

# BASTL INSTRUMENTS

## KLIK v1.0 - Assembly Guide

bastl-instruments.com



### INTRODUCTION

Welcome to the assembly guide for the **KLIK** by **BASTL INSTRUMENTS**. Klik is a synchronisation device that enables you to make analog, rock solid sync signals from your computer and your HW synths. For all the features go [here](#)<sup>1</sup>. This kit is suitable for beginners. It is good to have basic soldering skills and to be able to identify electronic components before starting this kit. However if you have never soldered before, check out some of tutorials [here](#)<sup>2</sup> or [here](#)<sup>3</sup>. We also included some of the best quality solder to help you solder everything faster and better.

The Klik kit consists of just one printed circuit board (PCB). All the parts comes mainly in two bags separated for the soldering and assembly parts. Please check all of your parts BEFORE you begin work to make sure you are not missing anything. See the bill of materials (BOM) for detailed list.

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<sup>1</sup> <http://www.bastl-instruments.com/instruments/klik/>

<sup>2</sup> <https://cdn-learn.adafruit.com/downloads/pdf/adafruit-guide-excellent-soldering.pdf>

<sup>3</sup> <http://www.instructables.com/id/How-to-solder/>

## BILL OF MATERIALS

<b>KLIK v1.0 BILL OF MATERIALS</b>		
<b>qty</b>	<b>value</b>	<b>part</b>
<b>RESISTORS</b>		
5	1k	R-EU_0204/5
2	10k	R-EU_0204/5
1	22k	R-EU_0204/5
2	100k	R-EU_0204/5
<b>CAPACITORS</b>		
2	100nF	ceramic capacitor
<b>SEMICONDUCTORS</b>		
5	Zener diode 5V6	DIODE-D-5
1	MCP6002	IC in foam
<b>HARDWARE</b>		
1	8 pin DIL	DIL socket - in foam
3	jack TRS 3.5mm	audio connector
1	100mA	fuse
1	USB B mini	USB B mini
1	TACT64KF	small button
2		LED white
<b>ASSEMBLY</b>		
1		PCB
1		top enclosure
1		bottom enclosure
4		side enclosures
1		"B" button
1		spacer M3 x 8 mm nut x nut
1	mushroom head	screw M3 x 6mm
1		screw M3 x 10mm



## BEFORE STARTING THE KIT...

Prepare the following tools:

- Soldering iron
- Multi-meter
- Flush cutters
- n2. hex screwdriver or allen key (enclosed with kit)
- Isopropyl alcohol + smaller and clean brush (optional)
- Protective eyewear

We suggest that you work in a clean and a well lit and ventilated environment to avoid accidents or losing any of the small components.

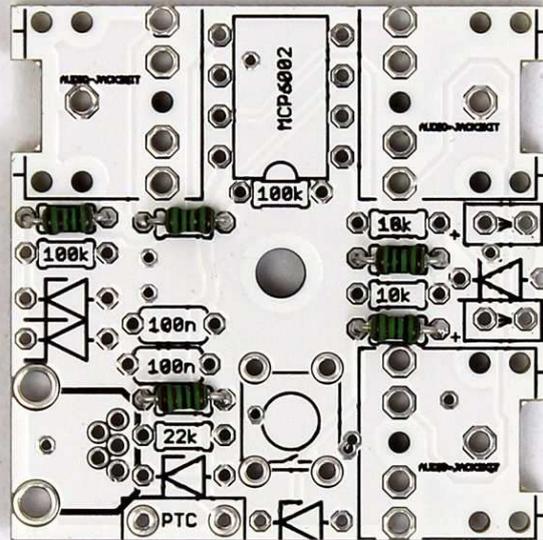
Also briefly go through this guide and make sure that you understand all the steps.

