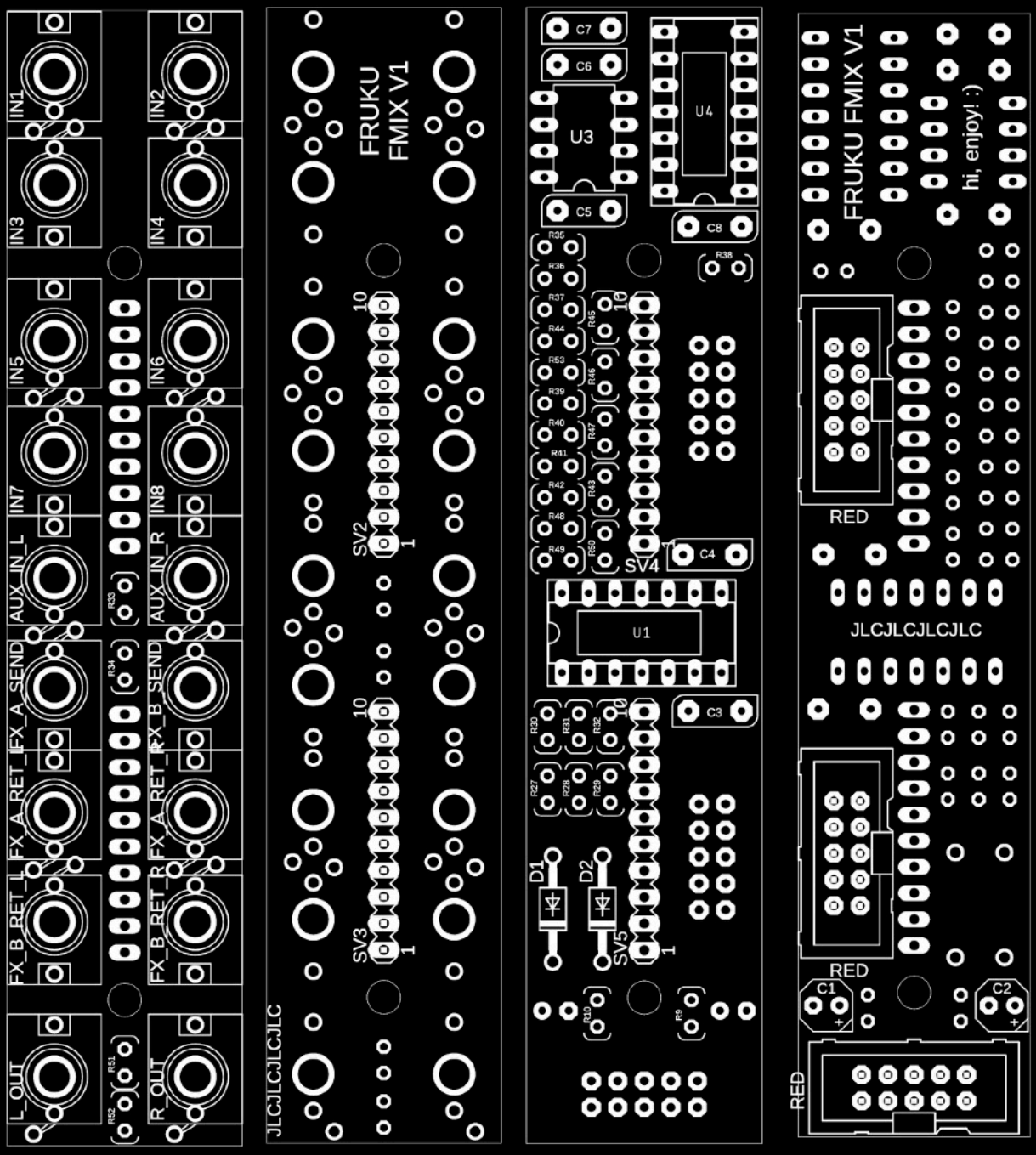
fruku.club

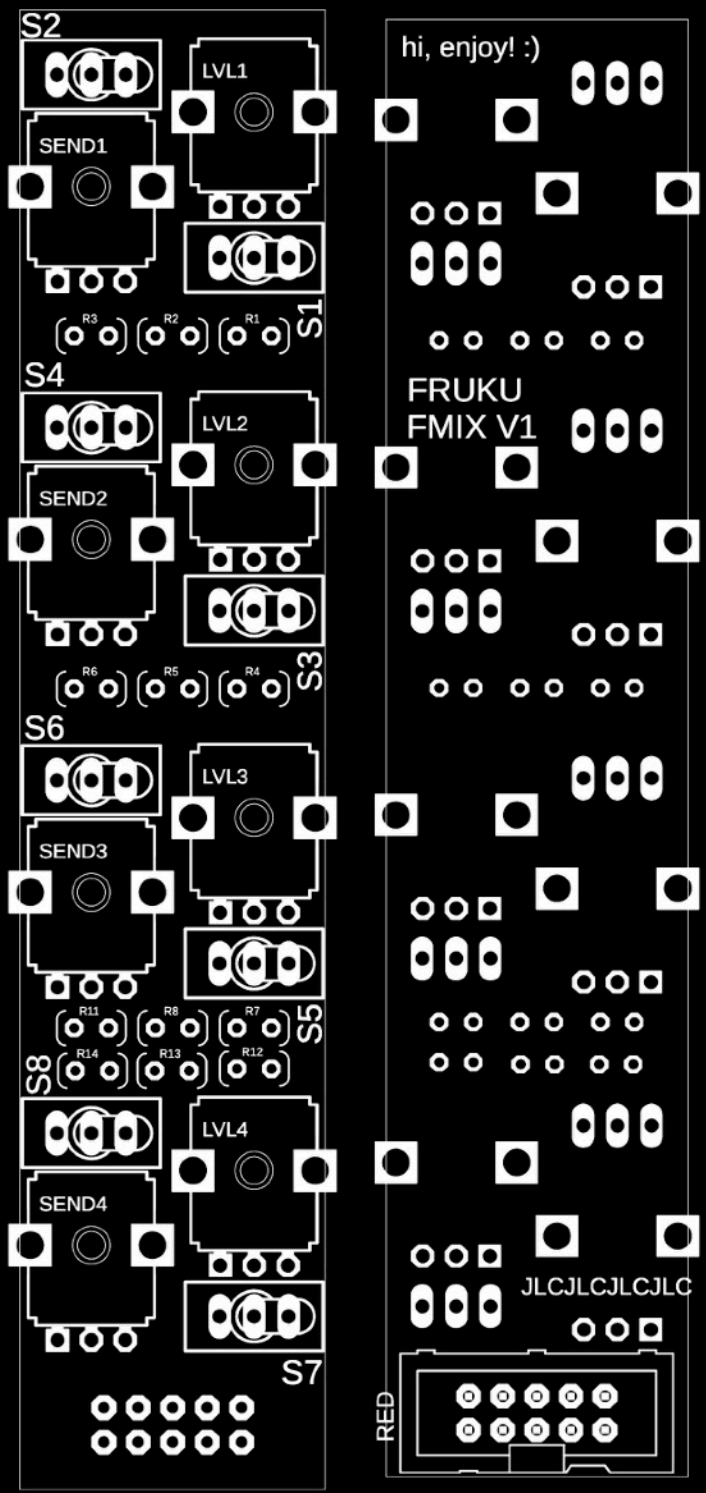
/// Fmix Build Guide

Thank you for choosing one of my products! Please follow this build guide thoroughly, even if you are an experienced DIYer. The order in which components are placed on the PCB is meant to make the assembly process as easy as possible.

Disclaimer:
Assembly is done entirely at your own risk. Fruku cannot be held responsible for any damage, injury, or malfunction that may occur during the build process.

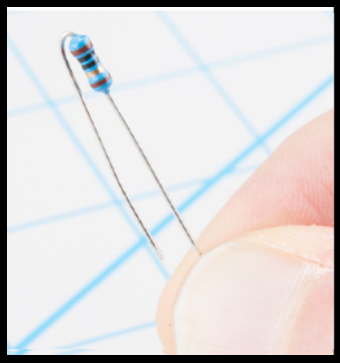
PCBs for reference:



