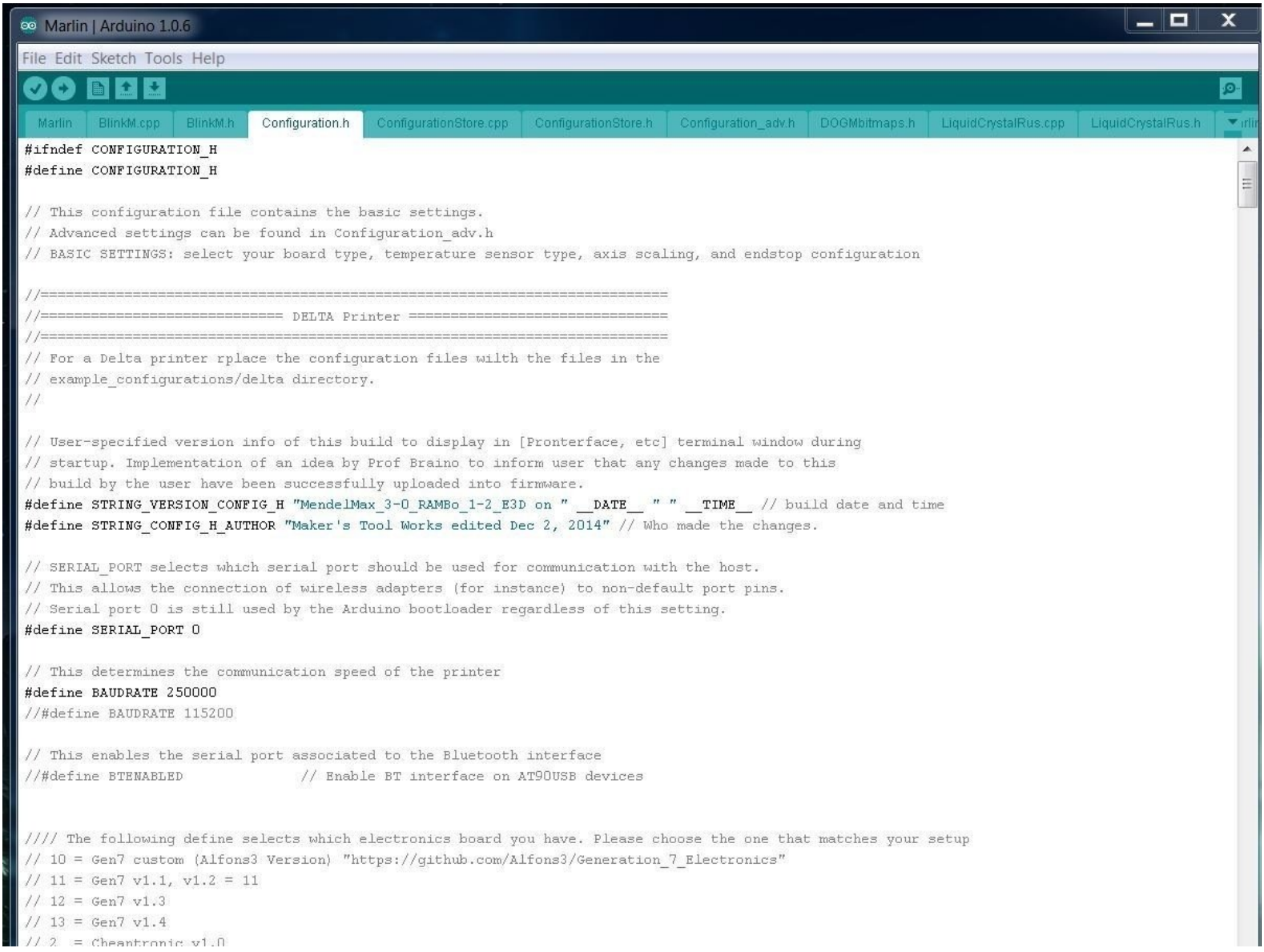
Maker's Tool Works

Firmware Programming

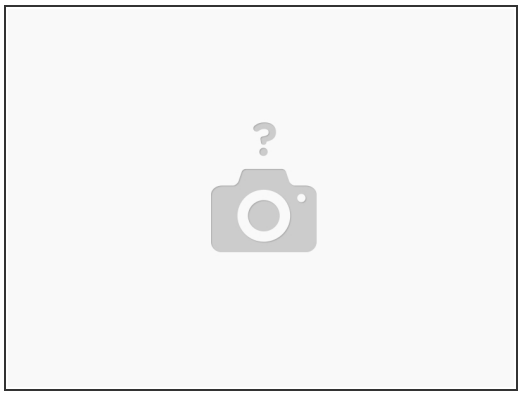
Tutorial on how to flash the firmware on the Rambo controller used in the MTW 3D printers.