## SOLDERING

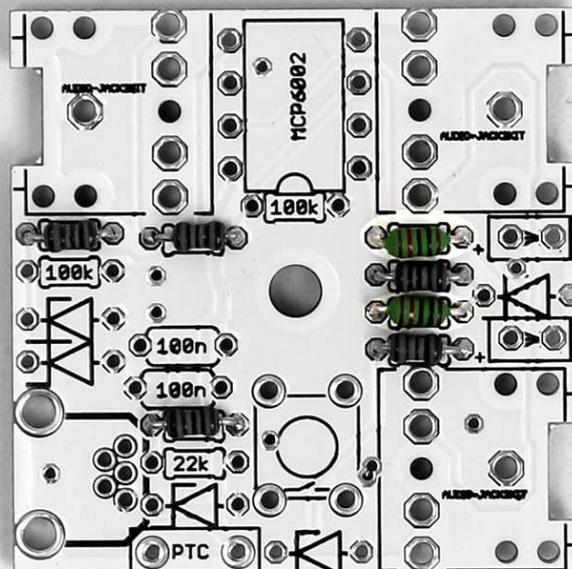
### RESISTORS

Start with the smallest parts: **resistors**. First of all, take your time and check the **values** of all **resistors** [using a multimeter](#) (or you can check the color codes if you are seasoned enough): **1k** (5x), **10k** (2x), **22k** (1x), **100k** (2x). Snip the leads close to the PCB after the soldering (be sure to make this step on all remaining leads in the course of this guide).

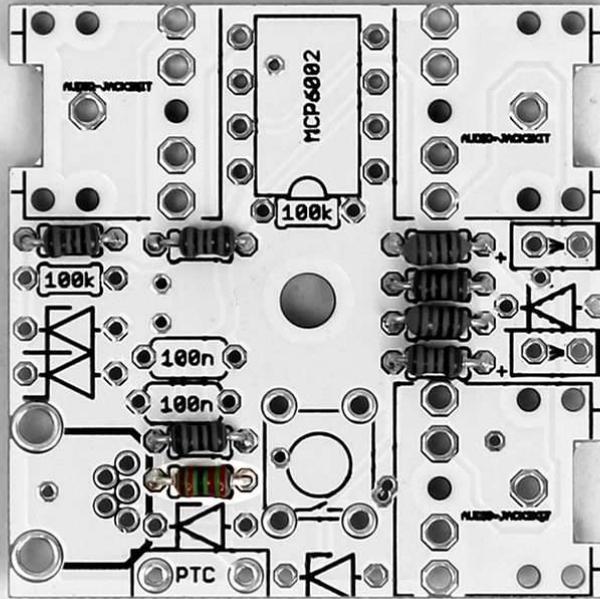
## 1k resistors (5x)



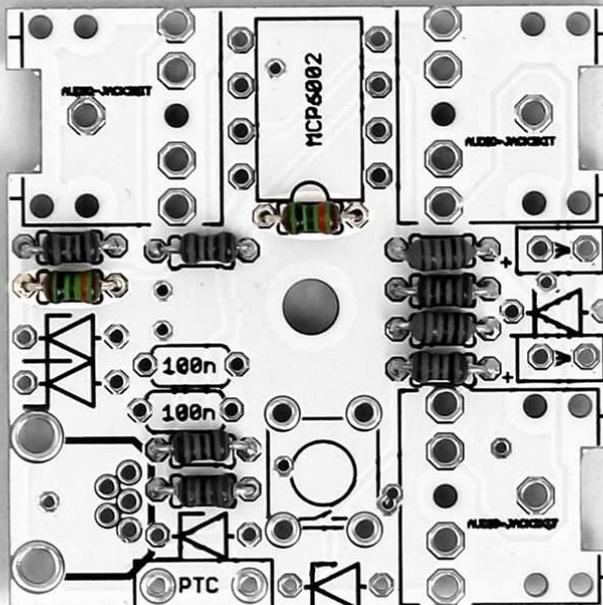
## 10k resistors (2x)



# 22k resistor (1x)



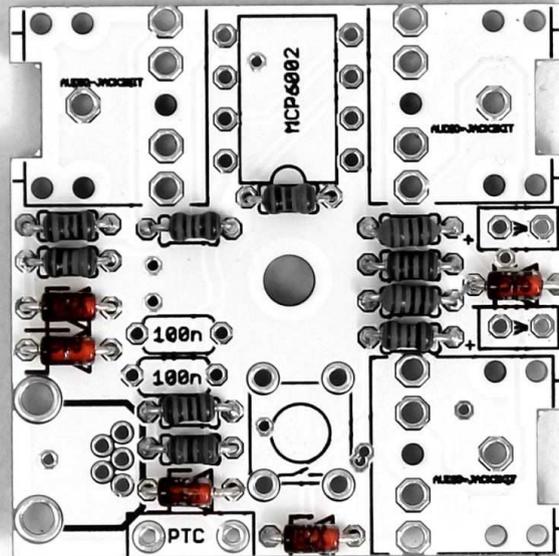
# 100k resistors (2x)



## DIODES

Next solder the **Zener diodes** (5x). Be careful, **diodes are polarized!** Make sure that the black stripe on the diode body matches the sharp end of triangle symbol on PCB.

