OVERVIEW

For the most recent version of this document please visit
https://thonk.co.uk/mtm-mikrophonie-kit

This document has hi-res images. ZOOM IN for a closer look

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http://www.thonk.co.uk/faq/

DIY INSTRUCTIONS

This document gives detailed instructions that assume you have purchased a complete kit from www.thonk.co.uk. It also assumes no previous knowledge of electronics. To learn to solder try https://youtu.be/IpkkfK937mU and the **Adafruit guide to excellent soldering** – http://bit.ly/1l77tF4

Watch and understand that whole YouTube video! If you're not achieving the results shown in the video then you need to buy new tools or seek advice. **You will not end up with a working module otherwise.**

TOOLS REQUIRED

Soldering iron, masking tape, and diagonal cutters AKA snips AKA side-cutters. A Digital Multimeter is always helpful for checking for bad solder joints and continuity. Thonk sell a range of inexpensive tools here -
http://bit.ly/1jxqF3n

SOLDER JOINTS

Your solder joints should look like those shown as 'OK' below, they should have that neat conical shape on BOTH sides of the PCB. If they don't look the same on both sides then stop! Work out why from the soldering guides linked and don't continue until you are getting those results.

This isn't just OCD talking, you are very likely to end up with a destroyed, damaged or defective unit if you're not hitting that standard.
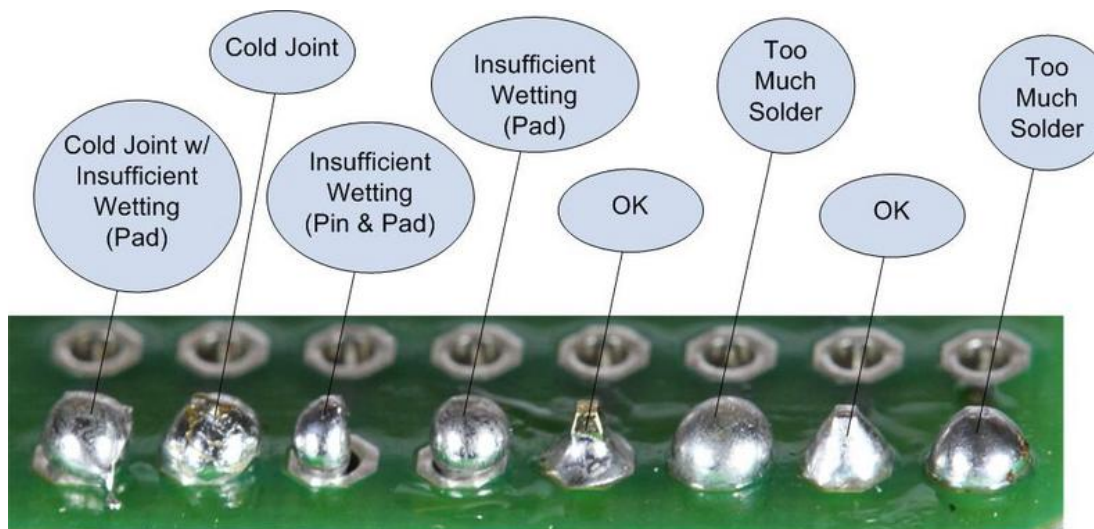
This photo is from the **Adafruit guide to excellent soldering** - http://bit.ly/1jxqF3n and is reproduced under an Attribution-Sharealike creative commons license - http://creativecommons.org/licenses/by-sa/3.0/

Mikrophonie v3 has a dedicated build video guide.

The video can be found here:
https://youtu.be/l0dfQXbvZB4

MIKROPHONIE BUILD INSTRUCTIONS

1.

Start by opening the main kit bag and removing the contents. The PCB can be removed from its protective bag and the bag labelled **"Mech + Components"** can be opened and emptied into a bowl or onto a surface where the parts won't get lost.

2.

All of the SMD components on the PCB have been placed and soldered by robots, so this is a very quick build. However, it does require careful and precise soldering.