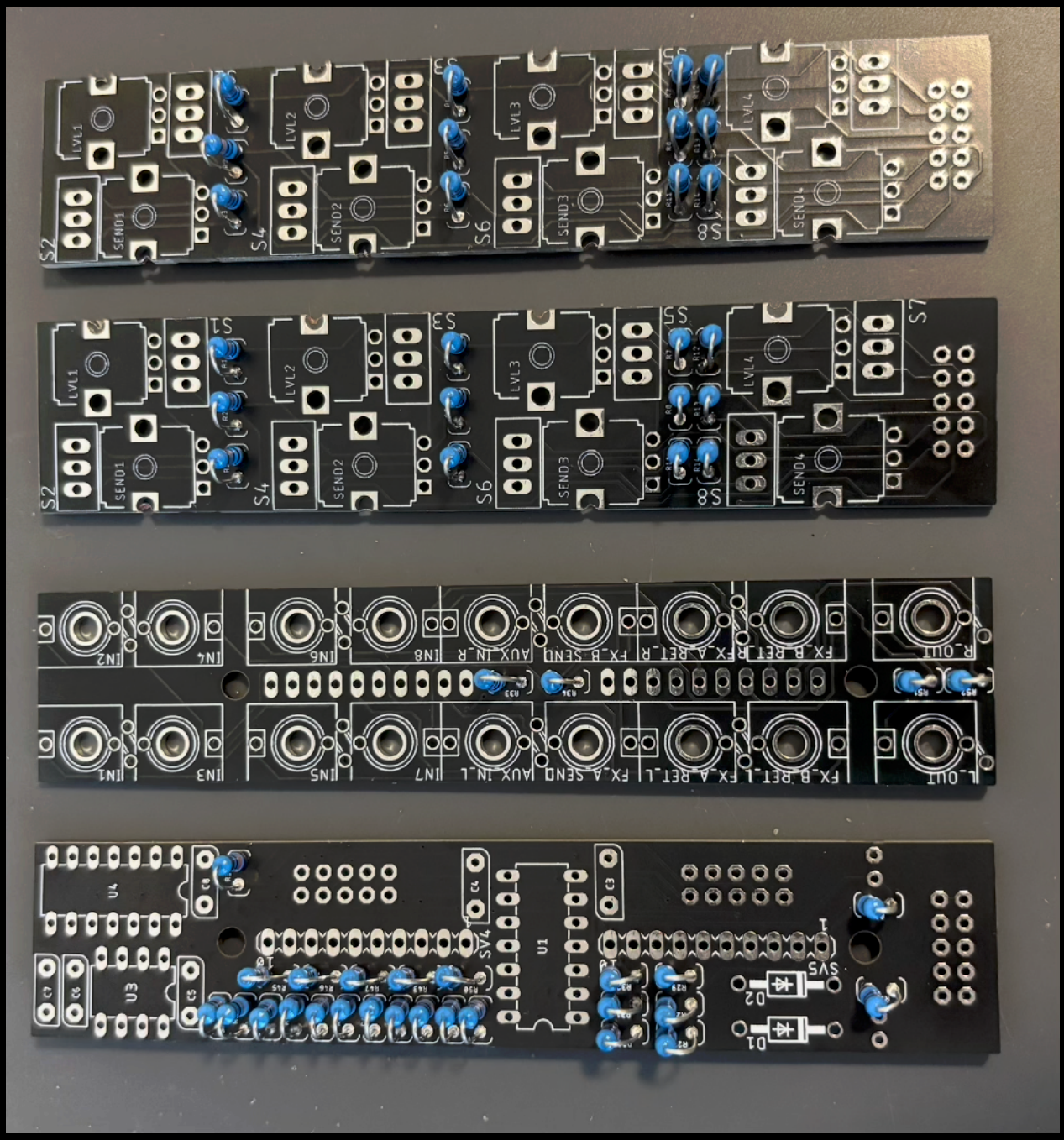

S2
LVL1
SEND1
R3
R2
R1
S1
S4
LVL2
SEND2
R6
R5
R4
S3
S6
LVL3
SEND3
R11
R8
R7
S5
S8
R14
R13
R12
LVL4
SEND4
S7
hi, enjoy! :)
FRUKU
FMIX V1
JLCJLCJLCJLC
RED

/// Resistors

Start with soldering the resistors, these need to be placed **“standing up”**. Make sure the “bend” is as **low** as possible (see picture). The values of the resistors are written on the tape. If you are unsure, use a Multimeter to check the value. Check the **BOM** file, there you will find which resistor values correspond to the part numbers written on the PCB.



