consultants and

integrators. Services range from start-up assistance to turnkey system integration.

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OEM Support

We offer design-in consulting and product integration assistance if you want to use our products for OEM applications. For information about special pricing and services for OEM customers, visit ni.com/oem.

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In offices worldwide, our staff is local to the country, giving you access to engineers who speak your language. NI delivers industry-leading technical support through online knowledge bases, our applications engineers, and access to 14,000 measurement and automation professionals within NI Developer Exchange forums. Find immediate answers to your questions at ni.com/support.

We also offer service programs that provide automatic upgrades to your application development environment and higher levels of technical support. Visit ni.com/ssp.

Hardware Services

NI Factory Installation Services

NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with ni.com/pxiadvisor.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit ni.com/calibration.

Repair and Extended Warranty

NI provides complete repair services for our products. Express repair and advance replacement services are also available. We offer extended warranties to help you meet project life-cycle requirements. Visit ni.com/services.



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