FRANKIE DIY KIT

Assembly Guide

GDL MX 2021

#WeAreBocuma

IMPORTANT NOTE

This is a medium to advanced difficulty project. Previous knowledge in the code of resistors and other electronic elements as well as experience soldering with soldering iron and tin solder is suggested. Bocuma is not responsible for any personal or material damage, defect or malfunction derived from the incorrect assembly of the kit.

TOWARDS NEW UNIVERSES OF SOUND

GDL MX 2021

INTRO

A few months ago, inspired by Mary Shelley's famous novel, we created Frankie. A mini beast with a sawtooth-like roar and the ability to alter his shriek with a low-pass filter, controlled by movement through the variation of light captured by a set of photoresistors.

Frankie for us was an adventure, a combination of many things learned and many things bumpy. It brought us (and still brings us) a lot of pride and we consider it as a kind of manifesto to our humble but visionary (sometimes utopian) beginnings. As in the novel, there came a point where we wanted to kill it, to stop doing it and move on to things we considered more interesting. We didn't succeed, the beast always came back, in one way or another.

At the beginning of this year, we decided to publish Frankie under a CC license and in the form of a DIY kit, because we want every individual with the necessary interest and patience to glimpse the mysteries of analog synthesis and awaken or feed his inner genius. In addition to respecting the license, we only ask that the assembly of our kit be done with passion, pride and infinite curiosity.

This is our way of giving a gift to the world.

BEFORE STARTING

We suggest that the user takes ownership, at least temporarily, of a clean, well-lit and well-ventilated work space. It will be necessary to gather the necessary tools and make sure to have everything ready and at hand, so that the assembly flows in a continuous and enjoyable way. For the assembly it is required:

× Pencil soldering iron, with a point in good condition.
× Soldering wire as needed
× Cutting tweezers.
× Pointed tweezers.
× Desoldering and the cunning to use it very little (or not at all).

To this list we could add patience, curiosity and all those elements that make the assembly more bearable. We like to drink coffee and assemble at night. Occasional night work allows for some inspiration that also gets from the quiet and mystery of the wee hours of the morning. The above strikes us as very ad-hoc to Frankie's monstrous subject matter. As for the ears, we like to embellish the silence of the studio-workshop with good music, the selection of which we leave to the user's discretion.

It is essential to be confident with the soldering iron and to have experience in the art of soldering PTH components, as well as knowing how to identify electronic elements and resistor values.

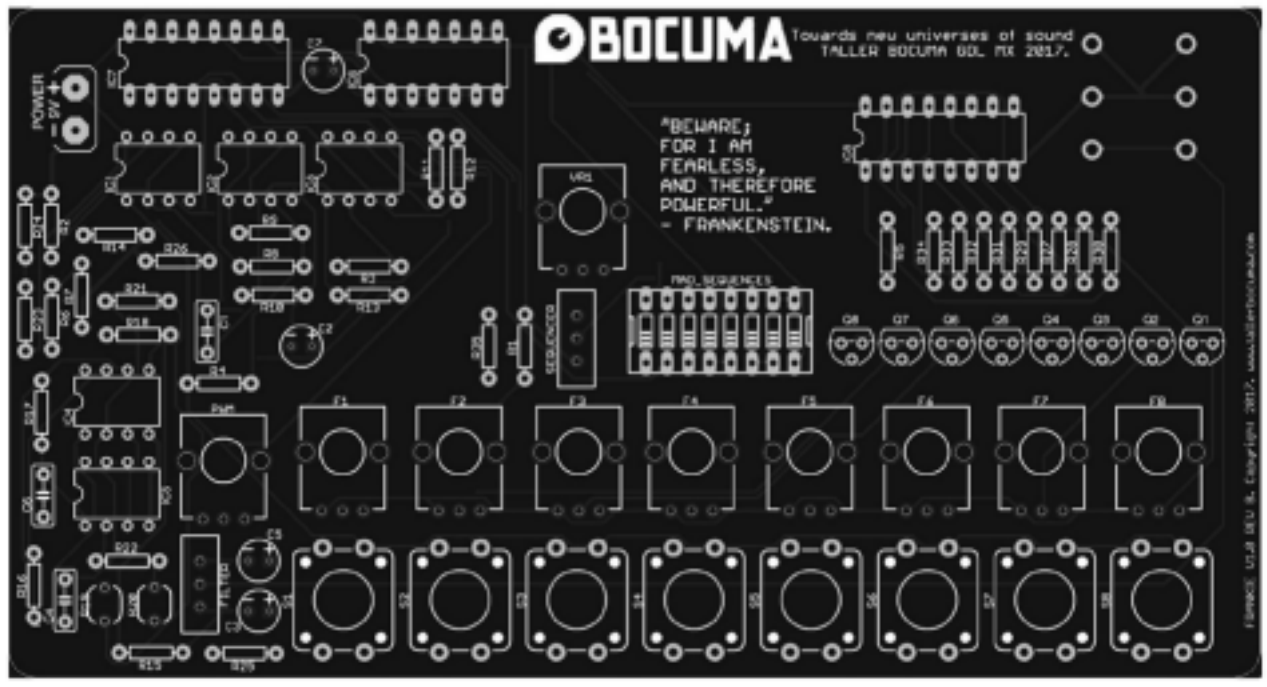
With everything said here, assembling the kit should not present any mishap and we hope that the user enjoys assembling it as much as we enjoyed the process of designing it.

