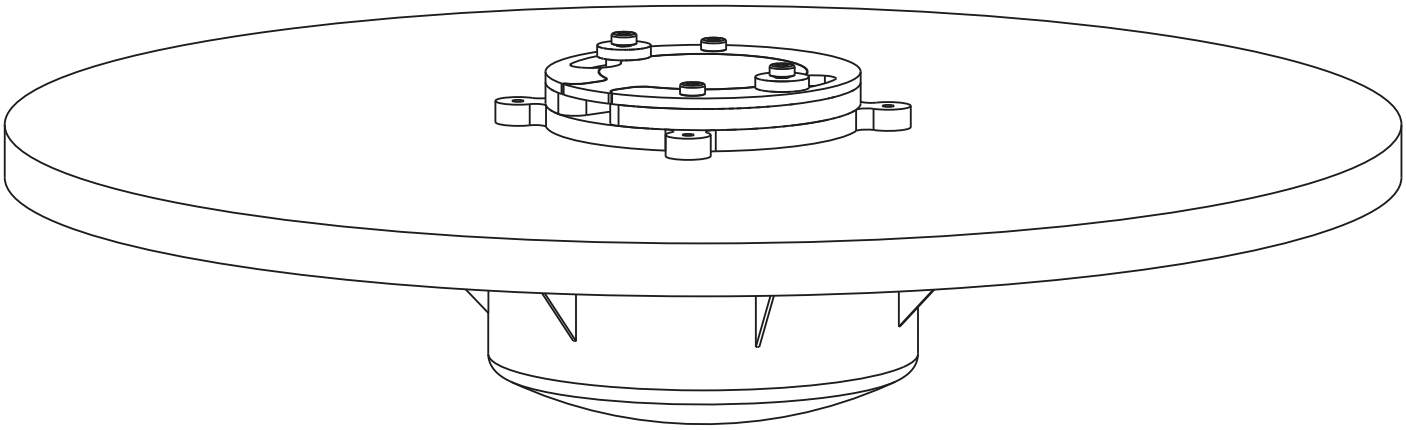
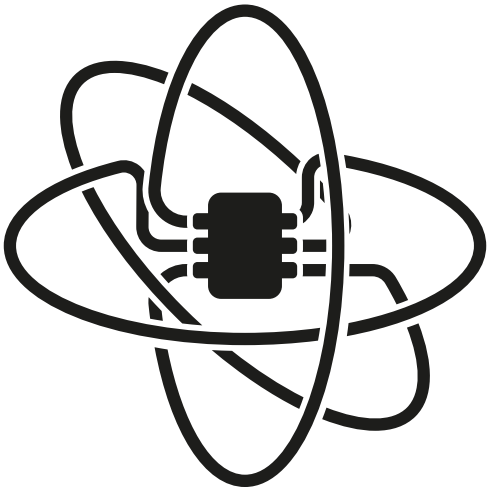
HOW TO BUILD

BALANCE BOARD



by **Adrien Husson**
for the CRI



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

Project presentation:

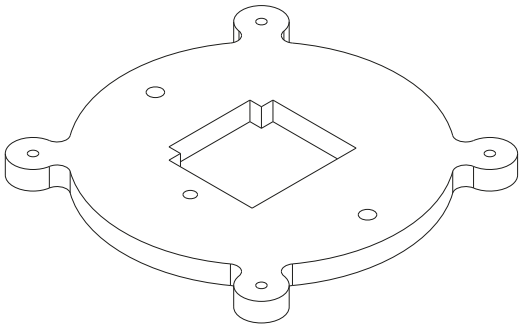
http://www.movuino.com/index.php/portfolio/rgb-lamp/

All files of the project can be found on:

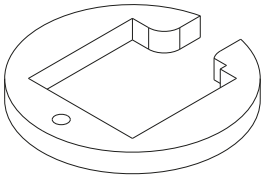
www.github.com/hssnadr/RGB-Lamp-Demonstrator

TO LASER CUT

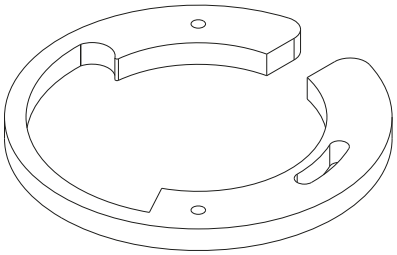
BalanceBoard/01_MakingRessources/BalanceBoard_6mm.svg — **6mm thick**



