Overview

When applications using the server software are started, a check is made against the firmware revision number in each hardware unit, to ensure that it is compatible. In the event that it is not, e.g. due to a release of new server software with added functionality, it will be necessary to perform a firmware upgrade.

Device Status Symbol Key

Various symbols (icons) are displayed in the device tree to indicate the programming status of each device. These are described below:

USB Device Node (as found in the OS device manager)

A controller that cannot be reprogrammed.

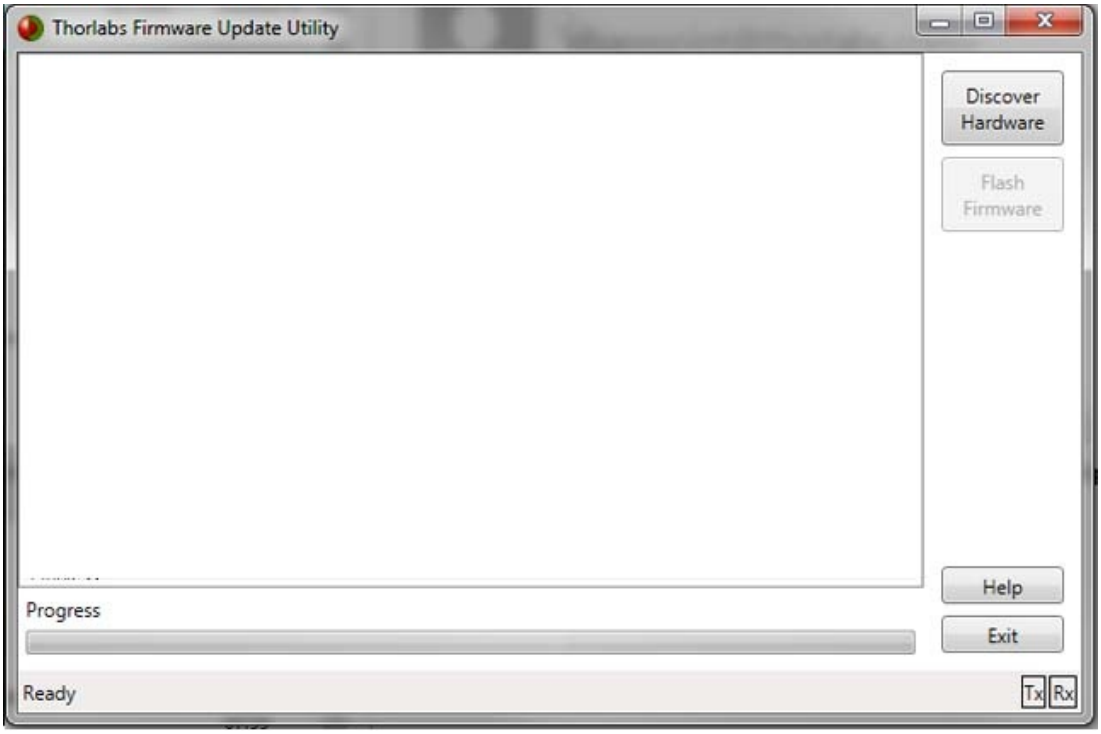
A controller that can be reprogrammed but already has the latest firmware installed.

A controller that can be reprogrammed , and has old firmware installed

Identifying Firmware Versions

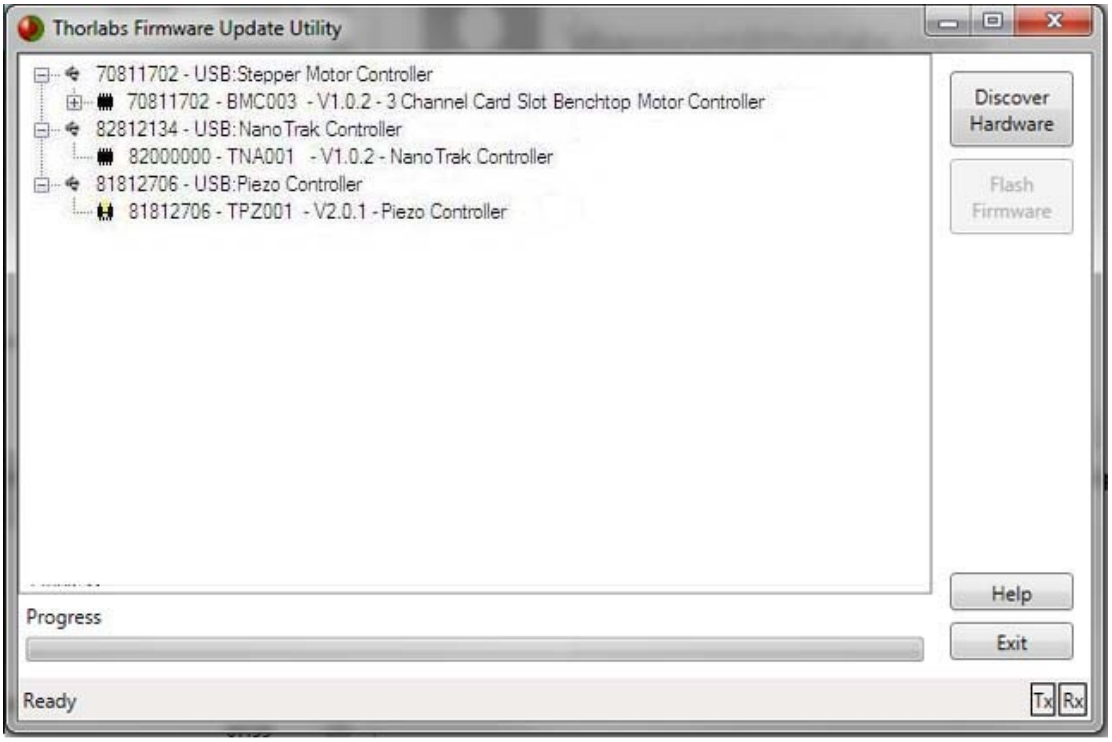
Note: It is not necessary to disconnect other equipment during the upgrade process. Before any firmware reprogramming can be performed, the hardware must be powered up and connected to the PC via the USB port.