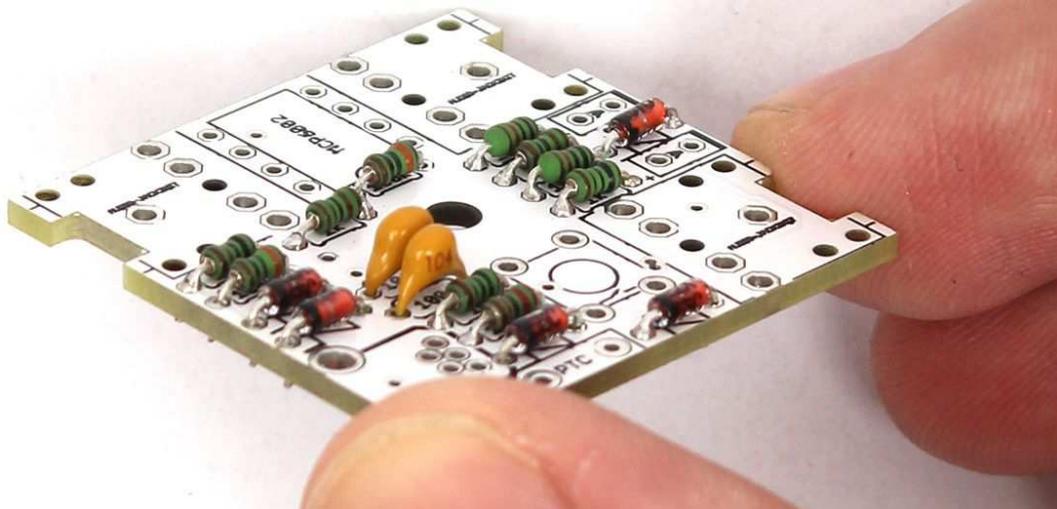
**diodes (5x)**  
**watch out for the orientation!**



## CERAMIC CAPACITORS

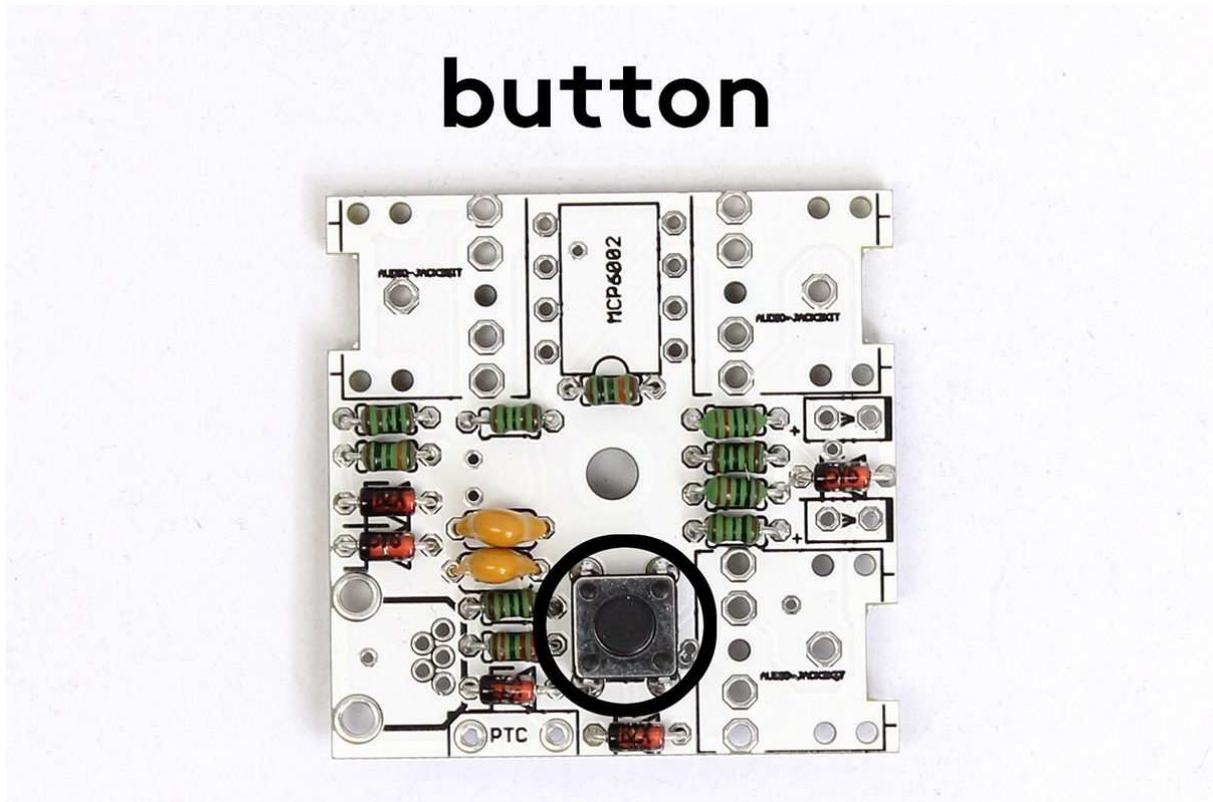
Add the **ceramic capacitors** now. There are just two of them of the same value - **100nF** (they are marked "104" on itself).

