A brief journey to the unknown (MaslowCNC software on Win$ 10)

(This is intended for users fresh to Arduino and/or Win$ 10 and/or Zip. {very/too detailed})

Intro ({reading optional} This is part satirical and part true ;-)):

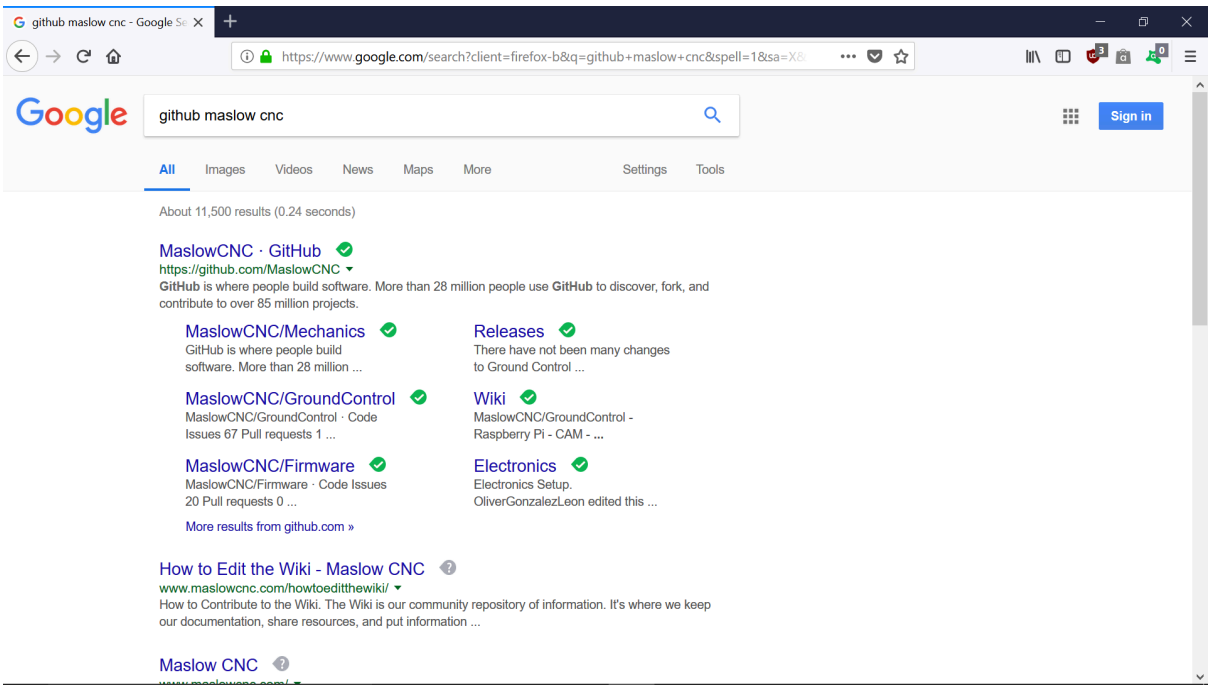
A Maslowian running Win$ 10 needed help and in future there will be more.
Maslowians stick together and help each other. Globally, without borders of countries, race, skin colour, operating systems, religion or political and personal views.
Turning solid pieces of woods, aluminiums and plastics into chips and products is a common goal that fuses us together.

Although earning a living with Win$ for ~20 years, it was my personal decision to kick it out of my personal life (~ forever) 11 years back.
To help our Maslowian friend I took a hard step (temporary) right back (from XP) into Windows 10 to create this tutorial. I love watching horror movies, but being a part of it is a different thing.

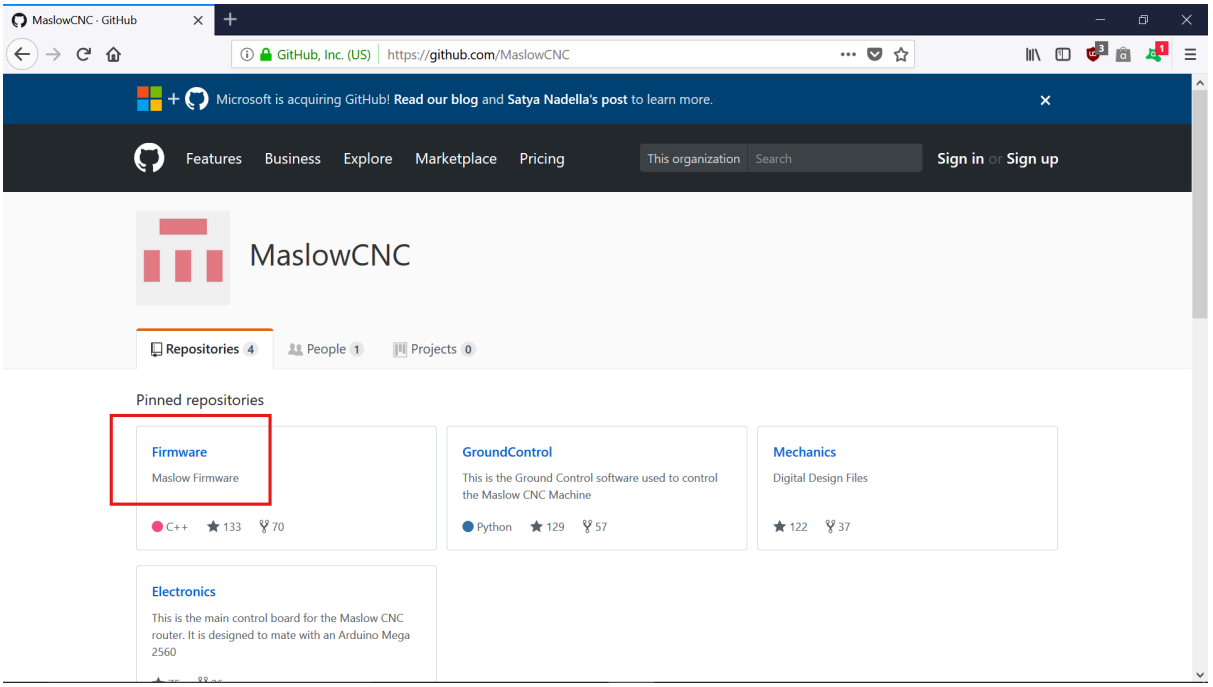
Anyhow, I asked my girlfriend and partner in life for a cross, put it around my neck and requested her Win$ 10 laptop. Thank you Jackie!
Then I layed out a pentagram with garlic on my desk (I did not have access to a chicken, otherwise I would wave used the foot to sprinkle the pentagram with the chicken blood).
I placed the laptop in the middle and had some whisky to gain courage.
A few sprinkles of holy whiskey on the keyboard, another drink and I convinced myself that now evil could obsess me during this journey.

The journey (The Arduino IDE was installed with our friend, so this part is missing):

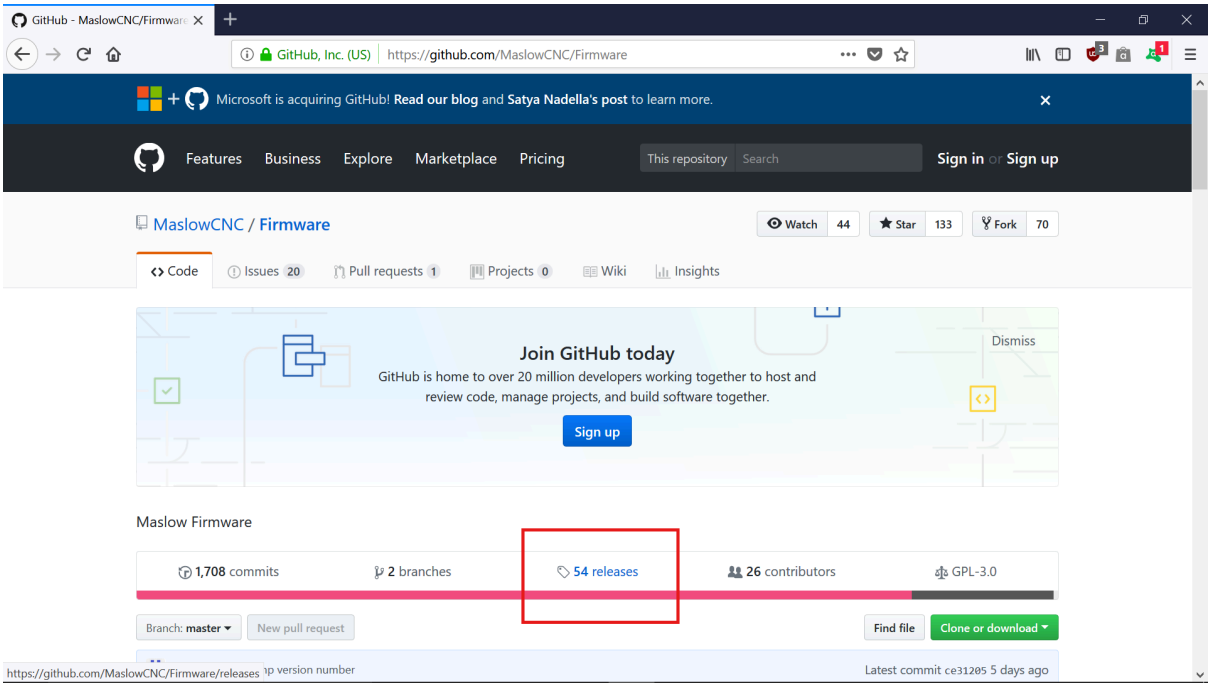
1) Navigate with your favorite browser to https://github.com/MaslowCNC



