Béton3 // Build Guide

Appendix C: Flashing Beton3 Stock Firmware

Welcome to Appendix C: Flashing Beton3 Stock Firmware. This quick guide will guide you through the process of flashing a Pro Micro/Pro Micro compatible board with the Beton3 Stock Firmware, which is recommended to be completed after final assembly is complete.

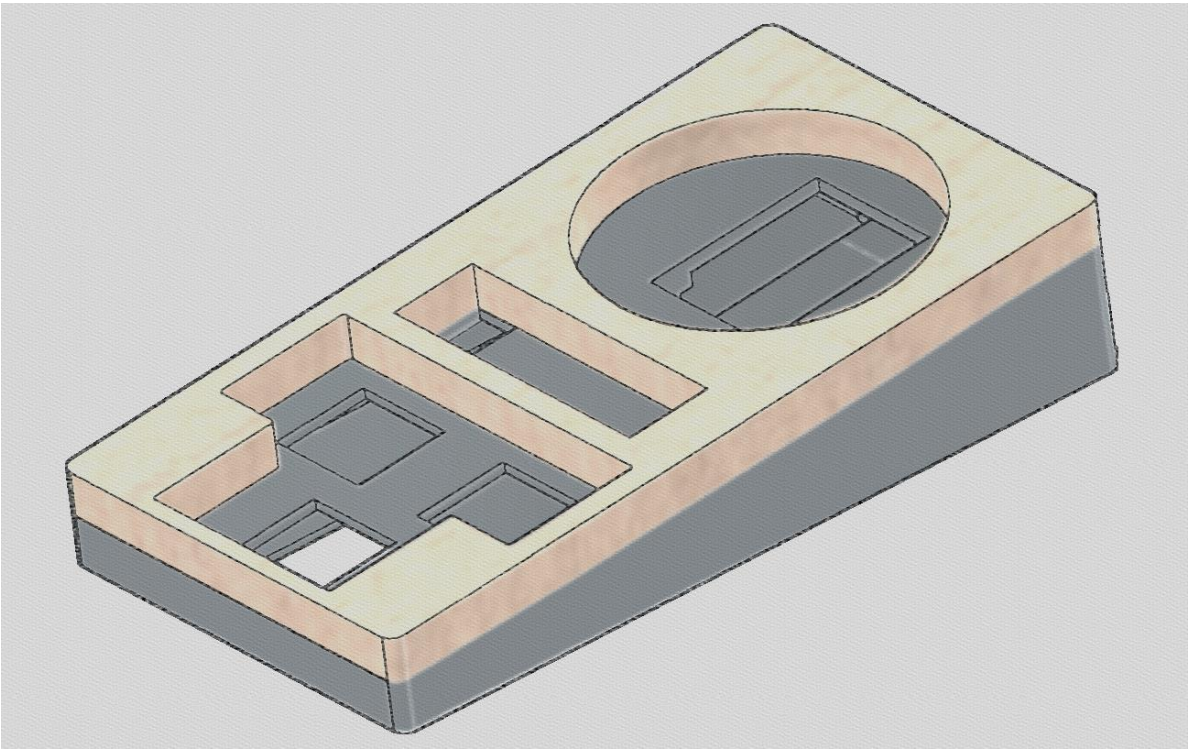


Table of Contents

What You Will Need

Before flashing the stock firmware, you'll need access to the following:

1. A computer that can run Arduino IDE (Windows, Mac and Linux are a safe bet)
2. A compatible USB Cable that can connect from your Pro Micro to said computer (probably microUSB or USB-C)
3. An assembled Beton3 (note: you can theoretically flash the Pro Micro by itself, but testing is pretty much impossible without components connected)
4. Internet connection

Setting Up Environment (Arduino IDE and required libraries)

Step 1. **Install Arduino IDE:**

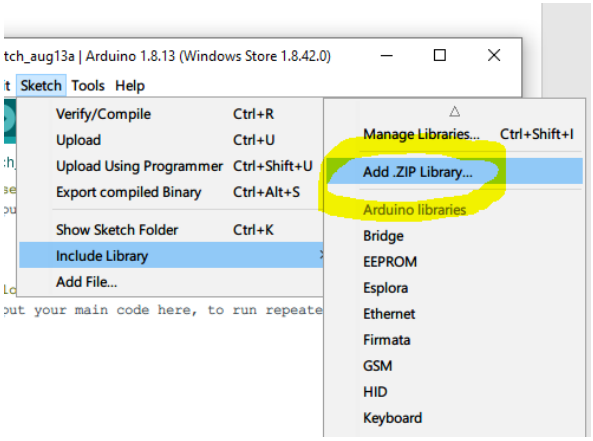
- Download and Install
- **Use the guide if necessary**