**100nF ceramic capacitors (2x)**



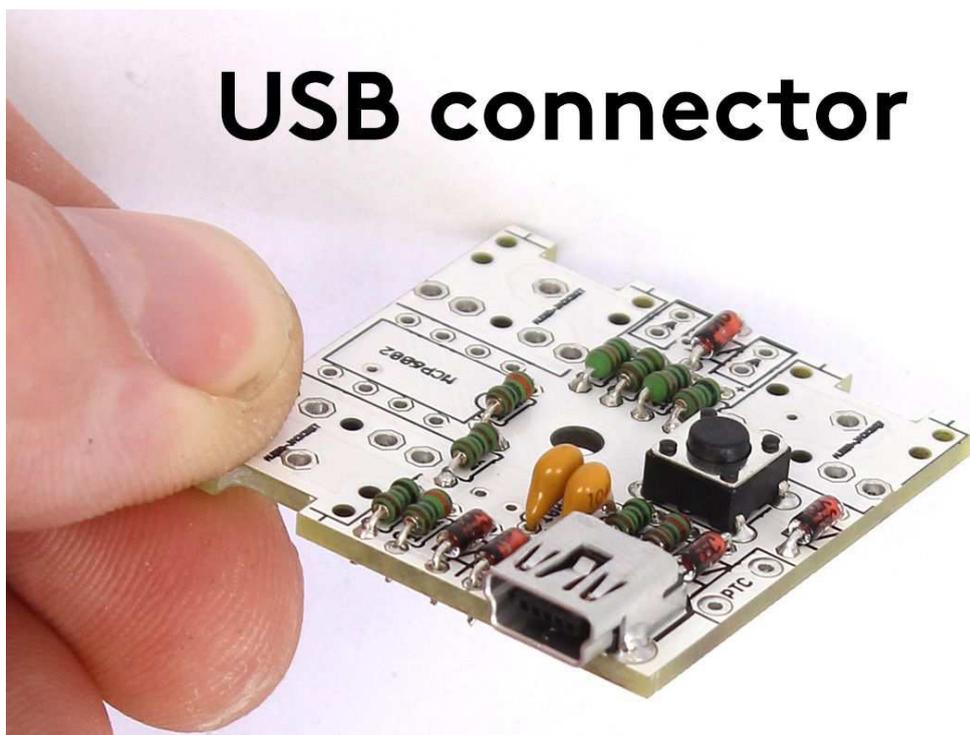
## BUTTON

Push the **small button** down to the PCB and solder it. Be sure that it is flat with the PCB.



## USB CONNECTOR

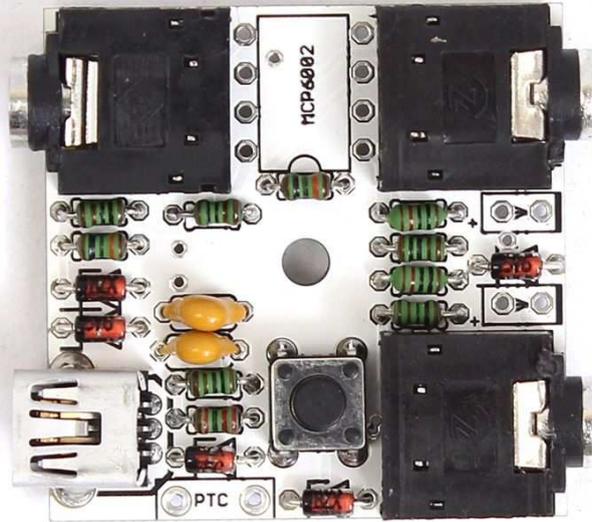
Now you can add the USB connector. It is important to solder it straight and flat on the board.