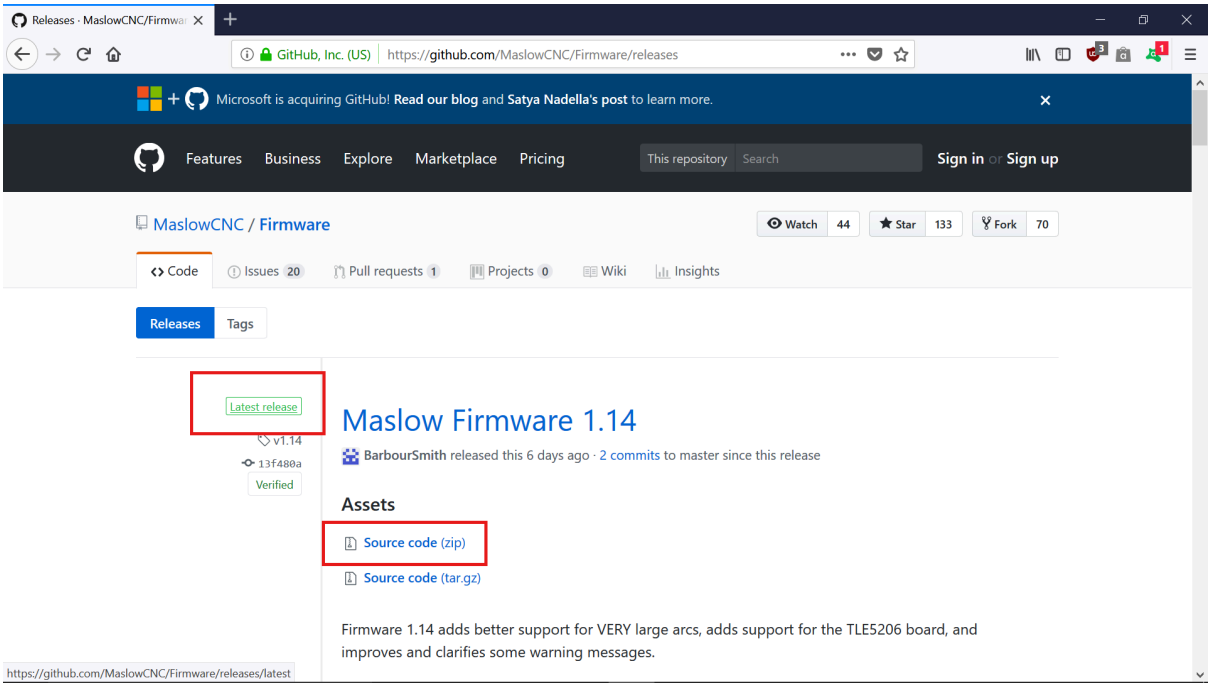
2) Click on ‘Firmware’



3) Click on ‘releases’

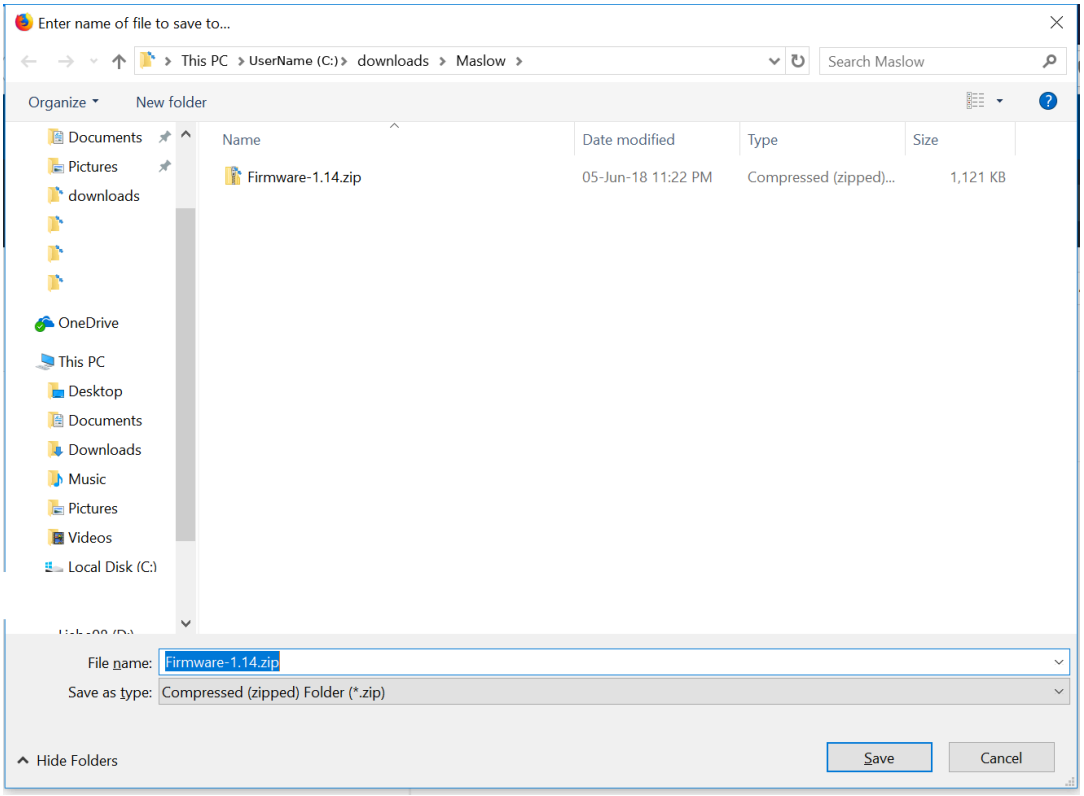


On top you will find the latest release.

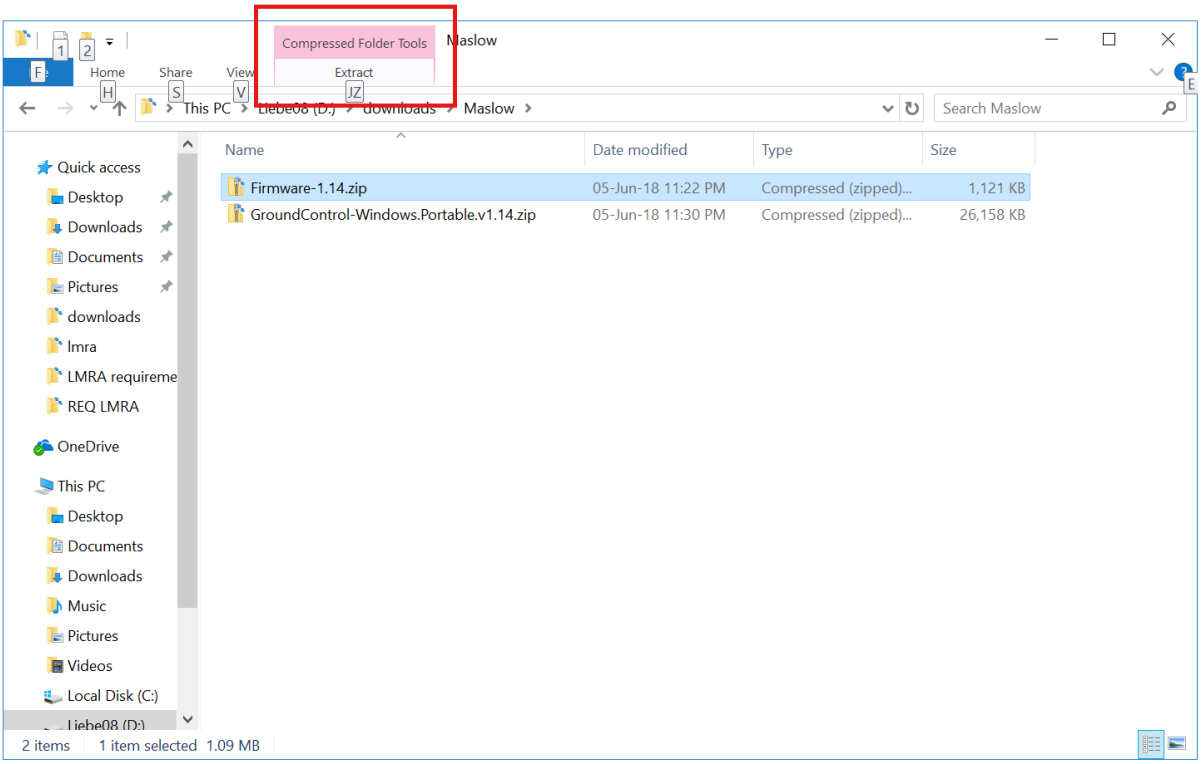


With Firmware and GroundControl it is advisable to always have the latest and matching version numbers. Bugs discovered in previous releases are fixed. Do this every 2 weeks (current update interval) to stay up to date.

