Manufacturer: NI

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

Part Number and Revision	Description
130571A-01L (PXIe-7891) or later	**PXIE-7891 FLEXRIO MULTIFUNCTION I/O MODULE, KU060 FPGA, 2 QSFP, 16 AI, 64 AO, 64 DIO**
130571A-02L (PXIe-7890) or later	**PXIE-7890 FLEXRIO MULTIFUNCTION I/O MODULE, KU060 FPGA, 2 QSFP, 8 AI, 32 AO, 64 DIO**

Volatile Memory

Target Data	Type	Size	Battery Backup	User[1] Accessible	System Accessible	Sanitization Procedure
Data storage	DRAM	4 GB	No	Yes	Yes	Cycle power
User FPGA Bitfile Storage	SDRAM	256 MB	No	Yes	Yes	Cycle Power
Custom Program	FPGA	Xilinx KU060	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 • FPGA bitstream	Flash (x2)	128 MB	No	No	Yes	Procedure 2
Calibration Constants	EEPROM (x3)	16 KB	No	Yes	Yes	Procedure 3

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[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, refer to the label applied to the surface of your product. The Assembly Part Number should be formatted as "P/N:146767a-xxL where a is the letter revision of the assembly (e.g. A, B, C...) and x is the dash number (e.g. -02, -05).

Procedure 2 – Erase FPGA Flash:
The FPGA bitstreams stored in flash are typically updated using the Update Firmware button in the NI MAX software application.

Warning: Erasing the flash will render the device inoperable and prevent it from being calibrated.

To erase the flash, complete the following steps.
1. Open the "Erase and Verify FPGA Flash.vi" located in the following folder within the LabVIEW installation directory: instr.lib\FlexRIO\NI789X\Calibration\API.
2. Select the desired device address from the dropdown menu of the **Device Address** control on the VI front panel.
3. Select the desired device type from the dropdown menu of the **Device Type** control on the VI front panel.
4. Run the VI.
5. Ensure the **FPGA Flash Erased** indicator is illuminated.

Procedure 3 – Erase Calibration EEPROM:
The calibration EEPROM stores calibration constants as well as the calibration time and temperature.

Warning: Erasing the calibration EEPROM will prevent analog input and analog output channels from functioning properly until a calibration is performed.

To erase the calibration EEPROM, complete the following steps.
1. Open the "Erase and Verify Cal EEPROM.vi" located in the following folder within the LabVIEW installation directory: instr.lib\FlexRIO\NI789X\Calibration\API.
2. Select the desired device address from the dropdown menu of the **Device Address** control on the VI front panel.
3. Select the desired device type from the dropdown menu of the **Device Type** control on the VI front panel.
4. Run the VI.
5. Ensure the **EEPROM Erased** indicator is illuminated.

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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.