

COMPREHENSIVE SERVICES

We offer competitive repair and calibration services, as well as easily accessible documentation and free downloadable resources.

SELL YOUR SURPLUS

We buy new, used, decommissioned, and surplus parts from every NI series. We work out the best solution to suit your individual needs.

 Sell For Cash  Get Credit  Receive a Trade-In Deal

OBSOLETE NI HARDWARE IN STOCK & READY TO SHIP

We stock **New**, **New Surplus**, **Refurbished**, and **Reconditioned** NI Hardware.



Bridging the gap between the manufacturer and your legacy test system.

 1-800-915-6216

 www.apexwaves.com

 sales@apexwaves.com

All trademarks, brands, and brand names are the property of their respective owners.

Request a Quote

 **CLICK HERE**

cRIO-9803

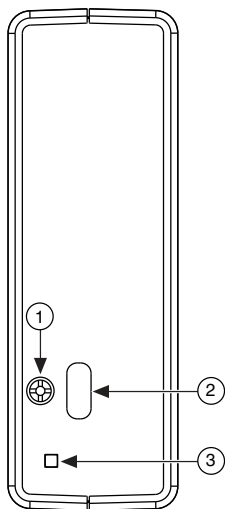
GETTING STARTED GUIDE

cRIO-9803

SSD Expansion Module for CompactRIO

This document provides information to help you get started with the cRIO-9803, including installing the SSD, connecting the module to a controller, and formatting the drive.

Figure 1. cRIO-9803 Front Panel



1. USB retention screw
2. USB Type-C upstream-facing (device) port
3. Power/Status LED

Table 1. LED Indications

LED	Color	Behavior	Indication
Power/Status	Blue	Solid	Drive is powered on and idle.
		Flashing, 10 Hz	Drive is connected at USB High Speed and active.
		Flashing, 20 Hz	Drive is connected at USB SuperSpeed and active.
		Fading	Drive is suspended by operating system.
	—	Off	Device is powered off.

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.

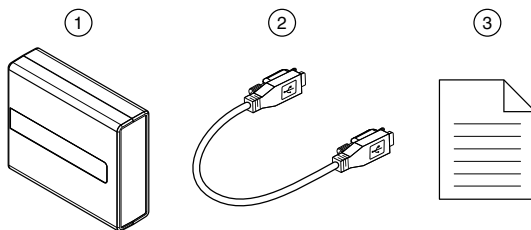
3. Unpack any other items and documentation from the kit.

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

What You Need to Get Started

Kit Contents

Verify that the following items are included in the cRIO-9803 kit.



1. cRIO-9803
 2. Type-C to Type-C USB cable
 3. Safety, Environmental, and Regulatory Information document
-

Required Components

- CompactRIO Controller or host computer

Recommended Components

- Type-C to Type-A USB cable, user-provided

Installing the SSD on the cRIO-9803

If the cRIO-9803 does not come with the solid-state drive (SSD) installed, refer to the following steps for installation procedures.

What to Use

- cRIO-9803 empty drive, 785921-01
- Thermal pad, included with the 785921-01
- Screwdriver, Torx T10
- Screwdriver, Phillips #1
- mSATA full-size SSD, user-provided

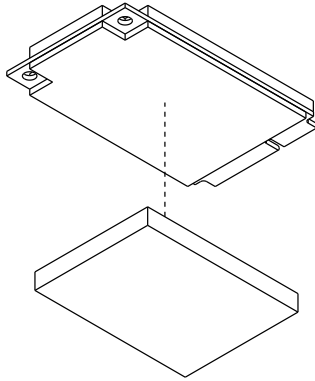
What to Do



Notice The performance of this product can be disrupted if subjected to Electrostatic Discharge (ESD) during operation. To prevent damage, industry-standard ESD prevention measures must be employed during installation, maintenance, and operation.