BOM AND PCB

Before starting, we will have to familiarize ourselves with the necessary components for the assembly, it will be necessary to review the BOM (bill of materials) in the following link:

- click here-

Next we must familiarize ourselves with the PCB layout (electronic board):

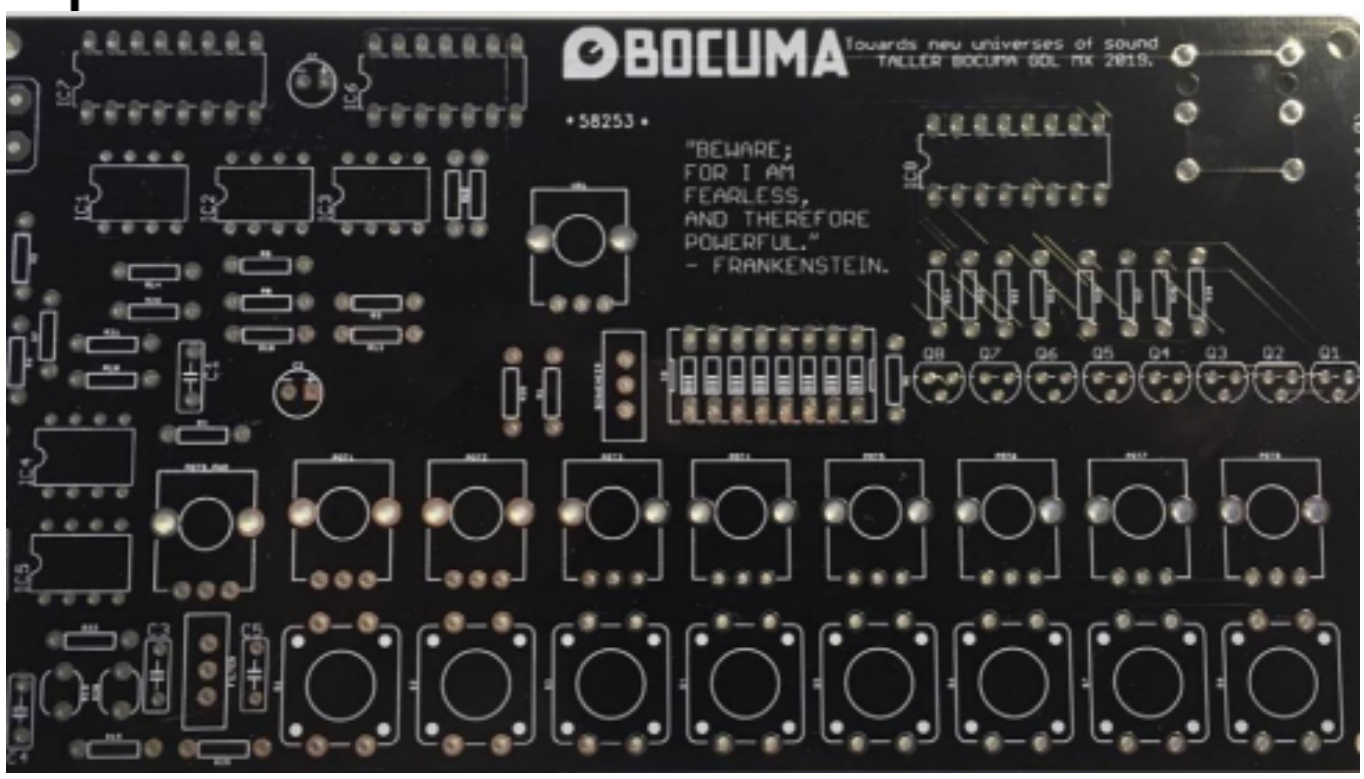


Each component on the board has its identifier and corresponding silhouette printed on it. All elements (with the exception of the audio output connector) are positioned on this side of the **PCB**.

ASSEMBLY

Without further ado.

