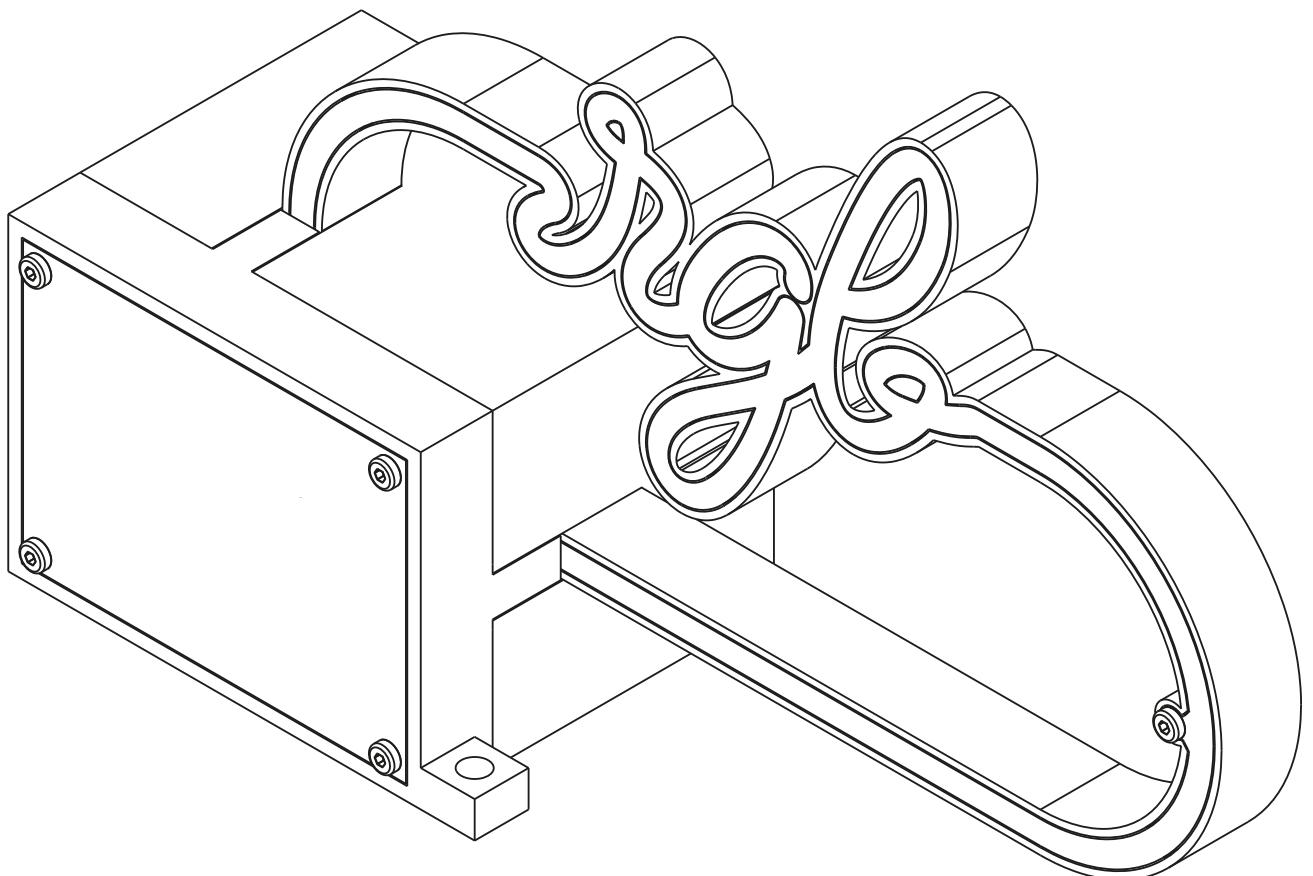
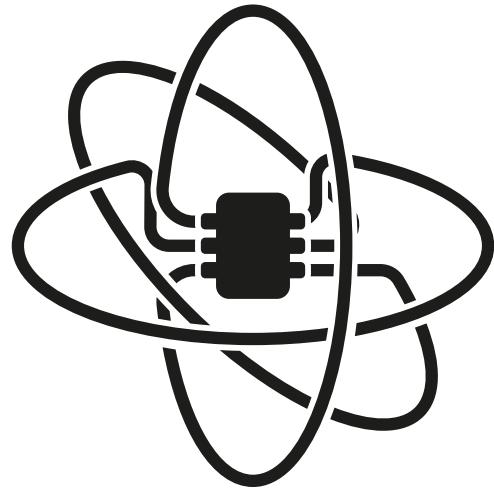


