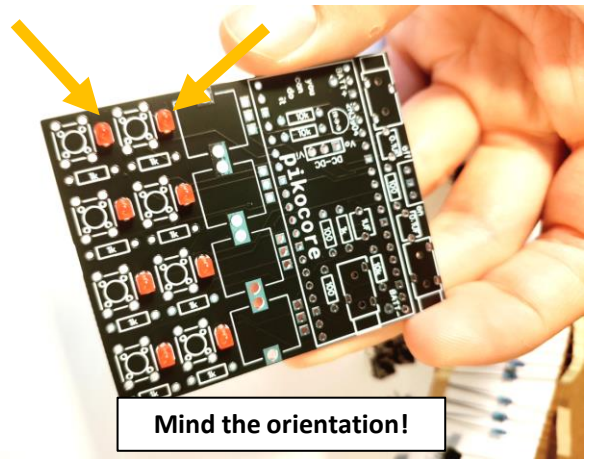Start with the 8 LEDs. Mind the orientation! One end of the red plastic is round.

Start by soldering a single pin of each LED. If the LEDs are then sitting nicely in their place, you can solder the other pin too.

Finally, cut the pins off.



**Mind the orientation!**

Solder the resistors in the same way as the LEDs. The only difference is, the orientation does not matter now. Just mind that you put the correct values to their respective spots:
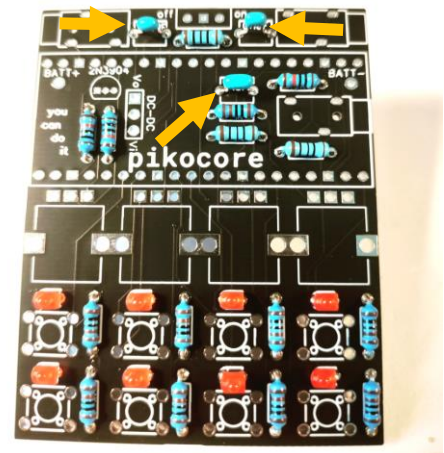
- 3 x 10k

- 9 x 1k

- 3 x 100

Cut the long ends of the pins off when you're done.



You can approach the capacitors in the same way as the resistors (orientation does not matter):
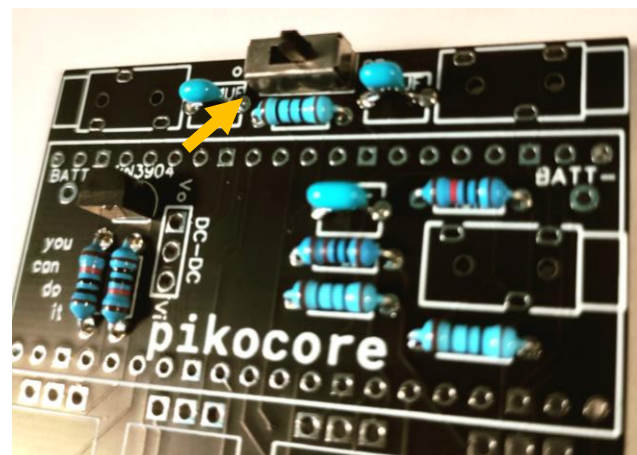
- 2 x 0.1uF (marked 104k)

- 1 x 1uF

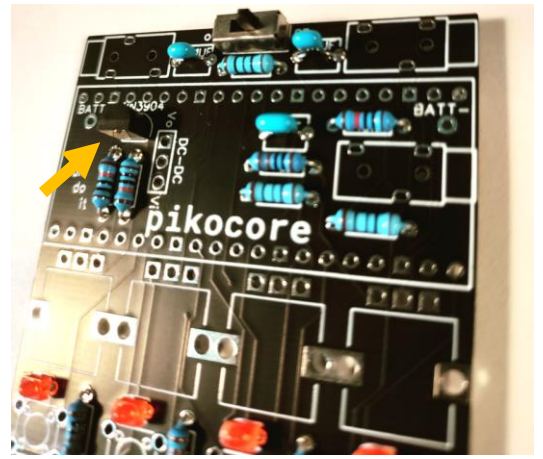Cut the long ends of the pins off when you're done.



Place the power switch. Orientation does not matter.

Solder one of the pins, check if it's standing nice and upright, then do the other two pins.
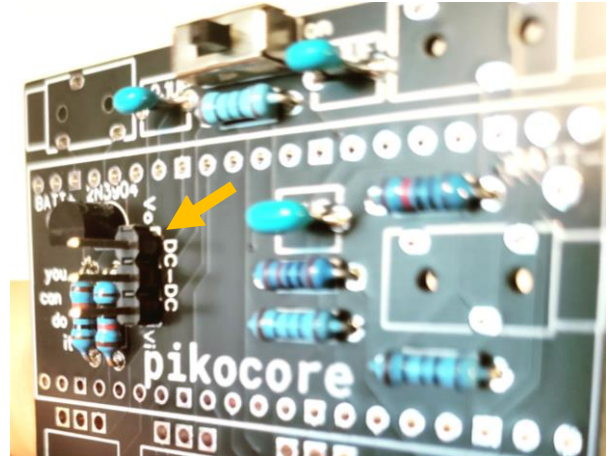
Now do the single transistor. Just mind that you put in the right way around (see the semi-circular marking on the board).