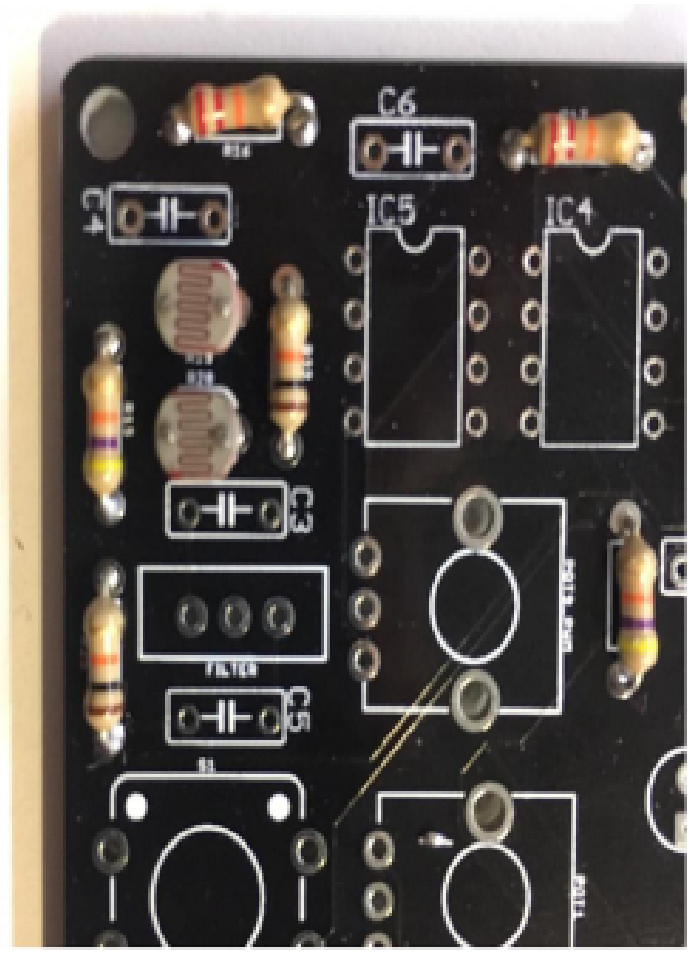
1 We begin by inspecting the electronic board to familiarize ourselves with its layout and the approximate location of the components.



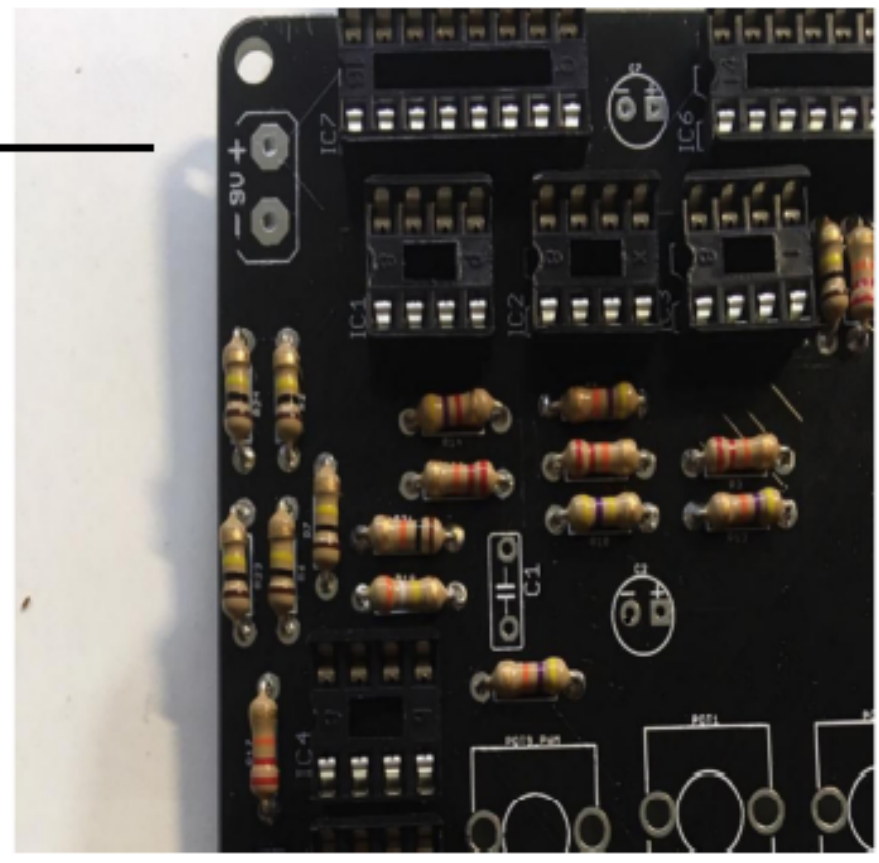
2 We start by soldering the resistors, referring to their value on the parts list value in the parts list and finding the location of each one on the board:

In the case of resistors, they do not have polarity, so it does not matter which way they are soldered. However, we must pay attention to their color code and place the indicated values in the corresponding place.