HOW TO BUILD RGB LAMP



by Adrien Husson
for the





This manual refers to the **RGB Lamp Demonstrator** project
and is part of the **Movuino** documentation.

Project presentation:

<http://www.movuino.com/index.php/portfolio/rgb-lamp/>

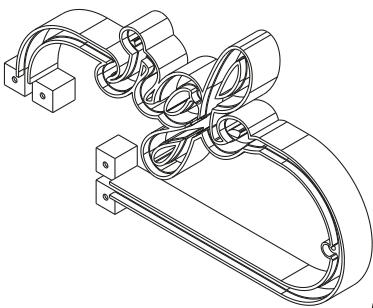


All files of the project can be found on:

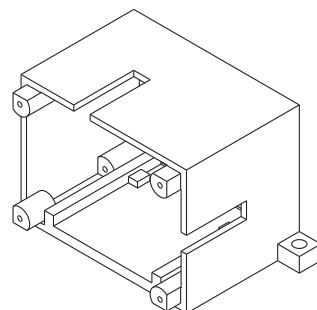
[www.github.com/hssnadr/RGB-Lamp-Demonstrator](https://github.com/hssnadr/RGB-Lamp-Demonstrator)



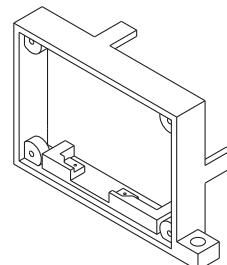
TO 3D PRINT



A1 x1 RGB case



A2 x1 back base

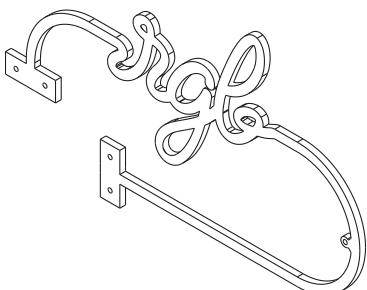


A3 x1 front base

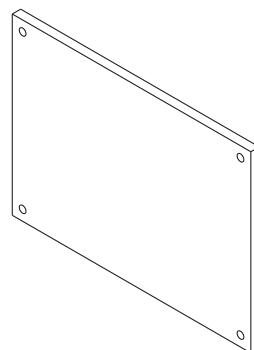


RGB-Lamp-Demonstrator/01_MakingRessources/3DModels/... **select files STL, CATIA or STP**