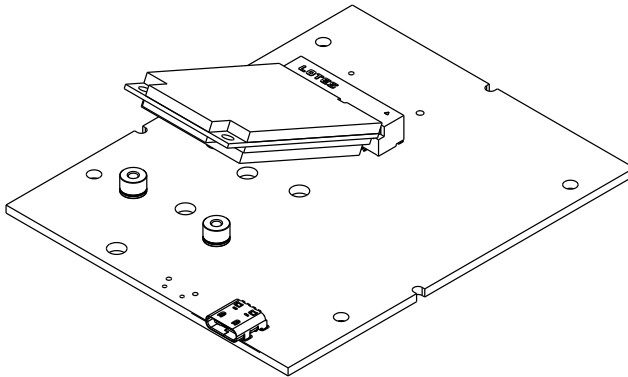
1. Use the Torx screwdriver to remove the four side screws from the module.
2. Remove the module cover and locate the drive socket.
3. Remove the liner from the thermal pad and affix it to the bottom of the drive with the pink side facing away from the drive.

Figure 2. Affixing the Thermal Pad



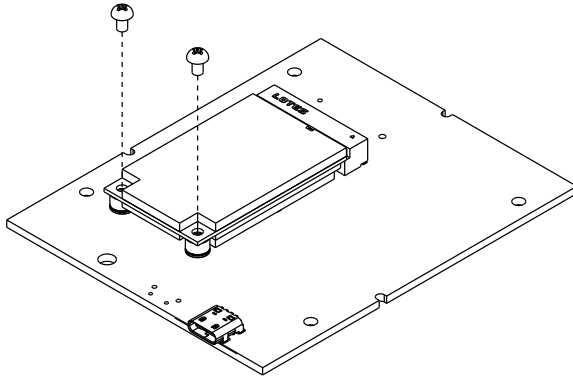
4. Use the Phillips screwdriver to remove the two SSD mounting screws.
5. Insert the drive into the drive socket.

Figure 3. Inserting the SSD into the Drive Socket



6. Secure the drive using the two SSD mounting screws, gently compressing the thermal pad.

Figure 4. Securing the Drive



7. Replace the module cover and secure it using the four side screws.

Mounting the cRIO-9803

You can mount the cRIO-9803 with a CompactRIO chassis. For instructions and guidelines about the various chassis mounting configurations, refer to the *Expansion Module for CompactRIO User Manual* on ni.com/manuals.

You can also use the cRIO-9803 with a variety of hardware systems and configurations. For more information about using the module with non-CompactRIO systems, contact NI.

Grounding the cRIO-9803

For information about grounding the cRIO-9803, refer to the *Expansion Module for CompactRIO User Manual* on ni.com/manuals.

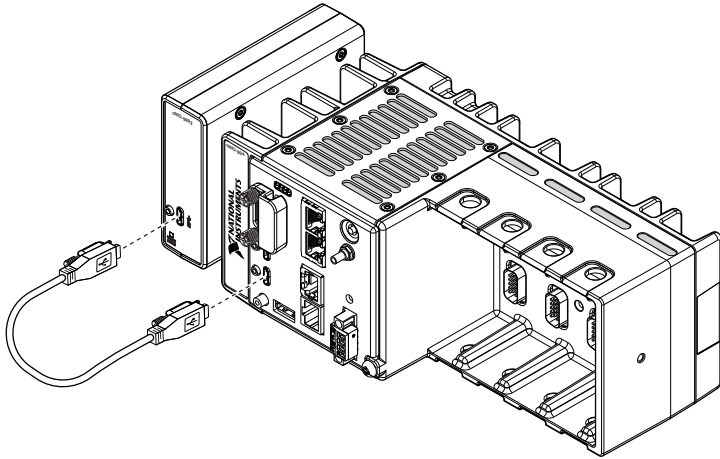
Connecting the cRIO-9803 to a CompactRIO Controller

Complete the following steps to connect the cRIO-9803 to a cRIO Controller using the USB upstream-facing port