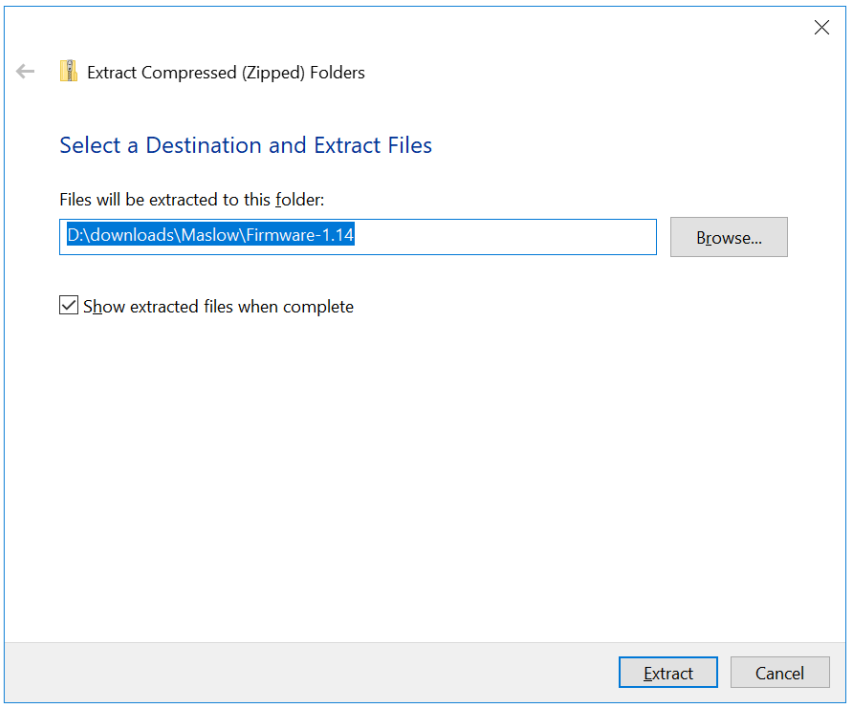
4) For Win$ 10 click on ‘Source Code (zip)’ and save the file to a location where you will find it.
It it advisable to have a folder created beforehand, like ‘Maslow’ to keep things together.



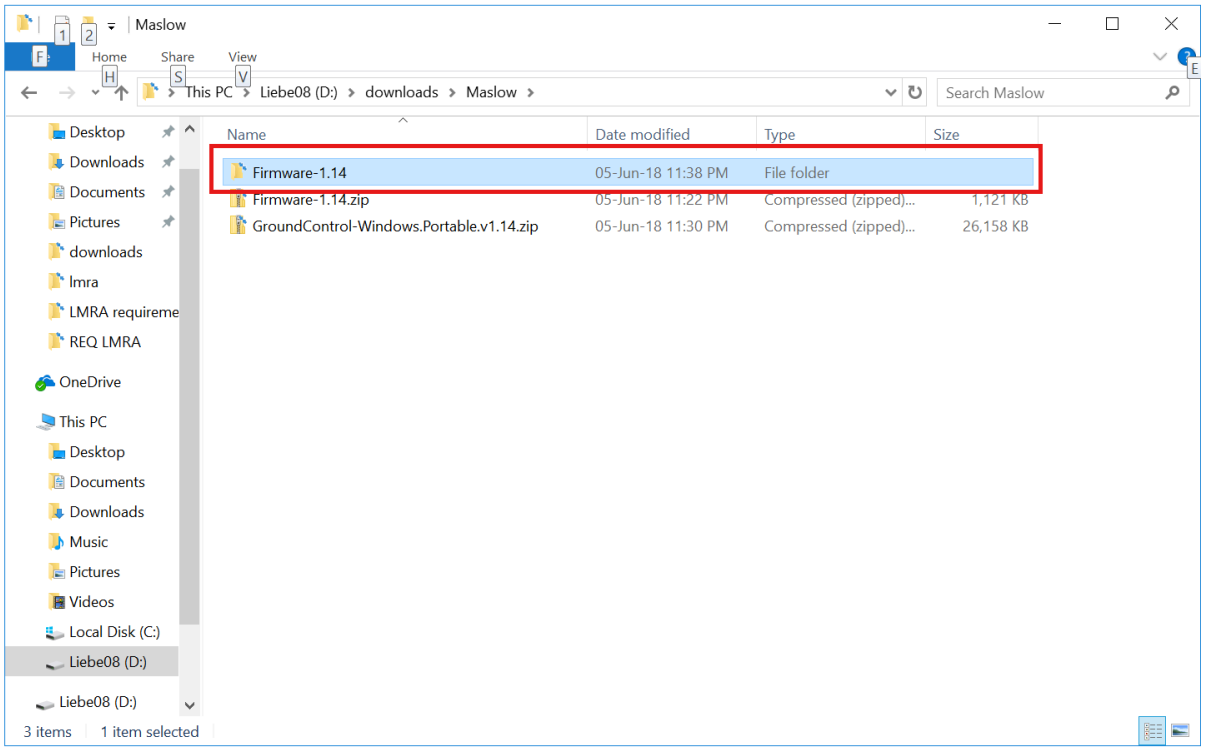
5) (Since you are already on GitHub, navigate to GroundControl and download the latest release from there as well).
Navigate with the file browser to the downloaded firmware file.
Click once on the file with the zipper icon.
On the top of the filemanager there should be an option to extract the compressed file.
(Optional, ‘right click’ on the file and choose ‘Extract All...’)



Select a destination for the extracted files.



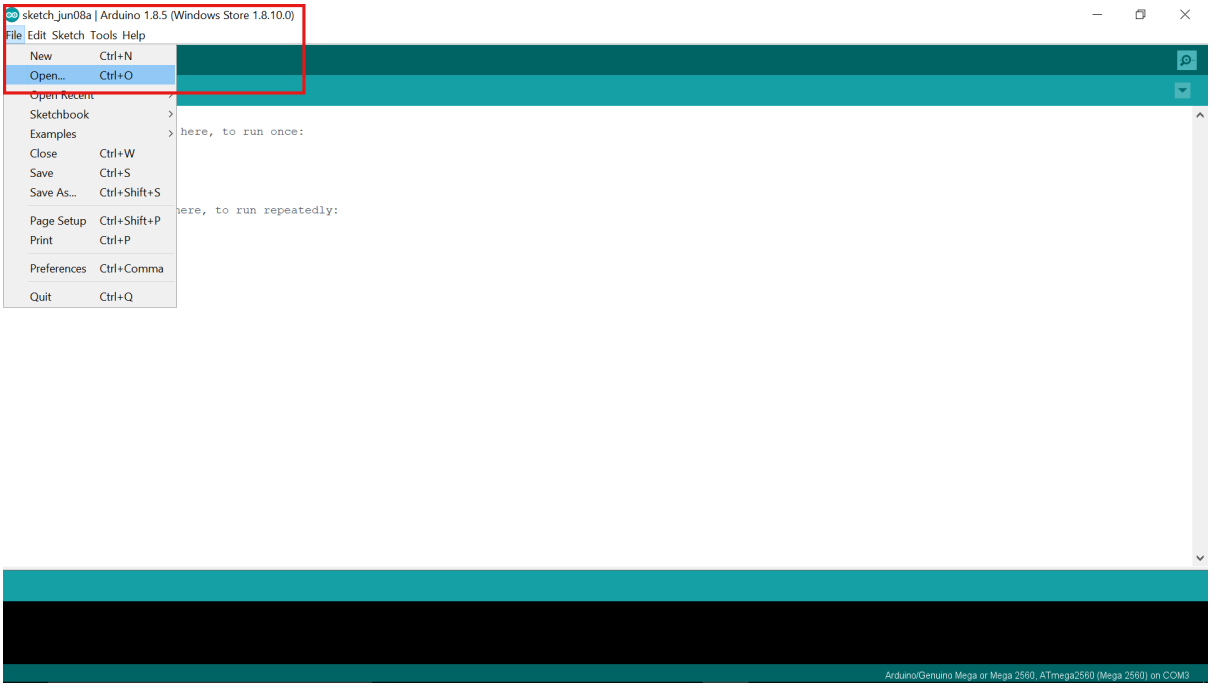
You should now have a folder with the extracted firmware (folder symbol without the zipper).