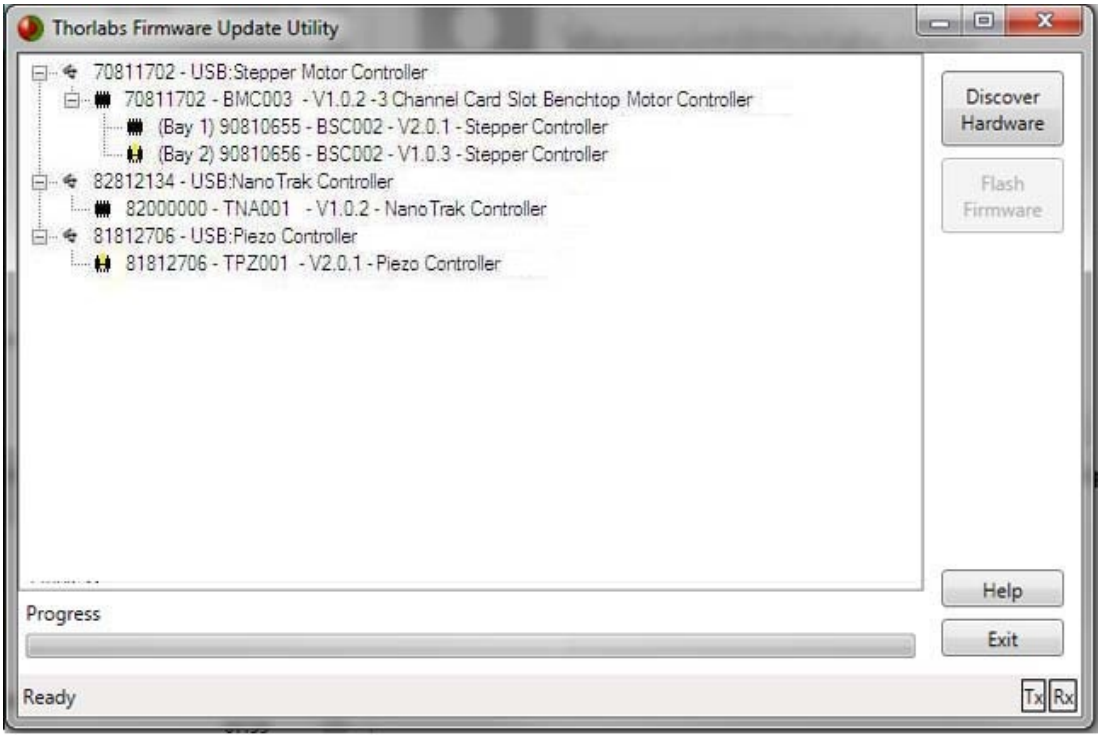
1. Ensure that the unit(s) on which the firmware is to be upgraded is powered up and connected to the PC USB port.
2. Run the Firmware Update utility
   (Start/All Programs/Thorlabs/Firmware/Firmware Update)



