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**PXIe-7858R**

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# PXle-7858

# Getting Started

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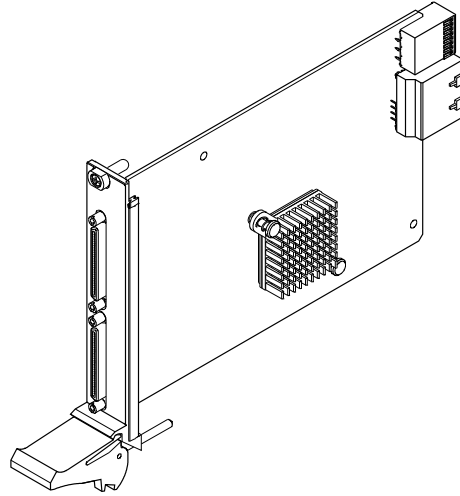
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# Contents

Getting Started.....	3
Safety Guidelines.....	3
EMC Guidelines.....	3
Preparing the Environment.....	4
Unpacking the Kit.....	4
Verifying the Kit Contents.....	5
Installing Software on the Host Computer.....	5
Installing the NI PXIe-7858R.....	5
Verifying Hardware Installation for Host Targets.....	7
Verifying Hardware Installation for Remote Systems.....	7
Pinout.....	8
Where to Go Next.....	9
NI Services.....	10

# Getting Started

This document describes how to begin using the NI PXIe-7858R.



## Safety Guidelines

## EMC Guidelines

This product was tested and complies with the regulatory requirements and limits for electromagnetic compatibility (EMC) stated in the product specifications. These requirements and limits provide reasonable protection against harmful interference when the product is operated in the intended operational electromagnetic environment.

This product is intended for use in industrial locations. However, harmful interference may occur in some installations, when the product is connected to a peripheral device or test object, or if the product is used in residential areas. To minimize interference with radio and television reception and prevent unacceptable performance degradation, install and use this product in strict accordance with the instructions in the product documentation.

Furthermore, any changes or modifications to the product not expressly approved by NI could void your authority to operate it under your local regulatory rules.

## Preparing the Environment

Ensure that the environment in which you are using the NI PXIe-7858R meets the following specifications.

Operating temperature (IEC 60068-2-1, IEC 60068-2-2)	0 °C to 55 °C
Operating humidity (IEC 60068-2-78)	10% RH to 90% RH, noncondensing
Pollution degree	2
Maximum altitude	2,000 m

Indoor use only.

**Note** Refer to the device specifications on [ni.com/manuals](https://ni.com/manuals) for complete specifications.

## Unpacking the Kit

**Notice** 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. Touch the antistatic package to a metal part of the computer chassis.
2. Remove the device from the package and inspect the device for loose components or any other sign of damage.

**Notice** Never touch the exposed pins of connectors.

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

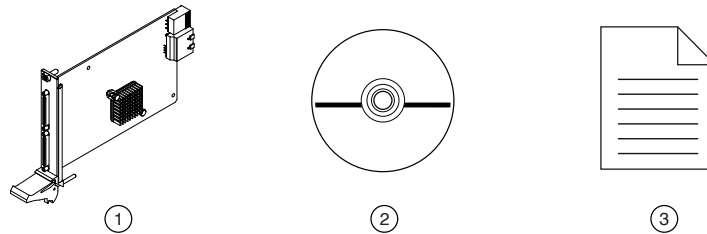
3. Unpack any other items and documentation from the kit.

Store the device in the antistatic package when the device is not in use.

## Verifying the Kit Contents

Verify that the following items are included in the NI PXIe-7858R kit.

Figure 1. NI PXIe-7858R Kit Contents



1. Hardware
2. NI-RIO Media
3. Getting Started Guide

## Installing Software on the Host Computer

Before using the NI PXIe-7858R, you must install the following application software and device drivers on the host computer.

1. LabVIEW 2016 or later
2. LabVIEW Real-Time Module 2016 or later<sup>[1]</sup>
3. LabVIEW FPGA Module 2016 or later
4. NI R Series Multifunction RIO Device Drivers August 2016 or later

Visit [ni.com/info](http://ni.com/info) and enter the Info Code softwareversion for minimum software support information.