Cut the long parts of the pins off when you're done.



Add the 1x3 pin header. The plastic part + long pins have to be on the same side as the trasistor.

Solder one of the pins, check if the header is standing nice and upright, then do the other two pins.



Place and solder the small power board on top of the 1x3 pin header you just soldered.

Watch out for the orientation,
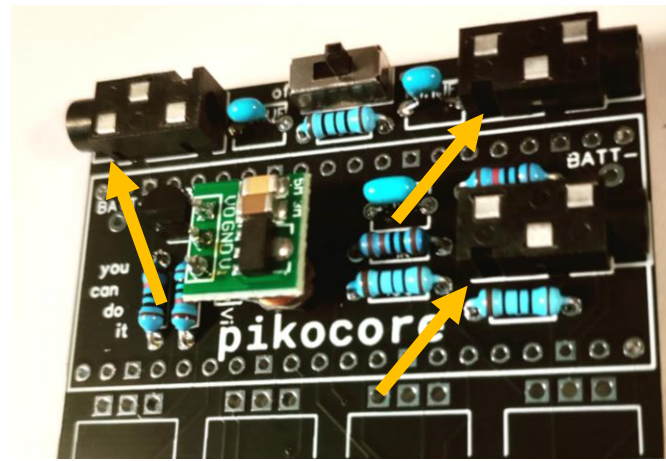


**Mind the orientation!**
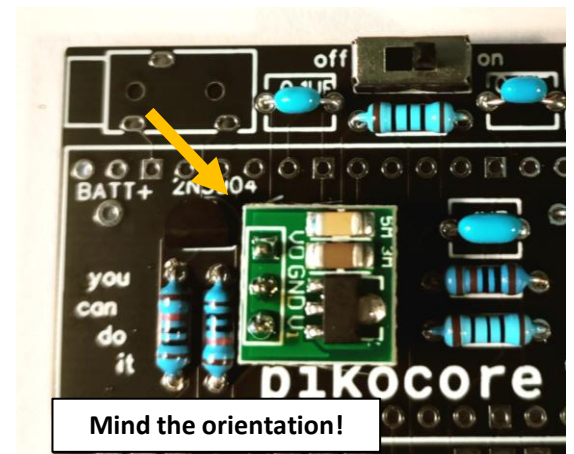
Place the 8 buttons (you should get a nice click as they go in).

Solder one pin on each, check if they're sitting nicely, and solder the rest of the pins.
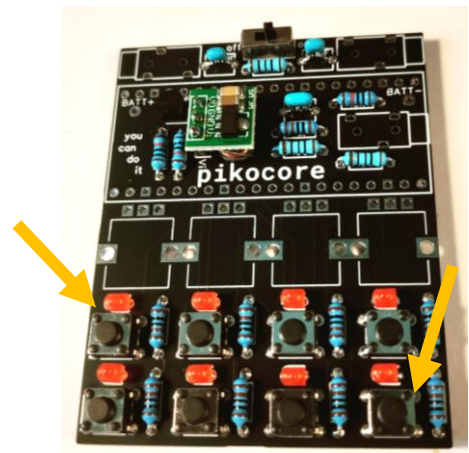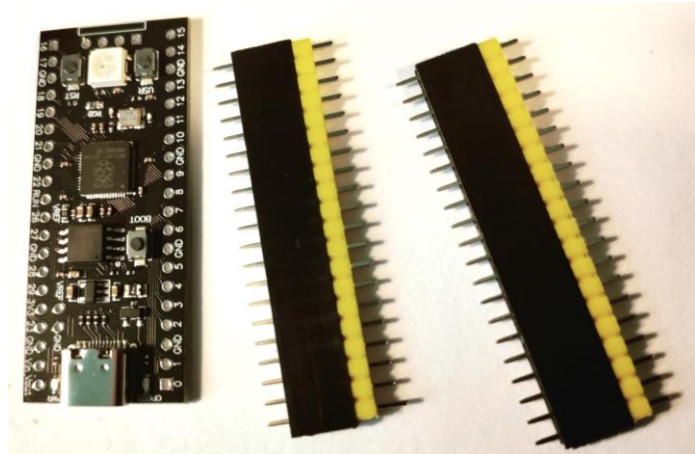
Place the three jack sockets. Push them in quite hard and they will stay nicely in place.

Solder them.



Unpack the Pico board. Connect the yellow male headers to the black female headers.



Place the black main board on the table.

