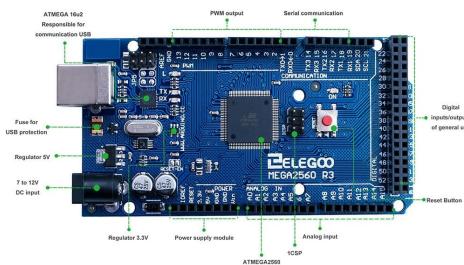


# bootloader for Oled Openxenium/Arduinium

## Tools needed:

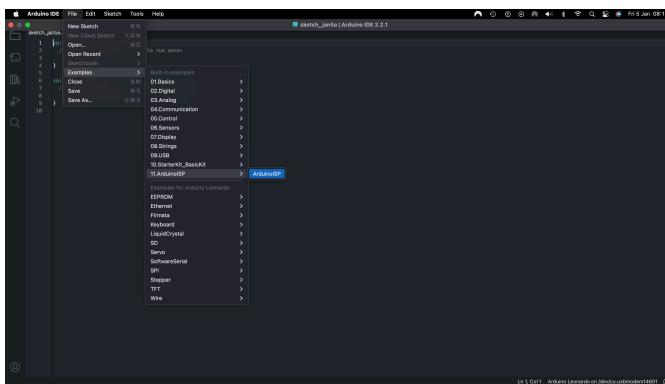
[https://www.amazon.co.uk/ELEGOO-Controller-ATmega2560-ATMEGA16U2-Compatible/dp/B06XKHN62M/ref=sr\\_1\\_1\\_sspa?crid=3GL8WCXC2MPCV&keywords=elegoo+mega+2560+r3&qid=1702810919&sproduct=elegoo+mega+2560+r3,aps,93&sr=8-1-spons&sp\\_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1](https://www.amazon.co.uk/ELEGOO-Controller-ATmega2560-ATMEGA16U2-Compatible/dp/B06XKHN62M/ref=sr_1_1_sspa?crid=3GL8WCXC2MPCV&keywords=elegoo+mega+2560+r3&qid=1702810919&sproduct=elegoo+mega+2560+r3,aps,93&sr=8-1-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1)



[https://www.aliexpress.com/item/1005006079897017.html?spm=a2g0o.order\\_list.order\\_list\\_main.29.390e1802T4owjH](https://www.aliexpress.com/item/1005006079897017.html?spm=a2g0o.order_list.order_list_main.29.390e1802T4owjH)

### 1 -OpenArduinolsp:

- connect the ELEGOO Mega R3 Controller Board • go to File/Examples/ ArduinoISP >ArduinoISP



- ArduinoISP sketch will open for boot loader setup

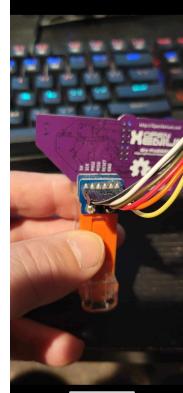
```
// ArduinoISP
// Copyright (c) 2008-2011 Russell Brown
// http://creativecommons.org/licenses/by-nd/3.0/
//
// This sketch turns the Arduino into a AVRISP using the following Arduino pins:
// Pin 10 is used to reset the target microcontroller.
// By default, the hardware SPI pins MISO, MOSI and SCK are used to communicate
// with the target. On all Arduinos, these pins can be found
// on the D10, D11 and D12 pins respectively.
// MISO ... SV (1) Read this pin on Data, Zero...
// MOSI ... MISO (2) Write to this pin on Data, One...
// SCK ... MISO (3) Write to this pin on Data, Two...
//
// If you are using Arduino pins 10, 11 or 12, then you must
// define pins 11, 12 and 13, respectively. That is why many tutorials instruct
// you to use pins 10, 11 and 12. If you do this, then you must
// physically have a define USE_OLD_STYLE_AVRISE. This will work even when not
// using an Uno, but the Uno this is not needed.
//
// Alternatively you can use any other digital pins by configuring
// _PIN_MISO and _PIN_MOSI and defining appropriate defines for _PIN_MOSI,
// _PIN_MISO and _PIN_SCK and defining appropriate defines for _PIN_MOSI,
// _PIN_MISO and _PIN_SCK.
//
// IMPORTANT: When using an Arduino that is not 5V tolerant (Uno, Zero, etc)
// you must connect the 5V pin to the 3.3V pin on the Arduino ISP header
// via a simple 10k pull-up resistor. This will work even when not
// using an Uno, but the Uno this is not needed.
//
// If the LED (green resistor) on the following pins
// is lit (or even blinks) - show the programmer is running
// If the LED (red resistor) lights up (or something goes wrong (case red if that makes sense))
// then something is wrong in communication with the target
// 
// #include "Arduino.h"
// include "avr.h"
// #define PROG_FLOADER true
// Configure SPI clock (in Hz).
```

