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.

APEX WAVES

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

1-800-915-6216

www.apexwaves.com

sales@apexwaves.com

Request a Quote CLICK HERE *PXIe-5611*

Manufacturer: National Instruments

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

Part Number and Revision	Description
196385A-01L or later	**PXIe-5611**

Volatile Memory

Target Data	*Type*	*Size*	*Battery Backup*	*User[1] Accessible*	*System Accessible*	*Sanitization Procedure*
List Mode Instruction Storage	Block RAM	72 KB	No	No	Yes	Cycle Power
FPGA Distributed RAM	LUTRAM	12 KB	No	No	No	Cycle Power

Non-Volatile Memory (*incl. Media Storage*)

Target Data	*Type*	*Size*	*Battery Backup*	*User Accessible*	*System Accessible*	*Sanitization Procedure*
Calibration information	FLASH	512 KB	No			
• Calibration data[2]				Yes	Yes	Procedure 2
• Calibration metadata				Yes	Yes	Procedure 3
FPGA and ASIC configuration	FLASH	512 KB	No	No	No	None

[1] Refer to *Terms and Definitions* section for clarification of *User* and *System Accessible*
[2] Calibration constants that are stored on the device include information for the device's full operating range. Any implications resulting from partial self-calibration can be eliminated by running the full self-calibration procedure.

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 "PART NO: 196385#-01L" or alternately "P/N: 196385#-01L" where "#" is the letter module revision.

Procedure 2 – Calibration Information FLASH (Calibration Data):
The NI PXIe-5611 has a user accessible calibration application programming interface (API) for LabVIEW. This API allows the user to perform following calibrations manually, which re-writes the stored calibration constants:

1. IQ Impairment Calibration
2. LO Filter Calibration
3. LO Gain Calibration
4. RF Gain Calibration

Documentation for the use of this API is listed in the *NI RF Signal Generators Help* available at ni.com/manuals.

Procedure 3 – Calibration Information FLASH (Calibration Metadata):
The user-accessible areas of the Calibration Information FLASH are exposed through NI-RFSG. To clear this metadata, complete the following steps in an empty VI and run in LabVIEW:

1. Add a niRFSG Initialize VI to the diagram and configure the "resource name" input appropriately.
2. Add a niRFSG Property Node after the niRFSG initialize and wire the "instrument handle" and "reference" terminals together and wire the error terminals as well. Configure the property node to fetch the "User Defined Info Max Size" attribute.
3. Add a second niRFSG Property Node after the first property node wiring the "reference out" and "reference" terminals together and wire the error terminals together. Configure the property node to set "User Defined Info".
4. Add a niRFSG Close VI after the second property node and wire the reference and error terminals from the second property node.
5. Create blank user defined data.
    a. Wire the "User Defined Info Max Size" property to a For Loop's counter variable N.
    b. Within the For Loop, use a Concatenate Strings function and Shift Register to build a character string of N "0" characters.
    c. Wire the final output of the Shift Register to the "User Defined Info" property node.

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.