## JACK CONNECTORS

Add also the **3,5mm jack connectors** (3x). These one could be also little tricky. Be sure to solder them flat on the board.

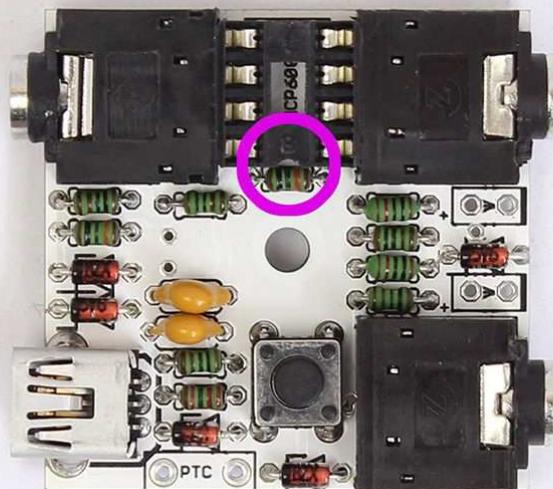
# jack connectors (3x)



## IC SOCKET

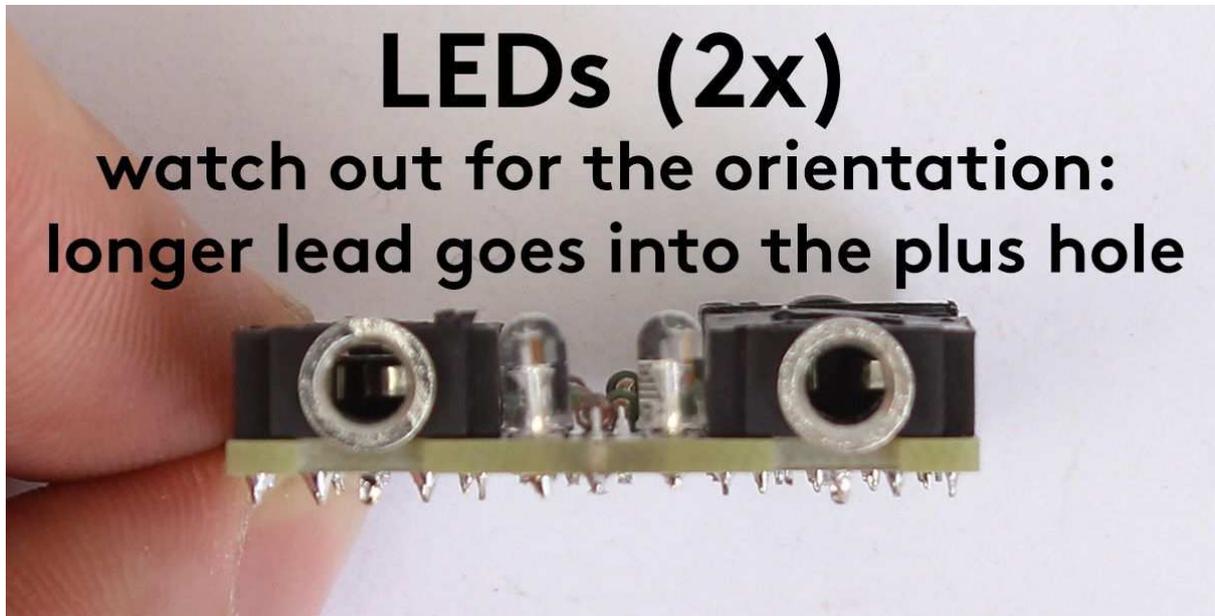
Insert the **IC socket** now. You have to push it down through the jacks. Be aware of the **right direction** - there is a notch on the socket that has to match with the marked notch on the PCB.