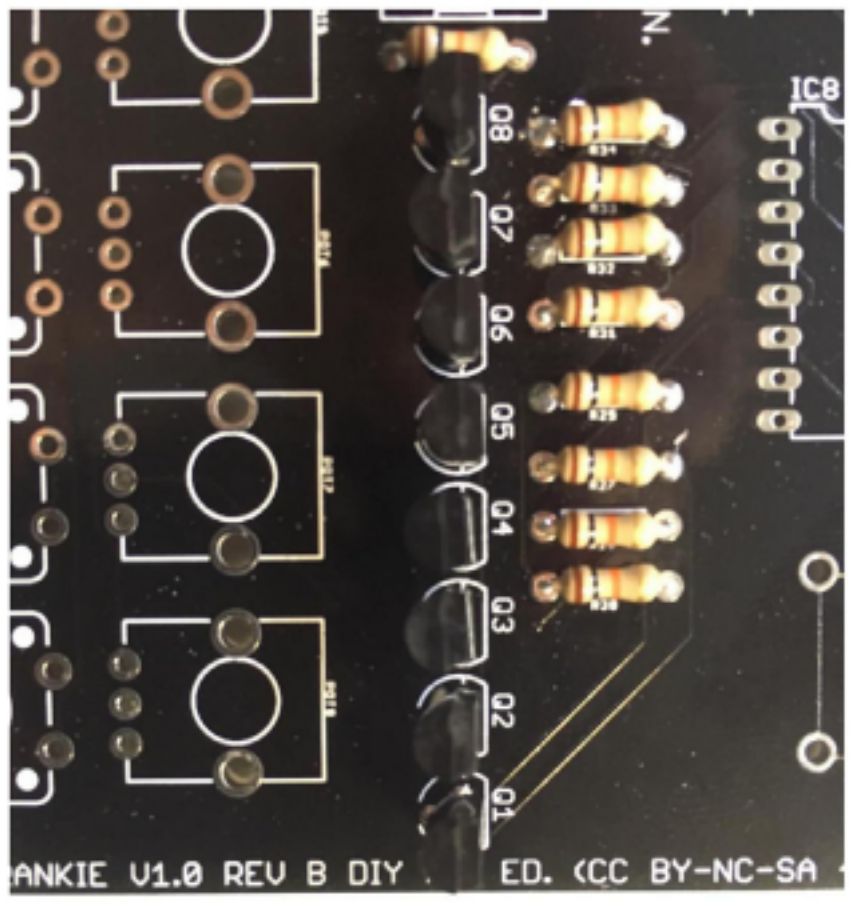
3 Once all the resistors are soldered we can move on to the photoresistors. These also have no polarity.

