

SwiftOne Firmware Updater User's Guide

Rev. 1.0.0

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Purpose:

The K. Lisa Yang Center for Conservation Bioacoustics may provide firmware updates from time to time to fix bugs and add additional features and improvements. The SwiftOne Firmware Updater provides a quick and easy way to apply these updates to a computer with Windows operating system.

Minimum System Requirements:

- Windows 10/11 Operating System
- Microsoft .NET Framework 4.8
- Available USB 2.0 port
- Administrative level privilege on the system

Software Installation:

STM32CubeProgrammer is required to have the correct STM32 driver installed, download from Box: <https://cornell.box.com/s/9e36vr5yx7rgz65uvw74tnr4ax4nw8ya>
 SwiftOne Firmware updater setup file can be downloaded from here: <https://swiftrecorderdev.z13.web.core.windows.net/>
 Please note that an Administrative Privilege is required on your computer to run this program.

Updating the Firmware (After Software Already Installed With The Correct Driver Working):

Please follow the [Driver Installation section](#) below if this is the first time you set up the SwiftOne Firmware Updater. If the software is ready, please follow the steps below.

1. Open SwiftOne Firmware Updater program



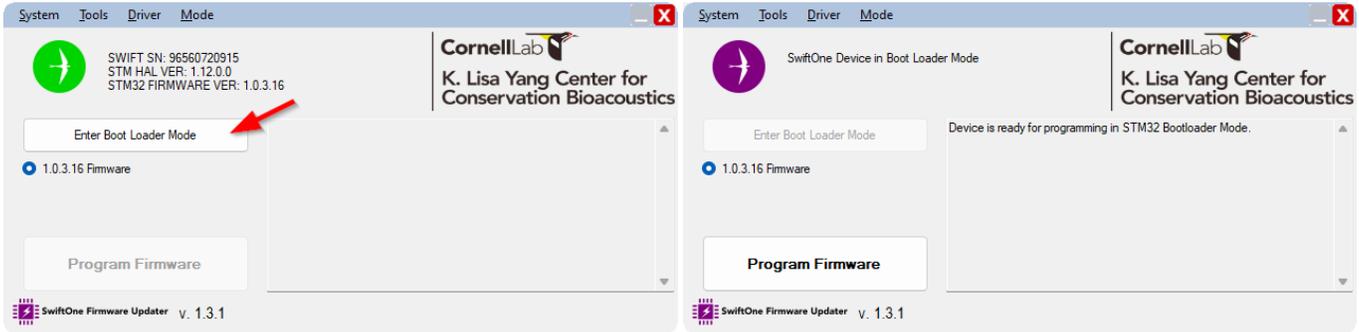
2. Plug the USB cable into the SwiftOne Recorder USB port



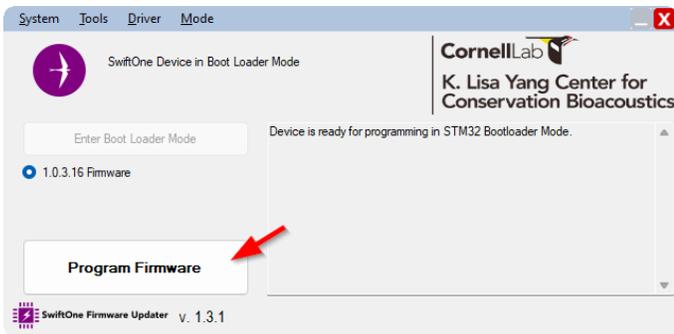
3. Watch to see that the program icon goes from the Red disconnected icon to Green connected icon



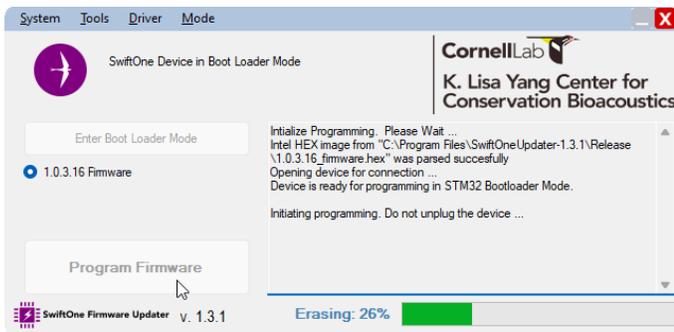
4. Click Enter Boot Loader Mode. This will turn the icon Purple when the recorder enters FW loading mode.