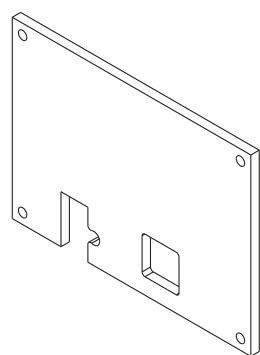
TO LASER CUT



B1 x1 RGB glass



B2 x1 front glass



B3 x1 back glass

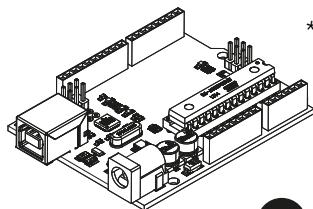


RGB-Lamp-Demonstrator/01_MakingRessources/RGBLamp_LaserCut.svg

TO BUY



C1 x5 M3 10mm CHC screws



D1 x1 Arduino UNO



C2 x4 M3 16mm CHC screws



D2 x1 1000 μF capacitor



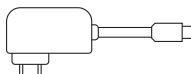
C3 x9 M3 nuts



D3 x1 470 Ohm resistor



C4 x9 M1 3mm self-tapping screws



D4 x1 DC Power Supply
5V / 300mA

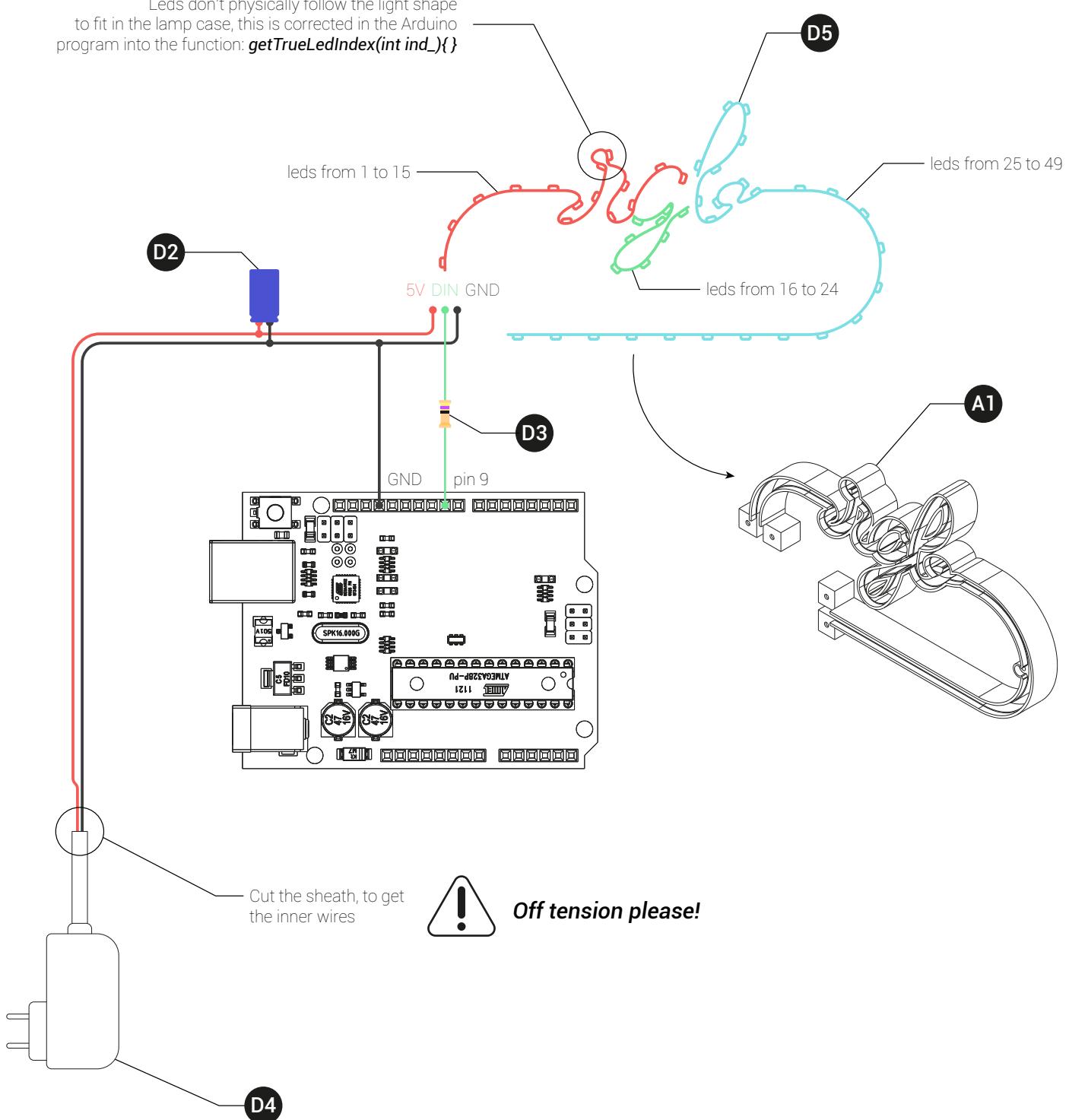
D5 x1m RGB Neopixel strip 60 leds/m

D6 x3 Electric wires

* 3D model reference: <https://grabcad.com/library/arduino-uno-r3-1>

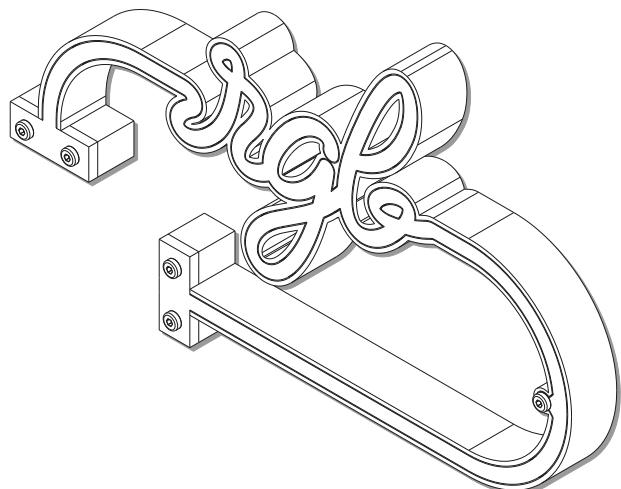
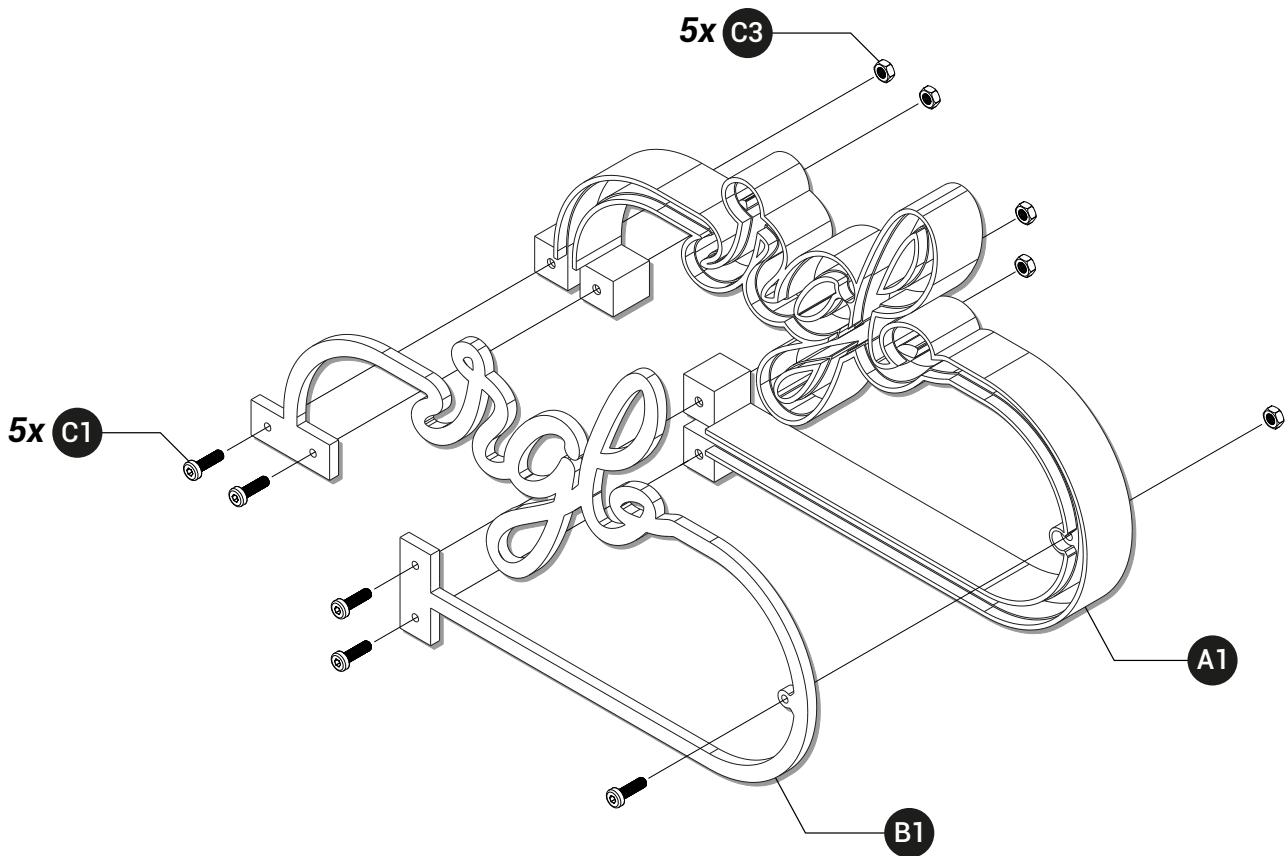
ELECTRONIC

To make the electronic part, you need to cut your 1 meter Neopixel leds strip into 3 parts, then sold it in a way it fits into the RGB case and following this diagram.