Try to avoid touching the SMD components with your hands and be very careful not to touch them with your soldering iron. Take your time, and use an iron with a reasonably small tip
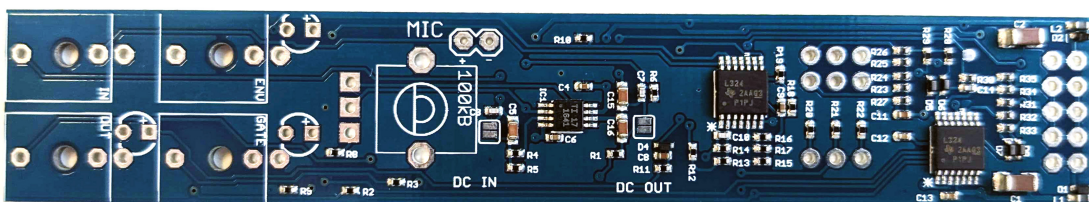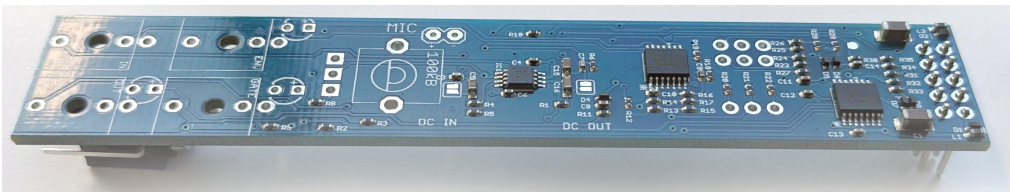
3.

Start by placing the power header. **ENSURE** that it is on the correct side: The plastic and long pins should be on the same side as the text saying: **'Red Stripe'**. Note: soldering this on the wrong side will ruin the build!
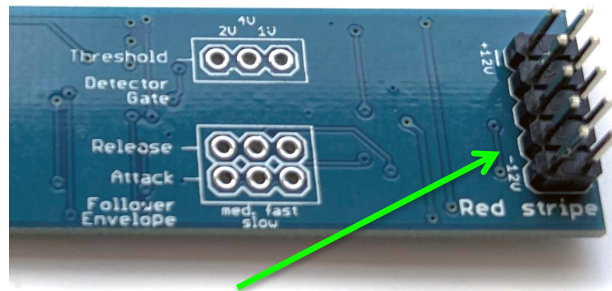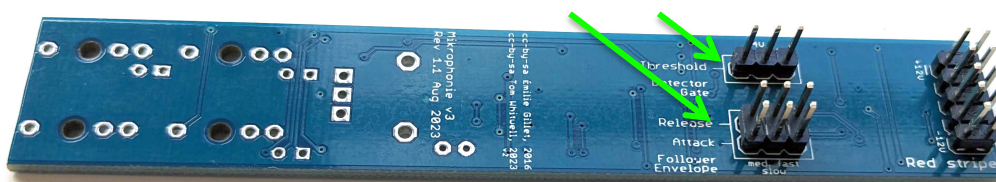

4.

Flip the PCB over and place one of the audio jacks underneath it to balance the PCB while you solder the pins of the power header.

5.

Now take the other two headers and place them onto the PCB on the same side as the power header, turn the PCB over and repeat the trick of balancing it with a jack socket while you solder both headers on.
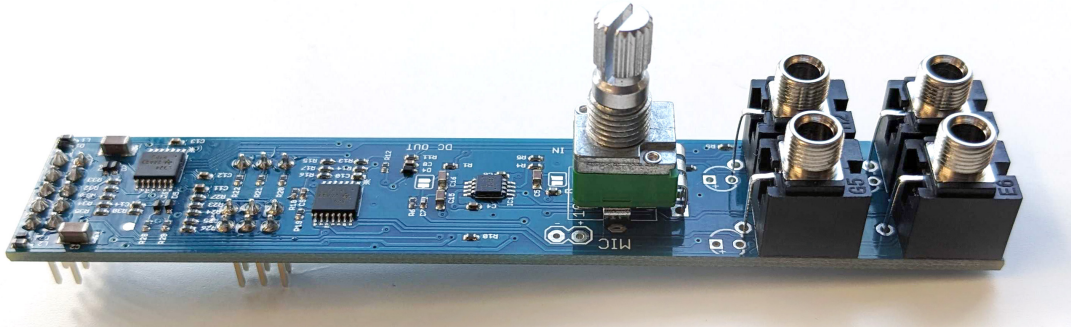

6.