A1 ***x1*** **Base**



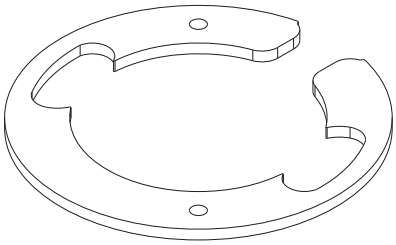
A2 ***x1*** **Movuino case**



A3 ***x1*** **Spring crown**

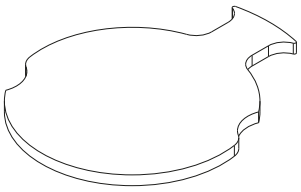
A4 ***x1*** **Movuino case**

BalanceBoard/01_MakingRessources/BalanceBoard_3mm.svg — **3mm thick**



B1 ***x1*** **Spring case**

B3 ***x2*** **Washer**



B2 ***x1*** **Cap**

B4 ***x2*** **Brace**

TO BUY

C1 ***x1*** M4 8mm FHC screw

C2 ***x2*** M4 8mm CHC screw

C3 ***x2*** M4 16mm CHC screw

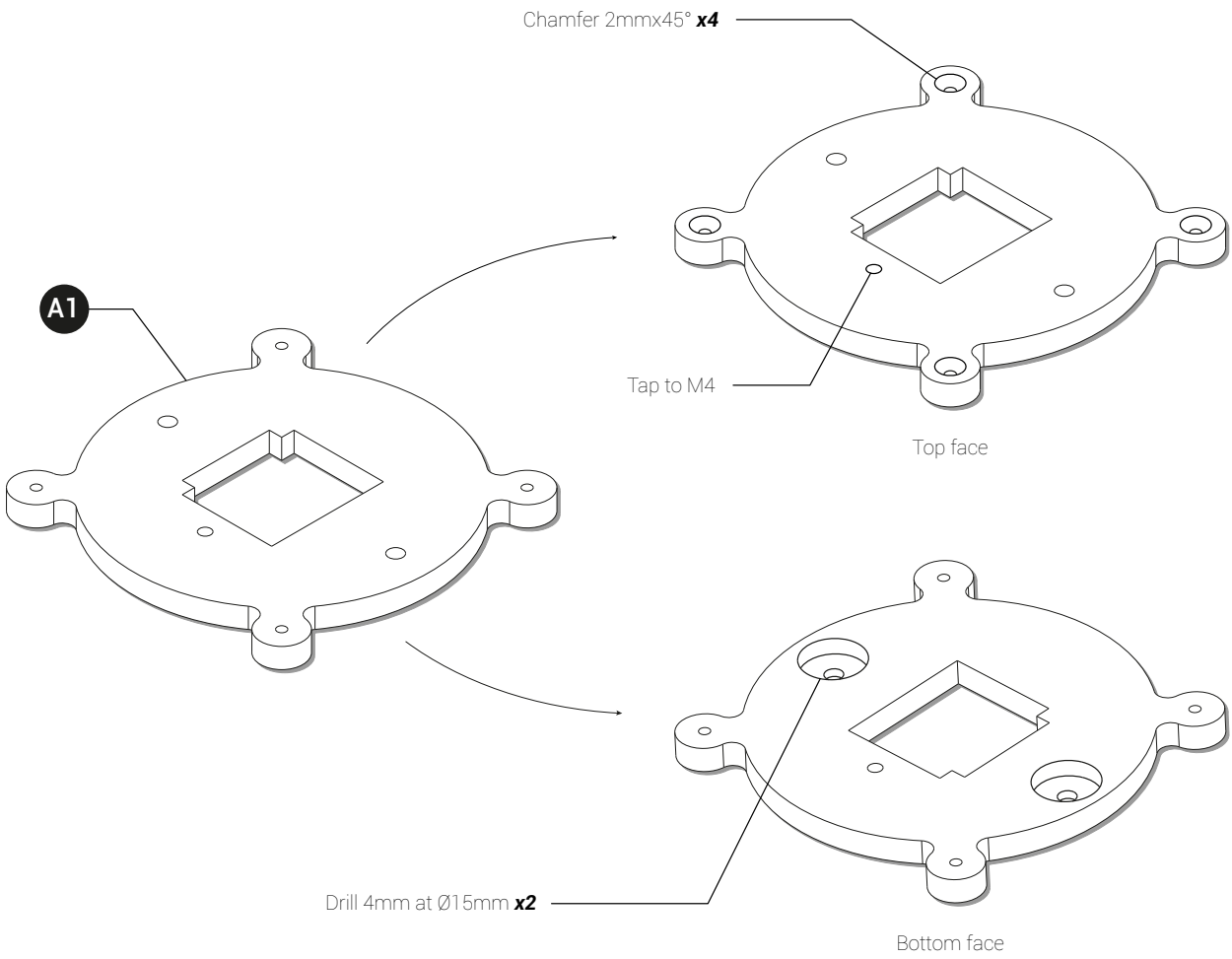
C4 ***x2*** M4 washers

C4 ***x2*** M4 locknuts

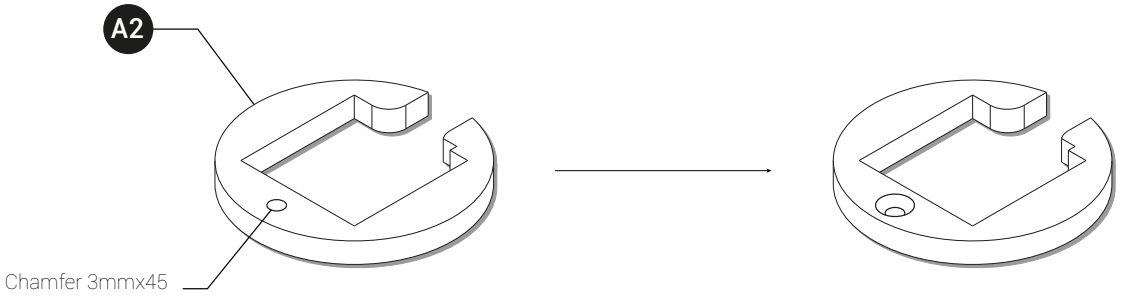
C4 ***x9*** M3 5mm self-tapping screws

ASSEMBLY

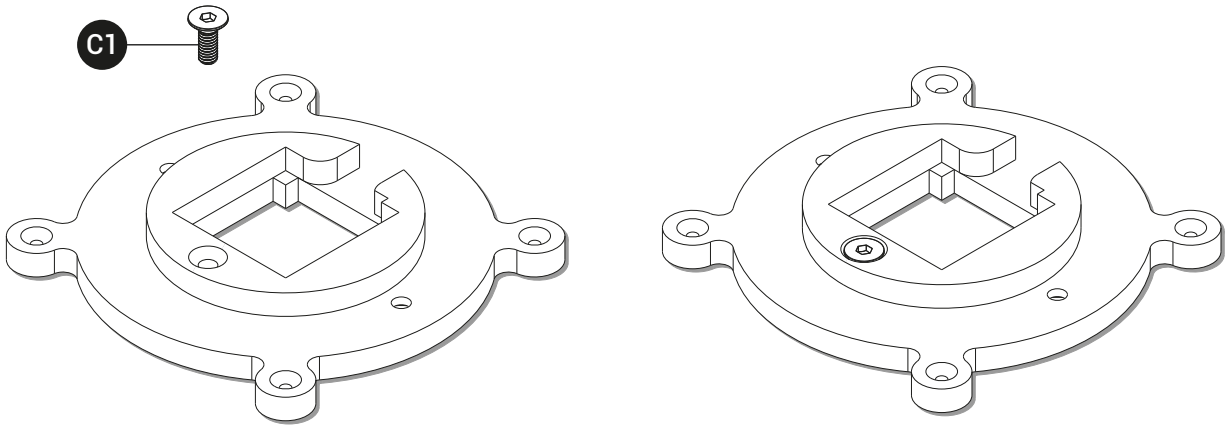
1


Chamfer 2mmx45° **x4**
A1
Tap to M4
Top face
Drill 4mm at Ø15mm **x2**
Bottom face