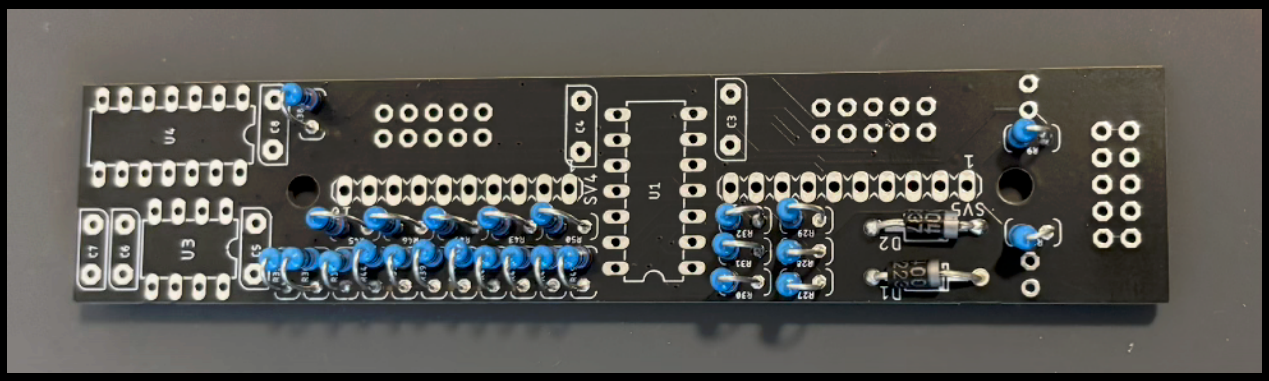
After soldering the resistors your boards should look like this:



/// Diodes

Now solder the diodes, look at the **BOM** for the values and placements. Diodes are **polarized** so please take notice of the **positive** and **negative** side.

After soldering the diodes your board should look like this:

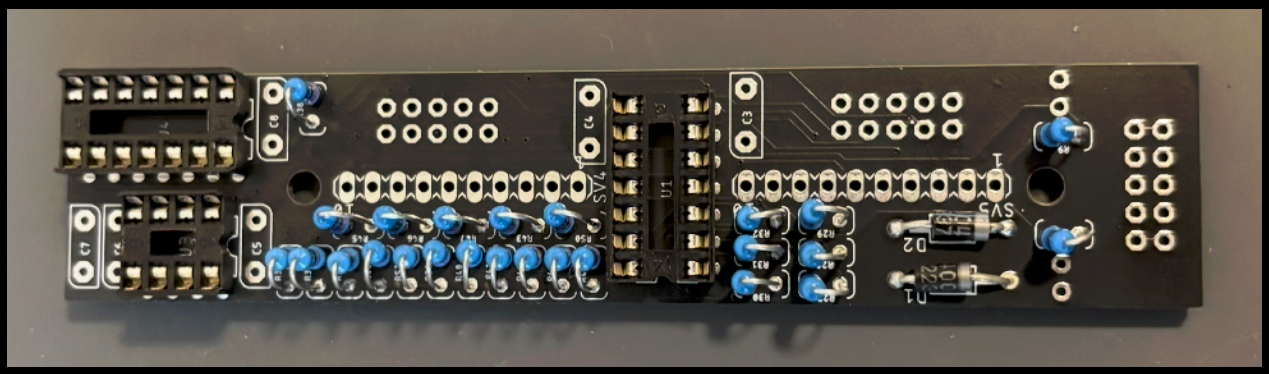


/// IC Sockets

Solder the 14 pin IC socket to **U1**. Take care to orientate it properly. The **notch** on one end should match the silkscreen on the PCB. First solder just 2 opposite pins and check if the socket is aligned flat to the PCB. If not, slightly press down on the socket and reheat the pins, the socket should slide into place. Now solder all remaining pins. Leave the IC **out** for now.

Repeat this step for **all** the IC sockets.