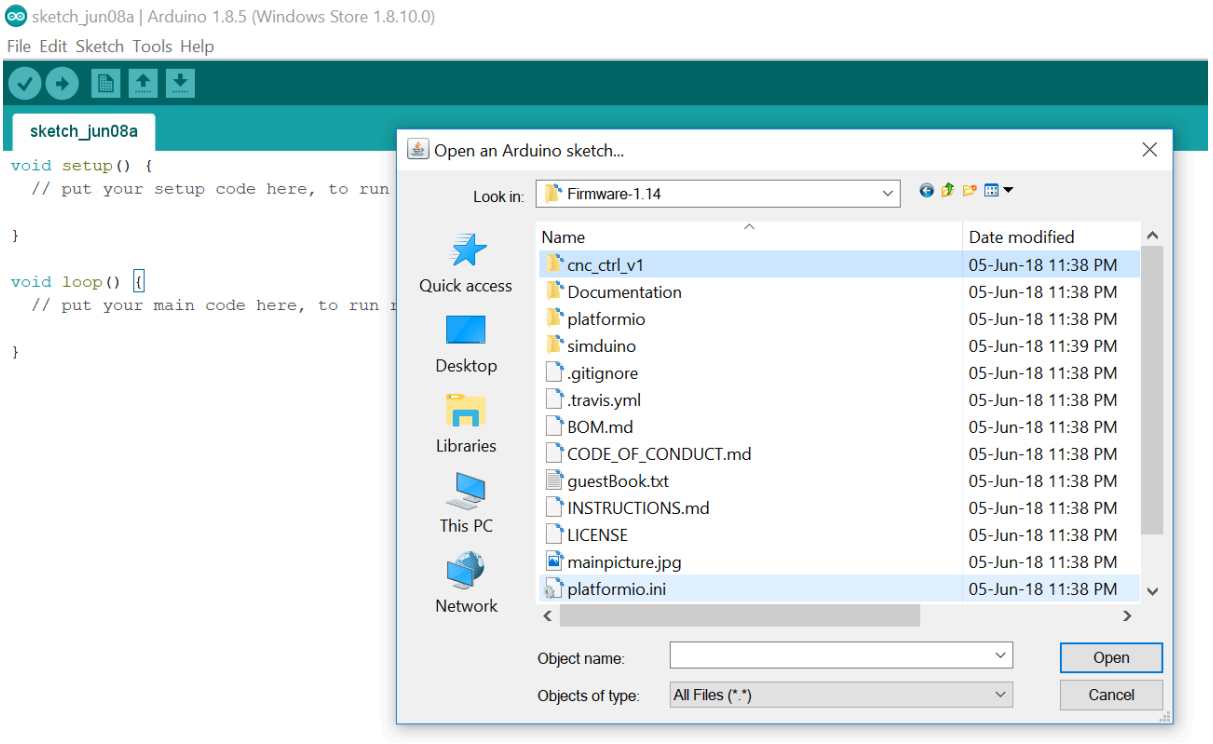
Time to fire up the Arduino software.

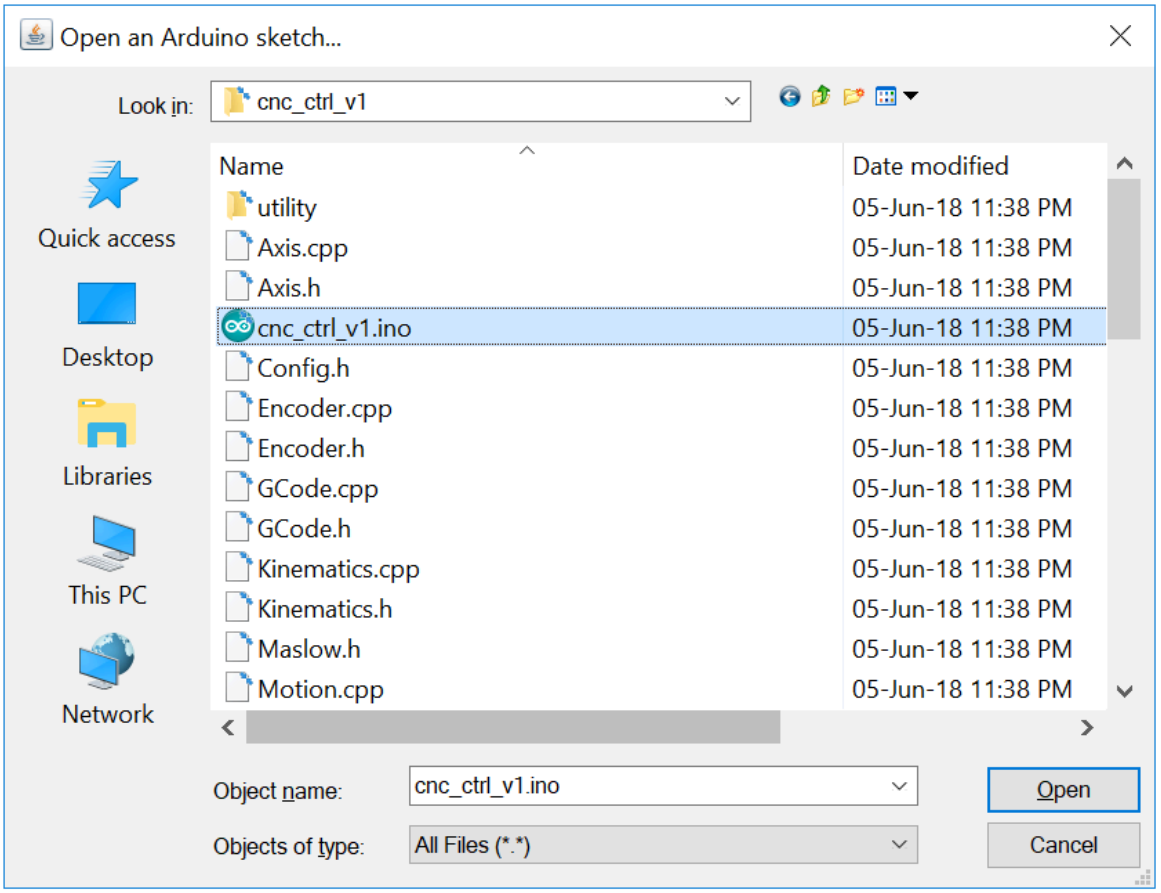
6) Open the firmware and upload it to the Arduino Mega

In the Arduino software click on ->File ->Open and navigate to the extracted firmware folder.