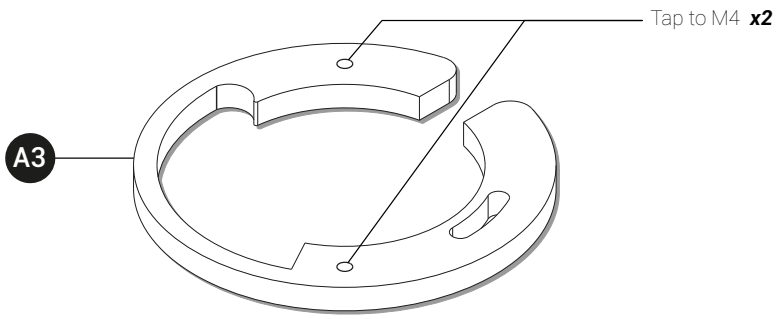
2


A2
Chamfer 3mmx45

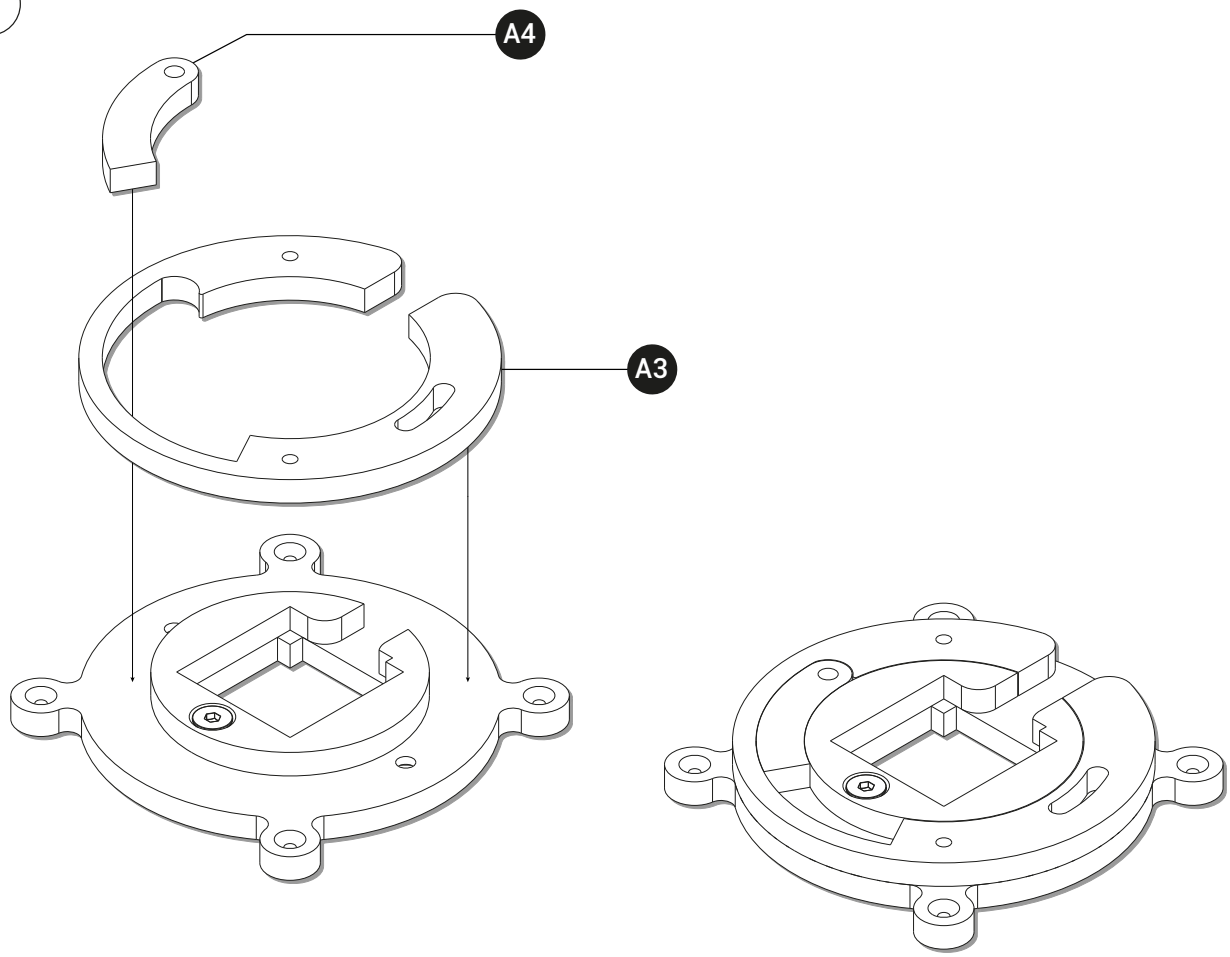
3



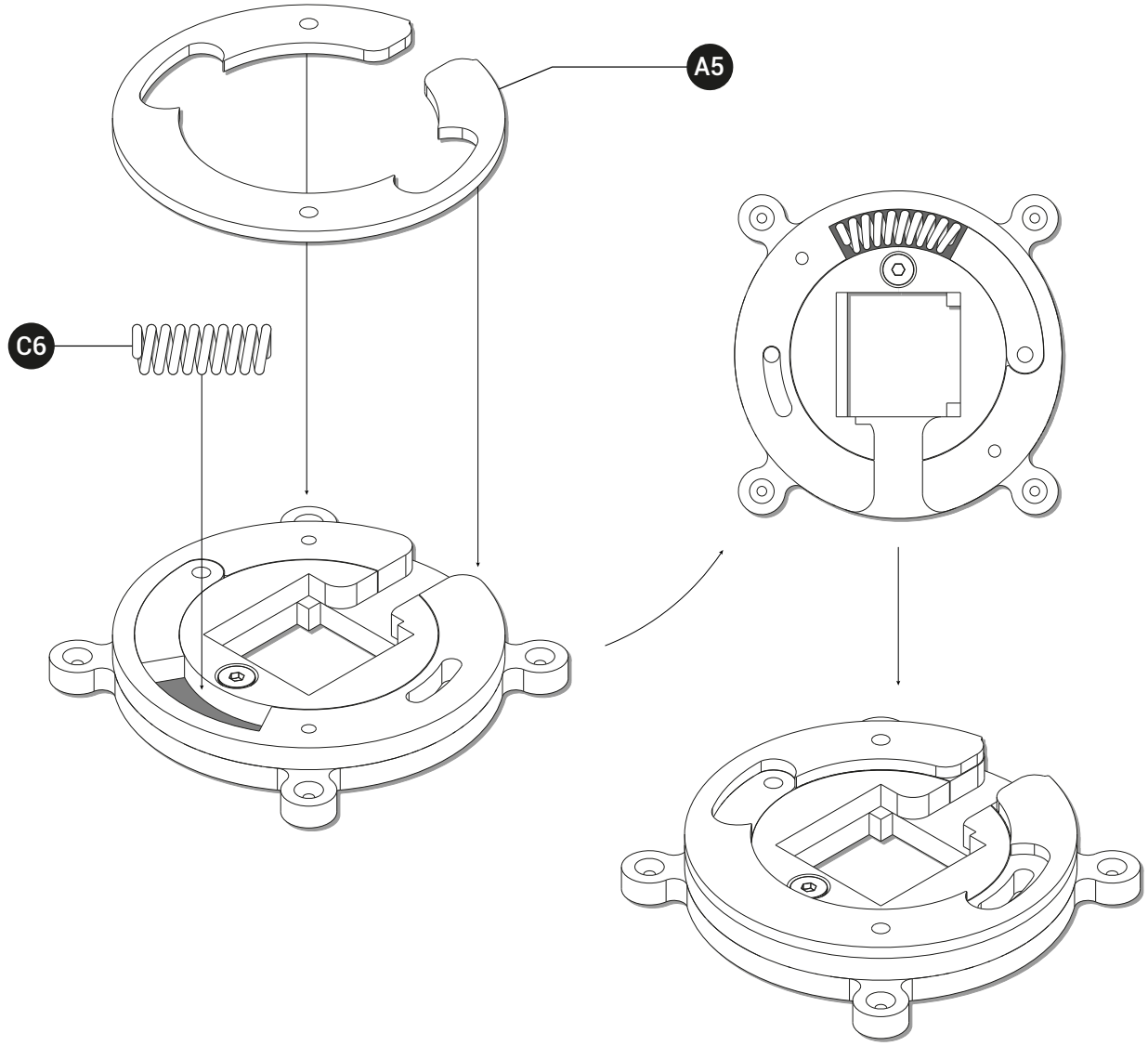
3



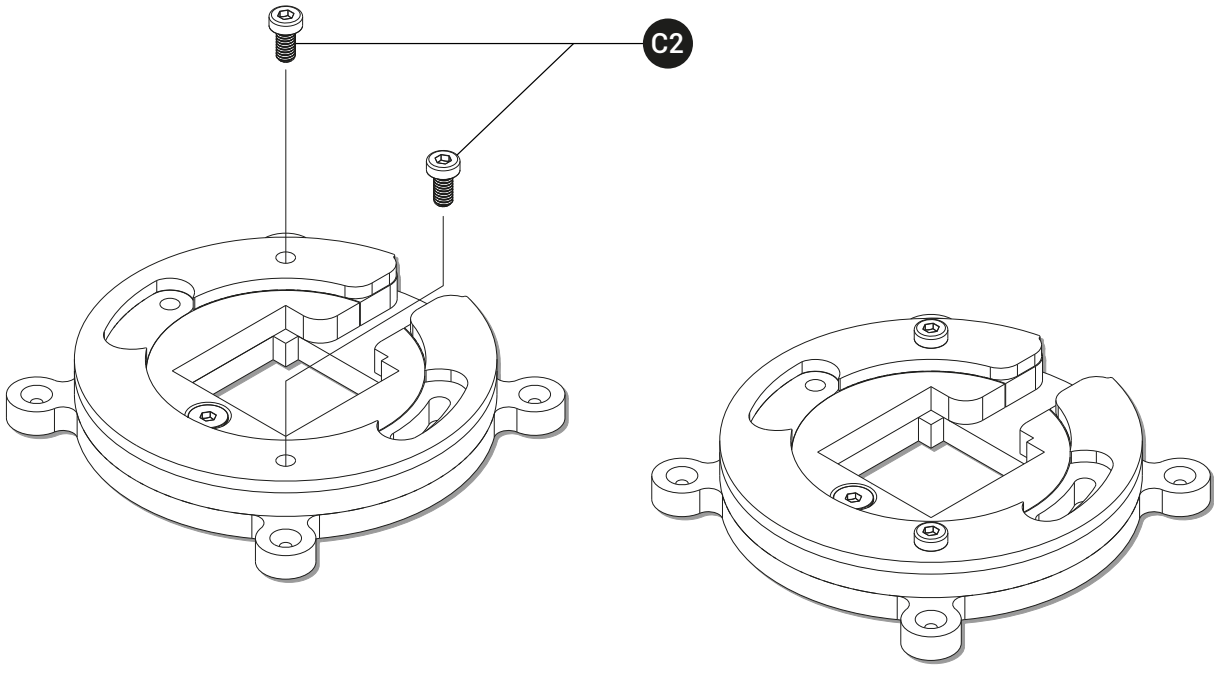
4



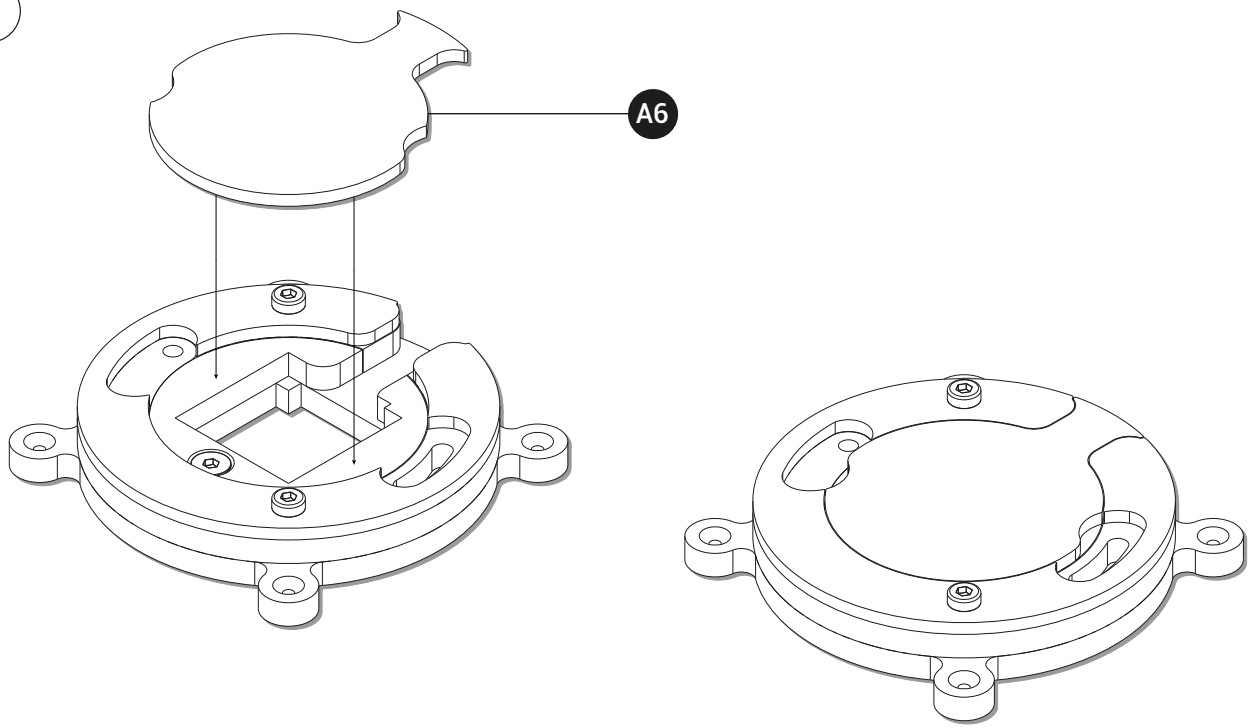
5