5. By default, FW 1.0.3.15 is already selected. If you want a different FW, please see the section below on how to use Advanced Mode. Click the Program Firmware button.



6. Do not unplug the USB cable until the FW updating is done. The recorder will reset automatically.



7. The recorder will automatically reconnect with the Green icon. Check to see that the FW version is correct.



8. You can now unplug the USB cable from the SwiftOne recorder and move on to the next SwiftOne unit to update.

Driver Installation:

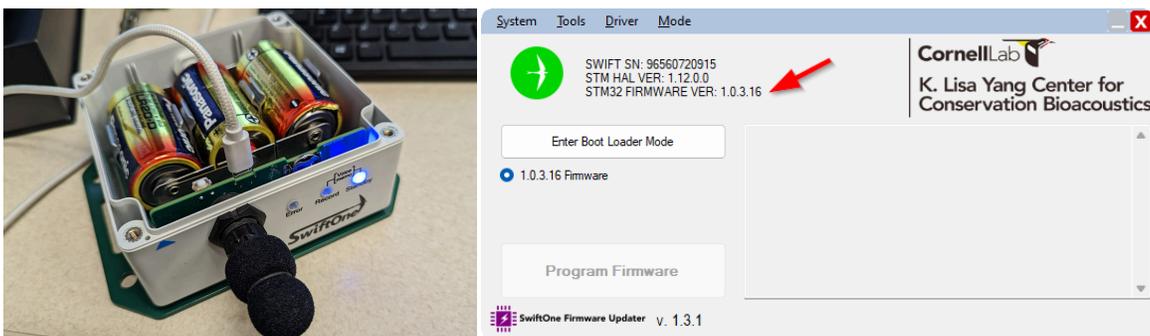
1. If your computer has never had STM32CubeProgrammer or other STM32 drivers installed, you would need to install the driver(s) to update the firmware. The easiest way to install the driver is to launch the SwiftOne Firmware Updater program first. Do not plug the SwiftOne recorder into your system yet. The program should show that there's no SwiftOne Device connected.



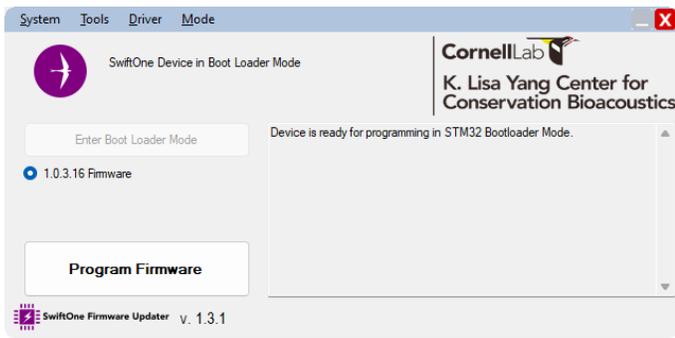
2. Plug the SwiftOne recorder into the computer using a micro USB cable. Some micro USB cables are for power only and will not properly connect to a computer. If possible, please use the micro USB cable provided with the SwiftOne.



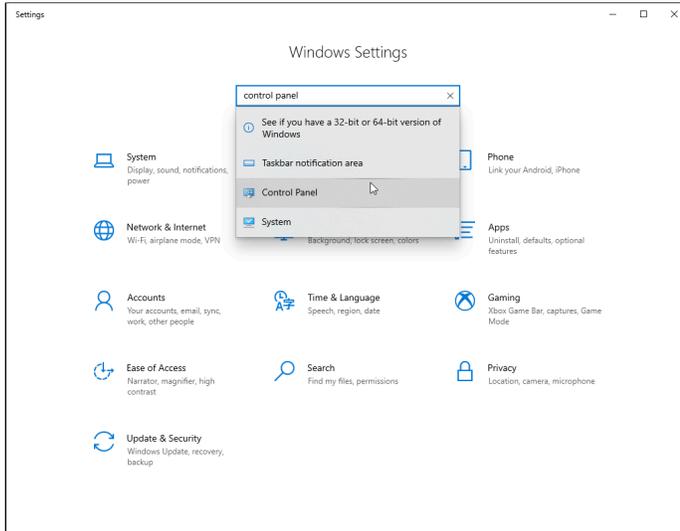
3. The SwiftOne recorder should light up the blue LED when connected to the computer. The program should automatically detect that a SwiftOne Device is connected. It should also show what version of the firmware the unit has. If the SwiftOne recorder is not detected, check the USB Cable that it's a data + power type. Try a different cable known to work with the SwiftOne Configuration Utility.