# IC socket (watch out for the **orientation**)



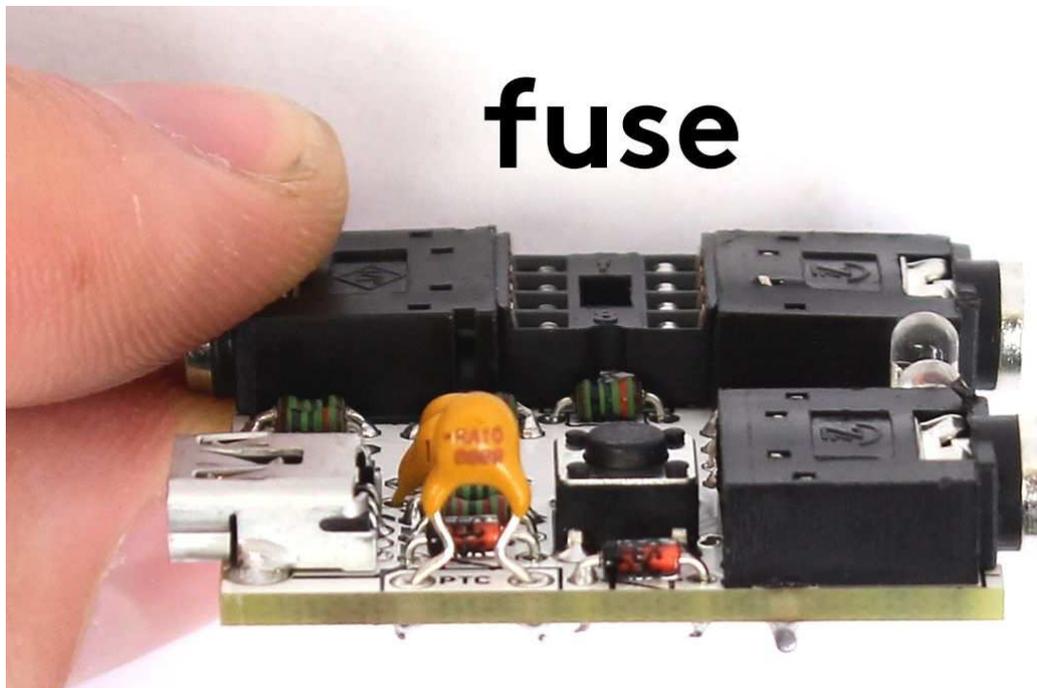
## LEDs

Solder the two **LEDs** down to the PCB - **be sure to insert the longer lead into the plus (+) hole.**



## FUSE

Finally the last soldering: 100mA **fuse**. There is no orientation so it doesn't matter how you will put it in. It goes into the "PTC" rectangular.



## ASSEMBLY

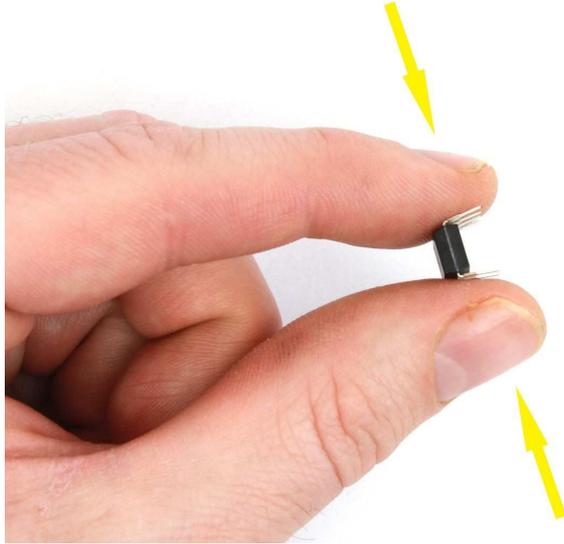
### CLEANING (OPTIONAL)

Before you begin to place the enclosure on, you might want to clean your PCB in order to prevent the PCB to become rust and to just look cool and keep working for ages. You can use e.g. isopropyl alcohol. Put some of the liquid all over the PCB using the brush, let it act for a while and sweep it off. Then just let it dry. You can repeat these steps until you are satisfied with the result.

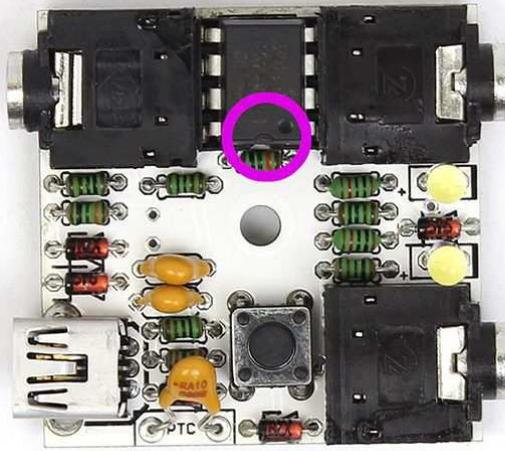


### INSERTING IC

At this point, don't forget to insert the **MCP6002 IC** in the socket. Watch out for the **orientation!** There is a little half circle notch on one side of the IC that should match the notch drawn on the PCB. Installing the ICs can be a little tricky. The IC leads are flared out a bit wider than the socket will accept. Bend them in slightly with your fingers, and then try to press all the leads into the sockets in one shot.