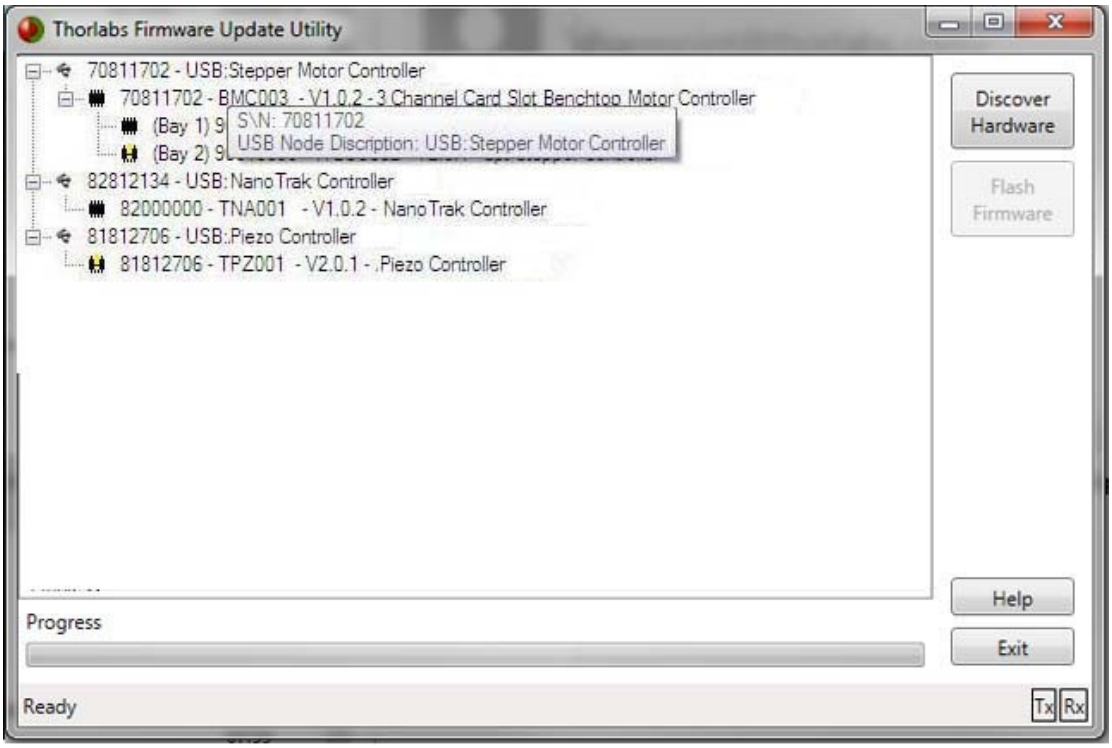
3. The Reprogramming Utility window is displayed. The bottom of the window contains a status bar which displays 'Ready', to indicate that the software is ready to perform the reprogramming process.
4. Click the 'Discover Hardware' button to start the hardware discovery process and to locate the APT equipment.
5. When the discovery process has completed, all found hardware will be displayed in the Reprogramming Utility window.

6. In this example 3 USB devices have been found. The USB symbol next to each item indicates the device is a USB device.
7. Devices can have multiple embedded controllers, each of which can be reprogrammed by this utility. The plus sign next to each item indicates that there are embedded (child) controllers.
8. Click the "+" sign to expand the node and display the available controllers.

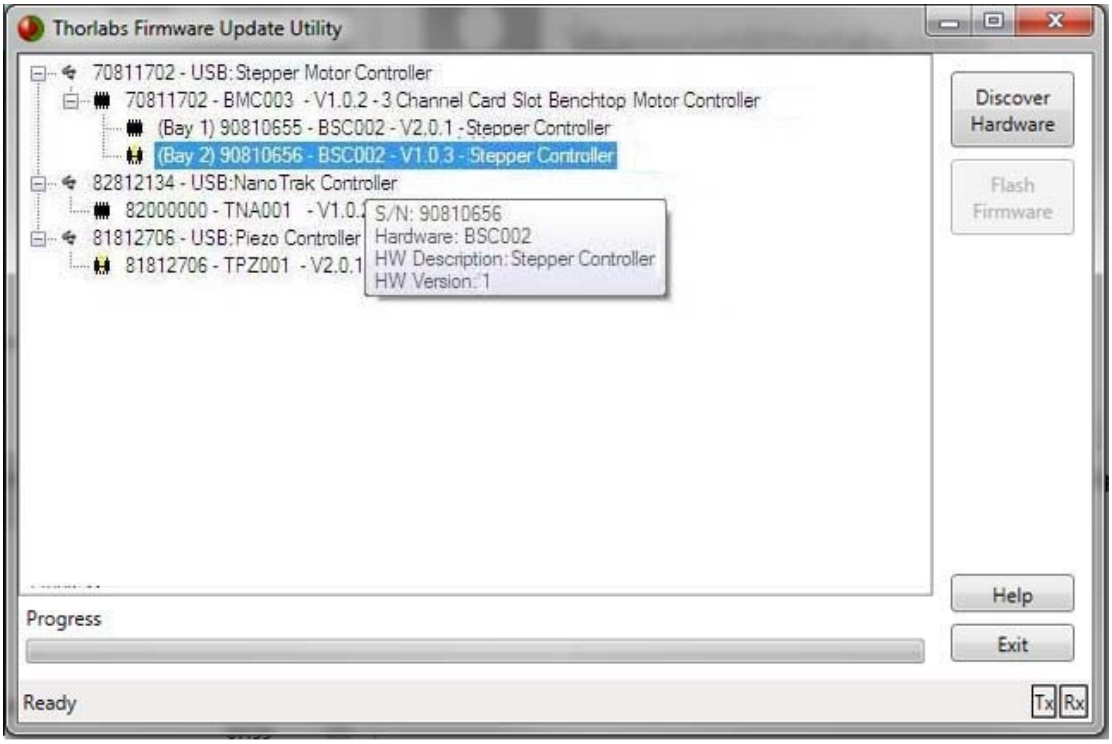




9. Hovering with the mouse over each controller and USB node within the controller tree reveals additional information if available.
10. In this example no addition information is available for the USB node itself.



11. However, hovering over one of the controllers reveals that the hardware version is "1". This information can be useful when attempting to distinguish differing hardware revisions.