What to Use

- cRIO-9803
- CompactRIO controller
- One of the following USB cables:
 - Type-C to Type-C USB cable, provided in the shipping kit
 - Type-C to Type-A USB cable, user-provided

Figure 5. Connecting the Module to a Controller



1. Power off the CompactRIO controller.
2. Connect one end of the USB cable to any available USB Type-C host port on the CompactRIO controller.
3. Secure the USB connector to the CompactRIO controller using the retention screw.
4. Connect the other end of USB cable to the USB Type-C upstream-facing port on the module.
5. Secure the USB connector to the module using the retention screw.
6. Power on the CompactRIO controller.
7. Verify the Power/Status LED is on, solid or flashing, indicating drive activity.

Formatting the cRIO-9803

You must format the drive with the appropriate file system based on system and application requirements.



Note For more information about using mass storage devices with LabVIEW Real-Time targets, go to ni.com/info and enter Info Code `rtstorage`.

Table 2. File System Formatting

File System	Type	Native Operating System	Notes
ext4	Journaling	Linux	Drives formatted as ext4 may require a file system driver to access from a Windows system.
fat32	Non-journaling	Windows	Drives formatted as fat32 can be accessed from both Linux and Windows systems. Maximum available storage may be limited to 32 GB.
NTFS	—	Windows	NTFS file systems are not supported by CompactRIO.
exFAT	—	Windows	exFAT file systems are not supported by CompactRIO.



Note National Instruments recommends ext4 for applications that require the maximum reliability and for drives larger than 32 GB.



Note Linux commands `fdisk` and `mkfs` may be used to partition and format the drive. For more information about selecting and setting up file systems in LabVIEW Real-Time, go to ni.com/info and enter Info Code `rtfilesys`.

Accessing the cRIO-9803

The CompactRIO system automatically mounts the formatted cRIO-9803 starting with drive U. You can access this drive using file path `/u/ . . . /`.

If more than one drive is present, including multiple cRIO-9803 modules or an SD card, the CompactRIO system mounts additional drives alphabetically as V, W, and so on.



Note Drive order may change based on the presence and connection order of external mass storage drives.

Worldwide Support and Services

The NI website is your complete resource for technical support. At ni.com/support, you have access to everything from troubleshooting and application development self-help resources to email and phone assistance from NI Application Engineers.

Visit ni.com/services for information about the services NI offers.

Visit ni.com/register 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 North Mopac Expressway, Austin, Texas, 78759-3504. NI also has offices located around the world. For support in the United States, create your service request at ni.com/support or dial 1 866 ASK MYNI (275 6964). For support outside the United States, visit the *Worldwide Offices* section of ni.com/niglobal to access the branch office websites, which provide up-to-date contact information.

Information is subject to change without notice. Refer to the *NI Trademarks and Logo Guidelines* at ni.com/trademarks for information on NI trademarks. Other product and company names mentioned herein are trademarks or trade names of their respective companies. For patents covering NI products/technology, refer to the appropriate location: **Help»Patents** in your software, the `patents.txt` file on your media, or the *National Instruments Patent Notice* at ni.com/patents. You can find information about end-user license agreements (EULAs) and third-party legal notices in the `readme` file for your NI product. Refer to the *Export Compliance Information* at ni.com/legal/export-compliance for the NI global trade compliance policy and how to obtain relevant HTS codes, ECCNs, and other import/export data. NI MAKES NO EXPRESS OR IMPLIED WARRANTIES AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN AND SHALL NOT BE LIABLE FOR ANY ERRORS. U.S. Government Customers: The data contained in this manual was developed at private expense and is subject to the applicable limited rights and restricted data rights as set forth in FAR 52.227-14, DFAR 252.227-7014, and DFAR 252.227-7015.

© 2018—2019 National Instruments. All rights reserved.

377727B-01 August 2, 2019