



Maxduino Uno Hat

YOU MAKE ROBOTS

# Intro

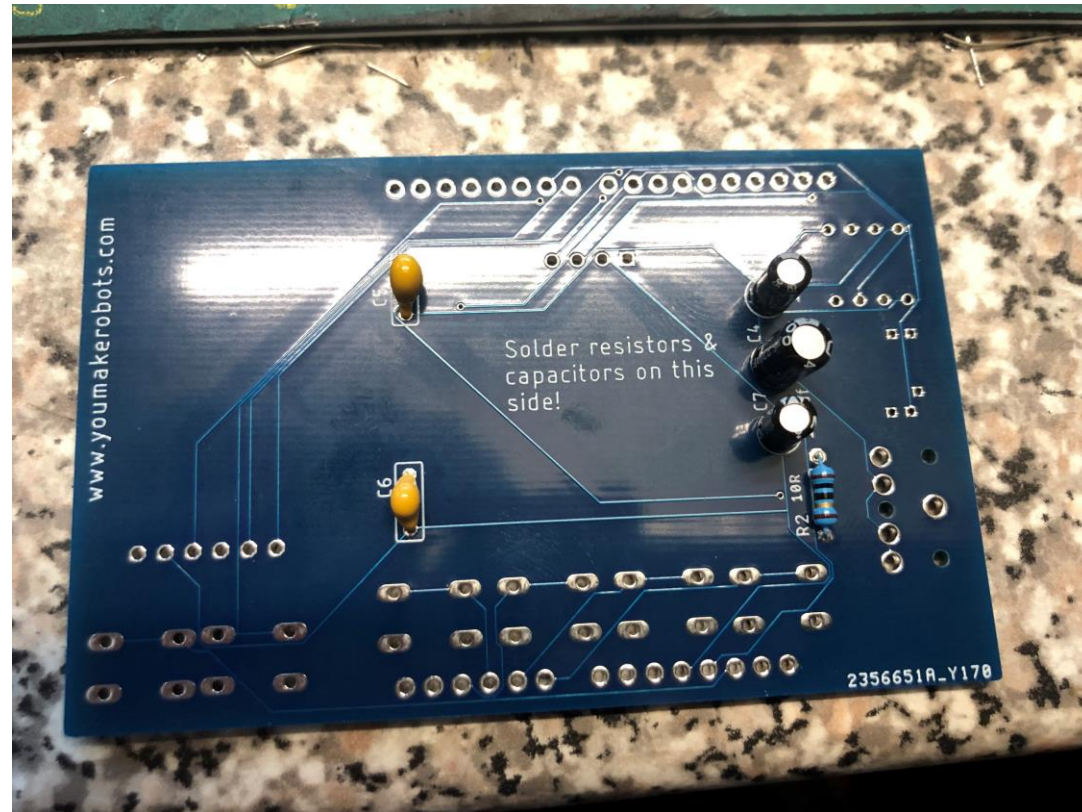
- Maxduino Uno Hat is a kit PCB to transform a Arduino Uno into a Maxduino/TZXduino/Casduino/ArduiTape device.
- You need to provide your own Arduino Uno R3
- Currently you can use TZX\_Tools found [https://github.com/rickyelqasem/TZX\\_Tools](https://github.com/rickyelqasem/TZX_Tools) to install a logo and one of 3 variants of the Maxduino firmware. This kit will work with the other firmware but you will have to manually upload them using the Arduino IDE for now.

# Components

- 1 x 220uf Electrolytic capacitor C4
- 1 x 100uf Electrolytic capacitor C7
- 1 x 10uf Electrolytic capacitor C3
- 1 x 56nf ceramic capacitor 563 C5
- 1 x 100nf ceramic capacitor 104 C6
- 1 x 10R resistor R2
- 1 x LM386 IC
- 1 x chip socket
- 1 x 2.5mm jack socket
- 1 x 3.5mm jack socket
- 1 x OLED screen
- 1 x SD card module
- 1 x PCB
- 6 x buttons