Place the black/yellow headers on top of it.

Place the Pico board on top of these headers – mind that the USB connector is on the left side.

Solder the 40 pins on the Pico board, then flip the whole thing over and solder the 40 pins on the main board.



Pico board

Male headers

Female headers

Main Board
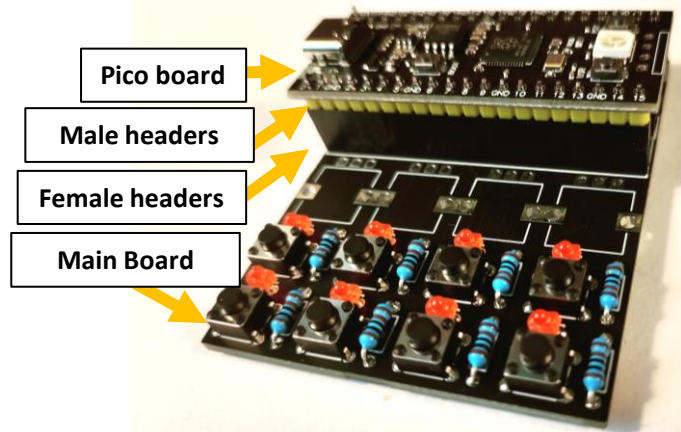
Time to work on the battery holder.

**Attention: Start by cutting the pins of the battery holder to the right length (put it in and see how long you need them) before placing it and soldering it. Use large cutting pliers for this.**
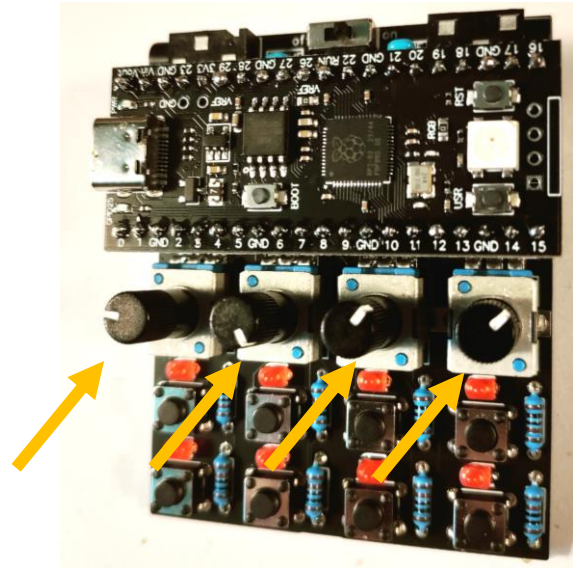
It is very hard to cut the the pins of the battery holder after soldering it in, as they appear to be made of steel.

Mind the (+) and (-) signs!



**Snip the pins before you solder!**
**Mind the orientation when soldering!**
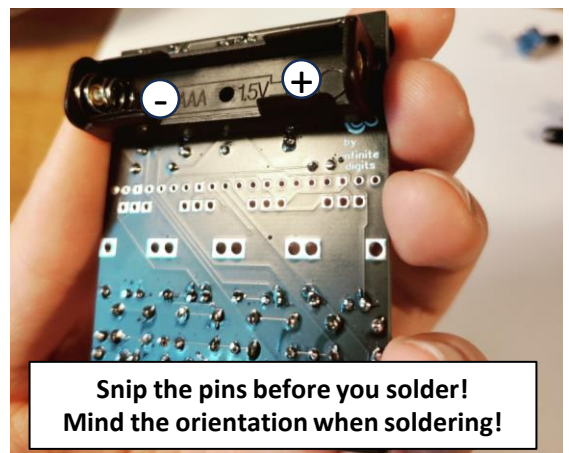
Finally, place and solder the pots.

Now just flash the device and you're done!



## buttons

the buttons on the device can be used to jump to samples and retrigger audio in real time.

**jumping**: press any of the eight buttons to jump to that relative position in the sample.

**retriggers**: press and hold a button and press another button to create a retrigger effect. the retrigger speed is based on the position of the second button press. random effects add added to the retriggers, such as changes in speed, pitch, filter envelopes, or volume envelopes.

**stop/play**: press the two leftmost buttons and the two rightmost buttons simultaneously to stop/play.

button mashing is encouraged.

## knobs

the rightmost knob is a filter/volume knob that controls the output level. the leftmost knob is the **selector knob**, which can choose between eight different positions. each position changes a different pair of parameters, which can be changed using the middle two knobs, **knob a** and **knob b**.

| selector pos | knob a | knob a |
|---|---|---|
| 1 | sample | break |
| 2 | filter | stretch |
| 3 | gate | gate prob. |
| 4 | jump prob. | retrig prob. |
| 5 | tunnel prob. | reverse prob. |
| 6 | sequencer rec. | sequencer on |
| 7 | save | load |
| 8 | volume/fold | tempo |