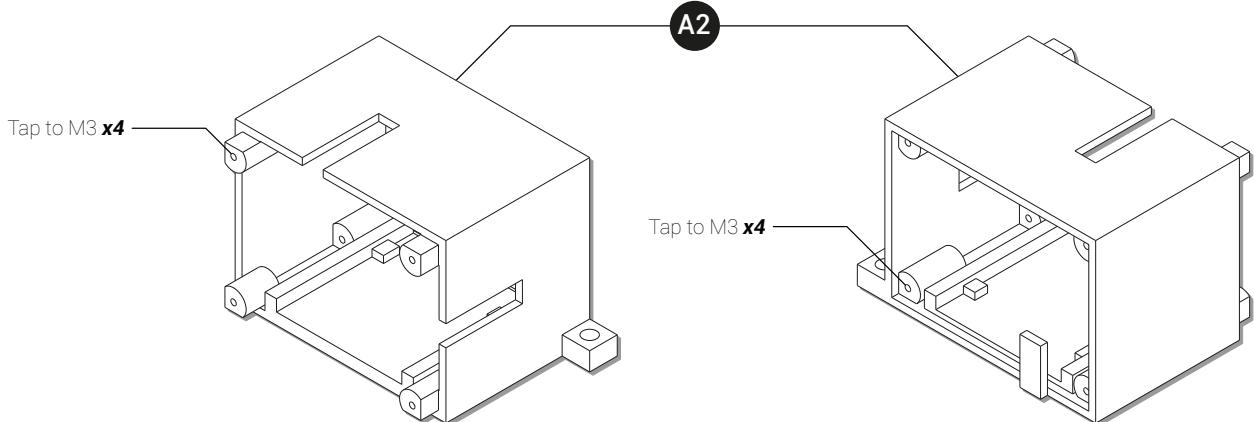


ASSEMBLY

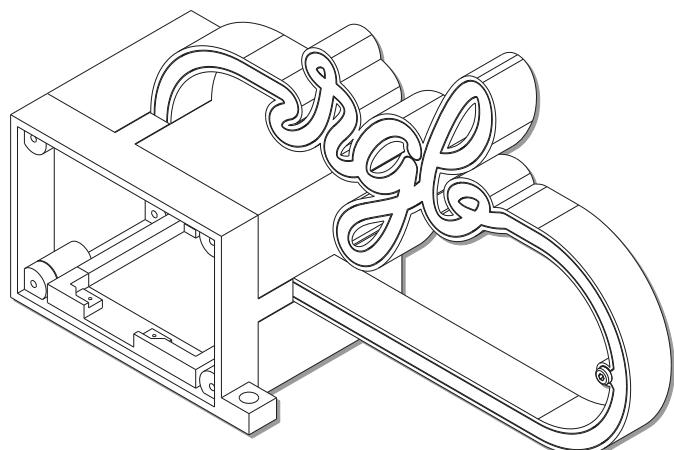
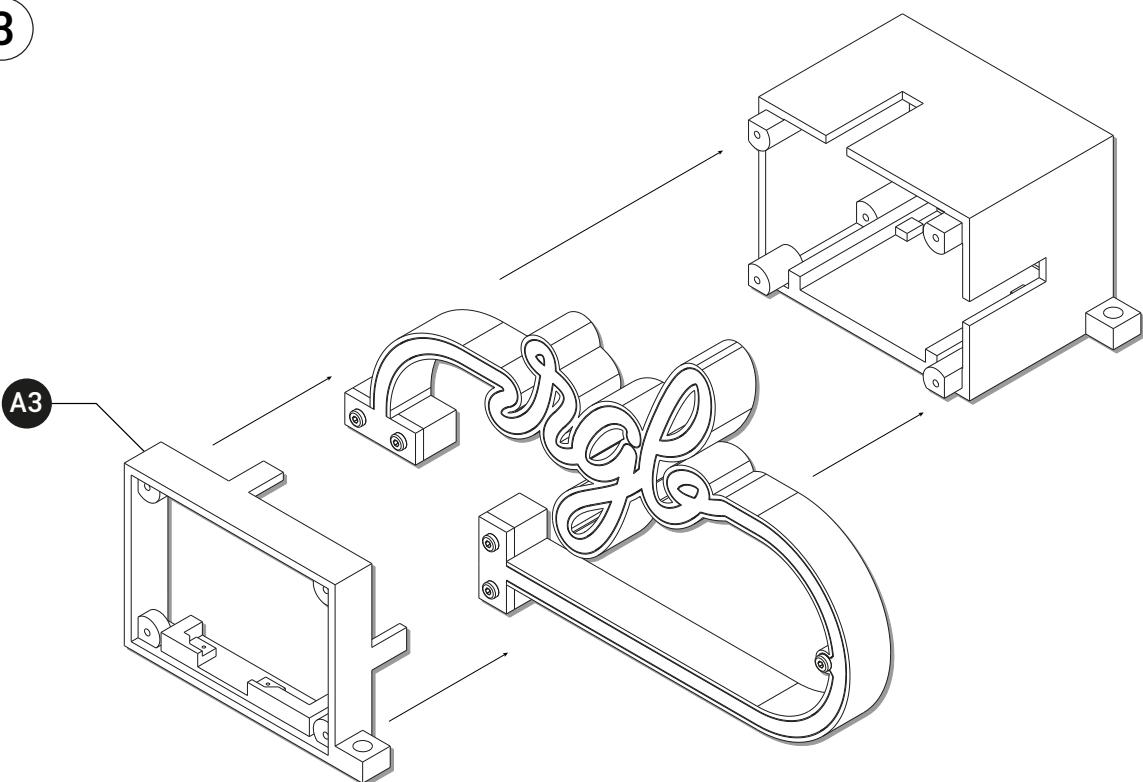
1