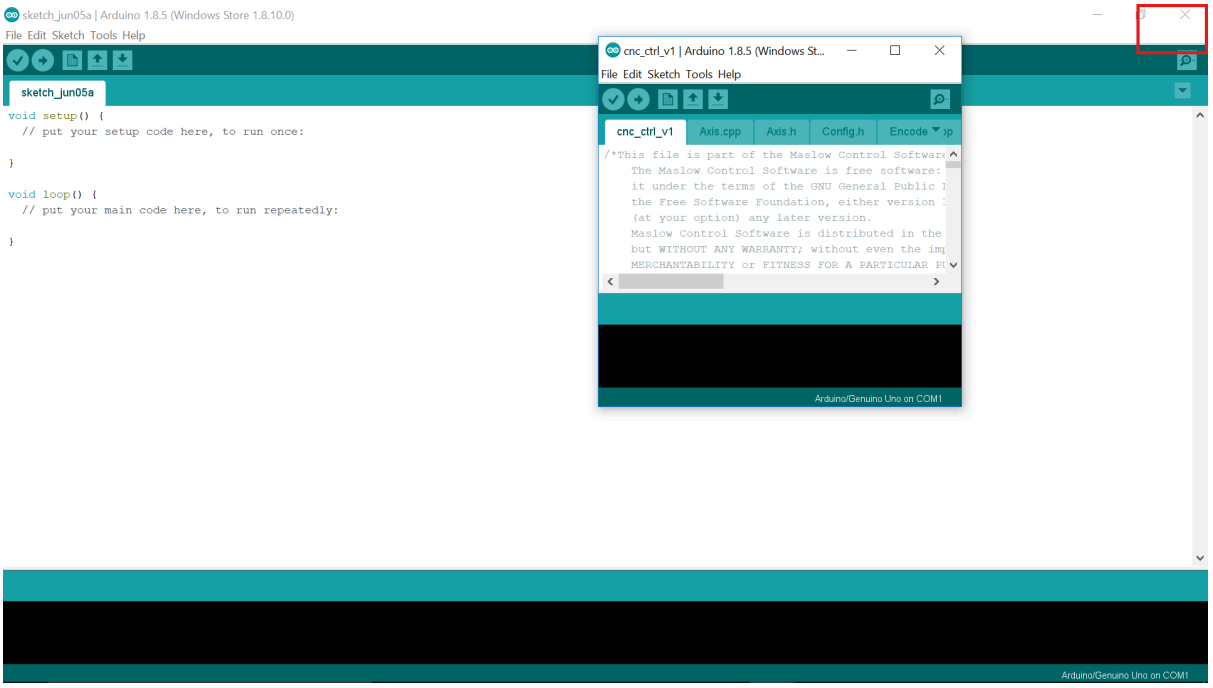


In the firmware folder open the ‘cnc_ctrl_v1 folder’ and find the ‘cnc_ctrl_v1.ino’ to open in the Arduino software.



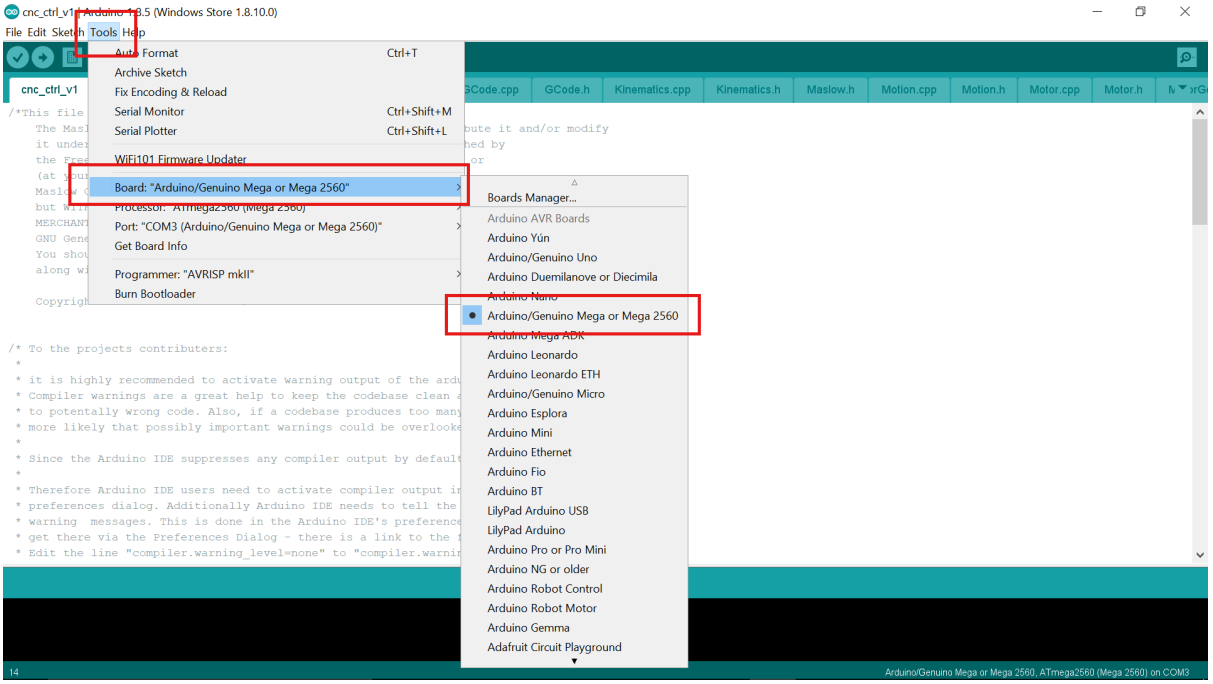


The Arduino software will now have 2 windows open. Close the one in the background (empty sketch and only one tab) and only keep the one with ‘cnc_ctrl_v1’ in the top bar open.

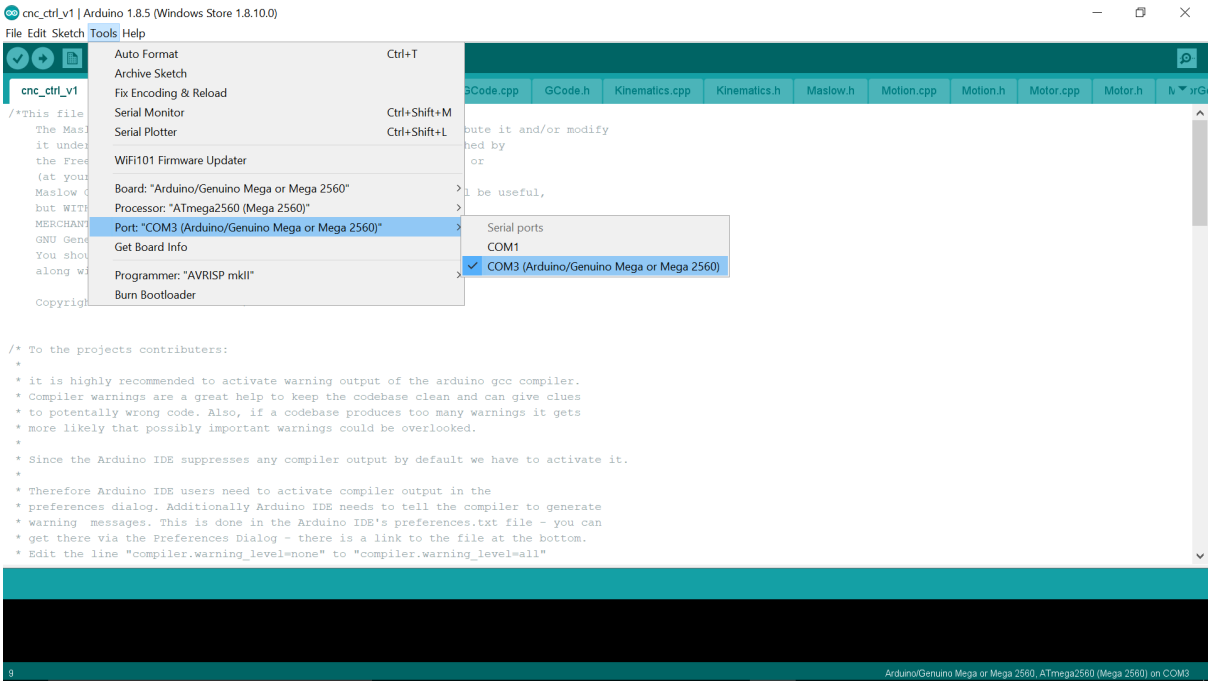


If you have not already, now is a good time to connect your Arduino Mega to a USB port on your PC. (give it ~3 seconds before proceeding)

Next you click on -> Tools -> Board and select the option ‘Arduino/Genuino Mega or Mega 2560’



Then you click on -> Tools -> Port and should find a port that has a ‘checkmark’ (in my case COM3 but the number might vary depending on your PC).



