PXIe-8267 Getting Started





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Overview

This document explains how to install and configure the PXIe-8267. For more information about configuring, using, and maintaining the PXIe-8267, refer to <u>ni.com</u>.



Note The standard NI warranty does not apply to the PXIe-8267. To view warranty and services information for the PXIe-8267, go to <u>ni.com/info</u> and enter the Info Code <code>raidsupport</code>.

Note The PXIe-8267 requires a chassis with slot cooling capacity \geq 58 W.

Installation and Configuration

This section explains how to unpack, install, and configure the PXIe-8267 hardware and software.

What You Need to Get Started

The PXIe-8267 kit contains the following items:

- PXIe-8267 module
- PXIe-8267 documentation

Note The device kit does not include driver media. Refer to the <u>Software/</u> <u>Driver Installation</u> section for information about installing the drivers.

Unpacking



Note To prevent electrostatic discharge (ESD) from damaging the device, ground yourself using a grounding strap or by holding a grounded object, such as your computer chassis.

- 1. Carefully inspect the shipping container and the PXIe-8267 for damage.
- 2. Check for visible damage to the metal work.



Note Never touch the exposed pins of connectors.



Note Do not install a device if it appears damaged in any way.

3. Check to make sure all hardware is undamaged. If damage appears to have been caused during shipment, file a claim with the carrier. Retain the packing material for possible inspection and/or reshipment.

4. Unpack any other items and documentation from the kit.

Preparing the Environment

Ensure the environment in which you are using the PXIe-8267 meets the following specifications.

Temperature									
Operating) °C to 55 °C ¹ (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2. Meets MIL- PRF-28800F Class 3 low temperature limit and MIL-PRF-28800F Class 2 high temperature imit.)								
Storage ²	-40 °C to 71 °C (Tested in accordance PRF-28800F Class 3 limits.)	-40 °C to 71 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2; meets MIL- PRF-28800F Class 3 limits.)							
Humidity									
Operating	10% to 90% noncondensing (Tester	d in accordance with IEC-60068-2-78.)							
Storage	5% to 95% noncondensing (Tested	in accordance with IEC-60068-2-78.)							
Pollution D	egree	2							
Maximum a	altitude	2,000 m (800 mbar)							

- 1. The PXIe-8267 requires a chassis with slot cooling capacity ≥58 W. Not all chassis with slot cooling capacity ≥58 W can achieve this ambient temperature range. Refer to the <u>PXI Chassis Manual</u> for specifications to determine the ambient temperature ranges your chassis can achieve.
- 2. Drive utilization and storage temperatures will have an impact on unpowered data retention. Visit <u>ni.com/info</u> and enter the Info Code ssdtemp for more information about the impact of temperature on drive endurance.

Indoor use only.

Note For complete specifications, refer to the *PXIe-8267 Specifications* at <u>ni.com/manuals</u>.

Note For more information about thermal considerations, go to <u>ni.com/info</u> and enter the Info Code <code>raidsupport</code>.

Hardware Installation



Note Before you begin, install and configure your chassis and controller.

Caution To protect both yourself and the chassis from electrical hazards, leave the chassis off until you finish installing the PXIe-8267.

Attention Pour vous protéger, et protéger le châssis, contre les risques électriques, laissez le châssis éteint tant que vous n'avez pas terminé l'installation du PXIe-8267.

- 1. Power off your PXI Express chassis, but leave it plugged in while installing the PXIe-8267. The power cord grounds the chassis and protects it from electrical damage while you install the module.
- 2. Locate an available PXI Express slot in the chassis. Do not install the PXIe-8267 in the controller slot (slot 1 in a PXI Express chassis).
- 3. Remove or open any doors or covers blocking access to the slot in which you intend to install the PXIe-8267.
- 4. Touch the metal part of the case to discharge any static electricity that might be on your clothes or body.
- 5. Make sure the injector/ejector handle is in its downward position. Be sure to remove all connector packaging and protective caps from retaining screws on the module. Align the PXIe-8267 with the card guides on the top and bottom of the

selected slot.

Note Do not raise the injector/ejector handle as you insert the PXIe-8267. It will not insert properly unless the handle is in its downward position so that it does not interfere with the injector/ejector rail on the chassis.

- 6. Hold the handle as you slowly slide the module into the chassis until the handle catches on the injector/ejector rail.
- 7. Raise the injector/ejector handle until the module firmly seats into the backplane receptacle connectors. The front panel of the PXIe-8267 should be even with the front panel of the chassis.
- 8. Tighten the bracket-retaining screws on the top and bottom of the front panel to secure the PXIe-8267 to the chassis.
- 9. Replace or close any doors or covers to the chassis.

LED Indicators

The following table describes the PXIe-8267 front panel LEDs.