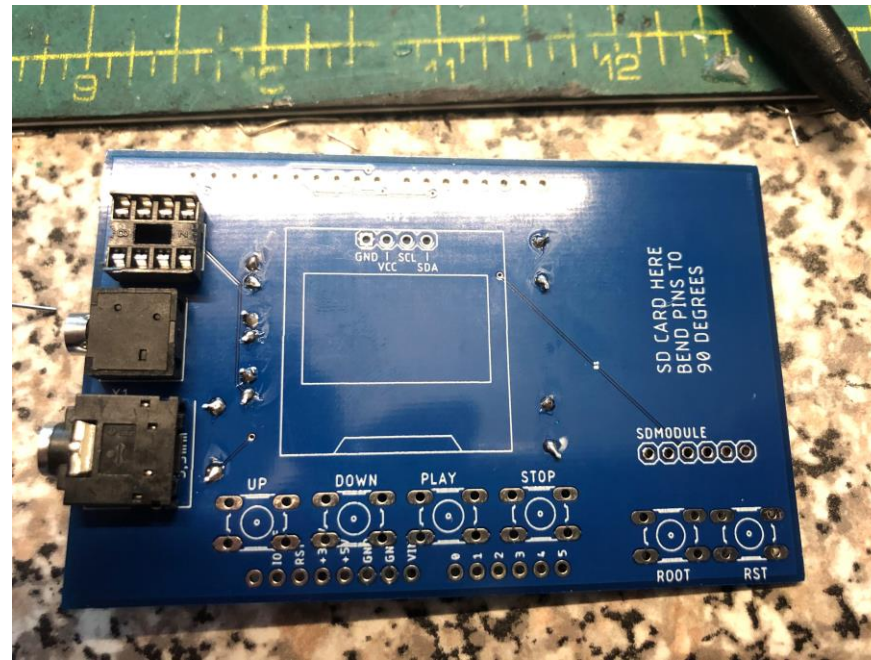
# Step 1 The small components

- All the capacitors and resistor are soldered on the backside of the PCB



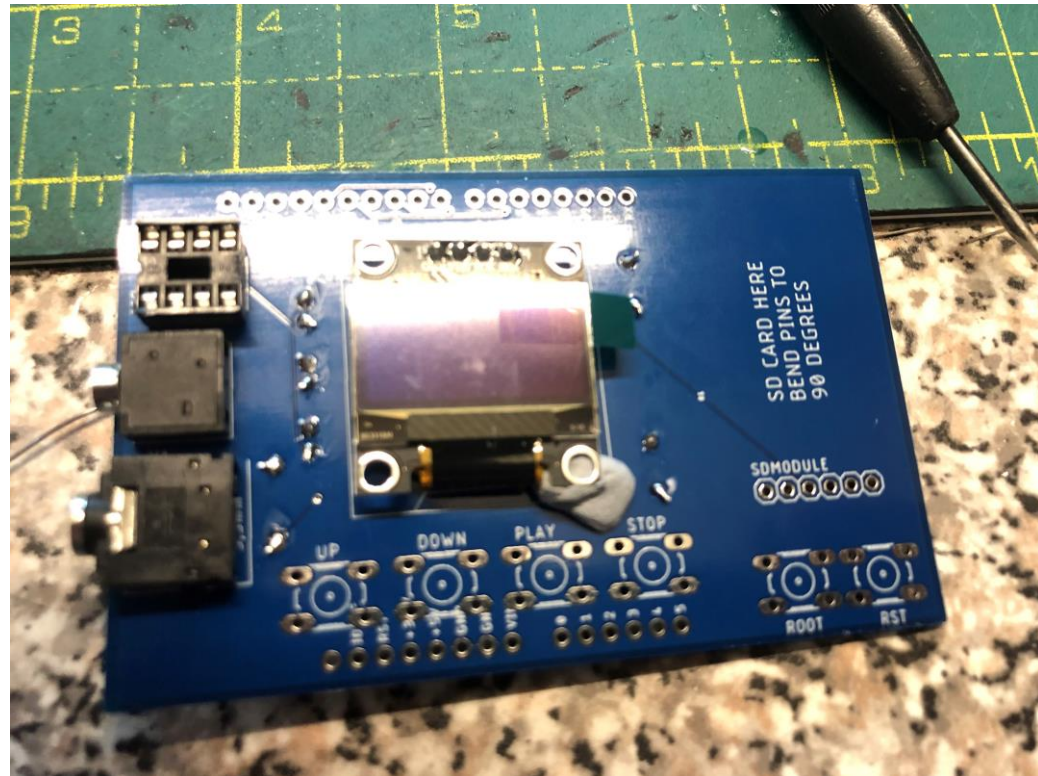
# Step 2

- Solder the Audio Jacks and the 8pin IC socket to the left of the topside of the PCB



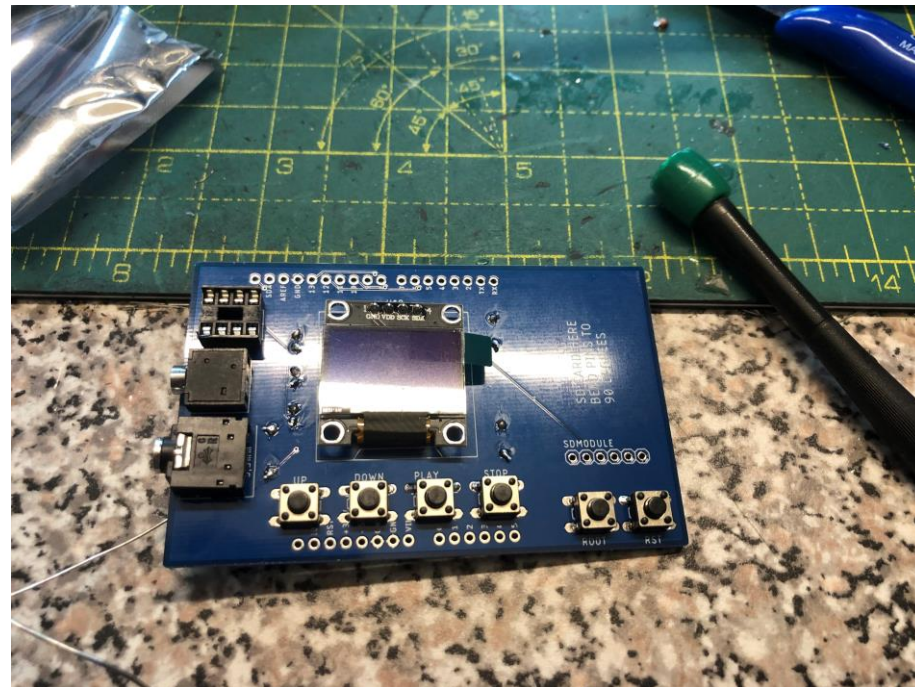
# Step 3

- Solder the OLED on the topside of the PCB. I usually use some bluetac to hold the OLED in place while soldering then remove after.