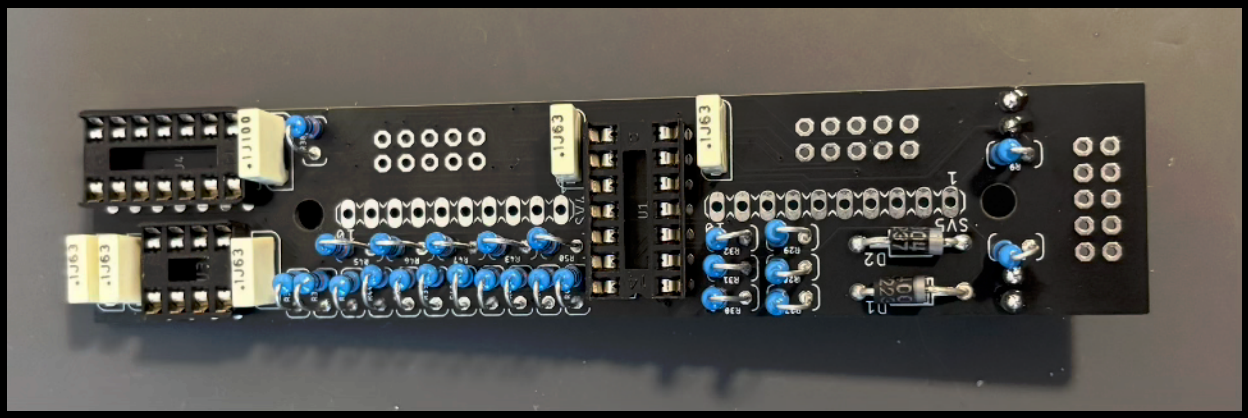
After soldering the IC sockets your board should look like this:

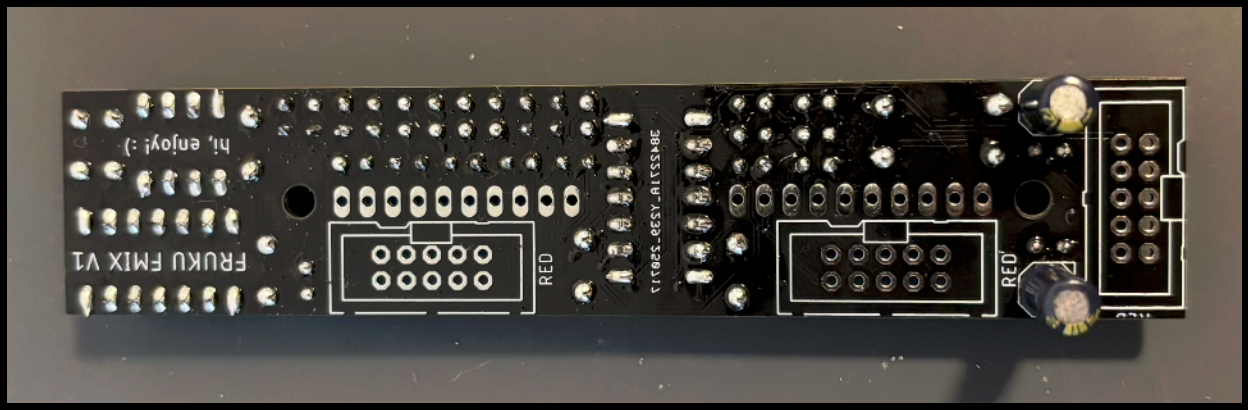


/// Capacitors

Now solder the capacitors, look at the **BOM** for the values and placements. Please take notice of the **positive** and **negative** side with the **electrolytic** capacitors. The electrolytic capacitors need to be placed on the **bottom** side of the PCB.

After soldering the capacitors your board should look like this:





