HEXDEVICES
HANDCRAFTED AUDIO EQUIPMENT

ASSEMBLY D.I.Y. MANUAL

LET'S START SOLDERING
It's time to build your Teko. An echo diy module flexible, fun and full of character. In this section we guide you step by step to build it. Also useful videos can be found on Hexdevices youtube channel.

Start

To build your diy Teko alongside with the tools you must have a basic knowledge of electronics and soldering. If not, just have a quick look on some Youtube video tutorials, they are really useful. Find a nice place with a big clean desk and plenty of light. Choose a place close to the window in order to open it because nobody like to breath fumes.

A small usb fan is also a good idea in this case. Open your precious bag and take out the parts. Check the PCB boards and try to figure out where your components goes. To make your life easier theres SMD components already soldered on the "Board 1".

Open the bag with the resistors and capacitors and separete them. The values of the components are written on their lables, except of the electrolytic capacitors. Their value can be found on them. If you want to be precise with the components or you accidently mixed them you can use a multimeter to measure them. Note the -+ 5% for resistors +-10% for the capacitors tolerance.

A good idea that can help you with this project is to start soldering the lower height components such as resistors and ceramic capacitors. "Board 1" contains the most of the components. Every component must be placed on the "top" of the board where the silkscreen is except of the power connector that has to be placed on the back side of the board (where the two presoldered ICs are).

Start populating the "board 1" with the two diodes. Be very careful about the polarity! The white line on the component must follow the white line of the silkscreen. After palcing and soldering cut with your cutting tool the excessive leads and repeat this process for the rest of the components if needs to. Then is time for the ceramic capacitors. Those are not polarised so you don't have to care about their orientation. Next solder the resistors. The resistors are in vertical position. Do not panic, is also easy.

You could place them by value groups, in order to not make any mistakes. In example, first the 100K then the 10K etc. Your next component for soldering is the transistor. Then solder the electrolytic capacitors. Note that the electolytic capacitors are polarised so be careful where the plus and minus pin goes. Those capacitors have a white line on them showing you where the minus pin side is, but also a longer pin for the positive. Match the orientation with our indication on the silkscreen and solder the components.

Then solder the trimmers. After the trimmers choose and place the sinlge row pin headers. Doesn't matter if you place the male or the female on "Board 1". But, try to solder them as straight as possible otherwise is difficult to connect the other board. For better results we suggest you to solder one pin only and then to check if the row is straight. If not just heat it up a bit and move the row in order to be straight.

Now you are in a very good way.
Flip the board, place carefully the power conncetor on the side that the two presolderd IC's are. Place it in a way that the gap of the socket is facing the word "Board 1" on the silkscreen.

Or place a the power cable that is included and check that the red "line" of the ribbon cable is at the same place like the minus white line indication. Then solder it and you are done with the first board. Keep a bit more time the tip of your soldering iron for the ground connection pins to let the solder melt properly and surround the pins completely for best results.

Last but not least the "Board 2"!
A good start is to connect the pinheaders on the other board so they can be straight and stable. Note that you have to place them on the back side of the board and solder on the side the silkscreen is.

Separete the two boards again and solder the I/O (female mini jack sockets) normaly on top of the silkscreen. Repeat the same proccess for the potentiometers and you are good to go! Before powering up and placing the front panel, you must screw the spacer in place with two M3x6mm screws and of course do a "fast check". Check your soldering connections for any short circuits from both sides. If you are not sure about some connections resolder and use your multimeters beeper to be 100% sure about your connection. If everything looks fine you can clean your board with pure alcohol and an old toothbrush.

Customise
Teko comes with our original sound flavour. But thats something you can change and customise depending your needs if you want to. Our original flavour has a wide range of delay time but this is something you can adjust by replacing R15 with another value. The CV input sensitivity also can be changed by replacing the R1. Feel free to experiment with those values or change them completely if you think it needs to. After creating your own sound, you can complete your module. Put the front panel and knobs. Maybe the big orange knob needs a bit of glueing to be stable. Do not use a strong glue so its easier for you to take it out again without damaging the front panel.

Have fun with your new module!