12. Each unit is displayed in a tree view that shows the hardware as it is currently connected. The serial number, device name and firmware revision for each unit is displayed, along with a status icon.
    Any unit with firmware that requires updating is indicated with an exclamation point as shown above for Bay 2. An explanation of all the status icons is given below.

Status Symbol Key

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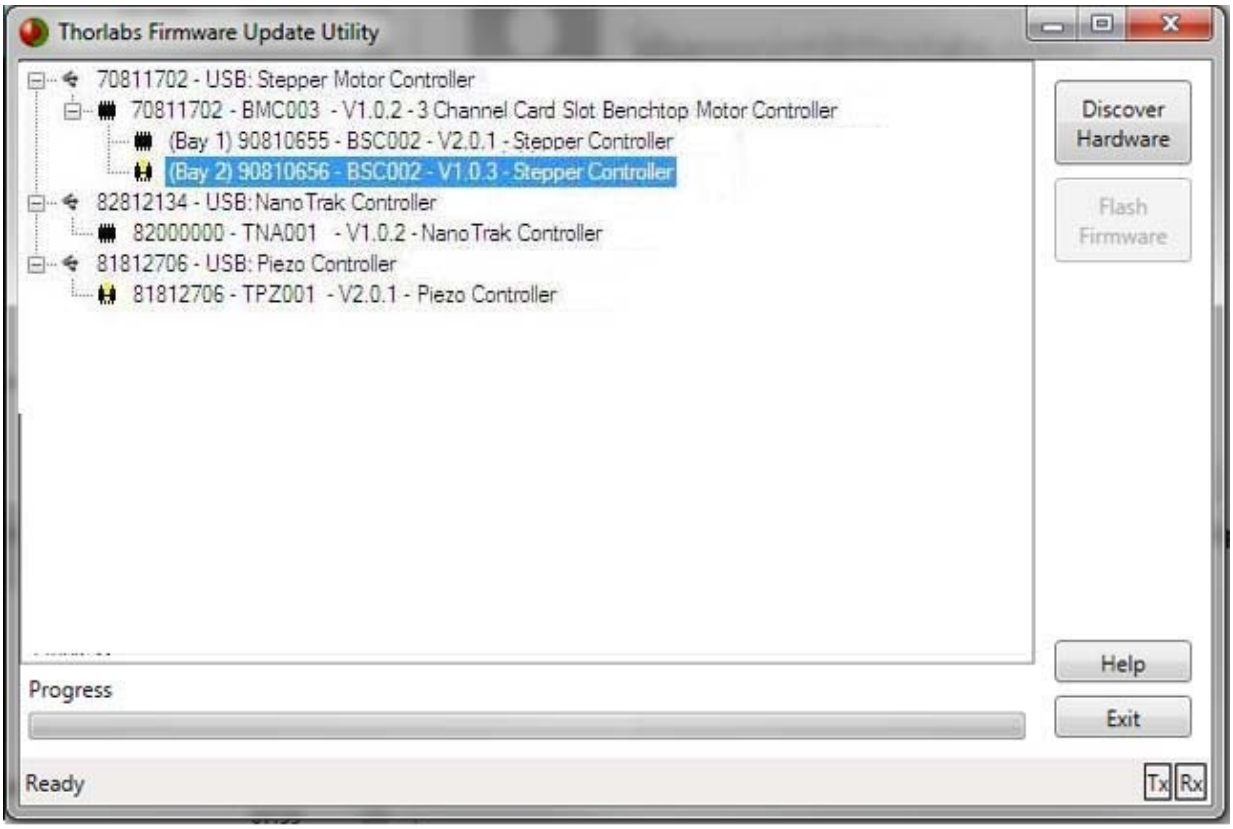
Updating Device Firmware