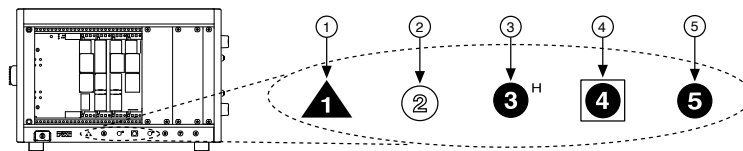
<sup>1</sup> LabVIEW Real Time Module is only required when the R Series board is used in a chassis where the PXIe Controller is running a real-time operating system.

## Installing the NI PXIe-7858R

**Notice** To prevent damage to the NI PXIe-7858R caused by ESD or contamination, handle the module using the edges or the metal bracket.

1. Ensure the AC power source is connected to the chassis before installing the module.  
The AC power cord grounds the chassis and protects it from electrical damage while you install the module.
2. Power off the chassis.
3. Inspect the slot pins on the chassis backplane for any bends or damage prior to installation. Do not install a module if the backplane is damaged.
4. Remove the black plastic covers from all the captive screws on the module front panel.
5. Identify a supported slot in the chassis. The following figure shows the symbols that indicate the slot types.

Figure 2. Chassis Compatibility Symbols



1. PXI Express System Controller Slot
  2. PXI Peripheral Slot
  3. PXI Express Hybrid Peripheral Slot
  4. PXI Express System Timing Slot
  5. PXI Express Peripheral Slot
6. Touch any metal part of the chassis to discharge static electricity.
  7. Place the module edges into the module guides at the top and bottom of the chassis. Slide the module into the slot until it is fully inserted.
  8. Secure the module front panel to the chassis using the front-panel mounting screws.

**Note** Tightening the top and bottom mounting screws increases mechanical stability and also electrically connects the front panel to the chassis, which can improve the signal quality and electromagnetic performance.

- Cover all empty slots using either filler panels (standard or EMC) or slot blockers with filler panels, depending on your application.

**Note** For more information about installing slot blockers and filler panels, go to [ni.com/r/pxiblocker](http://ni.com/r/pxiblocker).

- Power on the chassis.

## Verifying Hardware Installation for Host Targets

You can verify that the system recognizes the NI PXIe-7858R by using Measurement & Automation Explorer (MAX).

- Launch MAX by navigating to **Start » All Programs » National Instruments » MAX** or by clicking the MAX desktop icon.
- Expand **Devices and Interfaces**.
- Verify that the device appears under **Devices and Interfaces**.  
If the device does not appear, press <F5> to refresh the view in MAX. If the device does not appear after refreshing the view, visit [ni.com/support](http://ni.com/support) for troubleshooting information.

## Verifying Hardware Installation for Remote Systems

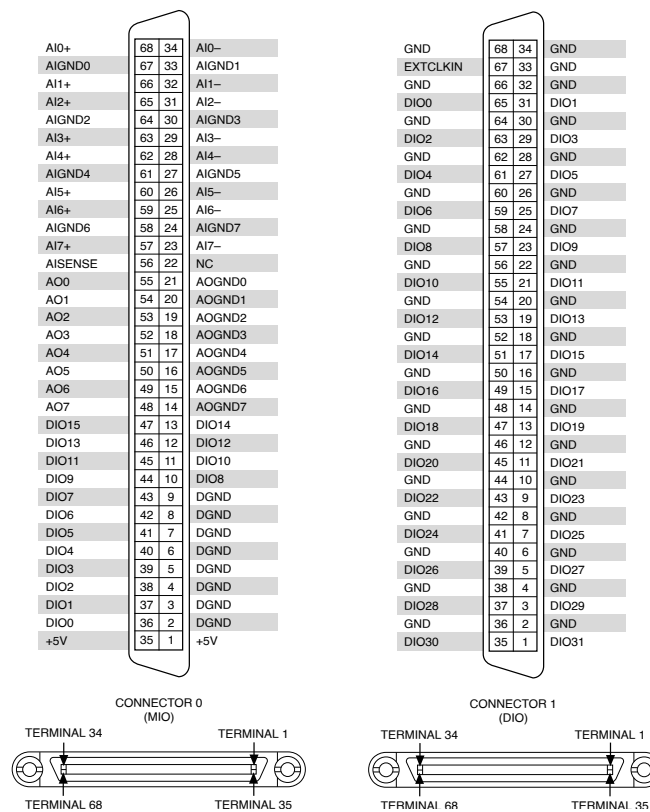
You can verify that the system recognizes the NI PXIe-7858R by using Measurement & Automation Explorer (MAX).