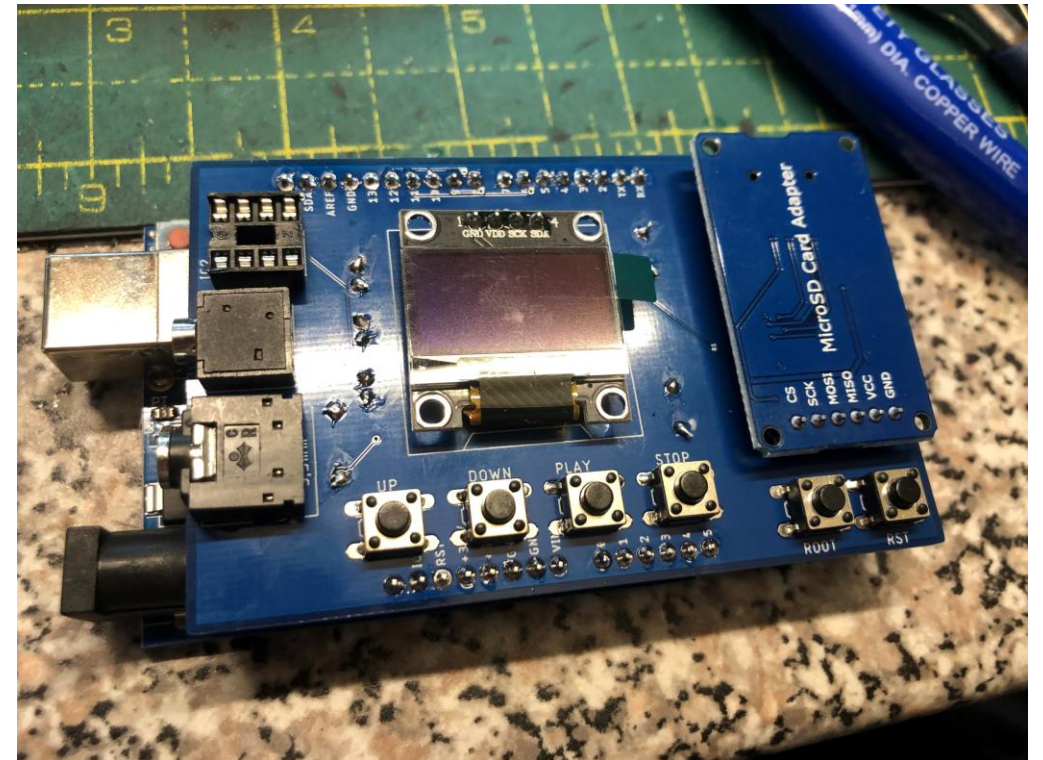
# Step 4

- Solder the 6 buttons on the topside of the PCB



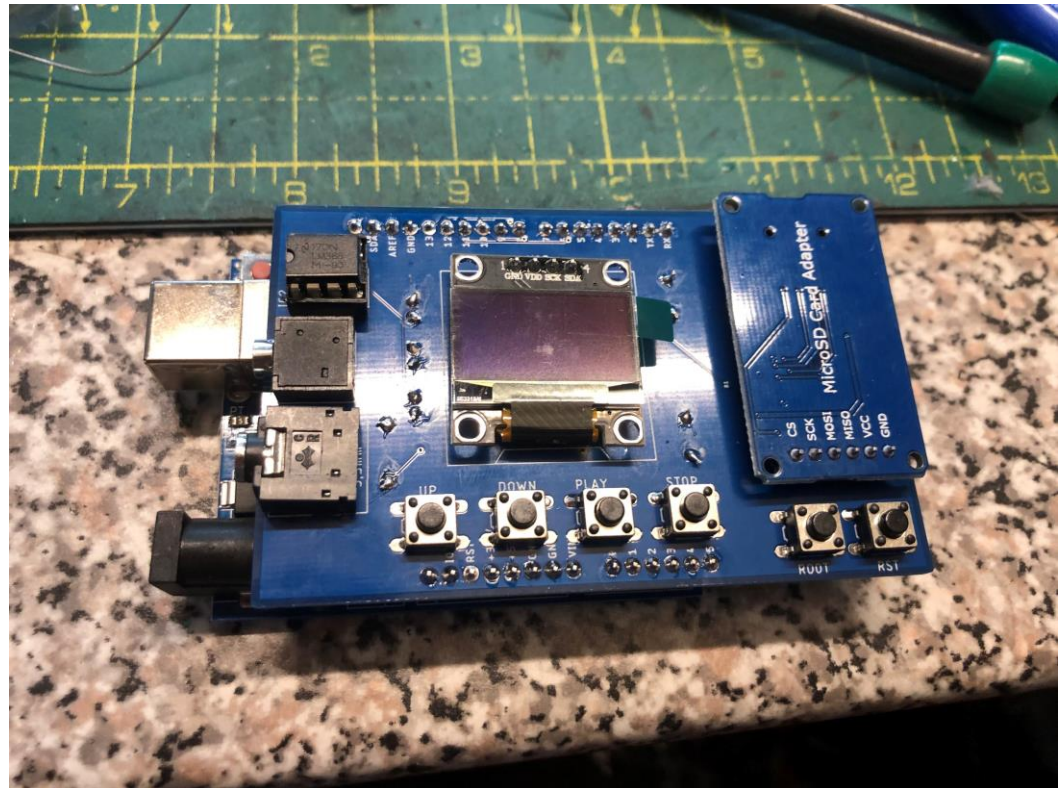
# Step 5

- Solder the SD module on the topside of the PCB. You may have to bend the existing pins 90 degrees.



# Step 6

- Solder the header pins that connect this PCB to the Arduino Uno. I find it easier to put the pins in the Arduino and place the PCB on top before soldering in place.
- Install the LM386 IC