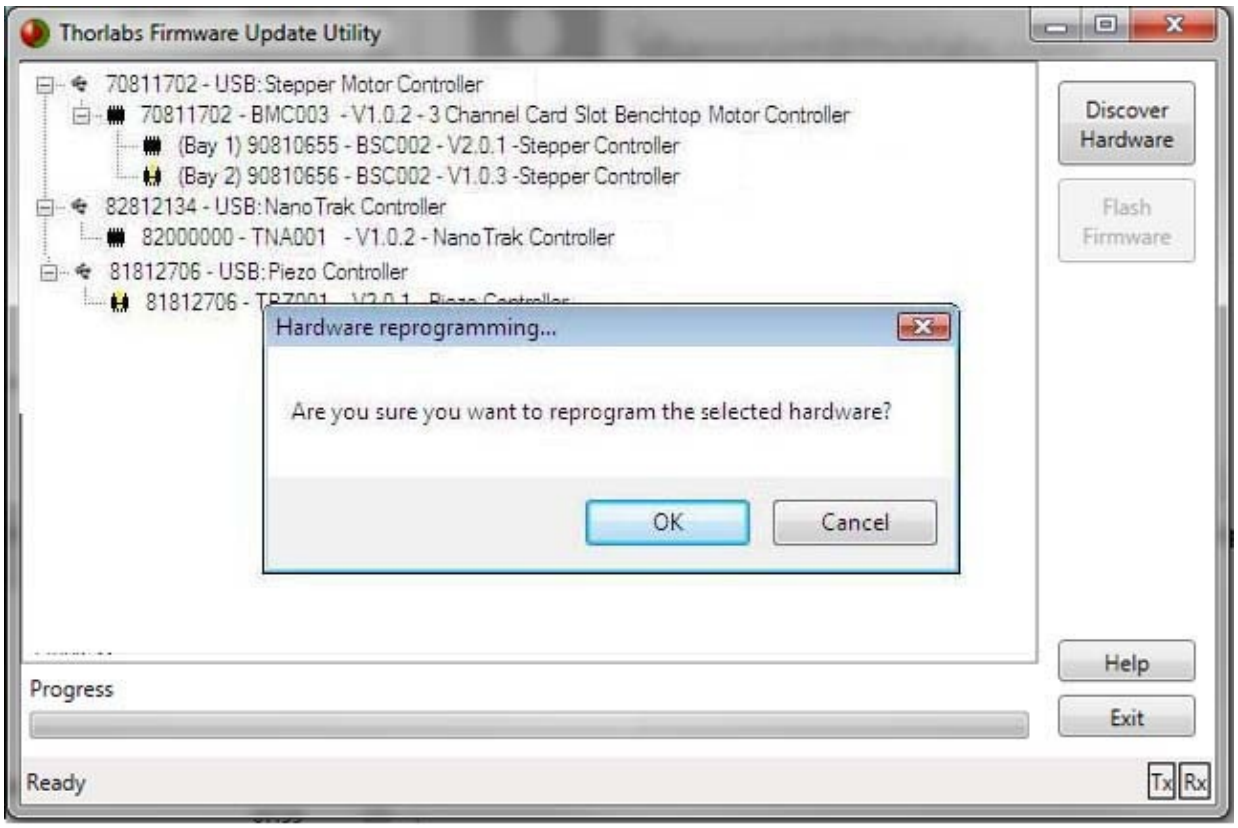
Note: It is not necessary to disconnect other equipment during the upgrade process. Before any firmware reprogramming can be performed, the hardware must be powered up and connected to the PC via the USB port.

1. Select the controller within the device that you would like to update.

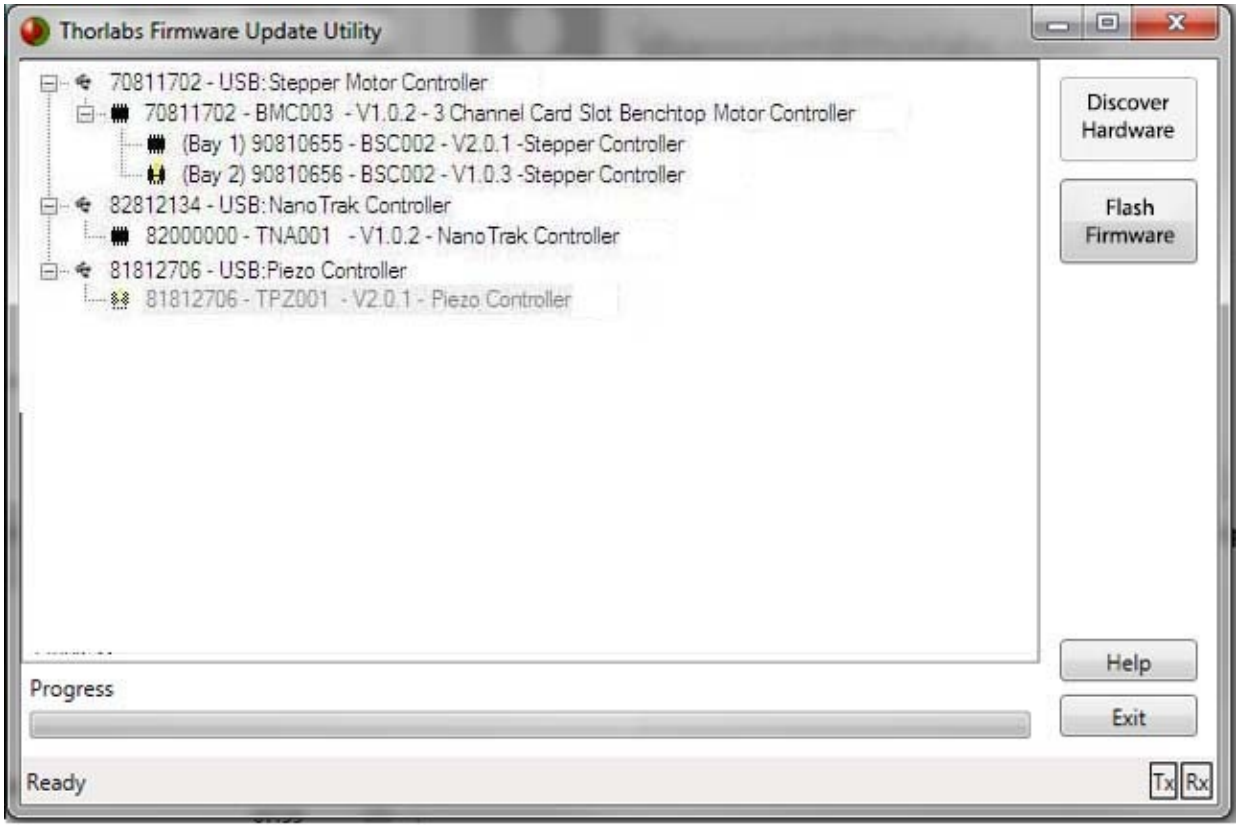


The status bar at the bottom of the window indicates that the selected device can be reprogrammed