## • 2 - Connecting the Mega2560 R3:

• connect the Mega R3 to the SPI pads on bottom of the oled openxenium or arduinium. See pics for reference below.

• Undefine `//#define Use_Old_Style_Wiring` in the sketch to `#define Use_Old_Style_Wiring`

V5 to v5



GND to GND

PIN 10 to RESET

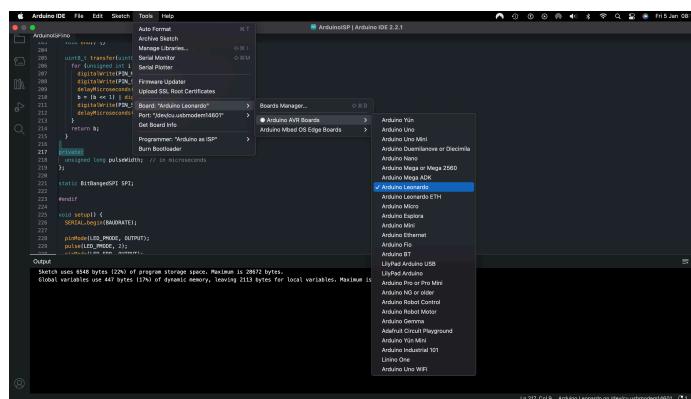
PIN 11 to MOSI

PIN 12 to MISO

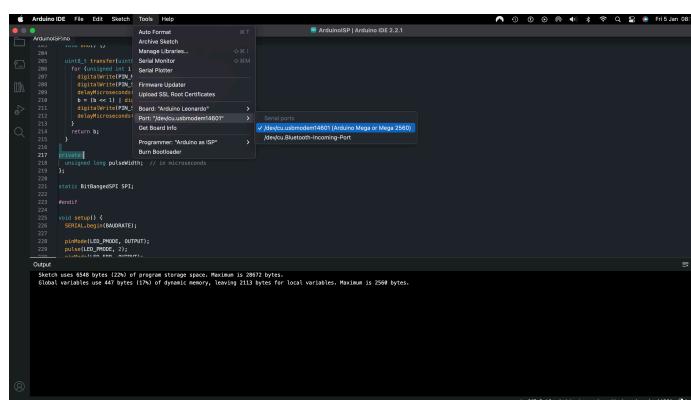
PIN 13 to SCK

## 3 - Using ArduinoISP:

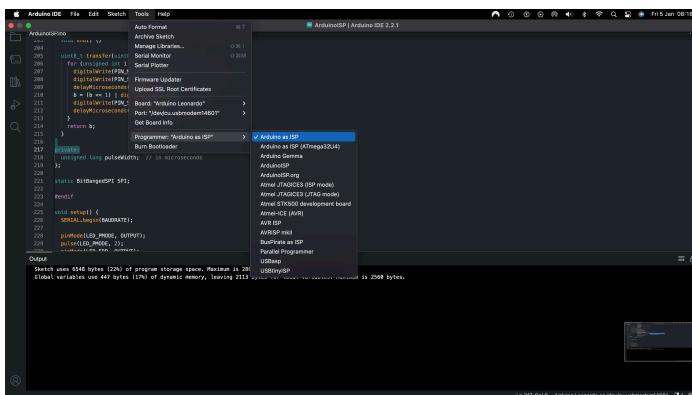
• go to Tools/ Board/Arduino AVR Boards/Arduino Leonardo



