

Manufacturer: National Instruments

Board Assembly Part Numbers (Refer to Procedure 1 for identification procedure):

Part Number and Revision	Description
142304A-01L or later	NI PCIe-7820R
142304A-02L or later	NI PCIe-7821R
142304A-03L or later	NI PCIe-7822R

Volatile Memory

Target Data	Type	Size	Battery Backup	User ¹ Accessible	System Accessible	Sanitization Procedure
LabVIEW and User data	Kintex-7 FPGA w/ Block RAM	11,700 KB (7820/21R) 16,020 KB (7822R)	No	Yes	Yes	Cycle Power
System Memory	DRAM	512 MB (7821/22R)	No	Yes	Yes	Cycle Power

Non-Volatile Memory (incl. Media Storage)

Target Data	Type	Size	Battery Backup	User Accessible	System Accessible	Sanitization Procedure
Device Configuration	Flash	64 MB (7820/21R)				
• Firmware		128 MB	No	No	Yes	None
• FPGA Bitstream		(7822R)	No	Yes	Yes	Procedure 2

¹ Refer to *Terms and Definitions* section for clarification of *User* and *System Accessible*

Procedures

Procedure 1 – Board Assembly Part Number identification:

To determine the Board Assembly Part Number and Revision, check the bottom right corner of the laser label on the top of the module or bottom left corner of the laser label on the bottom of the module (14xxxx-0xL).

Procedure 2 - Device Configuration Flash (FPGA Bitstream):

The user-accessible areas of the Device Configuration Flash are exposed through the NI-RIO Device Setup in LabVIEW project and in NI MAX. To erase the FPGA bitstream from the flash, complete the following steps:

NI-RIO Device Setup

1. Add the RIO target to your LabVIEW project by right-clicking on the project and selecting **New » Targets and Devices** and selecting your RIO target.
2. Right-click on the FPGA project item and select **RIO Device Setup**.
3. In the Advanced section, select **Erase Bitfile on Flash**.

or

NI MAX

1. In the NI MAX, expand the **Devices and Interfaces** at the left panel and selecting your RIO target.
2. In the Settings tab, select **Erase Firmware**.

Terms and Definitions

Cycle Power:

The process of completely removing power from the device and its components and allowing for adequate discharge. This process includes a complete shutdown of the PC and/or chassis containing the device; a reboot is not sufficient for the completion of this process.

Volatile Memory:

Requires power to maintain the stored information. When power is removed from this memory, its contents are lost. This type of memory typically contains application specific data such as capture waveforms.

Non-Volatile Memory:

Power is not required to maintain the stored information. Device retains its contents when power is removed. This type of memory typically contains information necessary to boot, configure, or calibrate the product or may include device power up states.

User Accessible:

The component is read and/or write addressable such that a user can store arbitrary information to the component from the host using a publicly distributed NI tool, such as a Driver API, the System Configuration API, or MAX.

System Accessible:

The component is read and/or write addressable from the host without the need to physically alter the product.

Clearing:

Per *NIST Special Publication 800-88 Revision 1*, “clearing” is a logical technique to sanitize data in all User Accessible storage locations for protection against simple non-invasive data recovery techniques using the same interface available to the user; typically applied through the standard read and write commands to the storage device.

Sanitization:

Per *NIST Special Publication 800-88 Revision 1*, “sanitization” is a process to render access to “Target Data” on the media infeasible for a given level of effort. In this document, clearing is the degree of sanitization described.