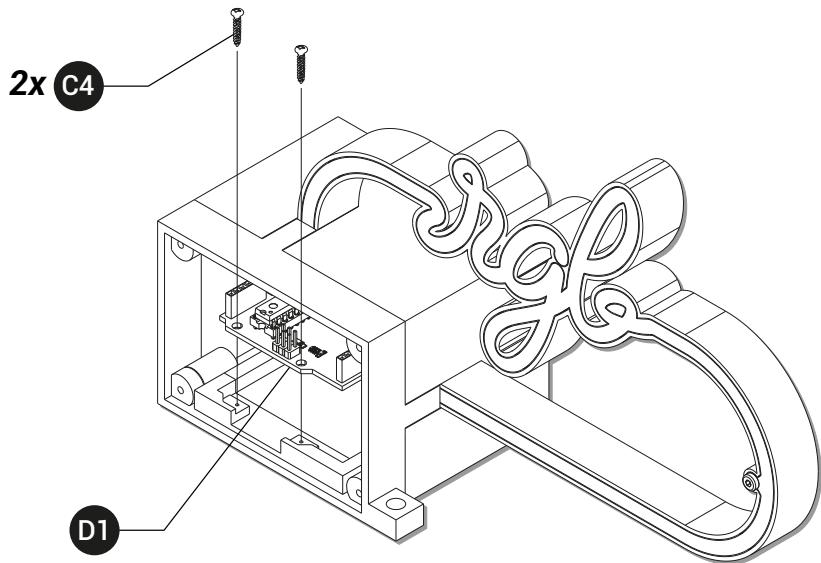
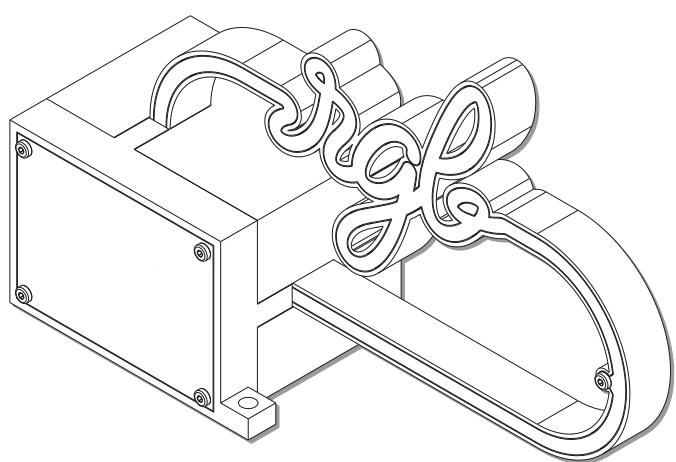