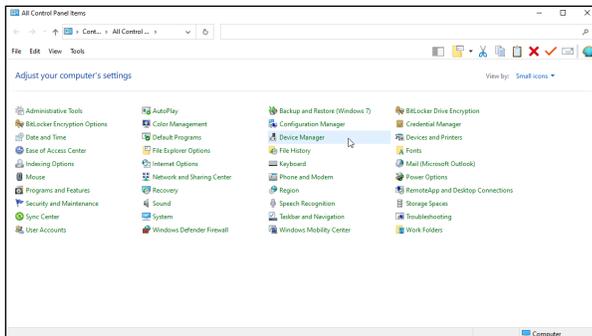
4. Click the "Enter Boot Loader Mode" button to set the SwiftOne recorder to firmware updating mode. The Swift Bird icon should change to purple if it's in a Boot Loader mode.



5. Open Device Manager from Start Menu --> Settings. This will bring up Windows Settings main window. Type "control panel" to bring up the control panel option.

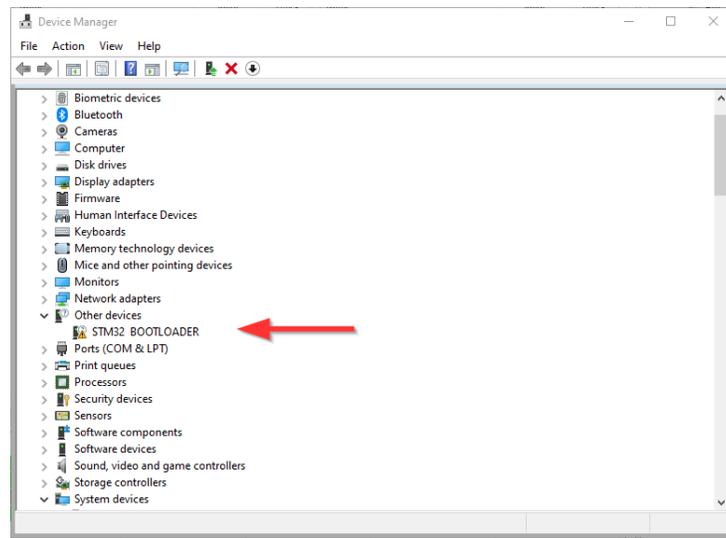


6. In Control Panel, click Device Manager to bring up the Device Manager.

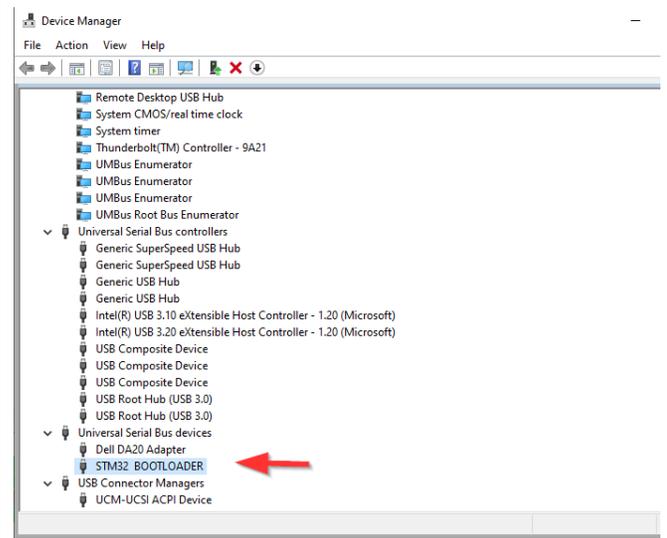


7. Look for STM32 BOOTLOADER driver in the device tree selection. It might be located in the "Other Devices" category. Note that there's a yellow exclamation mark next to the icon, indicating that the driver is missing. If your system already has the correct STM32 Bootloader driver, it will appear under Universal Serial Bus Devices. You can skip steps 7-16 and start programming the device.

The image below shows if the correct driver is not installed



The image below shows if you have the correct driver already in the system. Step 17



8. Install the driver by running the STM32CubeProgrammer software. This program will automatically install the driver you need. Administrative privilege on your system is required to use install this program. Please select the appropriate version of your operating system. Most users will have the Windows 64-bit.