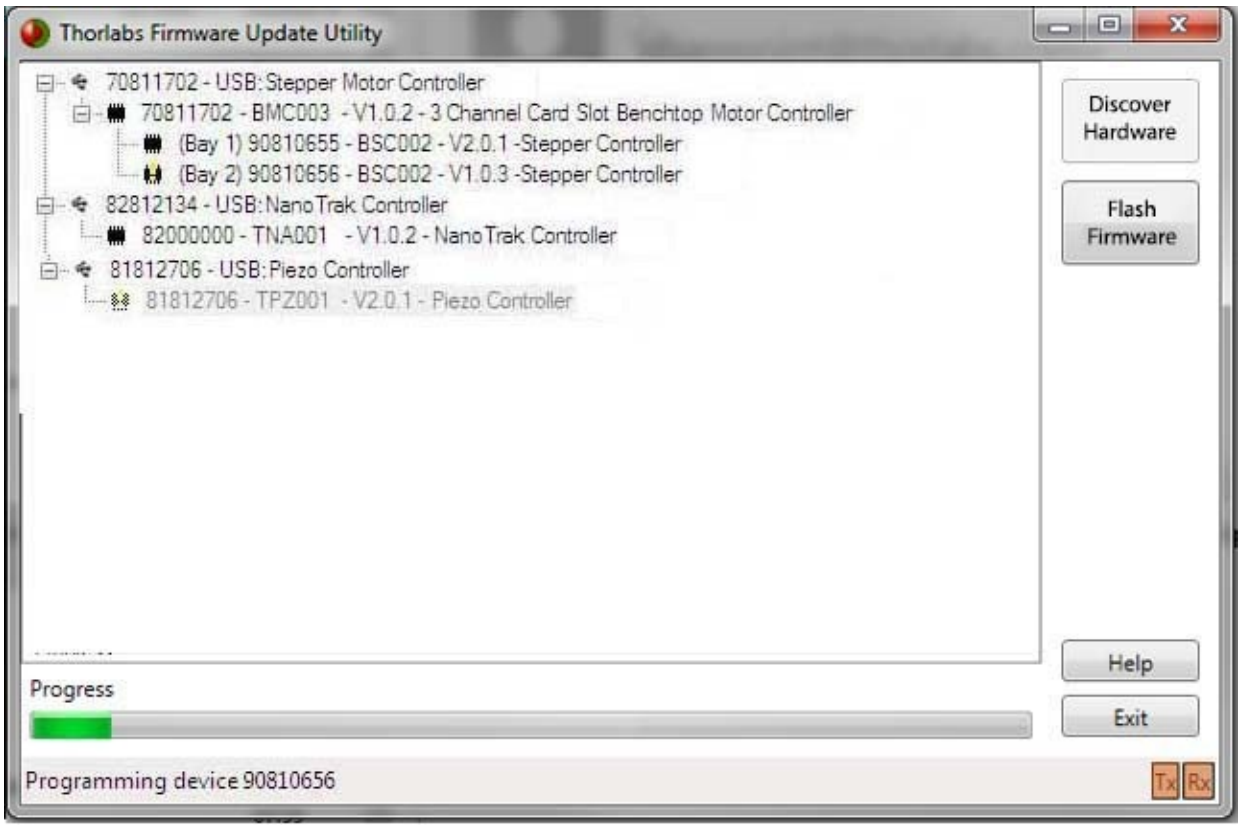
2. Click on ’Flash Firmware’ to begin reprogramming of firmware.
3. When the confirmation screen is displayed, click ’OK’.