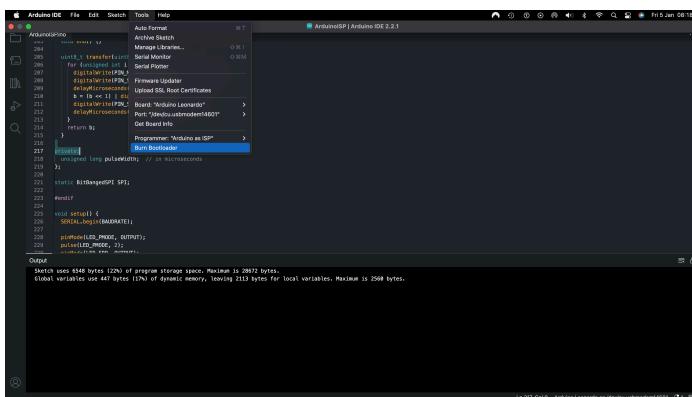
• go to Port/Com Number(Arduino Mega or Mega2560)



- Programmer “Arduino as ISP”



- Burn Bootloader



- After that has finished the pc will recognise it as an Arduino Leonardo
- Open the latest ino from github and program the Oled Openxenium/Arduinium with a usb cable and the mega2560

## 1 - Programming the oled code to the Arduino Leanardo:

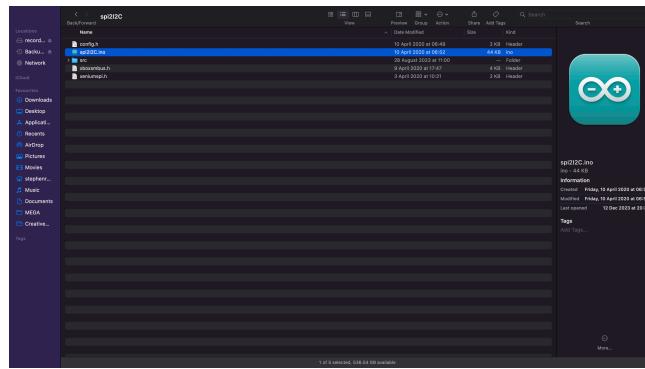
- download the Spi2I2C software of your chose

<https://github.com/turfster1/Spi2i2c2020-/tree/master/>

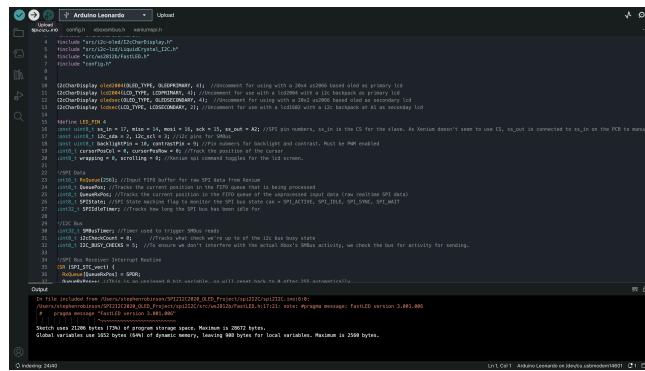
## Spi2I2C

## 2 - Spi2I2C file:

- In the Spi2I2C file there will be a spi2I2C.ino file double click on it



- It will open Arduino IDE on your pc
- You should have all 4 files listed on (see pic)



- Select Tools/Board: “Arduino Leanardo”

- Open the config.h section and edit for primary/secondary oled and burnIn features

- Click the arrow to upload
- Done
- Make sure Lcd.xml is in the userdata folder

<https://github.com/turfster1/Spi2i2c2020-/tree/master/use this lcd.xml>