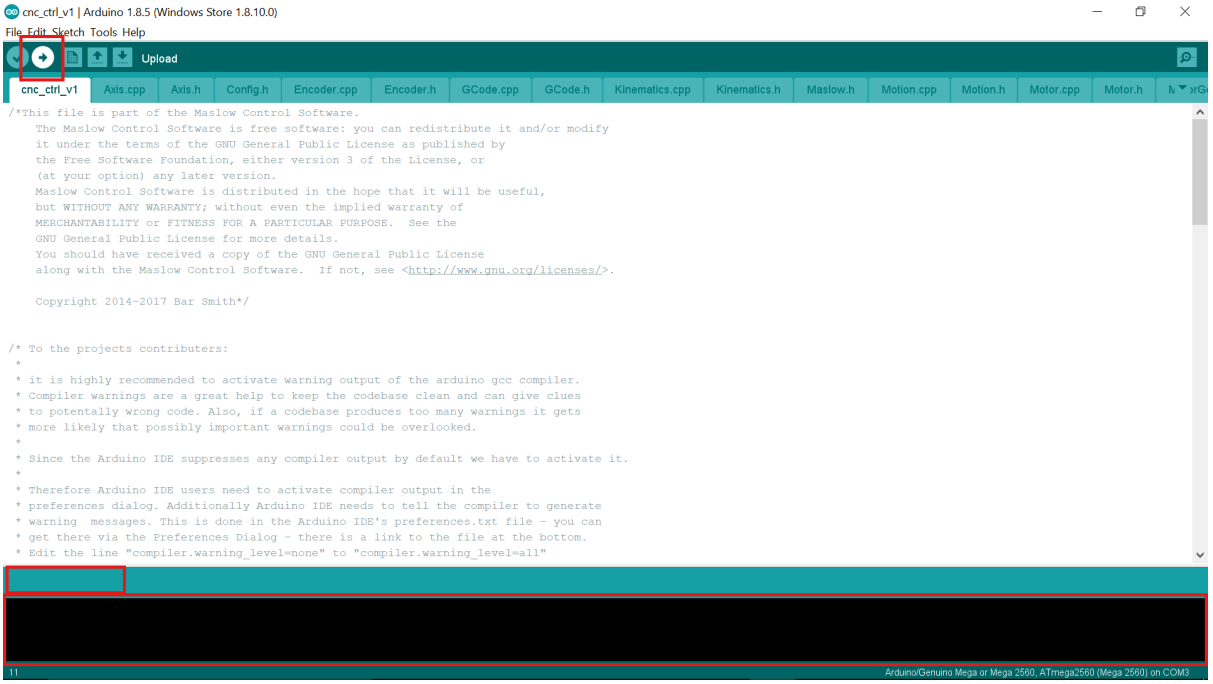
You have 2 options now to verify that your Mega is connected.

- Click -> Tools -> Get Board Info and if you are presented with a window including a serial number you are ready to proceed
- Click somewhere in the white space to close the tools menu and disconnect the Mega from the USB. Click on -> Tools -> Port and should now only have (a) port(s) without a ‘checkmark’. Plug in the Mega again and repeat the process and if you find a port with a ‘checkmark’ added you are ready to proceed.

If none of this 2 options work additional troubleshooting is required. The amazing community on the https://forums.maslowcnc.com will be more than happy to help.

But you have followed the steps precisely and have a port with a ‘checkmark’? Let’s get the firmware loaded.

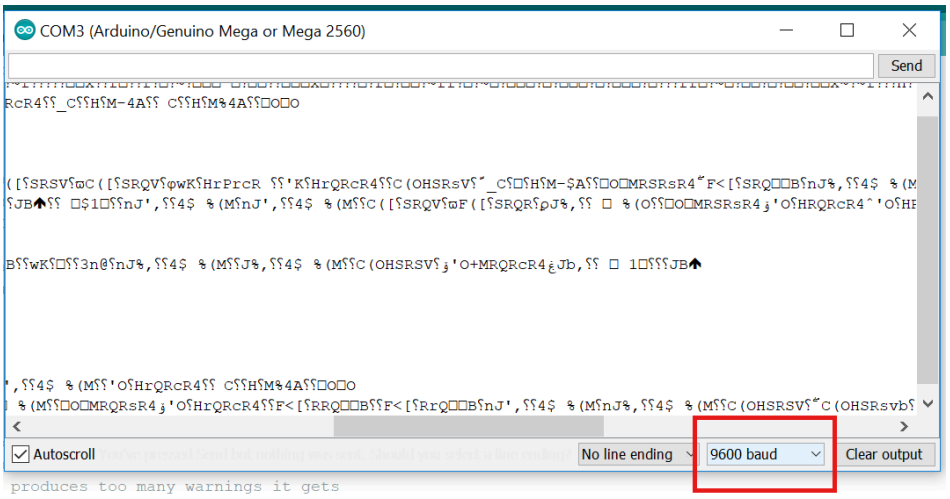
Click on the ‘right arrow circle’ to upload the firmware



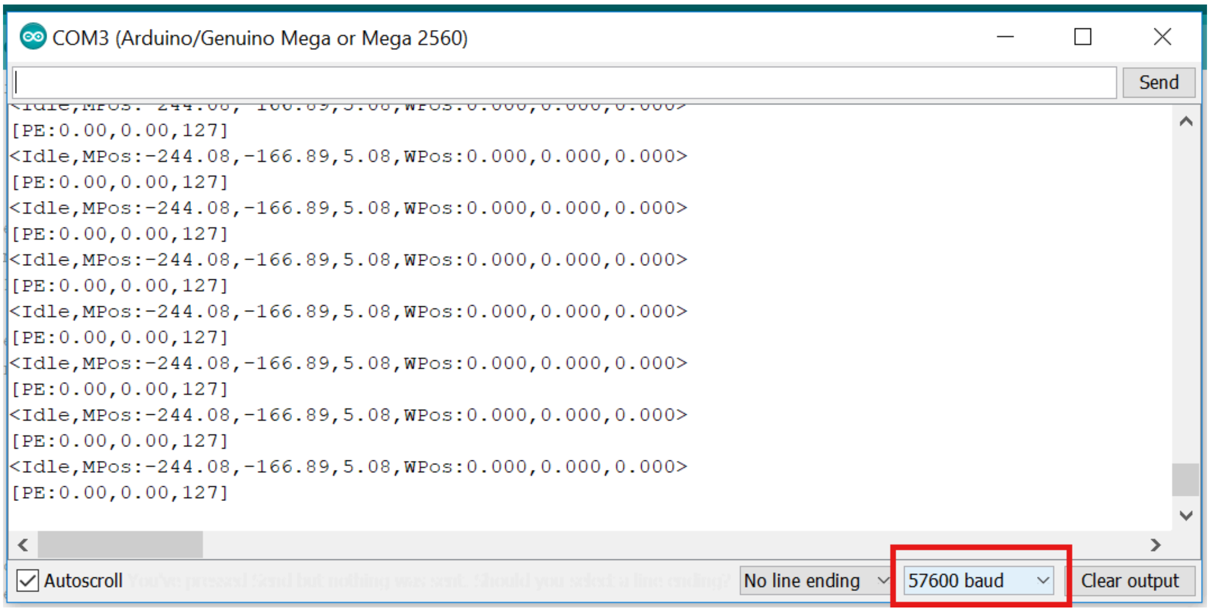
Keep an eye on the black window and the green bar above. In the green bar you should see Compiling sketch... ‘, Uploading... ‘ and wait for the ‘Done uploading.’.

(If there are errors during the upload, they will show in the black window and the ‘Done uploading.’ will not appear. To effectively troubleshoot errors, the information in the black window is essential for the community to help. You can increase the size of the black window by hovering between the down light green bar and the white and make the black window bigger and scroll and now would be a good time to take a screenshot.)

But everything went well, right?
If you wish to check if the firmware is running in the Mega, you have the option to see if it talks back to you from within the Arduino software. The is a symbol of a magnifying glass in the top right corner, called the serial called the ‘Serial Monitor’. It will show you the feedback of the Maslow firmware once successfully uploaded.
It shows cryptic symbols?