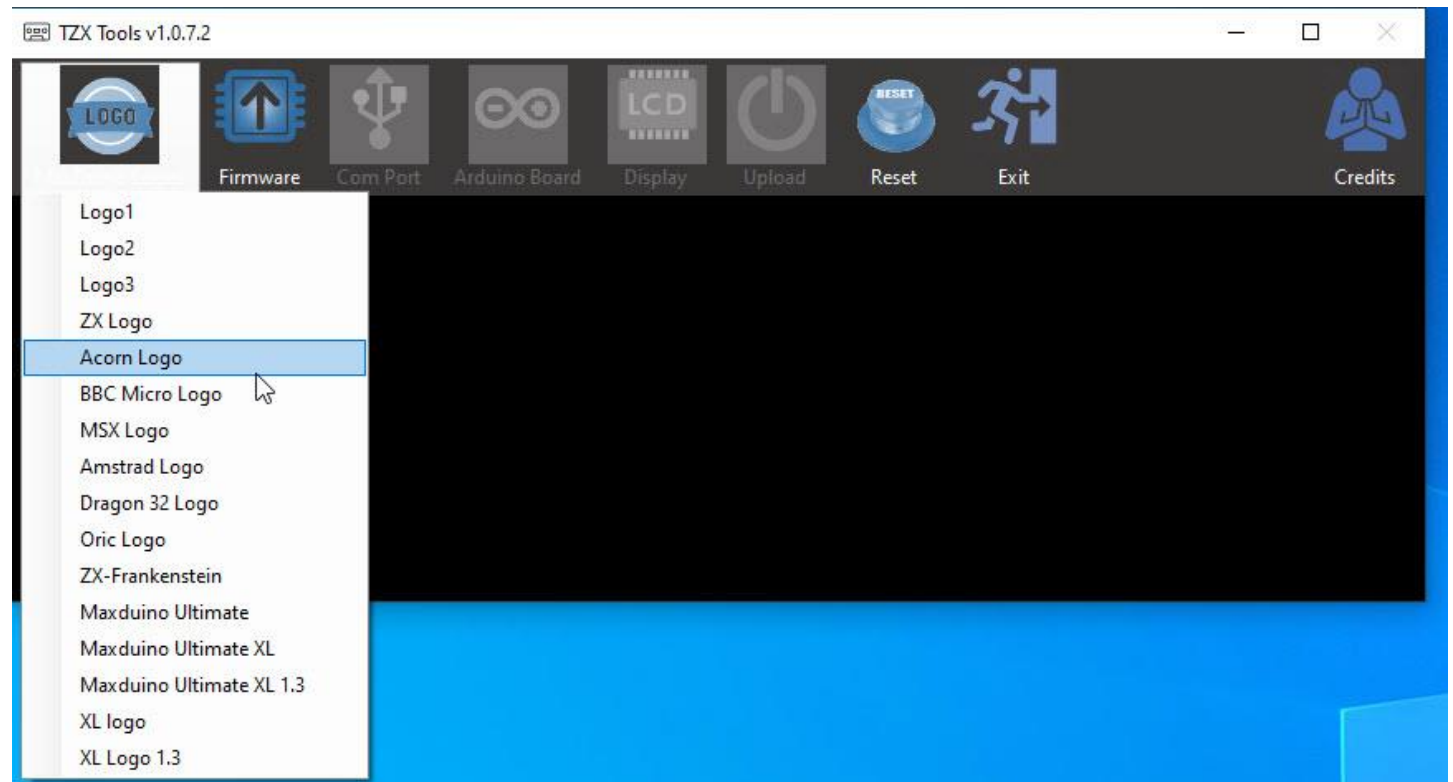


# The firmware upload

- This is a 2 step process..
- Maxduino has to be flashed twice.. 1<sup>st</sup> to get the Logo in Flash Memory and the 2<sup>nd</sup> time to make sure Maxduino loads properly
- The 1<sup>st</sup> upload looks like you have also installed Maxduino but YOU STILL HAVE TO DO THE 2<sup>nd</sup> UPLOAD. Maxduino will not run correctly if you don't. This methods maximises the memory on the Arduino

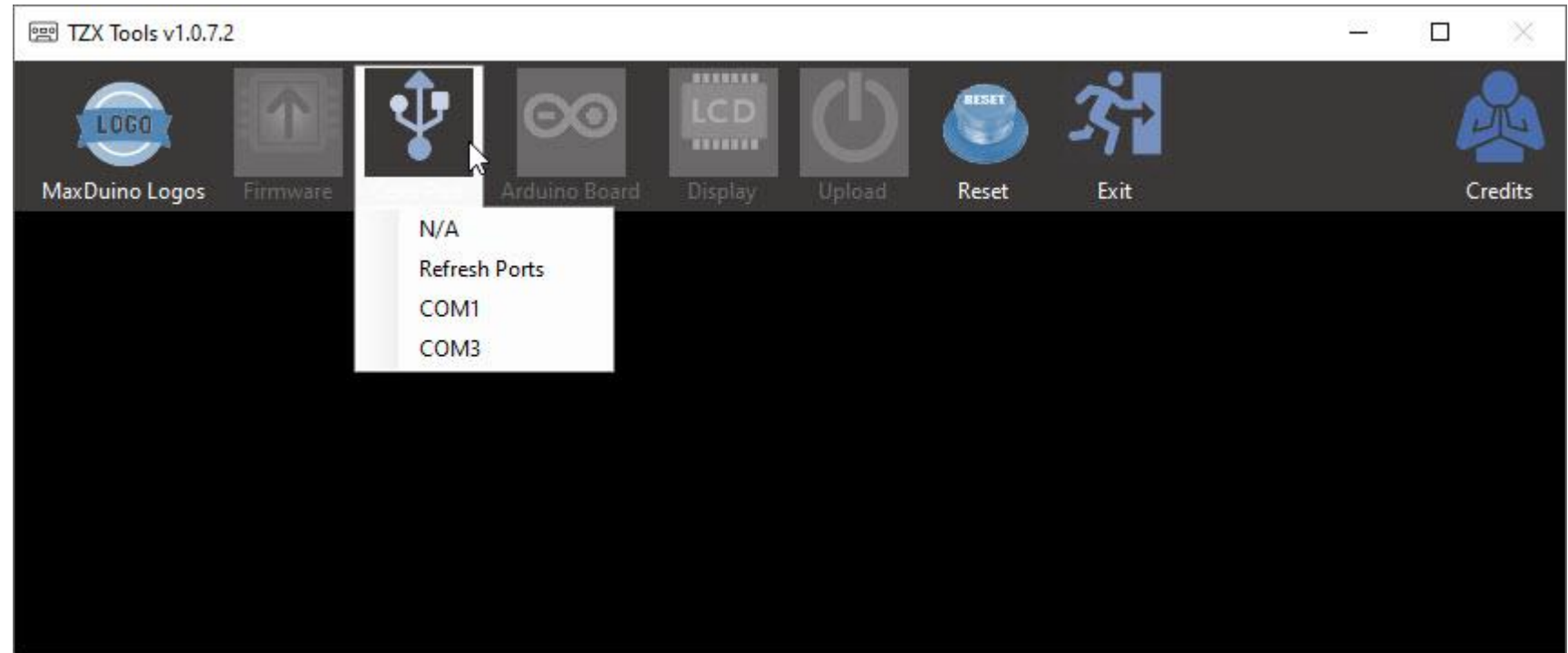
# Part 1 Logo upload

- Using TZX\_Tools you need select a Maxduino logo..
- The Ultimate logos wont work