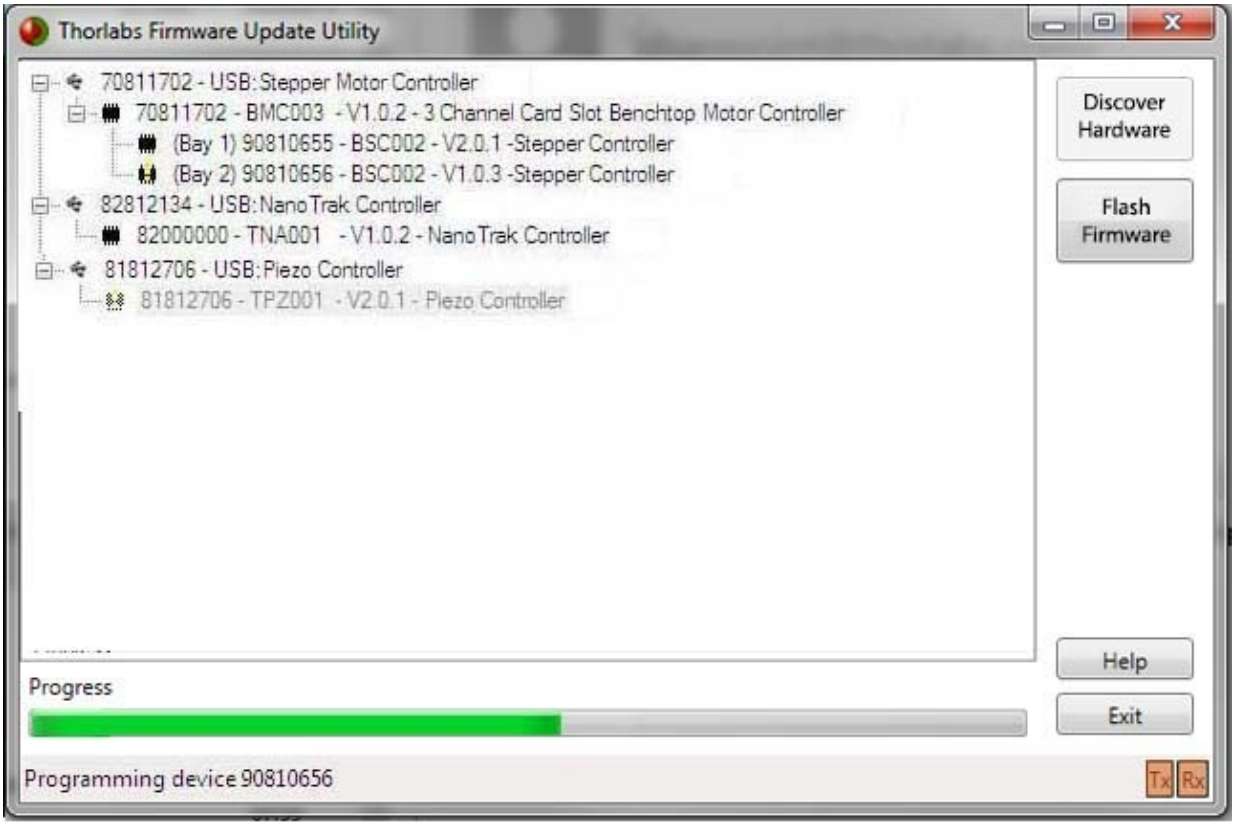


4. During the reprogramming process, instructions may be displayed in the status bar (such as switching power to the unit on and off) or to wait as shown below. Follow these instructions carefully.