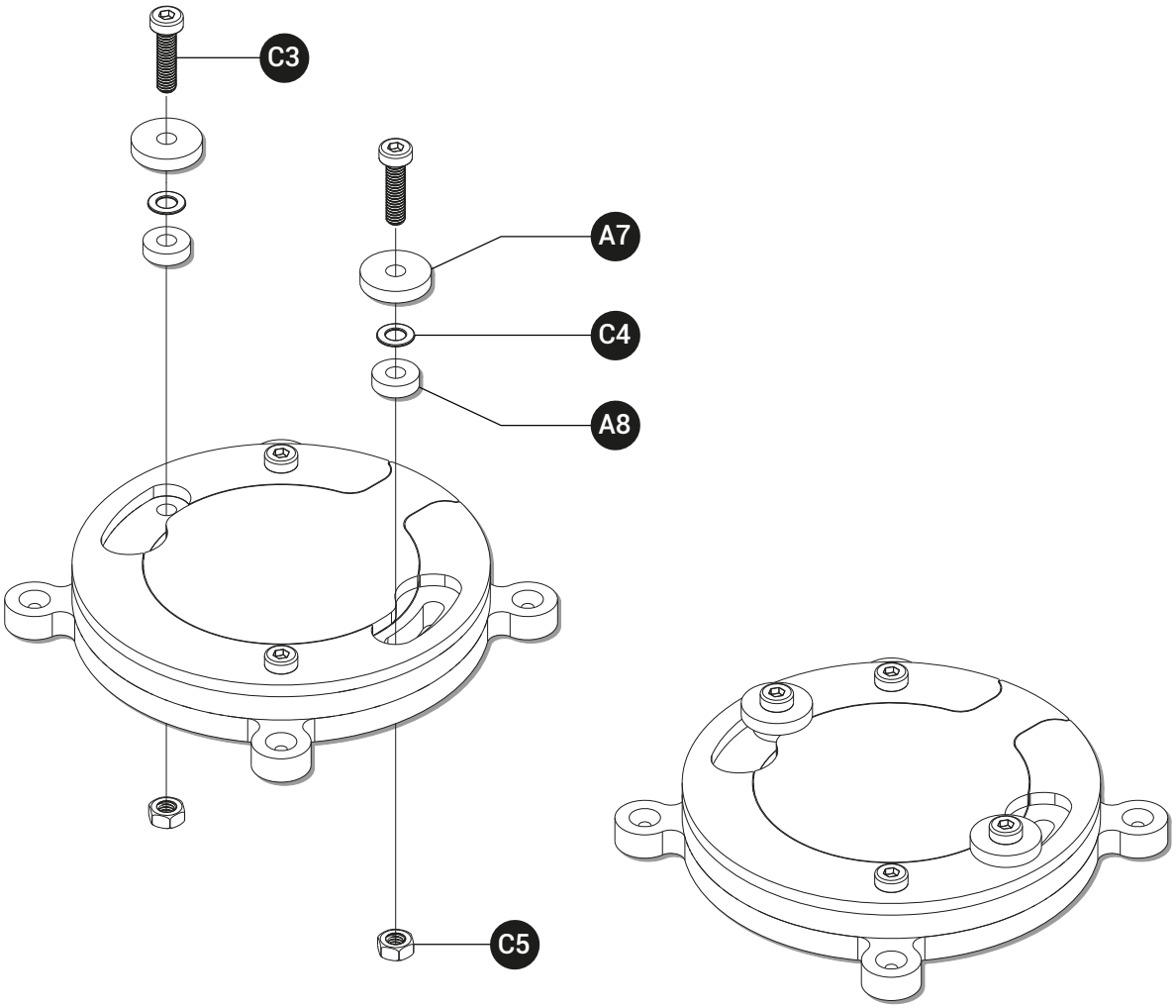
6



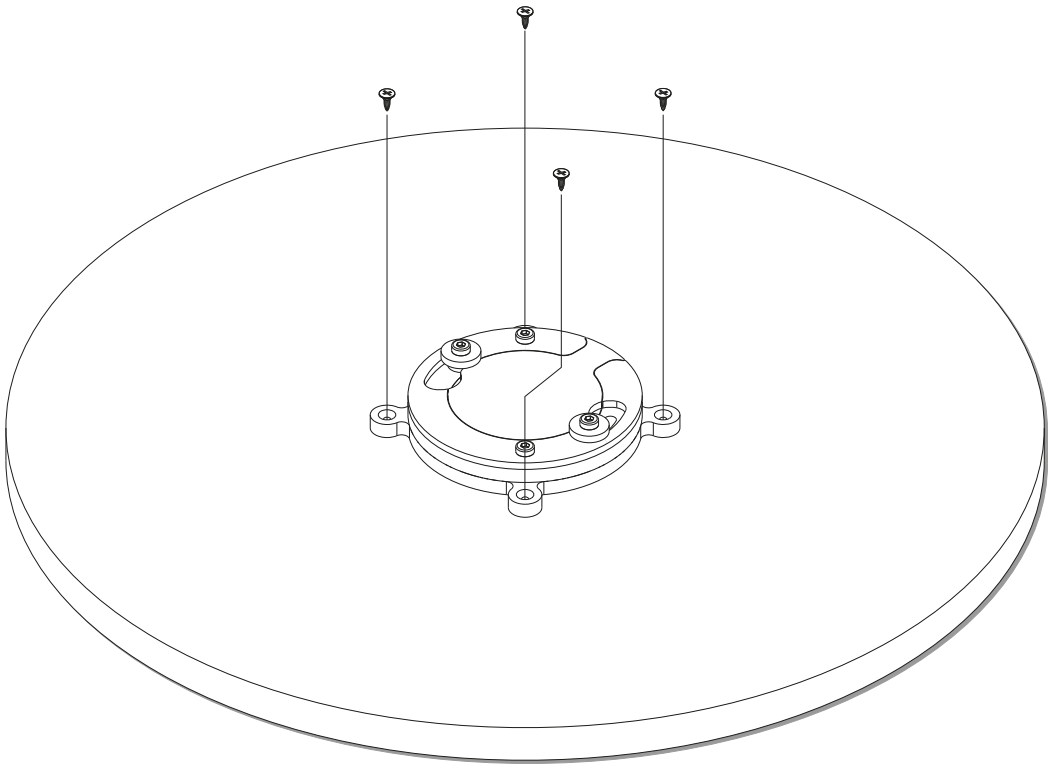
7

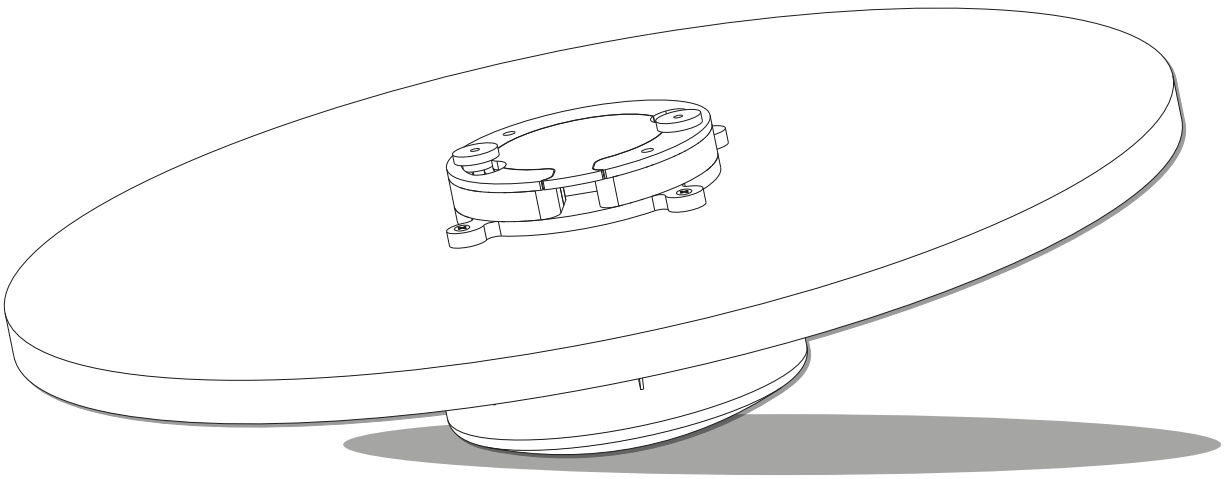


8



9





SET-UP

1 Download and install:

Movuina on **www.movuino.com**

PureData on **www.puredata.info**