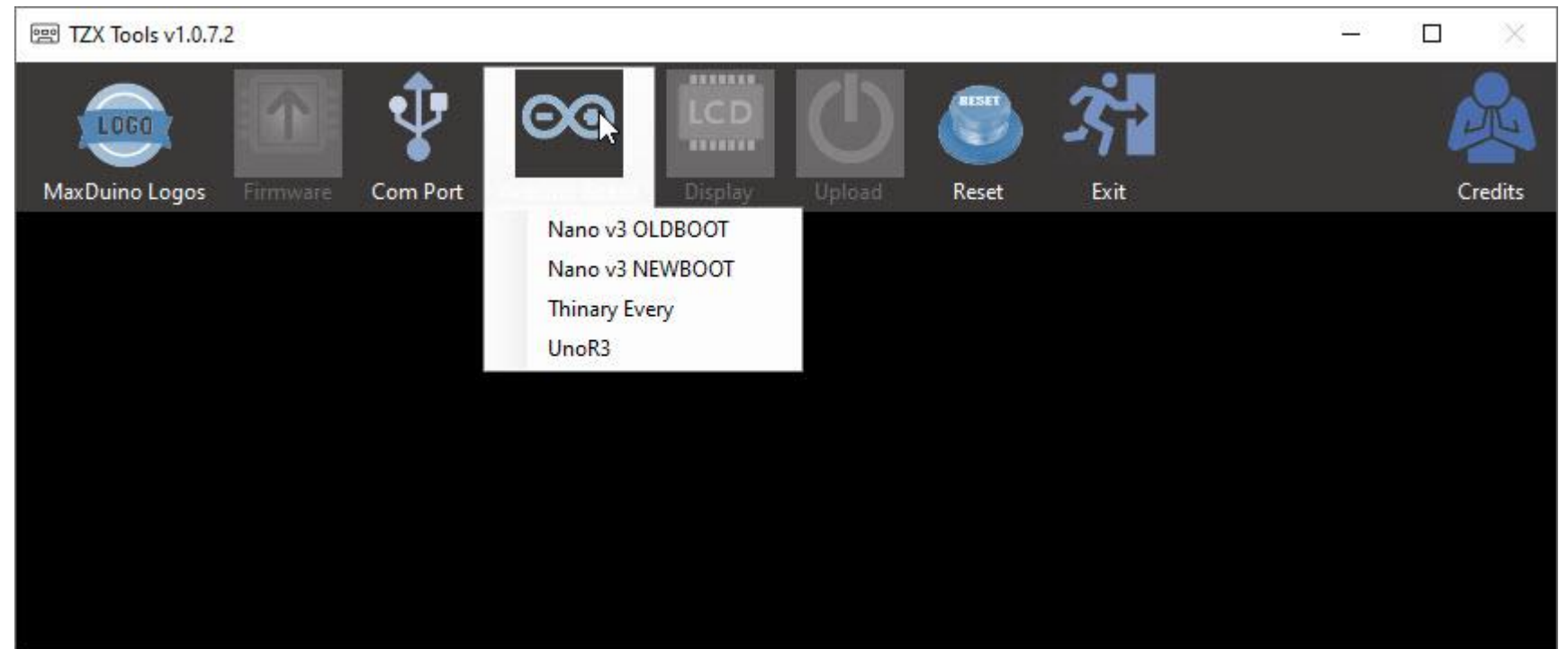
# Part 1 logo upload

- Select the com port the Arduino Uno is on



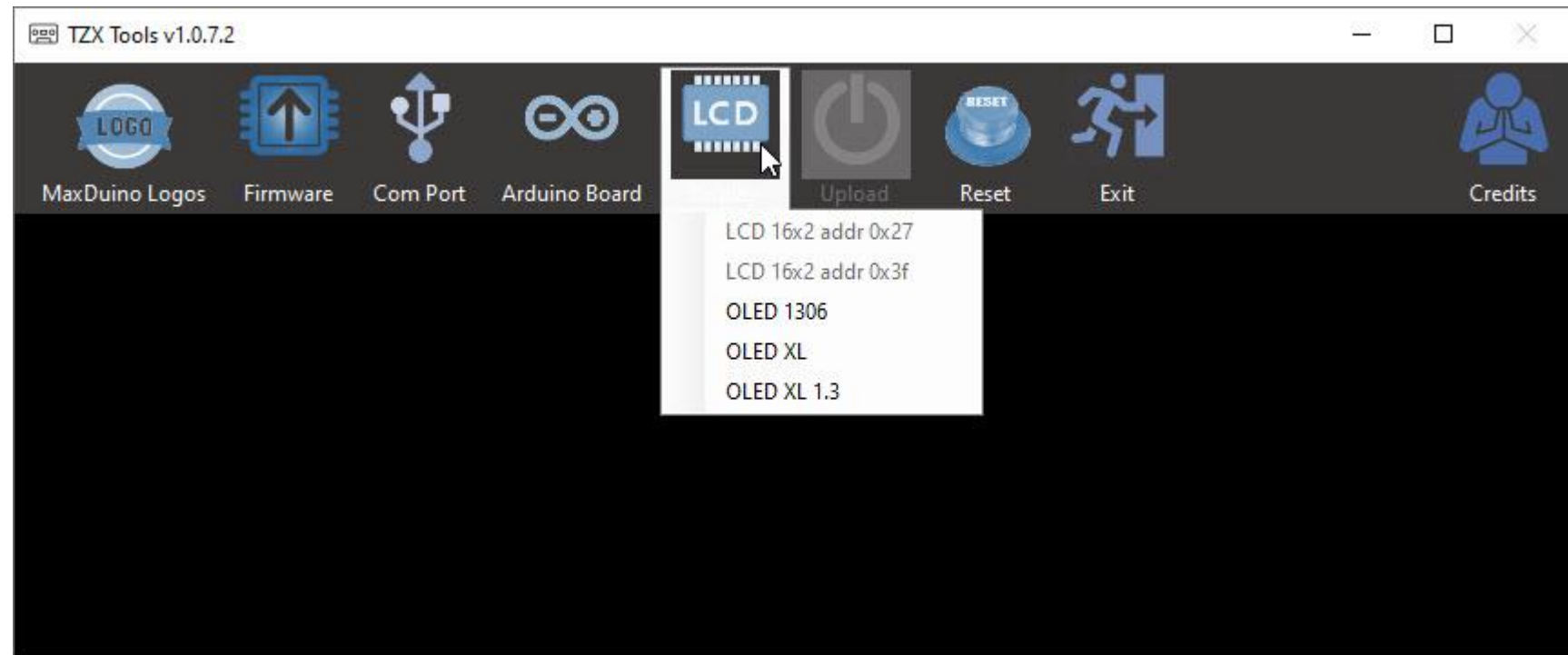
# Part 1 logo upload

- Select the UnoR3 board type



