Letter Of Volatility
February 5th, 2018
LabJack U12, U12-PH, and U12-NTH

Following is an overview of the memory spaces on the U12.

Access methods are described for firmware 1.10.

All volatile memory is cleared by any reboot, including a power-cycle.

Memory Areas:

Bold items are memory areas designed to allow the user to store non-volatile information.

- Program Memory, One-Time-Programmable (Non-Volatile), 8 kwords: Firmware is programmed at the factory. There are no functions to write or read program memory through USB. The program memory is code-protected to prevent general reading through the programming interface.
- Processor RAM (Volatile), 256 bytes: RAM is not retained through a reboot.
- FRAM (Non-Volatile), 8 kbytes: Functions are available to write and read this entire memory through USB.
    - 0-511: Storage of Local ID and calibration data. Not normally accessed by the user, but can be. To clear write default or junk values using the WriteMem function described in Section 4.37 of the U12 User's Guide.
    - **512-1023: User area.** Available for use by the user and not used at all by the device itself. To clear write default or junk values using the WriteMem function described in Section 4.37 of the U12 User's Guide.
    - 1024-8191: Data buffer for stream and burst mode. The user can write and read to this area, but stream and burst mode will overwrite anything stored here. To clear write default or junk values using the WriteMem function described in Section 4.37 of the U12 User's Guide.

Clear All User Memory:

1. To clear non-volatile user memory, the bold items above are cleared as described above. Clear the following:

FRAM User Area

2. To clear all volatile memory power-down or reboot the device.

Note that this clearing procedure clears *all memory designed for user access*, not *all memory*. If the entire FRAM is cleared the device will no longer have a valid calibration, but it is possible that someone with malicious intentions could store information anywhere in FRAM for later retrieval.