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** filewith **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

```
// 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);
}
```

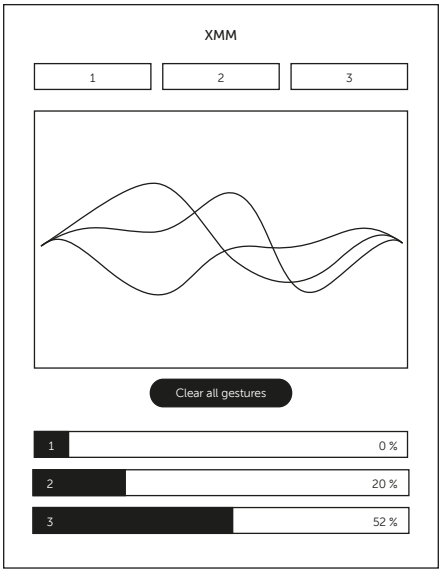
line 40 →

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

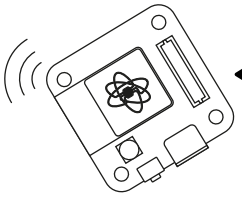
Quick Start

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

Once its done, you can play with the **XMM** algorithm developped by **IRCAM**:
http://ismm.ircam.fr/software/xmm-probabilistic-models-for-motion-recognition-and-mapping/



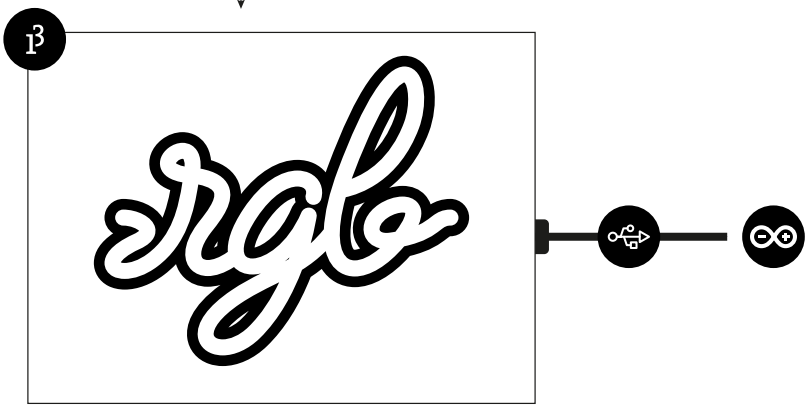
← Record 3 different gestures



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!

CRI

INVESTISSEMENTS
D'AVENIR

UNIVERSITÉ
PARIS
DESCARTES

Université de Paris