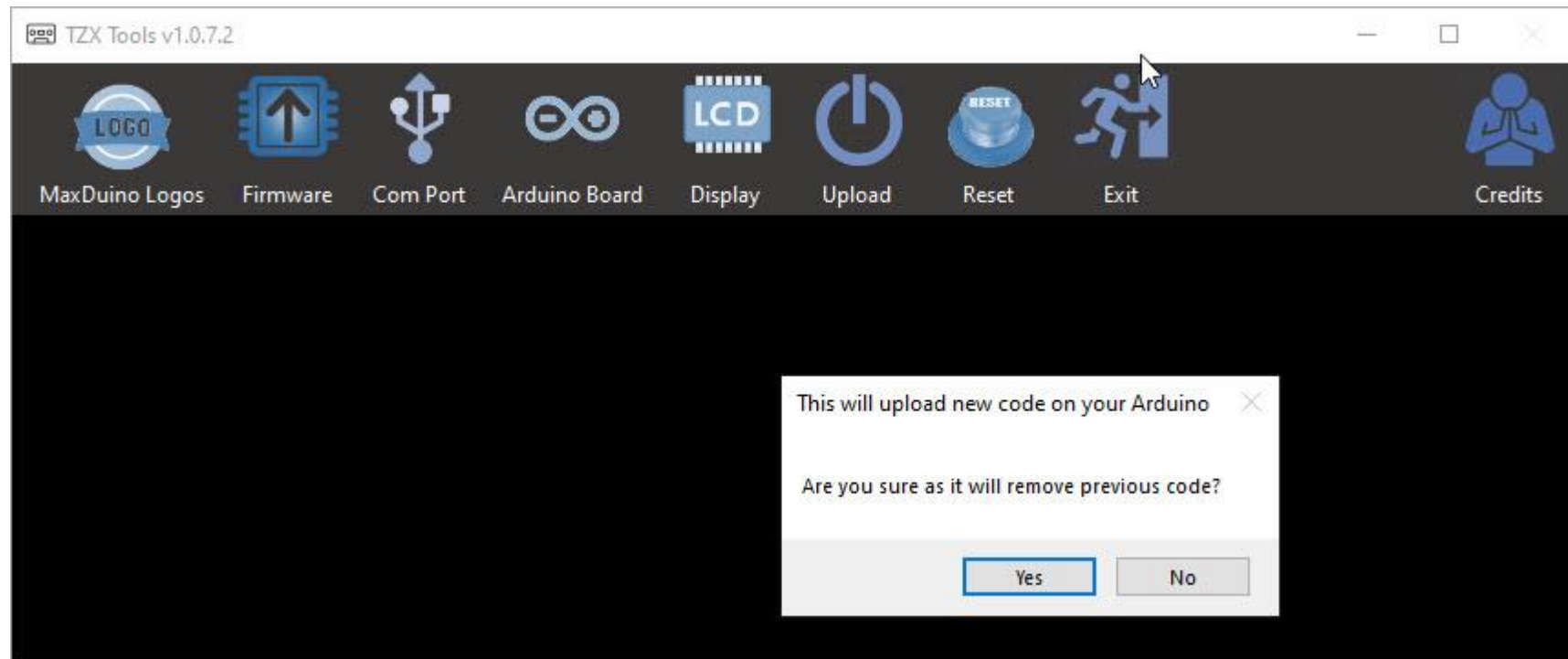
# Part 1 logo upload

- Select OLED 1306



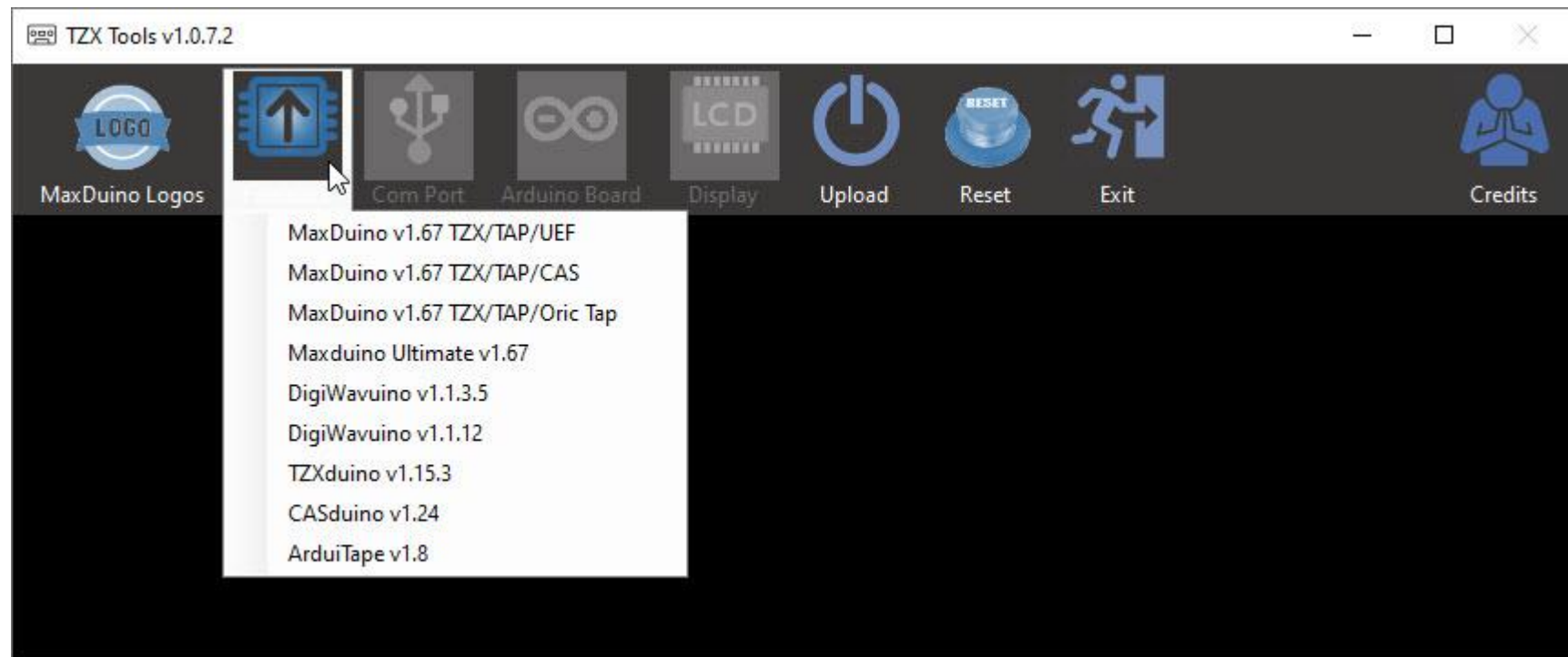
# Part 1 logo upload

- Now upload