Next we'll move on to the parts that are related to the front panel. These are all placed on the opposite side of the PCB to the headers. Start by removing the nuts from the jack sockets.
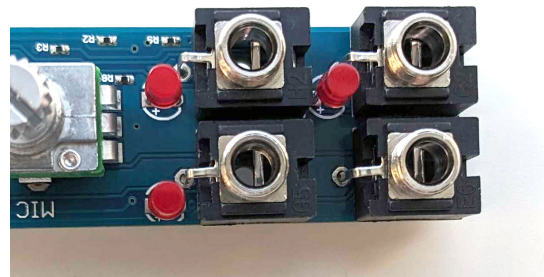
7.

Now place (do not solder!) the pot and then the jack sockets onto the PCB making sure that all the legs go to the correct holes. Do not solder them yet.

8.

Now locate the 3 Red LEDs and place them into their holes. (do not solder yet!)

NOTE: orientation is **VITAL** for the LEDs – the longer leg should go to the square pad with the plus symbol next to it: '+'


Longer leg goes to +

9.

Now it's time to choose which panel orientation to use if you haven't already, so choose if you want the scratch plate at the bottom or top of the module. Then take the respective panel and place it on to the pot and jacks.
**Do not solder them yet!**

10.

Open the small bag
containing screws and
other small parts and take
the nut and washer and
attach them to the pot.
Screw nuts onto a couple
of the jacks as well to
secure the panel. Do not
solder anything yet.
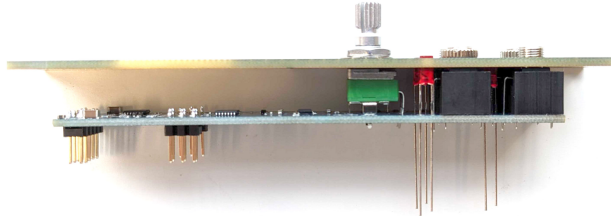
11.

Take some masking tape or blu-tak and stick it over the led holes on the
panel. Then push the LEDs so they sit in their panel holes. The tape will
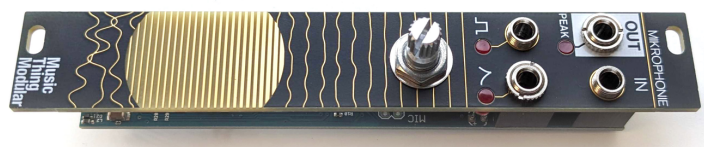help them stay flush to the panel while you solder them in.

Note: do not use heavy duty tape as it can leave residue on the panel that
will be hard to remove
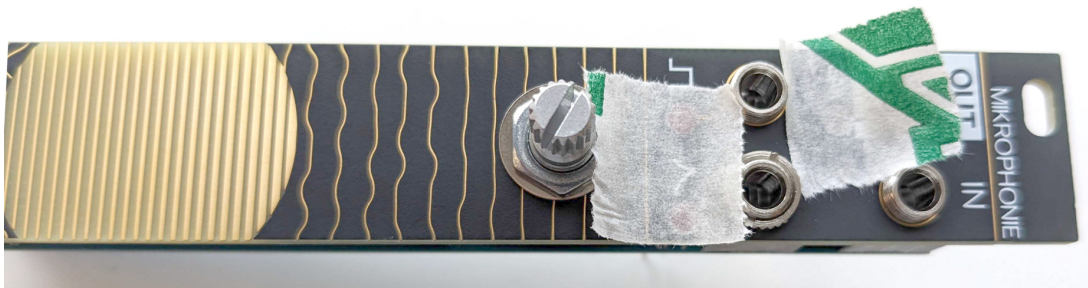
12.