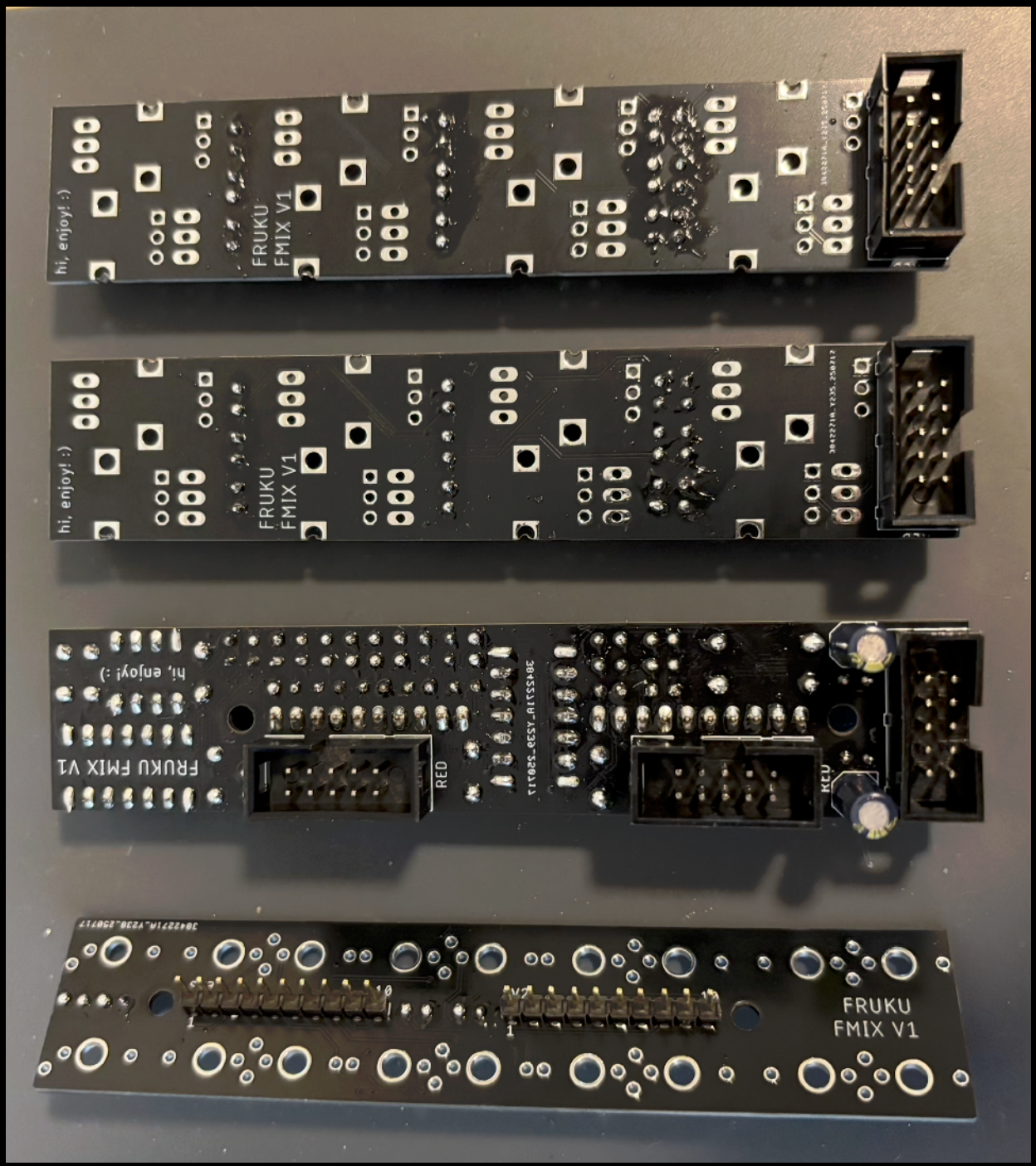
/// Power Header & Connector Headers

Insert the 10 pin shrouded power header into place. This part also has an **orientation**; the open side. Make sure the part matches the silkscreen on the PCB.

Solder one pin and check if the header is aligned flat to the PCB. If not, slightly press down on the header and reheat the pin, it should slide into place. Now solder all remaining pins.

Repeat this step for all the 10 pin shrouded headers.

After soldering the power headers your boards should look like this:



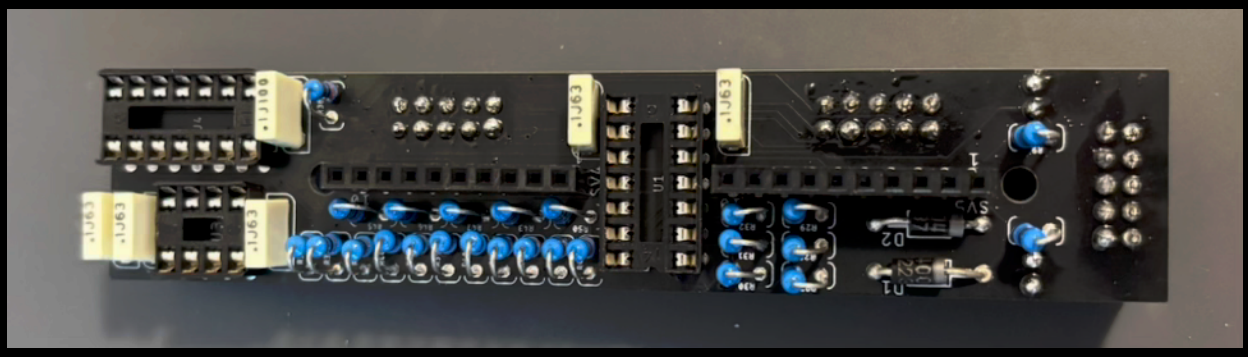
/// Pin Headers

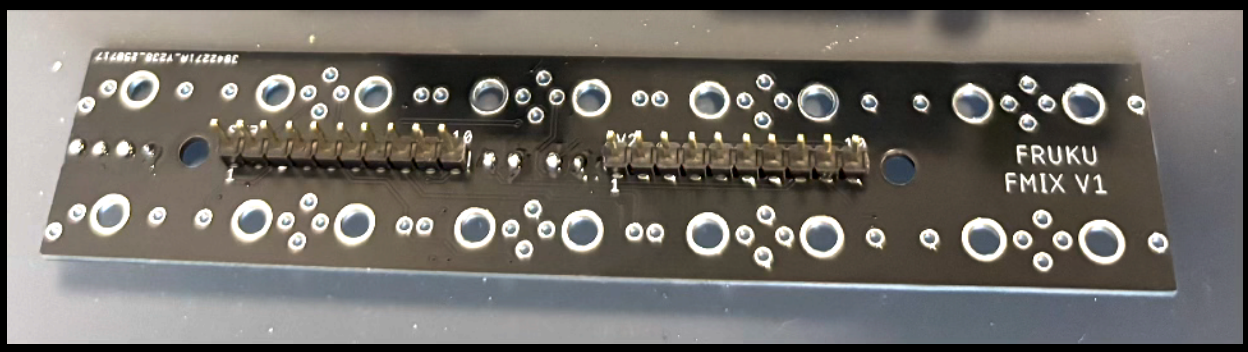
Insert the female and male 10 pin headers into place, look at the **BOM** for the placements.

Solder one pin and check if the header is aligned flat to the PCB. If not, slightly press down on the header and reheat the pin, it should slide into place. Now solder all remaining pins.

Repeat this step for all pin headers.

After soldering the pin headers your boards should look like this:



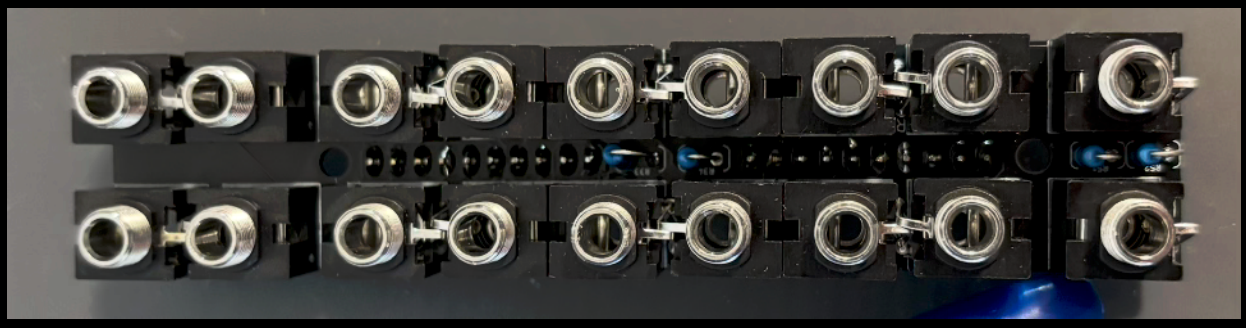


/// Jack Sockets

Insert the jack sockets on the top side of the “Jacks” PCB, to make them fit properly you need to bend one pin a little bit sideways. **Do not** solder yet! Now place the front panel over the jack sockets and use a few nuts from the jack sockets to hold the front panel in place.

Now solder the jack sockets.