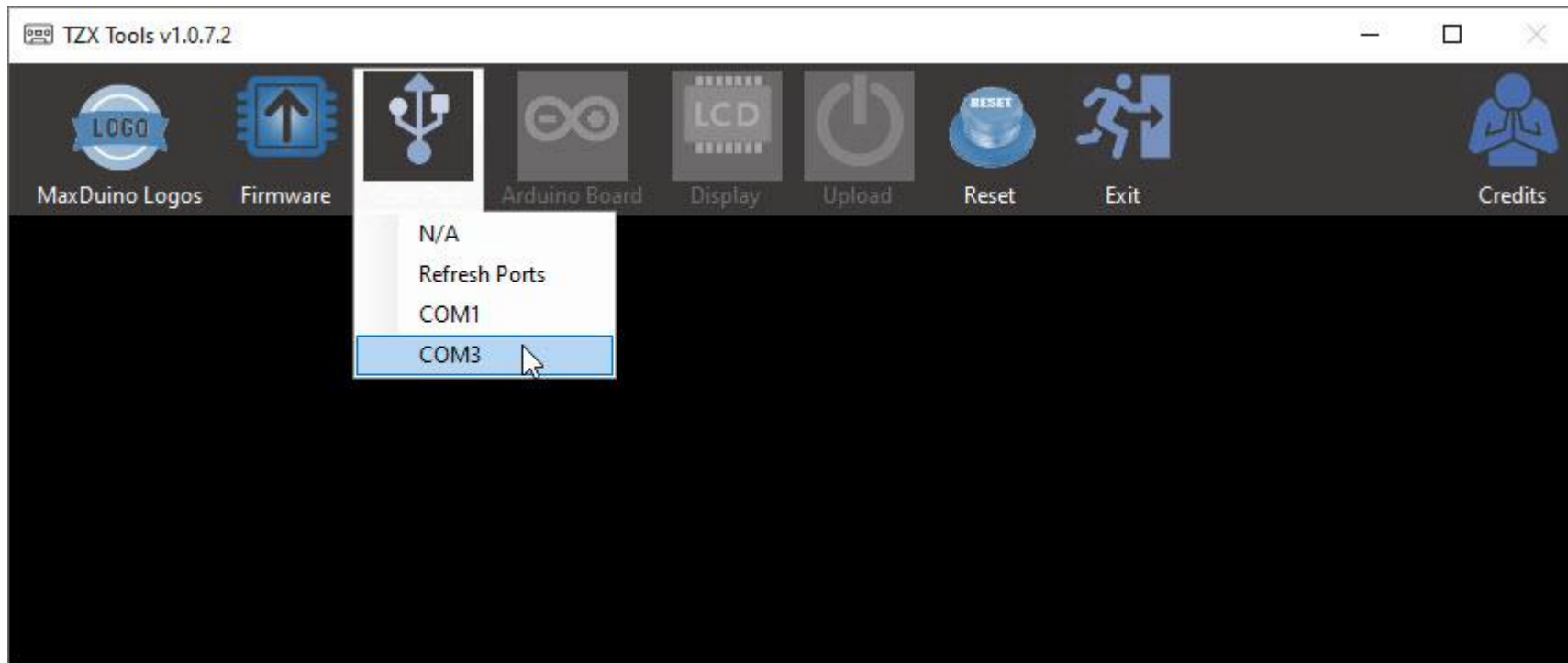
# Part 2 upload the optimised firmware

- Select the version of the maxduino firmware you want depending on what file types are supported