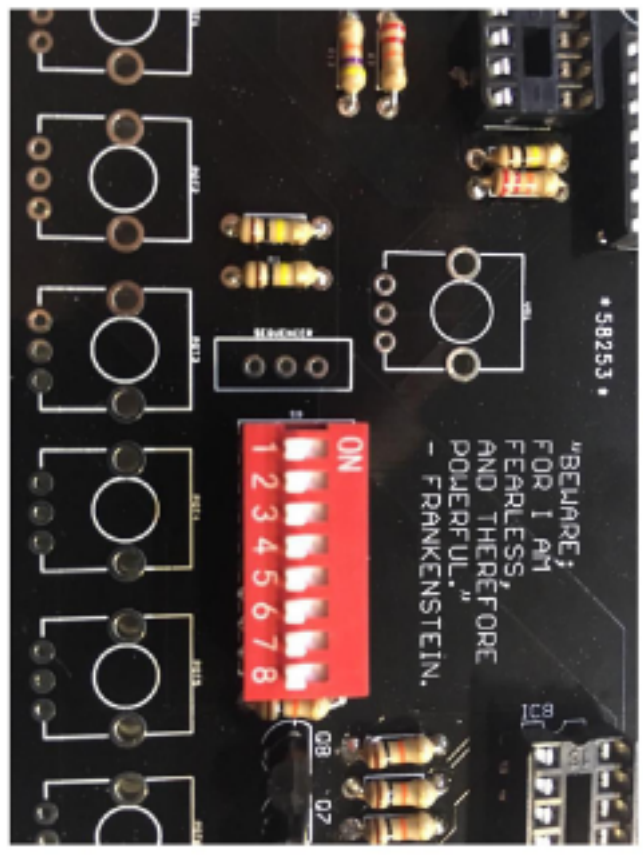


4 Next we will solder the ceramic capacitors, which also have no polarity and the bases for the chips:



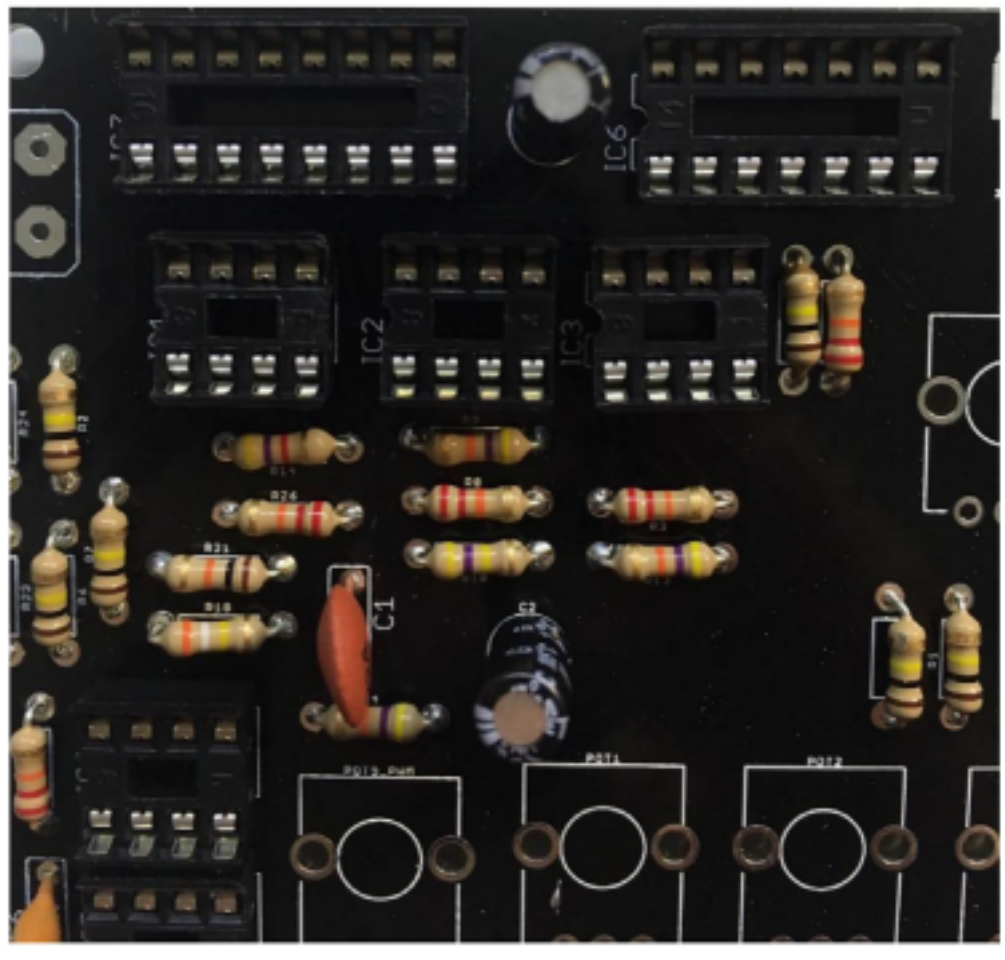
5 Now we solder the transistors and the switch bank:



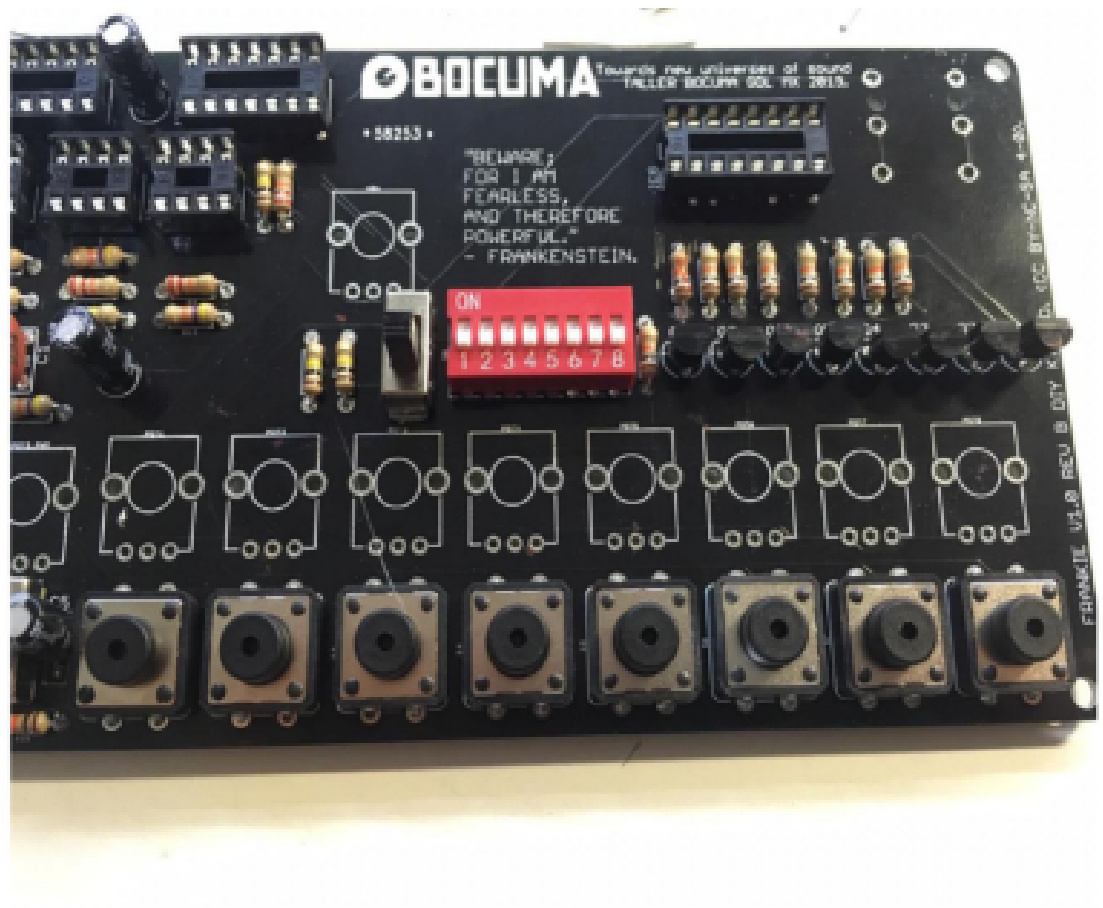


6

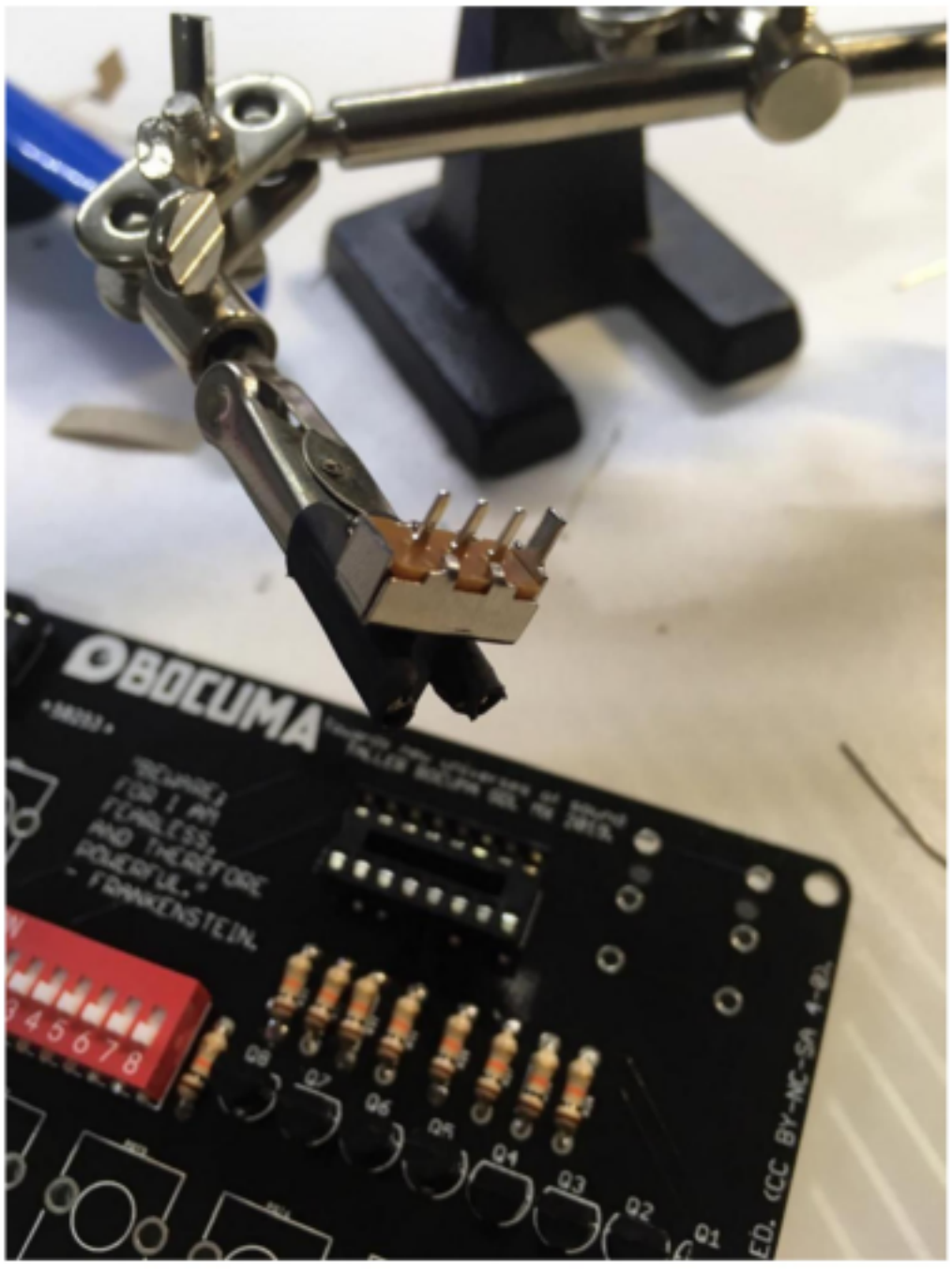
We continue with the electrolytic capacitors paying close attention to their POLARITY and their value, remembering that the gray stripe on the capacitor must go in the hole marked with a negative symbol (-).