5. Reprogramming progress can be observed in the progress bar.


Thorlabs Firmware Update Utility
70811702 - USB: Stepper Motor Controller
70811702 - BMC003 - V1.0.2 - 3 Channel Card Slot Benchtop Motor Controller
(Bay 1) 90810655 - BSC002 - V2.0.1 -Stepper Controller
(Bay 2) 90810656 - BSC002 - V1.0.3 -Stepper Controller
82812134 - USB: NanoTrak Controller
82000000 - TNA001 - V1.0.2 - NanoTrak Controller
81812706 - USB: Piezo Controller
81812706 - TPZ001 - V2.0.1 - Piezo Controller
Discover Hardware
Flash Firmware
Help
Exit
Progress
Programming device 90810656
Tx
Rx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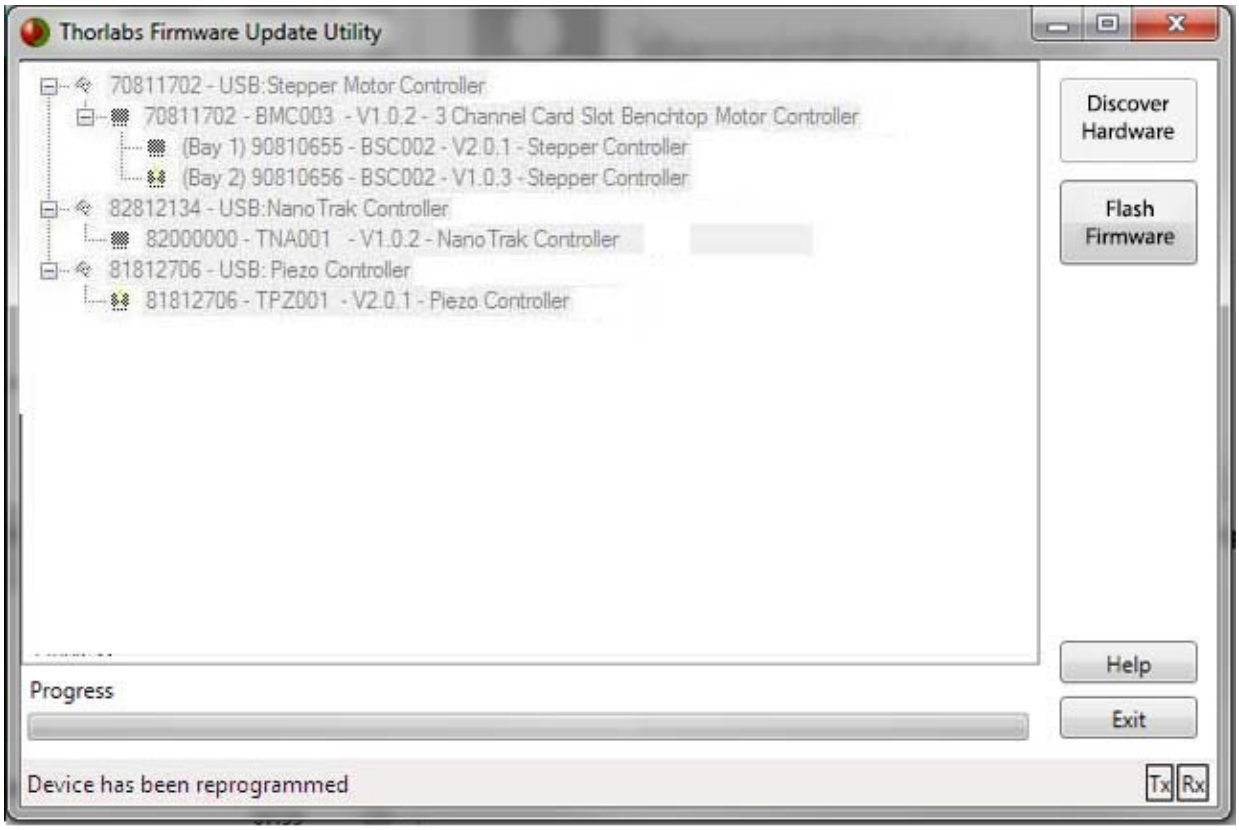
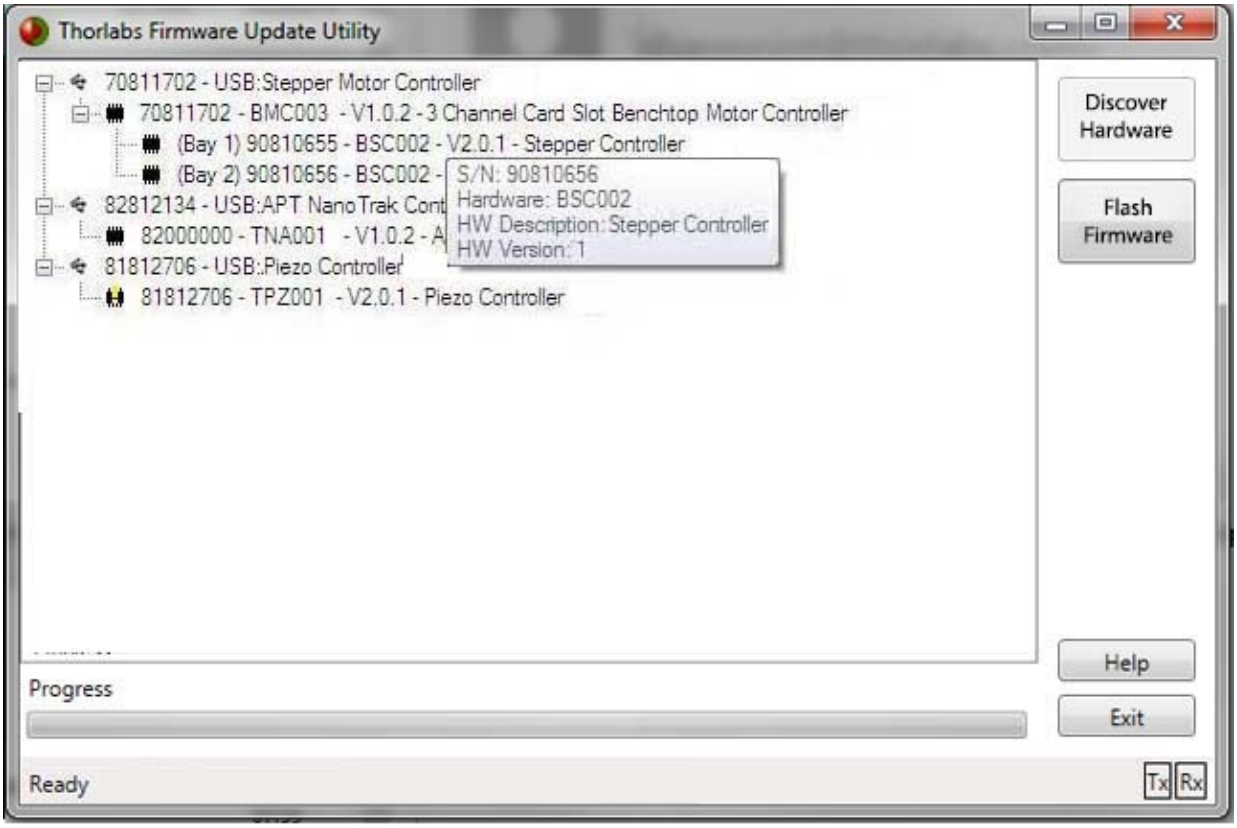
Discover Hardware
Flash Firmware
Help
Exit
Progress
Programming device 90810656
Tx
Rx

Warning. DURING REPROGRAMMING, DO NOT SWITCH OFF POWER TO YOUR UNIT, OR ATTEMPT TO CLOSE THE APPLICATION, UNLESS INSTRUCTED TO DO SO. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN PERMANENT DAMAGE TO THE UNIT.



6. When reprogramming is completed the status message will indicate that the device has been reprogrammed.
7. Click on ’Discover Hardware’ to determine your new hardware configuration.
8. The unit that has been reprogrammed should now have the exclamation mark removed as shown below.



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