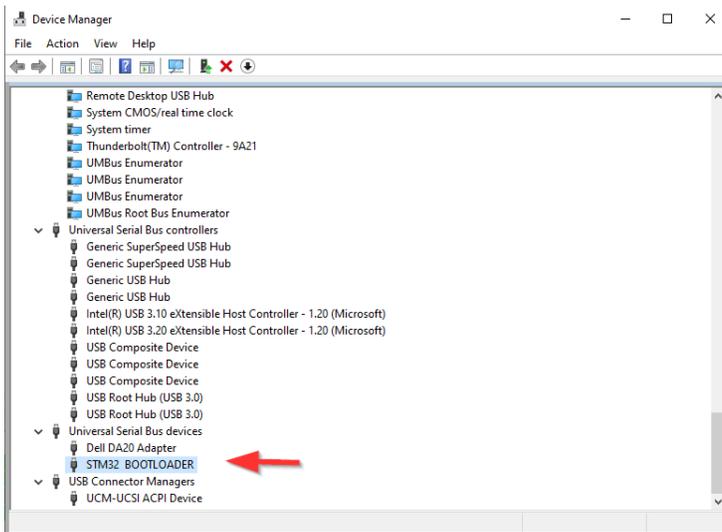
Windows 64-Bit Installer: <https://cornell.box.com/s/9e36vr5yx7rgz65uvw74tnr4ax4nw8ya>

Other Operating Systems:

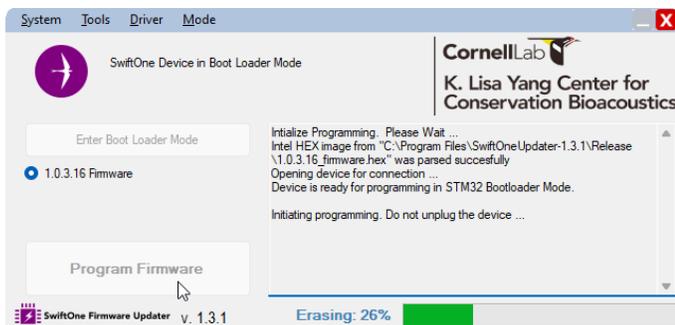
Windows 32-Bit Installer: <https://cornell.box.com/s/ypwrqsxnn0oxskxwm3dn3mik19pw76>

MacOS Installer: <https://cornell.box.com/s/1m6Yhlyofj4qjaydgcvrz53muxk9s4>

9. The Device Manager will re-enumerate all the devices. The STM32 Bootloader should now show up under Universal Serial Bus Devices as a driver. There should no longer be an exclamation mark next to it. Please note that device driver installation only needs to be done once per computer. Once the driver exists, you don't need to do anymore installation.



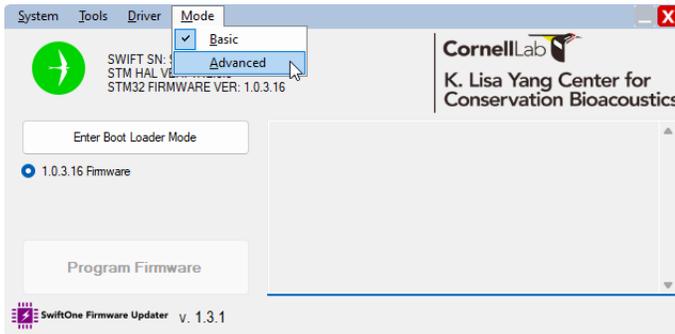
10. With the correct STM32 BOOTLOADER driver working, click the "Program Firmware" button. Let the updater finish the programming. Do not unplug the device during programming, or you could brick the device. The unit would require a special programmer to recover from bricking.



11. Once the programming is done, the SwiftOne recorder will restart automatically and reconnect. You should now see the new firmware version. In this example, the firmware number didn't change since we are programming the same 1.0.2.6 version again. This version of firmware is included with the SwiftOne Firmware Updater.



12. If you want to program a different firmware, goto the menu bar → Mode → Advanced.



13. This will bring up more options, including selecting your firmware to program. All firmware must be in a *.hex file format. Follow the previous steps to Enter the Boot Loader Mode and program the new firmware. Click the "..." button to browse for the FW hex file.