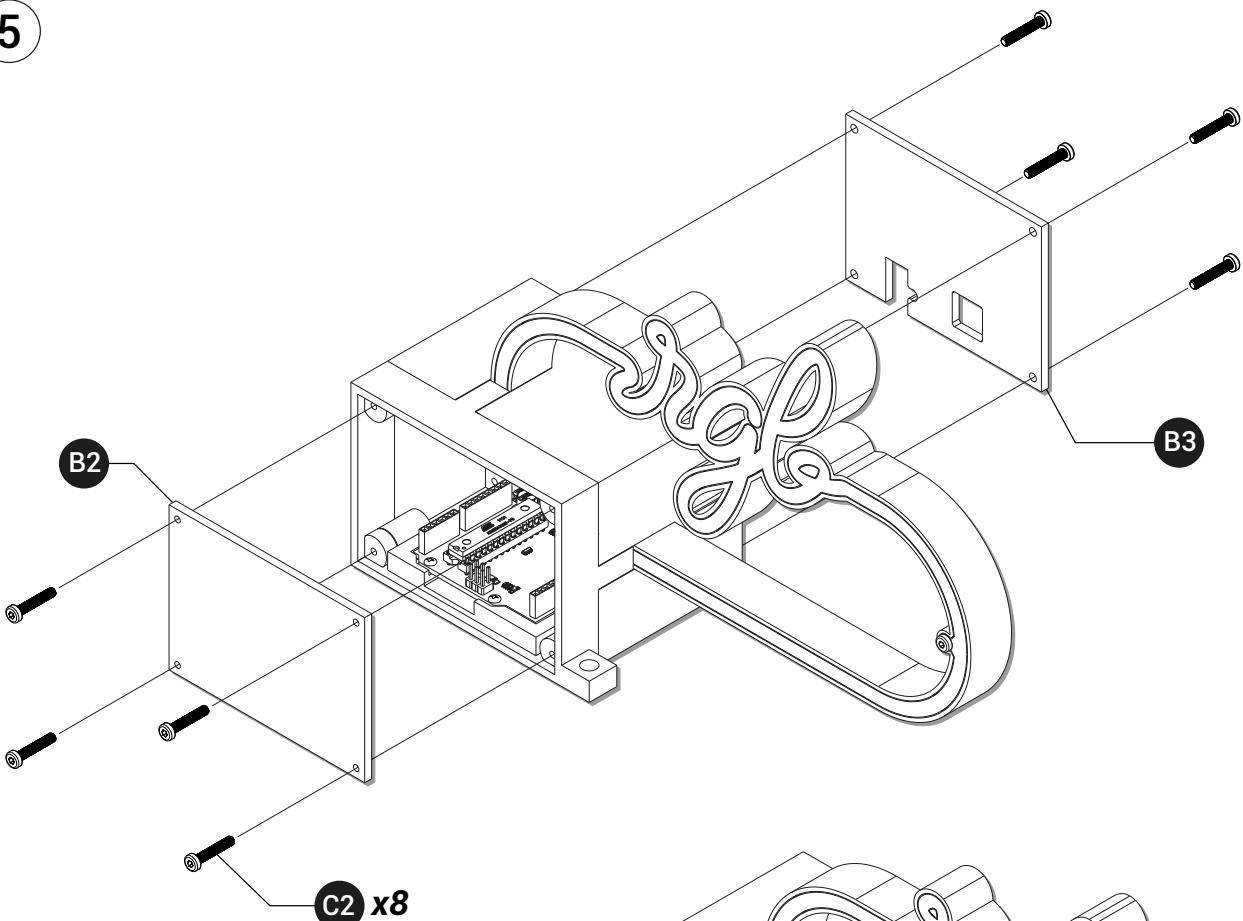