LED	Color	Meaning
Pwr/Fault	Off	Power is off
	Blinking red	Power is out of spec
	Green	Power is on
Drive 1 through Drive 4	Off ³	No drive activity
	Blinking green	Drive activity
	Green	No drive activity

Software/Driver Installation

The PXIe-8267 does not include interface software to configure the RAID. You must use

3. Drive manufacturers define the optional drive activity signal in different ways. Some manufacturers unassert the activity signal when there is no drive activity, with LEDs off, while others assert the signal, with LEDs on.

the Disk Management Utility in Windows to manage the software RAID.

Note The PXIe-8267 supports only Windows 10 (64-bit).

Note Refer to the drive manufacturer's website for information regarding monitoring drive temperatures.

No driver is necessary to configure the drives. The Standard Microsoft NVME driver is pre-installed in Windows 10.

RAID Creation

To configure the software RAID on the PXIe-8267, complete the following steps.

Note Back up your data before you configure the software RAID.

Note In the following steps, the disk drive capacities in the images are examples. You may see different capacities depending on your disk drives.

- 1. Right-click My Computer and click Manage.
- 2. Click **Disk Management** in the left window. You should see four disk drives of the same size in basic mode. If the disks do not have a status of **Unallocated**, right-click any disk and select **Delete Partition**.
- 3. Right-click any disk and select New Striped Volume, then click Next.

📅 Disk Managem	ient						_		×
File Action Vi	ew Help								
	🖬 🗩 🗙	🛃 🔒 🍃 🖾]						
Volume	Layout	Туре	File System	Status	Capacity	Free Spa	% Free		
🕳 (Disk 0 partition	1) Simple	Basic		Healthy (E	100 MB	100 MB	100 %		
(Disk 0 partition)	5) Simple	Basic	NITES	Healthy (P	12.40 GB	12.40 GB	100 %		
Windows (C:)	Simple	Basic	NTES	Healthy (D	900 MB	516 MB	57%		
	un pre								
Disk 0									^
Basic		Windows (C:)		Wir	RE				
372.60 GB Online	100 MB	359.22 GB NTFS) Daga Fila, Crash	900	MB NTFS	12.40 GB		~	
onnic	Healthy (EFI)	Healthy (boot,	rage rile, Crash	Dump, The	itiny (OEIVI Parti	Freditry (Prin	lary Partition	ny	
				P		1			_
Disk 1 Basic 953.85 GB Online	953.85 GB Unallocated								
= Disk 2									
Basic 953.85 GB Online	953.85 GB Unallocated								
-Disk 3									
Basic 953.85 GB Online	953.85 GB Unallocated								
- Disk 4									
Basic 953.85 GB Online	953.85 GB Unallocated								
Unallocated	Primary partition	n							

4. Click **Add** until all available disks are moved to the **Selected** window and click **Next**.

New Striped Volume	×
Select Disks You can select the disks and set the disk size for this vo	plume.
Select the disks you want to use, and then click Add.	
Available:	Selected:
Add > <remove <remove="" all<="" th=""><th>Disk 1 976745 MB Disk 2 976745 MB Disk 3 976745 MB Disk 4 976745 MB</th></remove>	Disk 1 976745 MB Disk 2 976745 MB Disk 3 976745 MB Disk 4 976745 MB
Total volume size in megabytes (MB):	3906980
Maximum available space in MB:	976745
Select the amount of space in MB:	976745
< Back	Next > Cancel

5. Assign a drive letter and click Next.

New Striped Volume	×
Assign Drive Letter or Path For easier access, you can assign a drive letter or drive path to your volume.	
 Assign the following drive letter: Mount in the following empty NTFS folder: Browse Do not assign a drive letter or drive path 	
< <u>B</u> ack <u>N</u> ext > Can	cel

6. Configure the Format Volume page as shown in the following figure and click Next.

New Striped Volume	—								
Format Volume To store data on this volume, you	ı must format it first.								
Choose whether you want to format this volume, and if so, what settings you want to use.									
○ Do not format this volume									
Egrmat this volume with the	e following settings:								
<u>F</u> ile system:	NTFS -								
<u>A</u> llocation unit size:	Default								
⊻olume label:	New Volume								
📝 <u>P</u> erform a quick form	nat								
Enable file and folde	er compression								
	< <u>B</u> ack <u>N</u> ext > Cancel								

7. Click **Finish** to close the New Striped Volume Wizard.

New Striped Volume	
	Completing the New Striped Volume Wizard
	You have successfully completed the Wizard.
	You selected the following settings: Volume type: Striped Disks selected: Disk 1, Disk 2, Disk 3, Disk 4, Disk 5, D Volume size: 2746398 MB Drive letter or path: D: File system: NTFS Allocation unit size: Default Volume label: New Volume To close this wizard, click Finish.
	< <u>B</u> ack Finish Cancel

8. If the disks were configured in basic mode, click Yes in the Disk Management dialog

box to convert them to dynamic mode.

Note You must convert all disks that you want to include in the RAID array to dynamic mode.



