NATIONAL INSTRUMENTS NI-9775 Digitizer Module User Guide

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Manufacturer: National Instruments

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

Part Number and Revision	Description
141084B-01L or later	NI 9775, 4-Ch 20 MS/S Digitizer

Volatile Memory						
Target Data	***Type***	***Size***	***Battery Backup***	***User[1] Accessible***	***System Accessible***	***Sanitization Procedure***
AI Sample Record Data	SDRAM	128 Mb	No	No	Yes	Cycle Power
AI Sample Streaming Data	FPGA On-chip	414 Kb	No	No	Yes	Cycle Power
ADC Configuration	ADC On-chip	34 bytes	No	No	Yes	Cycle Power
PLL Configuration	PLL On-chip	24 bits	No	No	Yes	Cycle Power

Non-Volatile Memory (incl. Media Storage)

Target Data	***Type***	***Size***	***Battery Backup***	***User Accessible***	***System Accessible***	***Sanitization Procedure***
FPGA Bitstream	FLASH	8MB	No	No	Yes	None
Device Configuration · Calibration metadata	EEPROM	1 KB	No	Yes	Yes	Procedure 2
· Calibration data[2] · Device information				No No	Yes Yes	None None

1. Refer to the 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, check the top left corner of the white label on the bottom of the module (19xxxx<REV>-0xL).

Procedure 2 – Device Configuration EEPROM (Calibration Metadata):
The user-accessible areas of the Device Configuration EEPROM are exposed through a calibration Applications Programming Interface (API) in LabVIEW. Follow the instructions in KB 4GHLANQE for changing the calibration

password and clearing the user-defined information.

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. The 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.

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Documents / Resources

	NATIONAL INSTRUMENTS NI-9775 Digitizer Module [pdf] User Guide NI-9775, NI-9775 Digitizer Module, Digitizer Module, Module

References

- Clearing the User-Accessible EEPROM on an NI-DAQmx Supported Device - NI
- Product Documentation - NI
- NI-9775 National Instruments Digitizer Module | Apex Waves