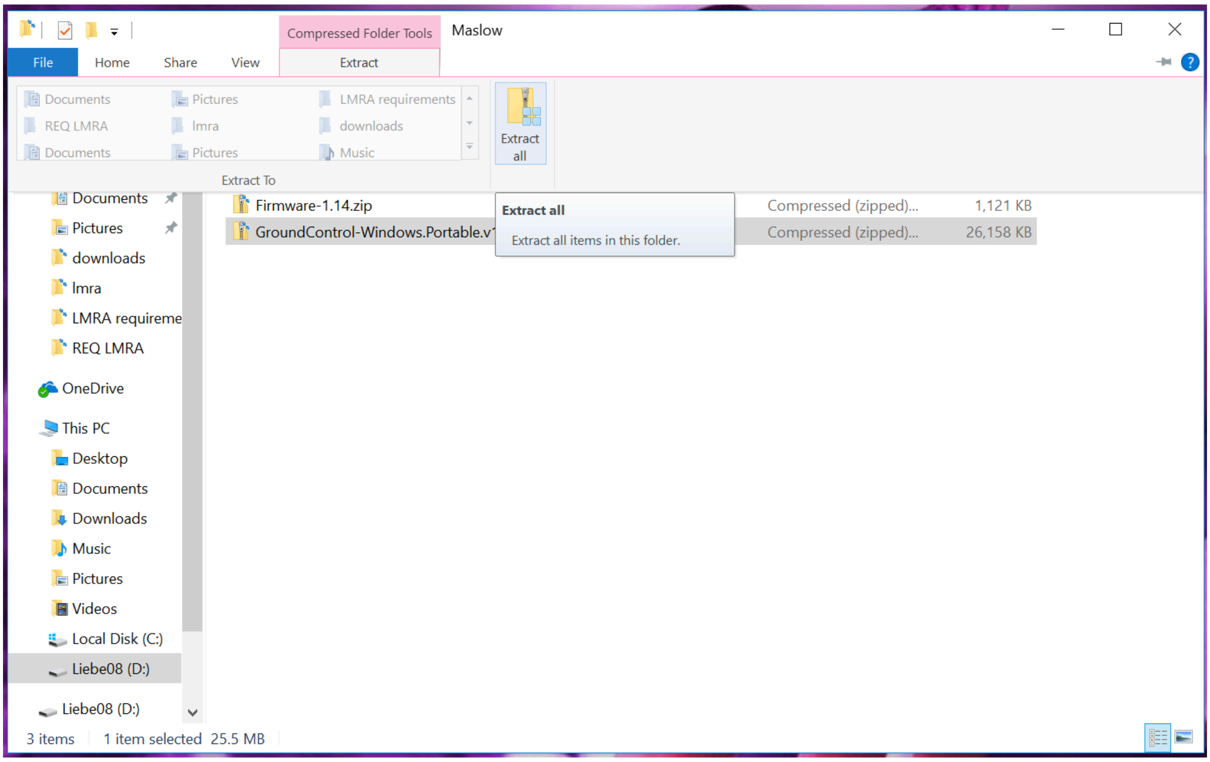


Change the baud to 57600 and now you should see reporting positions like this:

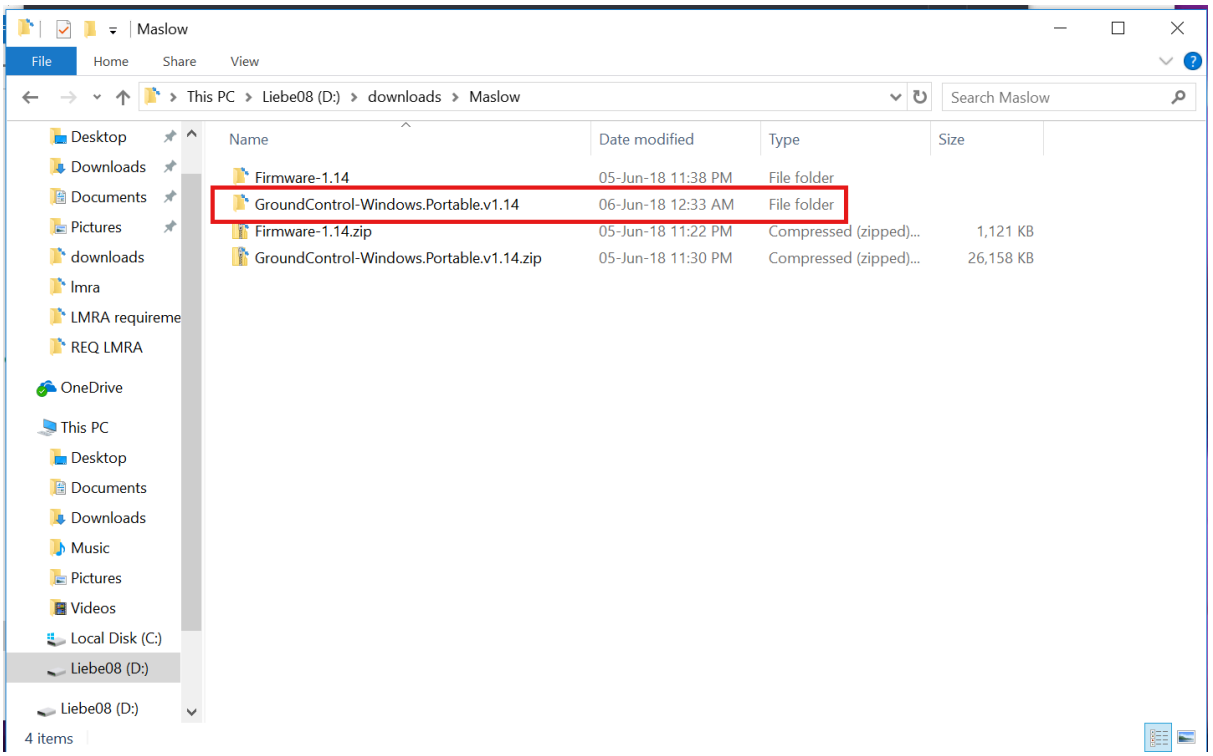


Now that you have thoroughly confirmed that the firmware is on the Mega and running, it's time to close the 'Serial Monitor' and the Arduino software (always make sure the Arduino software is closed before starting GroundControl).

7) Time to cut amazing things, GroundControl.
Let's assume you followed my advice on 5) and have already downloaded the latest GroundControl-Windows.Portable.v(x.xx0.zip.
Extract the compressed file to it's own folder the same way as you did with the firmware.

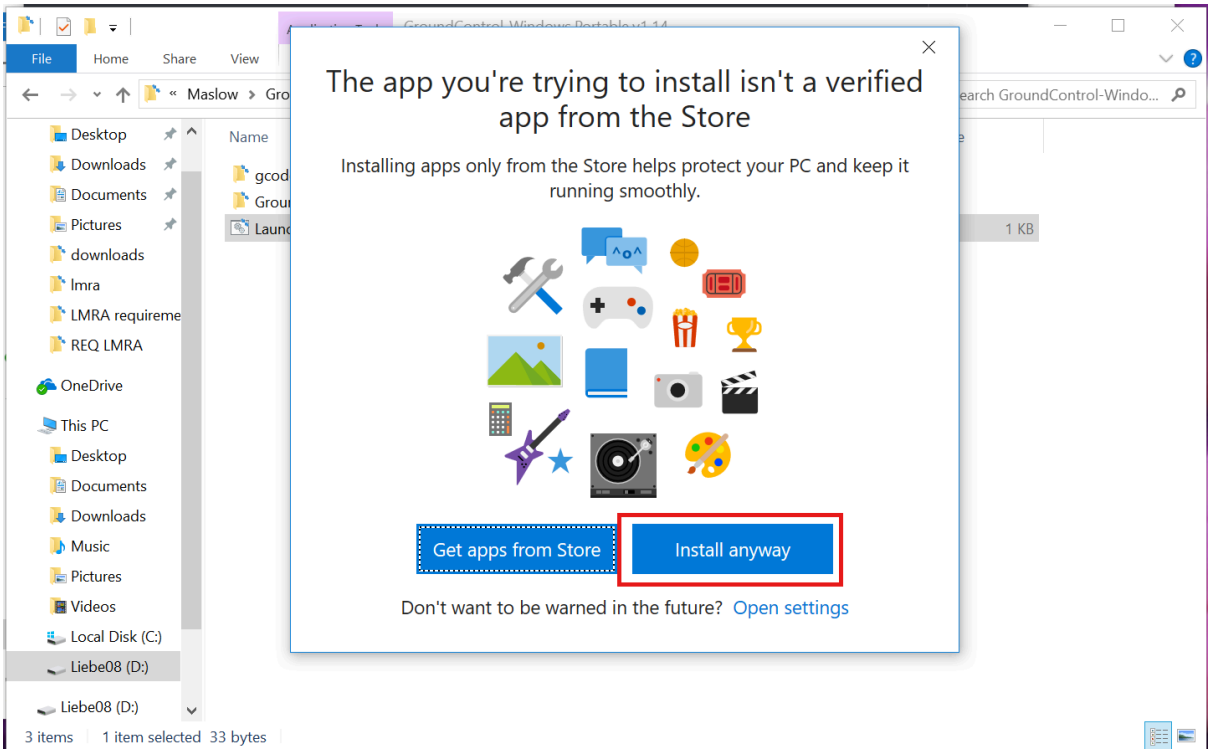


You should now have a folder of GroundControl without the zipper symbol.

