

Board Assembly Part Number(s)

Part Number	Description
159040B-01L or later	NI PXIe-7846R
159040B-02L or later	NI PXIe-7847R
159040B-03L or later	NI PXIe-7856R
159040B-04L or later	NI PXIe-7857R
159040B-05L or later	NI PXIe-7858R

Manufacturer: National Instruments

Volatile Memory

Type	Size	User Accessible/ System Accessible ¹	Battery Backup?	Purpose	Method of Clearing ²
(7846R/7847R/7856R/7857R)					
FPGA Block RAM	11,700 KB	Yes/Yes	No	Data storage during VI Execution	Cycle Power
(7858R)					
FPGA Block RAM	16,020 KB	Yes/Yes	No	Data storage during VI Execution	Cycle Power
(7847R/7857R/7858R)					
DRAM	512MB	Yes/Yes	No	Onboard Memory Storage	Cycle Power

Non-Volatile Memory

Type	Size	User Accessible/ System Accessible	Battery Backup?	Purpose	Method of Clearing
(7846R/7847R/7856R/7857R)					
Flash	64 Mb		No		
- Device information		No/Yes		Product Identification	None available to user
- Calibration data ³		No/Yes		Calibration Information	None available to user
- Calibration metadata		Yes/Yes		User-defined	See Clearing Notes
- FPGA bitstream		Yes/Yes		User LV FPGA VI Bitstream	See Clearing Notes
(7858R)					
Flash	128 Mb		No		
- Device information		No/Yes		Product Identification	None available to user
- Calibration data ³		No/Yes		Calibration Information	None available to user
- Calibration metadata		Yes/Yes		User-defined	See Clearing Notes
- FPGA bitstream		Yes/Yes		User LV FPGA VI Bitstream	See Clearing Notes

¹ Items are designated **No** for the following reason(s):

- a) Hardware changes or a unique software tool from National Instruments are required to modify contents of the memory listed.
- b) Hardware-modifying software tools are not distributed to customers for any personal access or customization, also known as non-normal use.

² The designation *None Available to User* indicates that the ability to clear this memory is not available to the user under normal operation. The utilities required to clear the memory are not distributed by National Instruments to customers for normal use.

³ Calibration constants that are stored in device calibration memory include information for the device's full operating range. Calibration constants do not maintain any unique data for specific configurations at which the device is used unless otherwise specified.

Media Storage

<u>Type</u>	<u>Size</u>	<u>User Accessible/ System Accessible</u>	<u>Battery Backup?</u>	<u>Purpose</u>	<u>Method of Clearing</u>
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NONE

Clearing Notes:

Calibration metadata: There are two items in the calibration metadata that need to be cleared:

1. To clear the user-defined information, you can use the Calibration Utility to write a known value to the user string field.
2. To clear the calibration password, you can use the Calibration Utility to change the password to a known value.

FPGA bitstream: You can use the NI-RIO Device Setup utility to erase the FPGA bitstream data. For more details, visit ni.com/info and enter the infocode `fpgaflashclr`.

Terms and Definitions

User Accessible Allows the user to directly write or modify the contents of the memory during normal instrument operation.

System Accessible Does not allow the user to access or modify the memory during normal instrument operation. However, system accessible memory may be accessed or modified by background processes. This can be something that is not deliberate by the user and can be a background driver implementation, such as storing application information in RAM to increase speed of use.

Cycle Power The process of completely removing power from the device and its components. 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.

Non-Volatile Retains its contents when power is removed. This type of memory typically contains calibration or chip configuration information, such as power up states.