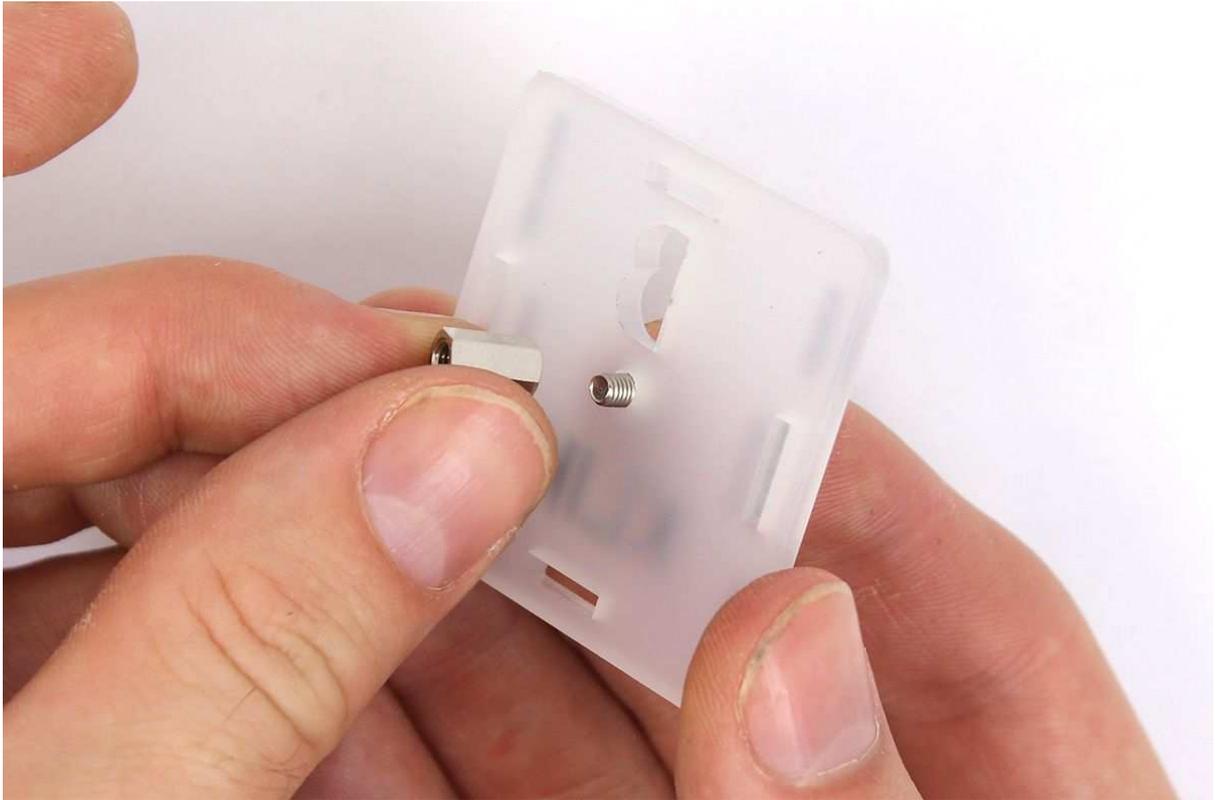


watch out for the **orientation!**



## MOUNTING

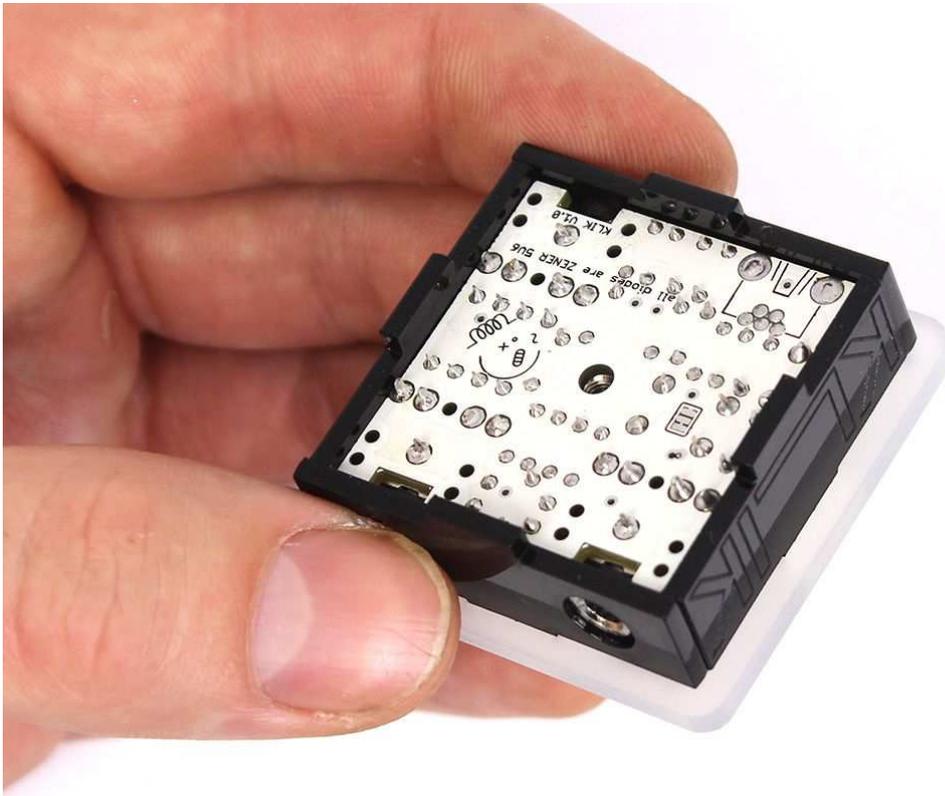
Let's mount the spacer to the **top cover** by the **mushroomhead screw**.



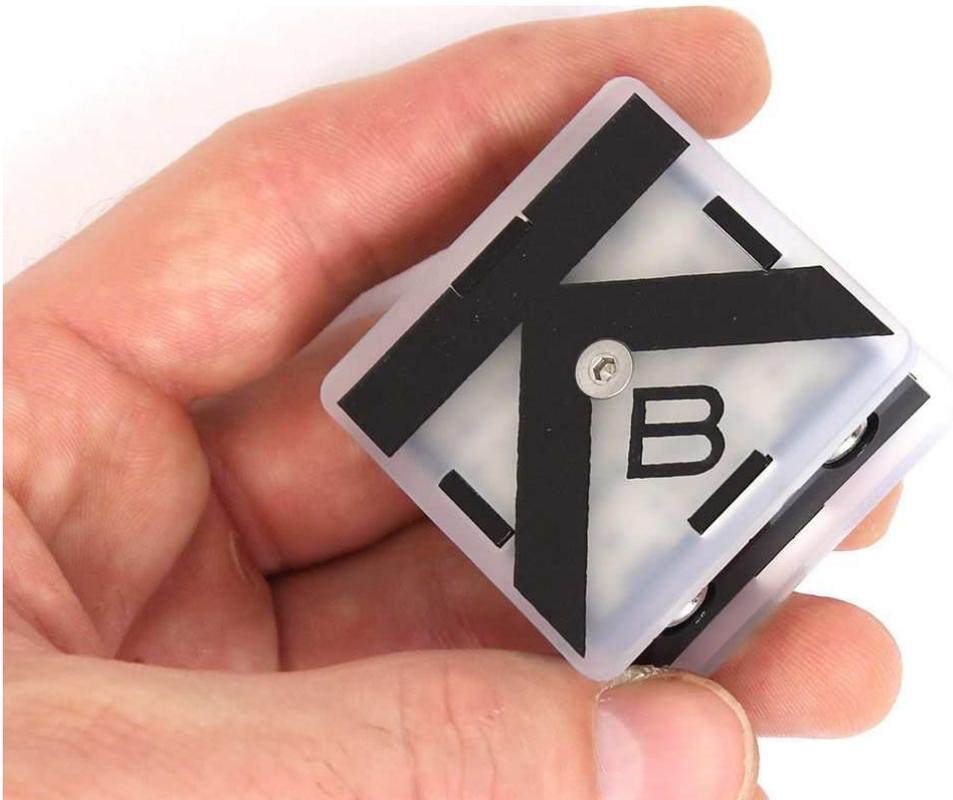
Then place the **"B" button** in.



Add the **soldered unit** and **side covers**.



Finish the mounting by placing the **bottom cover** and securing it by the **screw**.



Congratulations, your Klik is done now!



## TROUBLESHOOTING

Check the [F.A.Q.](#) on our website first. If you are still in trouble the best thing is to take a nap! Especially late at night! Then you can send the detailed description of the problem with enclosed high-resolution photos on [diy@basti-instruments.com](mailto:diy@basti-instruments.com). Consider our “[Come to Daddy](#)” service if you think that you are unable to make the instrument work on your own.