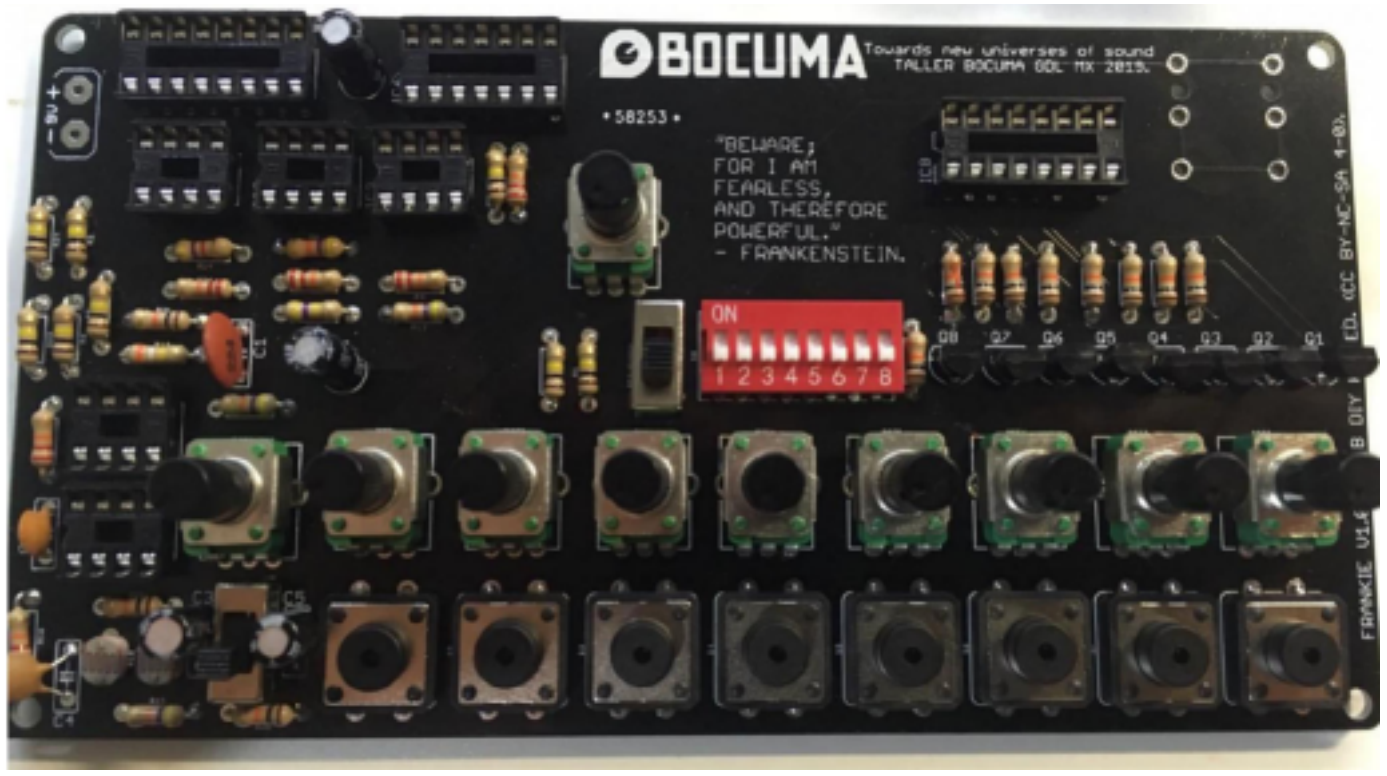
7 Now we will take care of the pulse buttons and the sequencer and filter switches:



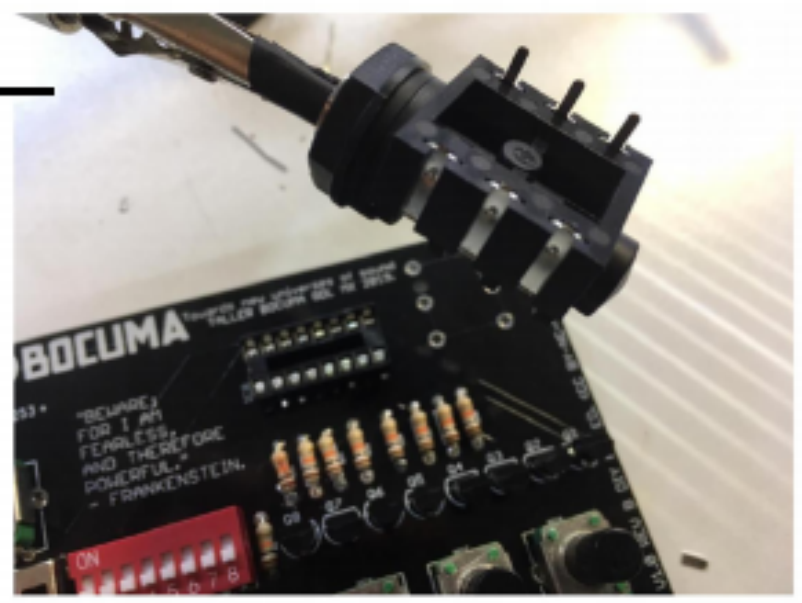
8 For the sequencer switches and the filter, we will have to cut the two end plates with tweezers.



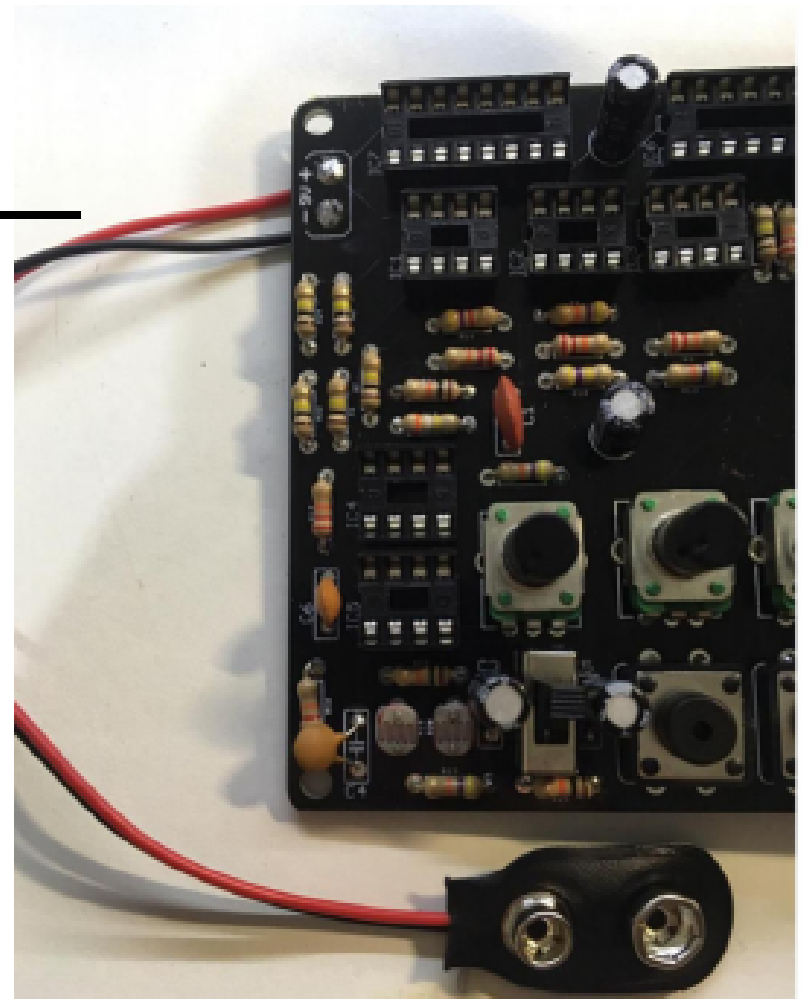
9 Next we will mount the potentiometers:



10 Before placing the audio connector we will have to cut some of its terminals, as shown, and then solder it:



11 Finally we solder the battery connector, paying attention to the polarity of the colors:



¿IS IT ALIVE?

To make Frankie emit his first roars, you only need to connect a 9V battery, we recommend buying a rechargeable battery to save the economy and the planet. It would be a good idea to consult the instructions here:

CLICK HERE

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