Written By: Micro



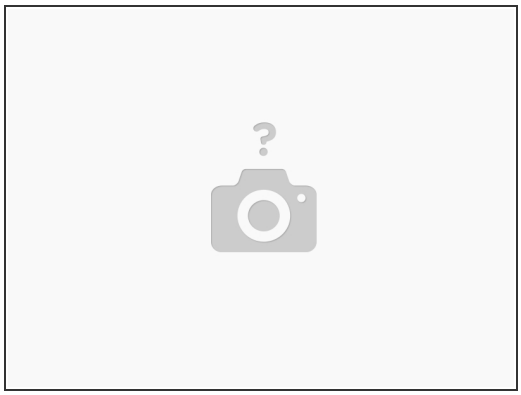
This document was generated on 2022-01-08 09:53:57 AM (MST).

Step 1 — Downloading the necessary files



- Access the Download Center and download the platform-appropriate versions of the following files: Software: Arduino, Printrun, and Slic3r.
  - Drivers (only necessary for Windows at this time) for RAMBo. Firmware, be sure to select the appropriate version for your setup.
- Unzip all files.
- Get acclimated with all of the different software:
  - Arduino is an application used to modify, compile, and upload the firmware to the print RAMBo controller.
  - Marlin is the firmware that is running on the print controller, interpreting instructions and powering the different parts of the printer
  - Repetier is the application for communicating with the printer. It takes manual instructions as well as the toolpaths that Slic3r makes and sends them to the printer
  - Slic3r is for taking 3D models and converting them into toolpaths (gcode) for the printer to understand. Included in Repetier.

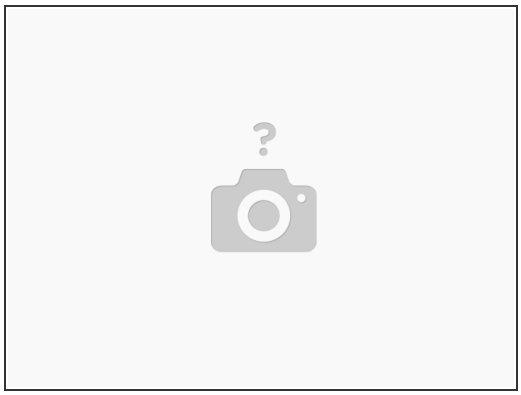
Step 2 — Configuring the Arduino IDE to upload firmware



- If using Windows, it is necessary to first install the RAMBo driver that you previously downloaded.
- Installing RAMBo Driver
- Attach the RAMBo to the computer via the USB cable.
- Under Other devices, look for the RAMBo.
- Right click RAMBo and select Update Driver Software Click Browse my computer for driver software, then click the Browse... button and browse to the directory where you have unzipped the RAMBo drivers, click OK, and then click Next

Taking note of the COM port listed in the title of the window, click close

Step 3 — Uploading the Marlin firmware using Arduino to your print controller



- Provide 24v to all the inputs on the Print controller.
- Open the previously-downloaded Arduino application by clicking on arduino.exe.
- Select File: Open. Browse into the directory that you extracted your firmware, then in the Marlin folder, then selecting the file Marlin.pde or Marlin.ino (whichever exists)
- Select Tools: Board: Arduino Mega 2560 Select Tools: Serial Port: and then the port that you noted earlier when installing drivers
- Select the Configuration.h tab, here you can review and change all the common settings and tuning changes.

Note: If you are running linux you need to change the firmware setting in Configuration.h to #define BAUDRATE 115200

- Press the Upload button. Check to see if the upload succeeded; if not, troubleshoot the board type, com port, and firmware