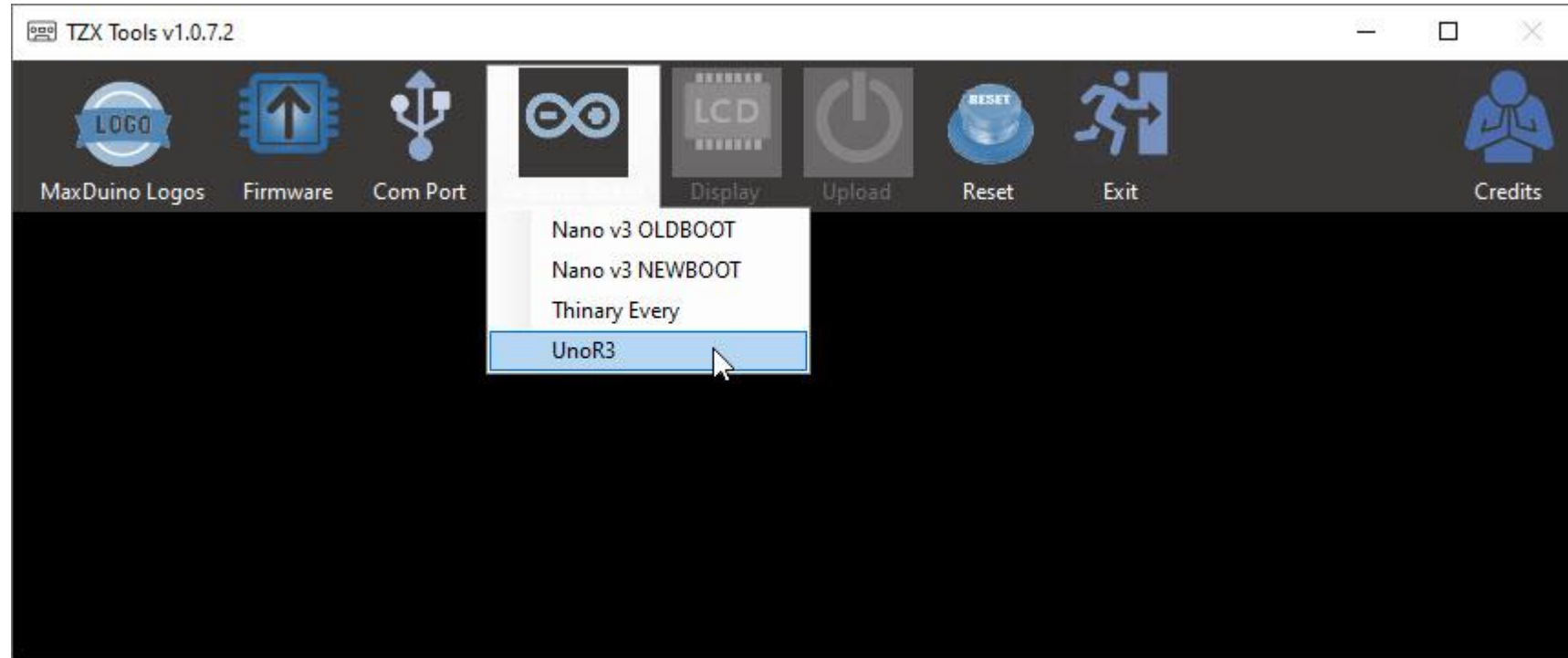
# Part 2 upload the optimised firmware

- Select the com port again



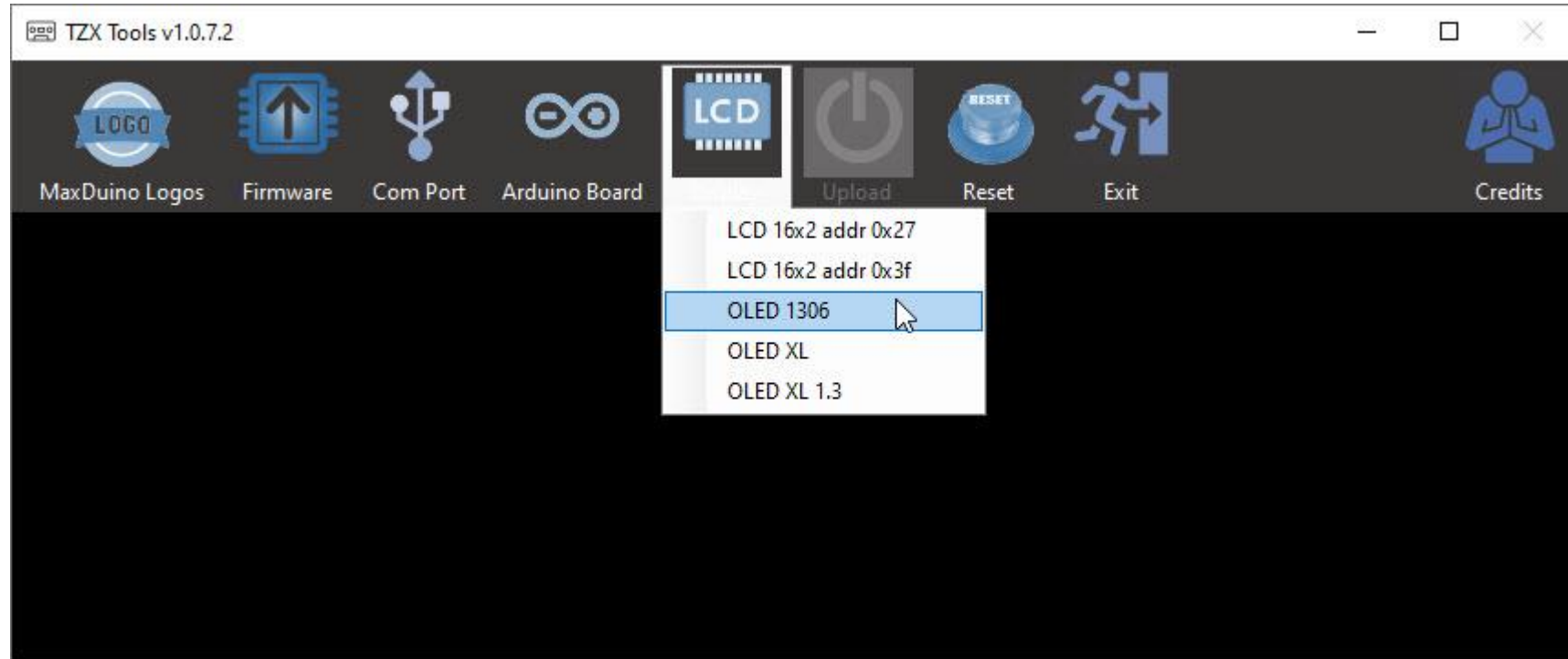
# Part 2 upload the optimised firmware

- Select UnoR3 as the board type



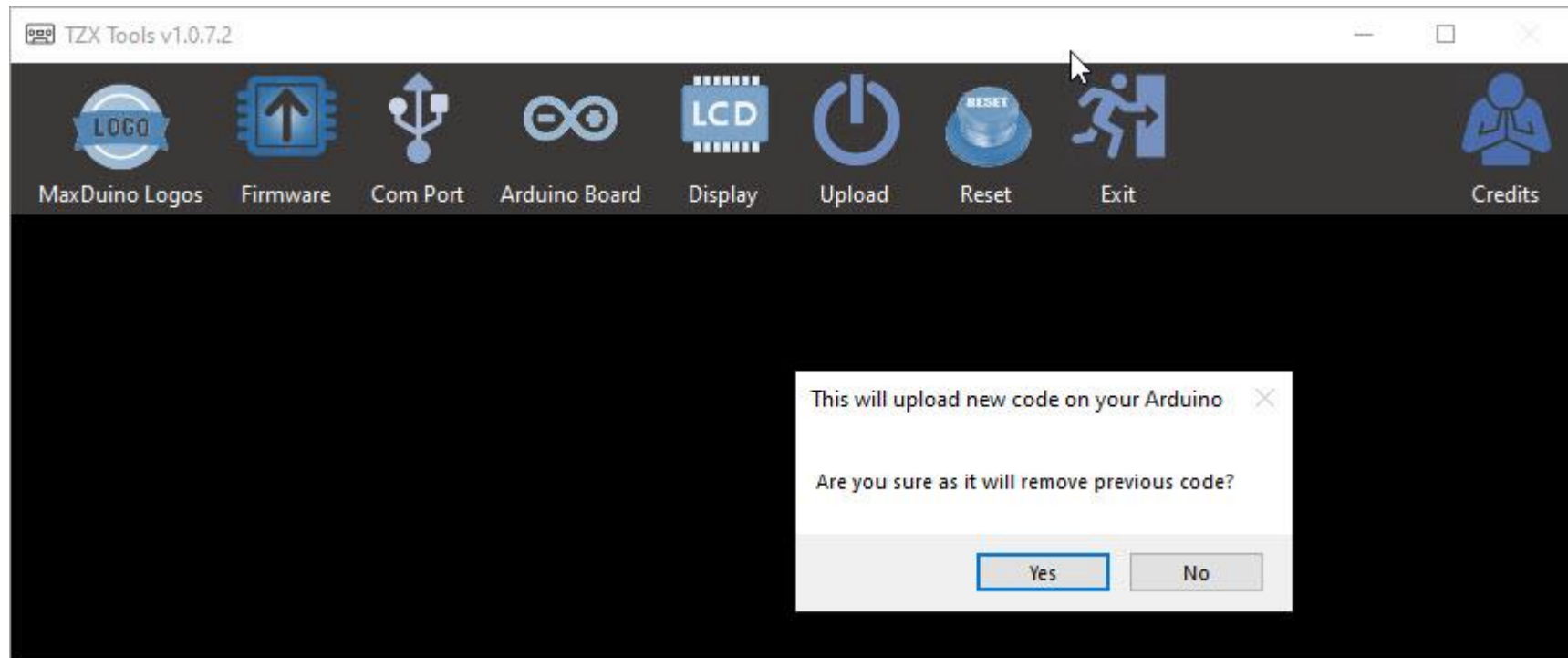
# Part 2 upload the optimised firmware

- Select the OLED 1306 display



# Part 2 upload the optimised firmware

- Now finally upload the maxduino firmware



# Finish up

- All being well you should have a working copy of Maxduino on your Uno now.



# Thanks

- Check out more retro devices at:

[www.youmakerobots.com](http://www.youmakerobots.com)



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