

LabJack

Published on *LabJack* (<https://labjack.com>)

[Home](#) > [Support](#) > [Firmware](#) > U3 Firmware

U3 Firmware

[Log in](#) or [register](#) to post comments

U3 Firmware Overview

Firmware files require [LJSelfUpgrade](#) V1.21 or higher in order to upgrade the U3, which is included in the LabJack installer.

U3A and U3B refer to old hardware versions of the U3. U3Afirmware is for U3 hardware 1.20, and U3Bfirmware is for U3 hardware 1.21. U3C is for the [U3-LV](#) and [U3-HV](#).

WARNING: This warning applies to anyone using a programming utility other than LJSelfUpgrade. Attempting to program a U3A with U3B firmware will result in improper programming. This is because the U3A does not have sufficient code space to handle the U3B firmware. If a U3A is programmed with U3B firmware the device can be recovered by jumpering to flash mode and loading U3A firmware. A U3B can be programmed with U3A firmware and will function as a U3A. LJSelfUpgrade will not allow firmware for one version to be programmed onto the other.

U3C Firmware (Hardware 1.30)

1.46: Watchdog wasn't getting cleared unless response packet was read very quickly. Fixed. Timer1 was returning incorrect data when set to modes 2 or 3.

Known Issues:

*Reading from analog inputs can change stream settings. To work around this issue, StreamConfig must be called before each StreamStart when repeatedly starting and stopping stream.

*U3Config does not return the correct DAC values. The values being returned are the watchdog timer response values.

1.44: Feedback will now throw an error when an AIN is read while stream is active. Added special range support to high voltage channels in modbus. Compatibility settings written by the user will now be loaded at startup. When calling the deprecated, low-level, SWDT config command the bit for enabling a DIO change will be recognized as the bit for DIOA not DIOB.

Added a bus idle check to the I2C. Timer modes 5 and 6 (counter and counter with debounce) now respond to their proper timer mode numbers (they were swapped). Timer 1 will now be properly set during initialization. I2C will now return ACK information when only reading. Only one ack for the address will be reported. Improved timer performance. Changed the watchdog so that it will not clear until the host computer has read the response. Fixed a problem that was causing edge32 and edge16 timer modes to return improper data while streaming with reset. Increased I2C max clock stretch time to 1000 clock cycles. When a timer is set to mode 0 or 1 (PWM) reading the timer will return the controlling count.

[Click To Expand Change Log](#)

U3B Firmware (Hardware 1.21)

1.54: Added a clock stretching feature to the I2C function. USB has been updated to improve compatibility with Linux kernels prior to 2.6.28.

1.52: Added an I2C option to disable the stop used when restarting. Sending 255 to the debounce function will now have the same effect as 254. Added an I2C option to enable clock stretching, up to a maximum of 50 clock periods.

1.50: State DIO functions will now force masked pins to output.

1.49: I2C acknowledge array now includes the address byte. Added an error to prevent AIN functions from being called while streaming. Added an error to prevent using channel 30 (Vref) as the negative channel while using Vdd as the reference voltage (30 is an invalid Negative channel while using Vdd as Vref). Stream channel 193 now returns FIO in the LSB to match the documentation.

1.44: Fixed CIO startup sequence. Default CIO settings will now be loaded properly. Removed level sensitivity from timer debounce mode. Debounce quantity is now 1+requested amount.


U3A Firmware (Hardware 1.20)


1.44: Improved code layout to prevent upgrade issues.


1.43: Fixed an upgrading issue that was causing flash corruption. The corruption caused the U3 to reset whenever a AIN command was executed.

[Click To Expand Change Log](#)

File Attachment:

 [U3Cfirmware_146_01212013.hex](#)

 [U3Bfirmware_154_06012009.hex](#)

 [U3Afirmware_144_12112007.hex](#)

U3 Firmware - Beta

[Log in](#) or [register](#) to post comments

This is the latest hot-off-the-press firmware. Generally it has not been as fully tested as normal release firmware.


1.49: Added roll protection to lower 32-bit system timer reads in stream.

1.50: Fixed a bug that could cause more than one delimitation scan after a stream auto-recover.

1.53: Added an option to invert SPI chip select control. Fixed a bug in ReadConfig that was preventing blocks above 128 from being read.

1.54: Fixed a bug causing modbus to improperly calculate binary offsets for the DACs..

File Attachment:


 [U3Cfirmware_154_05062019.hex](#)


U3 Firmware - Old


[Log in](#) or [register](#) to post comments


We recommend using the [current U3 firmware](#). This page serves as an archive for older versions.


File Attachment:


 [U3Afirmware_126_09192006.hex](#)


 [U3Afirmware_128_12052006.hex](#)


 [U3Afirmware_132_01232007.hex](#)


 [U3Afirmware_136_02222007.hex](#)


 [U3Afirmware_138_03072007.hex](#)


 [U3Afirmware_140_04022007.hex](#)


 [U3Afirmware_141_05032007.hex](#)


 [U3Bfirmware_144_09112007.hex](#)


 [U3Bfirmware_149_01212008.hex](#)

 [U3Cfirmware_102_04092008.hex](#)


 [U3Cfirmware_103_04222008.hex](#)


 [U3Cfirmware_104_05292008.hex](#)


 [U3Cfirmware_107_07292008.hex](#)


 [U3Cfirmware_108_09052008.hex](#)


 [U3Cfirmware_109_09162008.hex](#)


 [U3Cfirmware_111_09222008.hex](#)

 [U3Cfirmware_112_10132008.hex](#)

 [U3Cfirmware_124_10262009.hex](#)

 [U3Cfirmware_132_08192010.hex](#)

 [U3Cfirmware_144_05022012.hex](#)

 [U3Bfirmware_152_03072008.hex](#)