2



3



4**5**

SET-UP

- 1 Download and install:



Movuina on www.movuino.com



Processing on www.processing.org



Arduino on www.arduino.cc

Movuino

www.movuino.com



- 2 Run the RGBLamp firmware with **Arduino** and upload the program on the **Arduino UNO D1**

You'll need to install the **Adafruit Neopixel** library:

Sketch/Include a library/Manage libraries

Search for «Adafruit Neopixel» in the search tab and install the latest version



[RGB-Lamp-Demonstrator/02_ArduinoFirmware/RGBLamp/RGBLamp.ino](#)

- 3 Run the **RGBLamp.pde** file with **Processing** while the lamp is plugged on a USB port of your computer

You'll need to install the **oscP5** library: **Sketch/Import library.../Add a library...**

Search for «oscP5» in the search tab and the install latest version



[RGB-Lamp-Demonstrator/03_ProcessingApplication/RGBLamp/RGBLamp.pde](#)

- 4 Go to **line 40** into the **Processing** code and set the USB port where your **Arduino** is plugged

line 40

```
// Set serial communication with the RGB Lamp
println(Serial.list());
if (Serial.list().length > 0) {
    String portName = Serial.list()[0];
    arduinoRGBLamp = new Serial(this, portName, 38400);
}
```

5



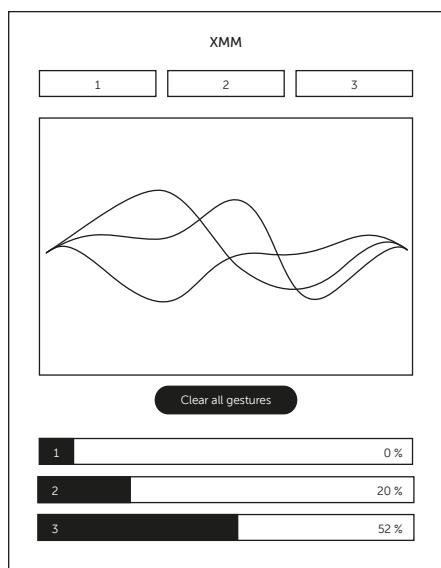
Launch **Movuina** and set-up by following the **Quick Start** tutorial

Quick Start

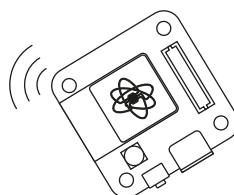
www.movuino.com/index.php/quick-start



Once it's done, you can play with the **XMM** algorithm developed by **IRCAM**:
[http://ismm.ircam.fr/software/xmm-probabilistic-models-for-mo-
tion-recognition-and-mapping/](http://ismm.ircam.fr/software/xmm-probabilistic-models-for-motion-recognition-and-mapping/)



← Record 3 different gestures

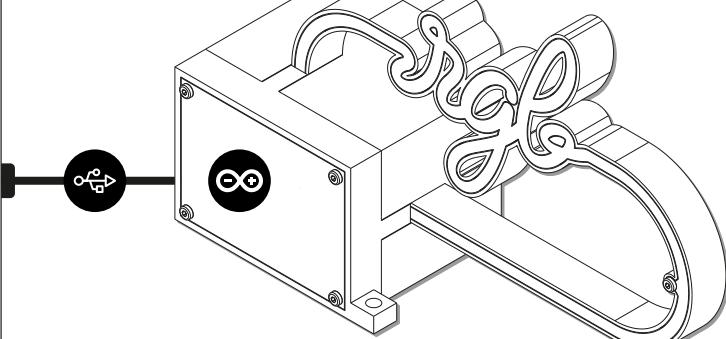


TIPS!

Shake quickly to erase colors
in the Processing application

} See the recognition in real time by
reproducing your recorded gestures

OSC message (127.0.0.1 port 3000)
/gesture



The data are automatically sent to Processing and you can enjoy the reaction!