- Launch MAX on the host computer.
- Expand **Remote Systems** in the configuration tree and locate your system.
- Install LabVIEW Real-Time Module 2016 and NI R Series Multifunction RIO Device Drivers August 2016 or later on your **Remote System**.



1. Refer to the **Installing Software on the Host Computer** section for information about installing software on the host.
  2. Refer to the **PXI Express Controllers User Manual** at [ni.com/manuals](http://ni.com/manuals) for information on installing software on the target.
4. Under **Remote Systems**, find and expand **Devices and Interfaces**. If the device does not appear, press <F5> to refresh the view in MAX. If the device does not appear after refreshing the view, visit [ni.com/support](http://ni.com/support) for troubleshooting information.

## Pinout



Signal	Description
AI+	Positive analog input signal connection
AI-	Negative analog input signal connection
AISENSE	Reference connection for NRSE measurements

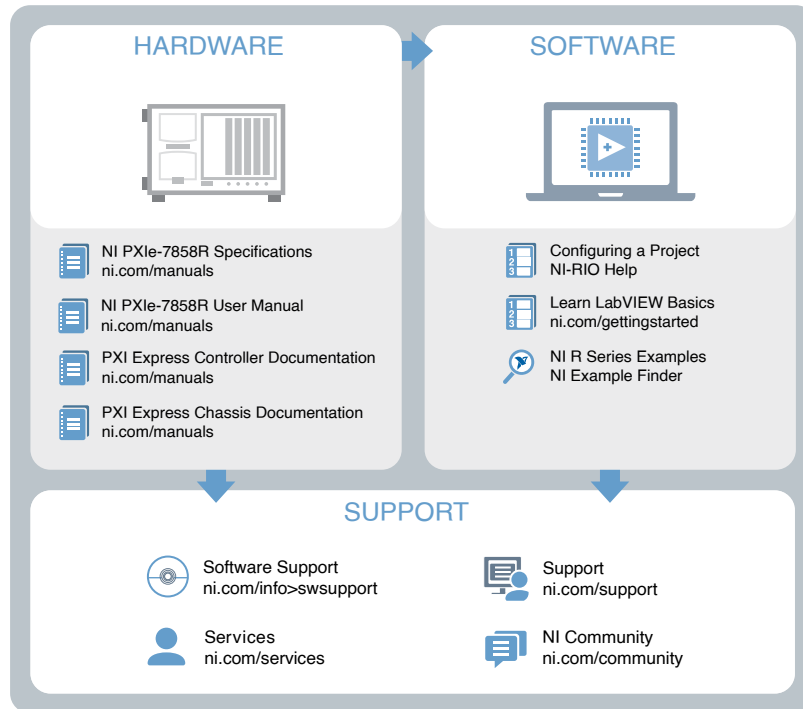
Signal	Description
AIGND	Ground reference for the analog input signal
AO	Analog output signal connection
AOGND	Ground reference for the analog output signal
DIO	Digital input/output signal connection
DGND	Ground reference for the digital signal
EXTCLKIN	External clock input source that can be used for source synchronous acquisitions. The provided clock source must be stable and glitch-free.
GND	Ground connection
Supply (+5 V <sub>out</sub> )	5 V power output connection for external devices
NC	No connection

Table 1. NI PXIe-7858R Signal Descriptions

The NI PXIe-7858R is protected from overvoltage and overcurrent conditions.

**Note** Refer to the device specifications, available at [ni.com/manuals](https://ni.com/manuals) for more information.

Where to Go Next



## NI Services

Visit [ni.com/support](http://ni.com/support) to find support resources including documentation, downloads, and troubleshooting and application development self-help such as tutorials and examples.

Visit [ni.com/services](http://ni.com/services) to learn about NI service offerings such as calibration options, repair, and replacement.

Visit [ni.com/register](http://ni.com/register) to register your NI product. Product registration facilitates technical support and ensures that you receive important information updates from NI.

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