Moving the PXIe-8267 to a Different System

Complete the following steps to move your PXIe-8267 to a different system or chassis with a different controller.



Note The following steps apply only if the PXIe-8267 you are moving to a different system is in software RAID mode.



1. When the system boots, go into **Disk Management**. You will see four dynamic disks with yellow caution icons. Right-click any disk with a caution icon and select **Import Foreign Disks**.

📕 Computer Management										
🗐 File Action View Window H	elp									
	l									
Computer Management (Local) System Tools Difference Devent Viewer System Collever and Groups System Performance Logs and Alerts Device Manager Storage Removable Storage	Volume ACRONIS SVC WINDOWS (C:)	Layout Partition Partition	Type Basic Basic	File System FAT32 NTFS	Status Healthy (Unknown Partition) Healthy (System)	Capacity 2.92 GB 52.96 GB	Free Space 1 MB 40.89 GB	% Free 0 % 77 %	Fault Tolerance No No	Overhead 0% 0%
Cold Defa Managementer Disk Management Services and Applications	Contraction of the second seco	WINDO 52.96 GE Healthy	WS (C: 3 NTFS (System)			ACRONIS 2.93 GB FA Healthy (U	SVC AT32 Inknown Pa	artition)	_
	Contemporary Conte	New Vo	lume	ł						
	Constant Con	Import I Conver	Foreign t to Basi ate Disk	Disks c Disk						
	Constant Con	Remove Propert Help	e Disk ies							
	Cisk 4 Dynamic		-							

2. Be sure the Foreign disk group (4 of 4 disks) checkbox is enabled and click OK.

Computer management										
📃 File Action View Window H	lelp									
← → 🗈 🖬 😫 🖬 📓	1									
📃 Computer Management (Local)	Volume	Layout	Туре	File System	Status	Capacity	Free Space	% Free	Fault Tolerance	Overhead
🖻 🍒 System Tools	CRONIS SVC	Partition	Basic	FAT32	Healthy (Unknown Partition)	2.92 GB	1 MB	0%	No	0%
🗄 🛐 Event Viewer	WINDOWS (C:)	Partition	Basic	NTFS	Healthy (System)	52.96 GB	40.89 GB	77 %	No	0%
Shared Folders										
Performance Logs and Alerts										
Device Manager										
🖻 🚔 Storage										
🕀 🔐 Removable Storage										
Disk Detragmenter										
Services and Applications		-								
	Disk 0		wc /c				ACDONIC	cuc		
	55.89 GB	52.96 G	BNTFS	,			2.93 GB FA	T32		
	Online	Healthy	(Systen	1)			Healthy (U	nknown Pa	artition)	
	Cisk 1			- 1 D1						
	Dynamic		трогс	roreign Dis	KS			ك		
	Foreign		Before u	sing these disl	<s, add="" cor<="" system="" td="" them="" to="" your=""><td>nfiguration.</td><td></td><td></td><td></td><td></td></s,>	nfiguration.				
			Disk aro	uds:						
	Dynamic			in the second	(A of A disks)					
	e y rianic		V FUIE	iyn uisk group	(4 01 4 UISKS)					
	Foreign						_			
	🕂 Disk 3)isks		
	Dynamic									
	Foreign							OK		
								Cancel		
	Disk 4									
	Dynamic		-							

3. You may see the following dialog box if a RAID volume was present on the PXIe-8267 before you moved it to the new system. Click **OK** to allow the new system to import the RAID volume. The initial data is preserved and will be readable in the new system.

Fore	ign Disk Volumes			?	\mathbf{X}
	The following list shows t disks. Click OK to add th	he type, condition, ar ese disks.	d size of volumes on	these foreign	
	Туре	Condition		Size	
	Striped volume	OK		953890	
			ОК	Cancel	

4. Your RAID drive is now ready for use in the new system.

Optimizing Streaming Performance

Note NI recommends periodically checking drive life and using software to monitor the drive for errors, thermal events, TBW, and so on. For more information, go to <u>ni.com/info</u> and enter the Info Code <code>raidsupport</code>.

Note If the PXIe-8267 throughput is underperforming, complete the following steps to optimize the drives manually.

- 1. Back up your data before performing this operation.
- 2. Delete the striped array and individually partition, format, and assign a letter to the drives.
- 3. In the Windows taskbar, search for the Defragment and Optimize Drives tool and optimize the drives.
- 4. When the operation completes, recreate the striped array.

NI Services

Visit <u>ni.com/support</u> to find support resources including documentation, downloads,

and troubleshooting and application development self-help such as tutorials and examples.

Visit <u>ni.com/services</u> to learn about NI service offerings such as calibration options, repair, and replacement.

Visit <u>ni.com/register</u> to register your NI product. Product registration facilitates technical support and ensures that you receive important information updates from NI.

NI corporate headquarters is located at 11500 N Mopac Expwy, Austin, TX, 78759-3504, USA.