After soldering the jack sockets your board should look like this: (front panel removed)

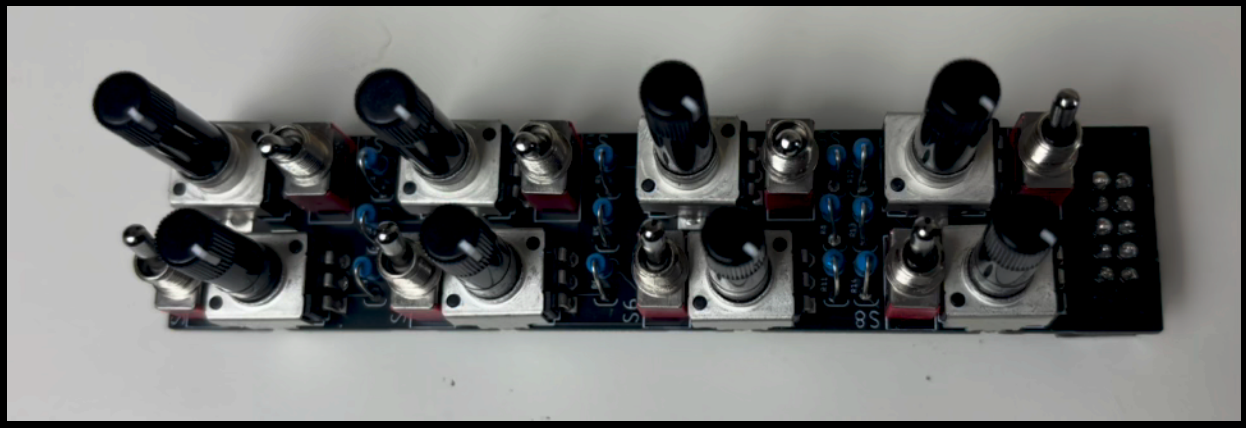


/// Potentiometers & Switches

Insert the potentiometers on the top side of both “Interface” PCBs, also insert the switches (leave one nut mounted on each switch). **Do not** solder yet! Now place the front panel over the potentiometers and switches and use a few nuts from the potentiometers and switches to hold the front panel in place.

Now solder the potentiometers and switches.

After soldering the potentiometers and switches your boards should look like this: (front panel removed)



/// IC

Take the ICs out of the foam. Usually the ICs don't have their legs bend far enough to fit in the socket, so bend the legs to **90** degrees using a **flat** surface.

Then insert them while taking care that the **notch** matches the IC **socket** and **silkscreen** on the PCB. Press the ICs firmly into the socket.

/// PCBs

Now connect both PCBs through previously soldered pin headers. Optionally, you can use the hardware (listed in the **BOM**) to secure the two PCBs together.

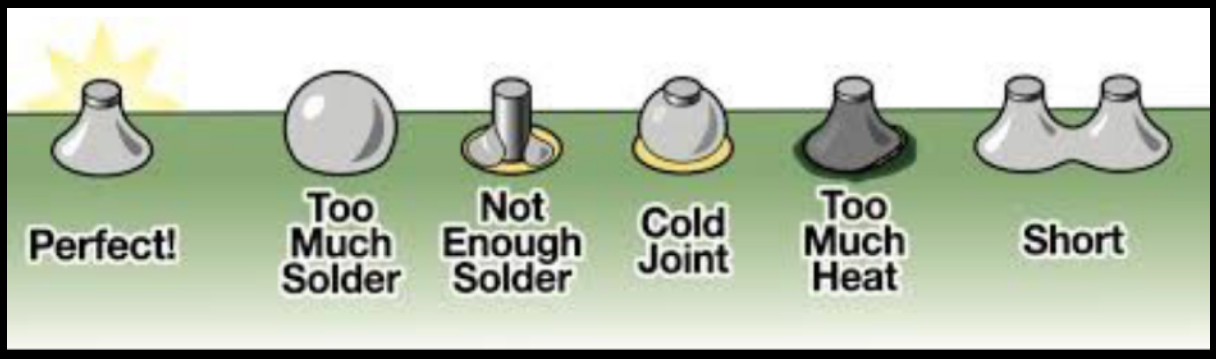
/// Testing

As a last check, look over the PCB and check the soldering, check for shorts and polarity.

Insert the power cable while holding the back of the PCB and connect it to your modular system. The bottom connector on the jacks module is for power, the top is for interface module channel 1 - 4 and the middle is for interface module 5 - 6.
Turn on the power. Check if nothing blows! If all is well, proceed: **Patch** :)

/// Troubleshooting

If the module does not work, check the **orientation** of the ICs, electrolytic capacitors, transistors and diodes. Check your **soldering**. It should be perfect, like in this picture:



fruku.club
info@fruku.club

FRUKU