PXI Express Data Streaming Systems

NI 8262, NI HDD-8263, NI HDD-8264

- NI 8262 x4 cabled PCI Express module for PXI Express
- HDD-8264 external RAID enclosure
  - Twelve 250 GB 3.5 in. SATA II hard drives
  - 3 TB total storage
  - 600 MB/s reading and writing (sustainable for 2 TB)
  - 2U height in a 19 in. rack
- HDD-8263 external RAID enclosure
  - Four 250 GB 3.5 in. SATA II hard drives
  - 1 TB total storage
  - 200 MB/s reading and writing (sustainable for 800 GB)
  - 1U height in a 19 in. rack
- Complete rack-mount kit included
- Universal AC power supply

Operating Systems

- Windows Vista/XP



Overview

The NI 8262 is a x4 cabled PCI Express module for use in PXI Express systems. The NI HDD-8264 is a 2U 12-drive external hard drive enclosure with 3 TB of capacity, and the NI HDD-8263 is a 1U four-drive external hard drive enclosure with 1 TB of SATA hard drive capacity. Both enclosures include a hardware RAID controller and x4 cabled PCI Express link. You can cable the NI 8262 module to either enclosure for high-speed, long-duration recording and playback with PXI Express.

Hardware

PXI Express data streaming systems consist of an NI 8262 module in a PXI Express peripheral slot of a PXI Express chassis cabled, via a x4 cabled PCI Express cable, to either an HDD-8264 or HDD-8263 external hard drive enclosure. Each enclosure includes a hardware RAID controller and a set of 250 GB SATA II hard drives. The RAID 0 configuration, or striping without parity, provides the highest performance for streaming data to and from disk as it distributes data evenly across a set of hard drives. The HDD-8264 includes twelve 250 GB 3.5 in. SATA II hard drives, and the HDD-8263 includes four 250 GB 3.5 in. SATA II hard drives.

Theory of Operation

After installing the provided driver software, you can configure the HDD-8264 and HDD-8263 hard drives in various RAID configurations and volumes during system boot. The HDD-8264, because of the 2 TB logical drive limitation of 32-bit operating systems, is delivered as two RAID 0 volumes of 2 TB and 1 TB, and the HDD-8263 is delivered as a single RAID 0 volume of 1 TB. In Windows, you can assign these volumes logical drive letters. You can then access them as standard hard drives in Windows and programmatically access them using standard file I/O application programming interfaces (APIs) in development environments.

Streaming Performance

RAID 0 provides the highest standard RAID performance for streaming data to and from disk because data is evenly distributed among all of the hard drives in the array. However, the streaming performance of a hard drive array is not consistent across the entire storage capacity because hard drive streaming performance is highest at the outer rim of the drives and decreases as the drive heads approach the inner rims. Thus, using standard RAID configurations, the same level of streaming performance is not possible across the entire RAID volume. The HDD-8264, configured as RAID 0, can sustain reading and writing at 600 MB/s for 2 TB. The HDD-8263, configured as RAID 0, can sustain reading and writing at 200 MB/s for 800 GB.



An NI 8262 Module Cabeled to an HDD-8263 External RAID Enclosure

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Ordering Information

NI 8262 for PXI Express.....780064-01

Enclosures

NI HDD-8263 4-Drive, 1 TB, 1U 780065-01

NI HDD-8264 12-Drive, 3 TB, 2U 780066-01

Cables

x4 Cabled PCI Express, 3 m 779725-03

x4 Cabled PCI Express, 7 m 779725-07

Additional Power Cords[1]

North American 240 VAC 763068-01

Japanese 100 VAC 763634-01

United Kingdom 240 VAC.....763064-01

Swiss 220 VAC 763065-01

Australian 240 VAC 763066-01

Universal Euro 240 VAC 763067-01

[1]U.S. 120 VAC power cord included

BUY NOW!

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

Specifications

Specification subject to change without notice.

NI 8262

Physical

Board dimensions	100 by 175 mm (3.9 by 6.9 in.)
Slot requirements	One 3U CompactPCI Express or PXI Express peripheral slot
Maximum cable length	7 m
Compatibility	Fully compatible with the CompactPCI Express Specification EXP.0 R1.0

Environmental

Maximum altitude	2,000 m
Ambient temperature	
Operating	0 to 55 °C
Storage	-40 to 71 °C
Relative humidity	
Operating	10 to 90%, noncondensing
Storage	5 to 95%, noncondensing
Operating location	Indoor use only
Pollution degree	2

HDD-8263 and HDD-8264

Electrical

Input	
HDD-8263	100 to 240 VAC, 50 to 60 Hz, 6-3 A maximum
HDD-8264	100 to 240 VAC, 50 to 60 Hz, 7-3.5 A maximum
Power switch	Rear of product

Hard Drives and RAID Controller

HDD-8263	
Hard drives	Four 250 GB (minimum) 3.5 in. SATA II
Total storage	1 TB
Supported RAID levels	RAID 0, 1, 5, 10, and JBOD
Default RAID configuration.	Delivered as a single RAID 0 volume (1 TB)
Benchmarks	200 MB/s reading and writing with RAID 0 (sustainable for 800 GB)
HDD-8264	
Hard drives	Twelve 250 GB (minimum) 3.5 in. SATA II
Total storage	3 TB[1]
Supported RAID levels	RAID 0[2]
Default RAID configuration	Delivered as two RAID 0 volumes (2 TB and 1 TB)
Benchmarks	600 MB/s reading and writing with RAID 0 (sustainable for 2 TB)

[1]32-bit operating systems limit a single logical drive to 2 TB. You can configure the HDD-8264 total storage capacity of 3 TB as two or more logical drives (2 TB and 1 TB logical drives, three 1 TB logical drives, and so on).

[2]Contact National Instruments for other RAID configurations.

Mechanical

HDD-8263	
Overall dimensions	1U by 440 by 511 mm (1U by 17.3 by 20.1 in.)
Weight	11.4 kg (25.2 lb) typical
HDD-8264	
Overall dimensions	2U by 440 by 508 mm (2U by 17.3 by 20.0 in.)
Weight	20.4 kg (45.0 lb) typical

Environmental

Maximum altitude	2,000 m
Ambient temperature	
Operating	0 to 40 °C
Storage	-20 to 70 °C
Relative humidity	
Operating	10 to 90%, noncondensing
Storage	5 to 95%, noncondensing
Operating location	Indoor use only
Pollution degree	2

Safety and Compliance

Safety

This product is designed to meet the requirements of the following standards of safety for information technology equipment:

- IEC 60950-1, EN 60950-1
- UL 60950-1, CSA 60950-1

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 55024: 1998/A1:2001
- EN 55022: 1994/A1:1996/A2:1997
- CE, C-Tick, ICES, and FCC Part 15 Emissions; Class A

Note: For EMC compliance, operate this device according to product 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**.

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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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