When all LEDs are all sitting flush in their holes you can flip the module over
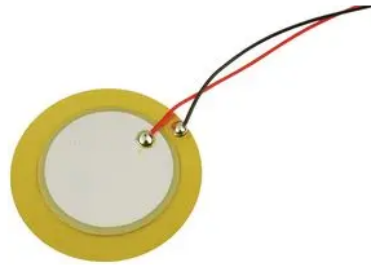and solder in the pot, jacks and LEDs.

After you've soldered and the tape is removed, the LEDs should look as
shown below.

13.

Now remove all nuts and
washer from the jacks
and pot, and separate the
front panel again from the
rest of the module.

Then locate the piezo
microphone.

14.

Place the Piezo on the back of the front panel directly behind where the
scratch plate is located on the other side. The two wire's should be facing
towards the holes for the pot and jacks.

15.

Next we'll be attaching the Piezo to the panel with 2-3 solder blobs. It can
be useful to use a clothes peg or similar item to hold the piezo in place
while soldering.
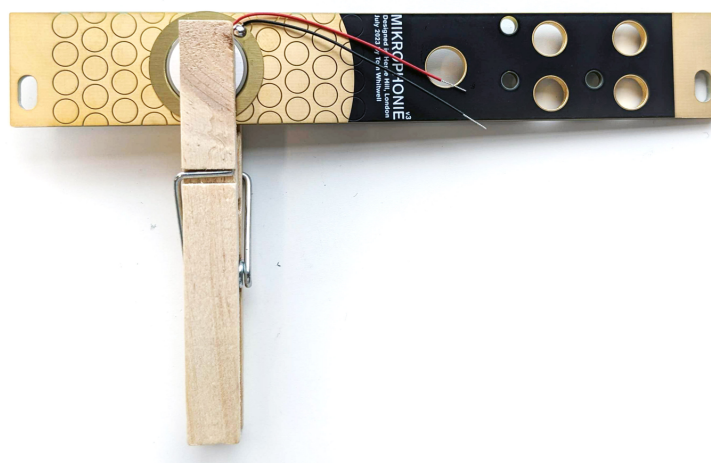
16.

Melt some solder onto the panel at the very edge of the piezo disc and drag it over the edge of the piezo with the soldering iron. The aim here is to secure the piezo to the panel and it doesn't need too much solder.

The image below has three solder blobs which is enough to attach it securely.

17.

Next take the panel as if you're about to place it onto the module again, but before you do – thread the two wires from the piezo to the two holes labelled 'MIC' on the PCB.
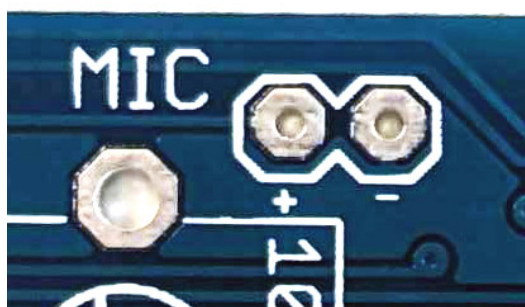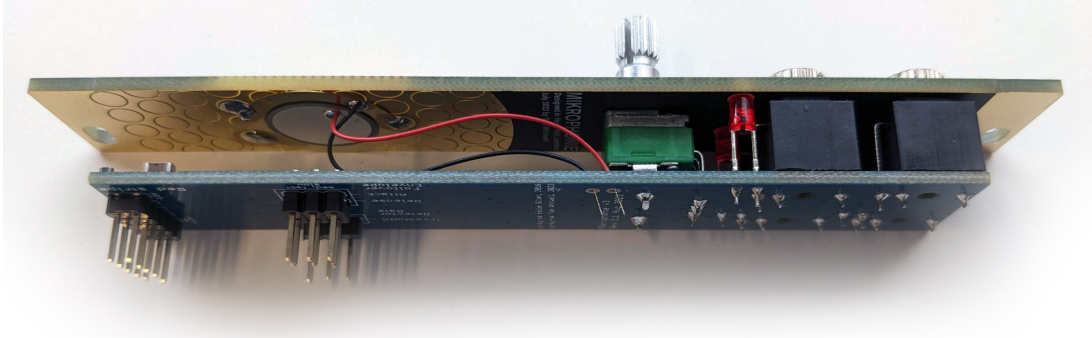