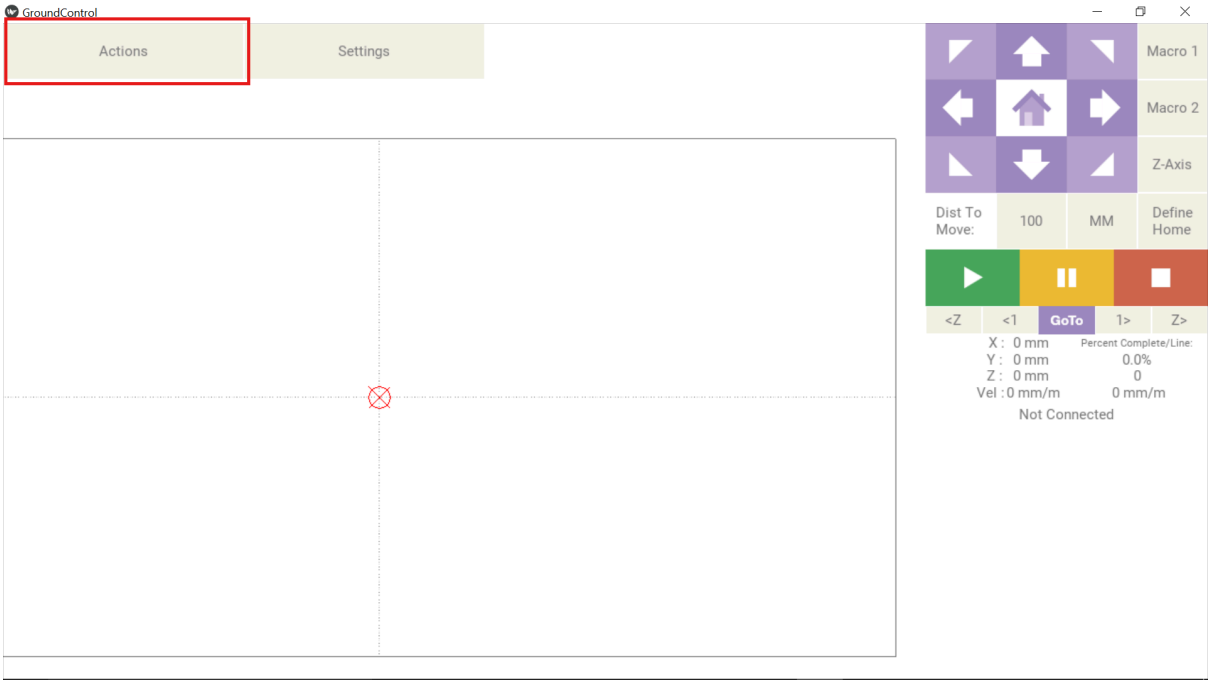


Double click on it to launch to enter the GroundControl folder and launch

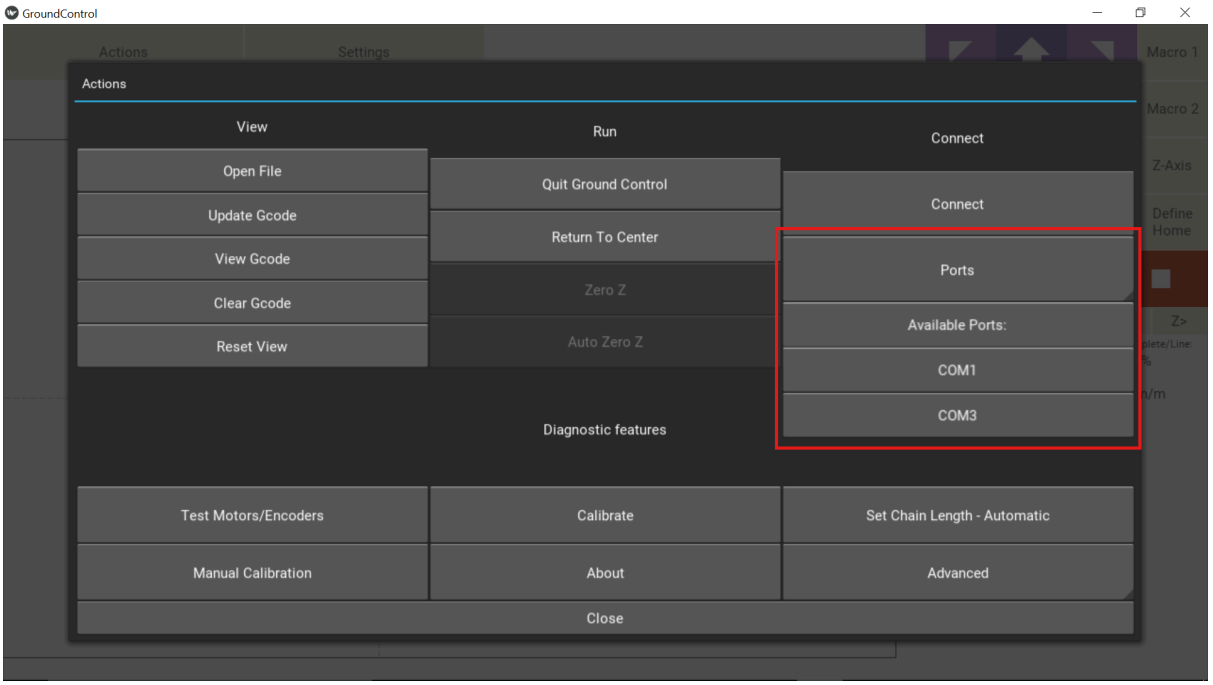
Here you will be presented with a security warning.
Click ‘Install anyway’.



You should now see a screen like this and click on ‘Actions’

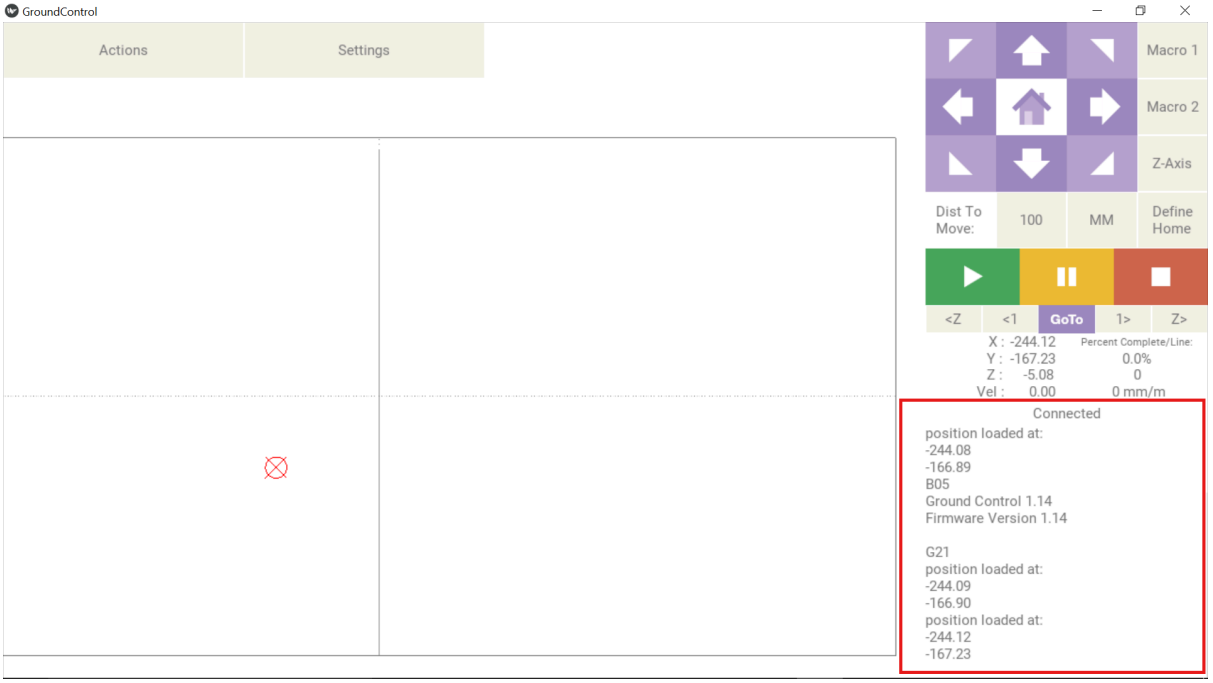


In the next window choose the same port that you have used with the Arduino software to upload the firmware.



Not sure here if you need to click the ‘Connect’ button after. I missed it, sorry, but it can’t harm.

Clicking the ‘Close’ button at the bottom, you should now see in the right/down screen that you are connected and the Firmware/GroundControl version you are using.



You are ready to proceed with the calibration. ->Actions -> Calibrate

Don’t forget to share the amazing things you cut in the forum https://forums.maslowcnc.com and the Maslow community garden http://maslowcommunitygarden.org/