Step 2. **Download Required Libraries (.zip files, get the latest version):**

- AsyncDelay
- HID-Project
- TimerOne
- U8g2
- ClickEncoder

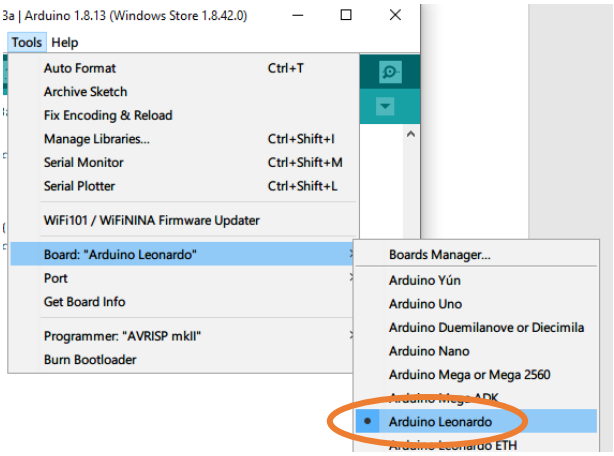
Step 3. **Install Required Libraries**

- In Arduino IDE, go to Sketch > Include Library > Add .ZIP Library… and click
- Choose one of the five .zip files you downloaded in Step 2 and click “Open”
- Repeat for the other four .zip files you downloaded in Step 2



Step 4. **Configure Arduino Mode**

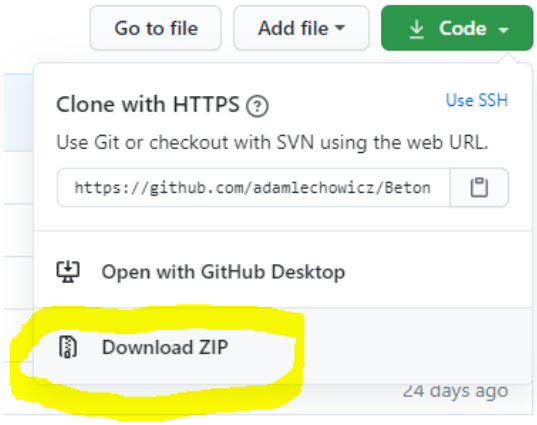
- In Arduino IDE, go to Tools > Board: “…” > and click “Arduino Leonardo”.



Downloading and Opening Stock Firmware

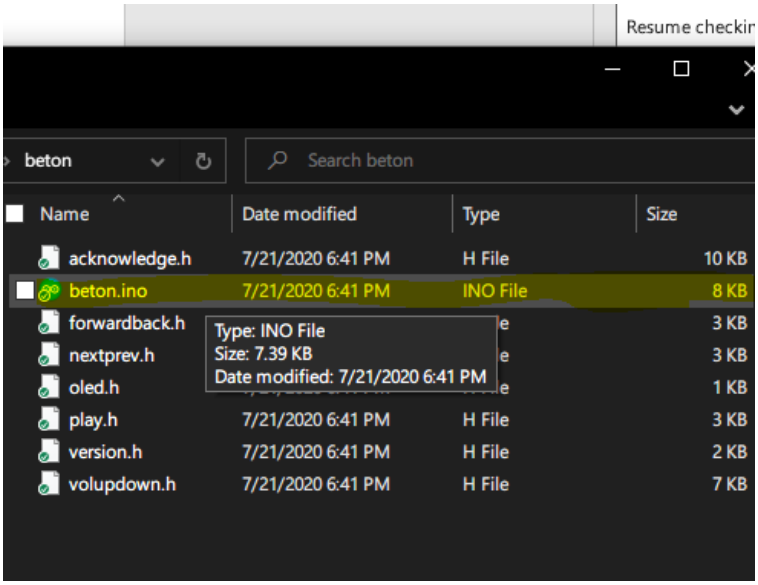
Step 1. **Cloning the Repository**

- If you haven't already, clone the entire repository to your computer. If you're familiar with Git, do this step however you see fit, but if you aren't, continue...
- On GitHub, hover over "Code" and click "Download ZIP".
- Save the repository somewhere convenient



Step 2. **Opening the Firmware in Arduino IDE**

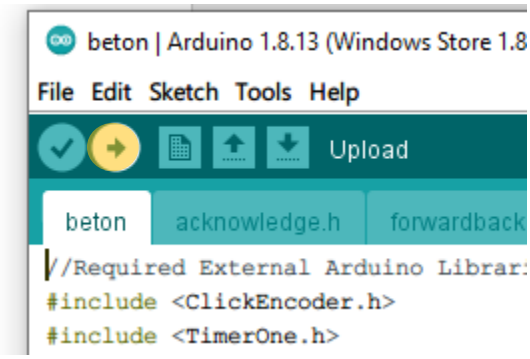
- Navigate to the repository folder and into the "Firmware Source Files" folder within, then into "beton_firmwareX.X", then into "beton".
- Within that folder, you'll see the following directory structure:
- Double click on the beton.ino file.
- Once the file opens, you should see all of the firmware files automatically open in Arduino IDE (beton, acknowledge.h, forwardback.h, nextprev.h, oled.h, play.h, version.h, volupdown.h)



Final Steps – Flashing and Testing

Step 1. **Flash!**

- Now that the project is open in Arduino IDE, connect your Beton3 using your USB cable. The Pro Micro should automatically be detected by Arduino IDE.
- Click the upload button (highlighted in yellow to the right) to flash the firmware.



Step 2. **Test!**

- Once complete, test out Beton3 by keeping it connected to your computer. As soon as the flash is completed, the OLED screen should display a quick splash screen reading “Beton3”.
- As soon as the splash screen goes away, the rotary encoder should be functioning as a volume knob.
- Button 1 should function as a play/pause button.
- Button 2 should function as a back/rewind button.
- Button 3 should function as a forward/fast-forward button.
- Finally, clicking on the rotary encoder should function as a mute toggle.
- Upon inputs, the OLED screen should display animations.