The red wire should go to the plus symbol, but if the wires get mixed up then the module will still work fine, so don't worry too much about it.
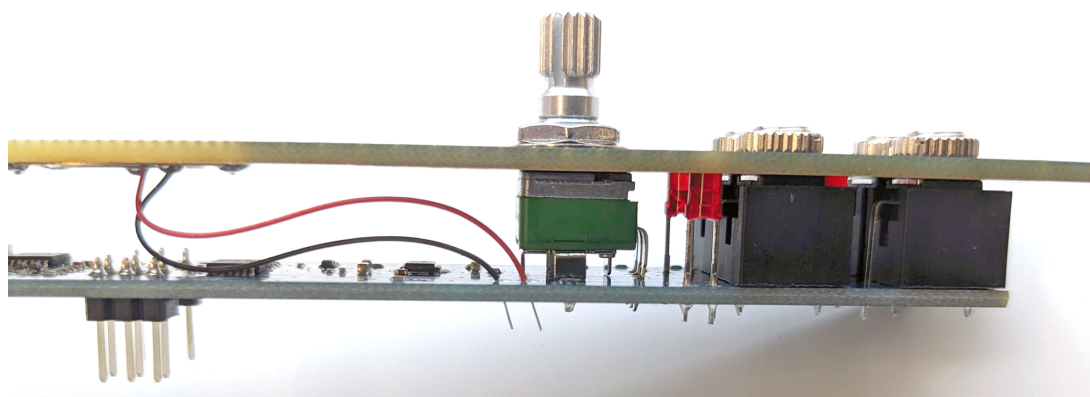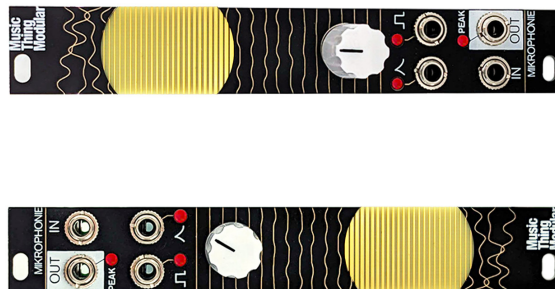
18.

Now resecure the front panel by attaching the nuts and washer to the pot and all jacks. Then you can solder the two piezo wires to the PCB

19.

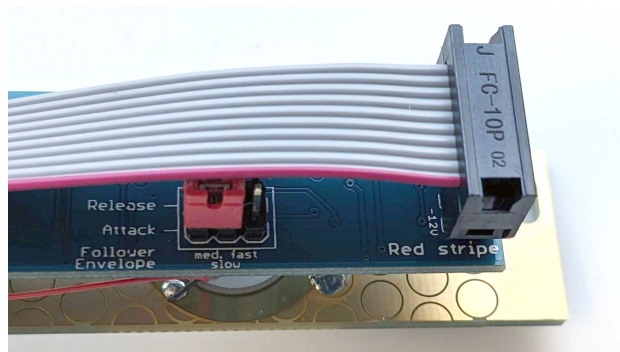Now you can attach the single knob onto the volume pot.


20.

Affix the power cable as shown.

NOTE:
The red stripe on the cable must face towards the PCB text: **'Red Stripe'**

Music Thing Modular
Mikrophonie v3 Module

Eurorack DIY Kit Instructions

Version 1.1

21.

The module is now complete! The three jumpers can be placed to set the speed of the envelope follower and gate detector. A good intial setting for testing is shown to the right.
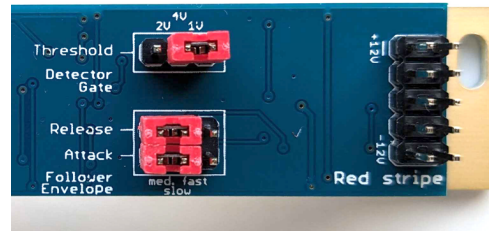
Envelope Follower

— Attack
— Release

fast

slow

med.

Gate Detector

—Threshold

1V

2V

4V

The last setting is obtained by removing the jumper.