

Ø ANTUMBRA

FADE

MANUAL

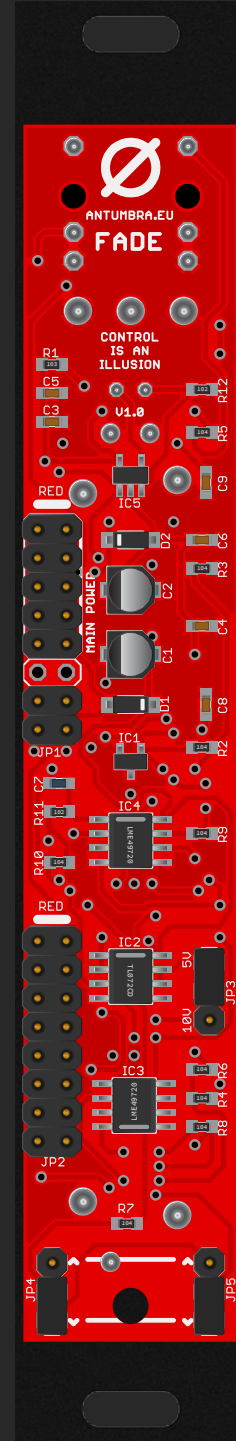
TABLE OF CONTENTS

01. INSTALLATION	4
02. BACK	5
03. FRONT	6
04. USE	7
05. LINK	8
06. BILL OF MATERIALS	9
07. BUILD NOTES	10
08. BACK	11
09. FRONT	14
10. MODIFICATION	15
11. FINISHED	16

00. THANK YOU!

Thank you for purchasing the Antumbra FADE module!
In this documentation you can find information about the installation and use of the module, also an assembly instruction if you got your hands on the DIY version.

POWER CABLE HEADER



01. INSTALLATION

When you turn the FADE around, you should see the module as it is on the left illustration. If this is your first FADE module, connect a 10 pin header to the top row, where you see the MAIN POWER text. Pay attention to the orientation of the cable, the **RED STRIPE** should be on top!

By doing otherwise you can potentially harm the module or even your whole system! Power off your Eurorack system and connect the other end of the cable to the power source, here also pay attention to the PSU manufacturer's instructions!

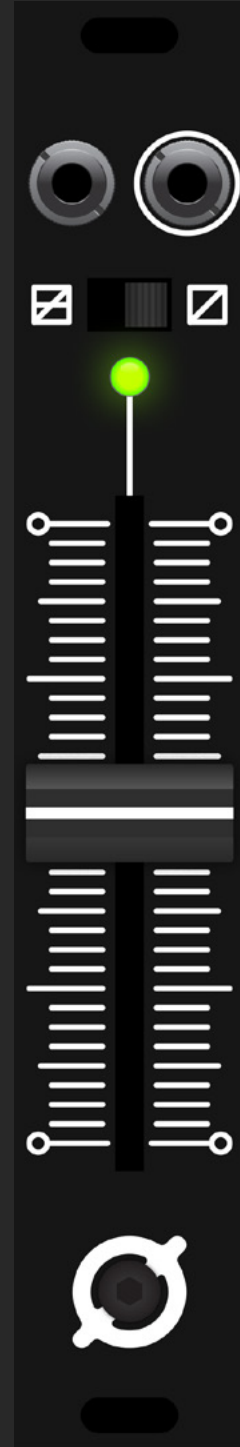


You have to connect the LINK cable of the first unit to the power header of the second unit, and so forth.

JP3 selects the voltage range, the bottom position is 10V
the top is 5V.

JP3 & JP4 selects the module's orientation. The jumpers are pointing to the bottom of the module, so if you want to flip it, just put them both in the other position. Both jumpers should be on either top or bottom position at the same time.

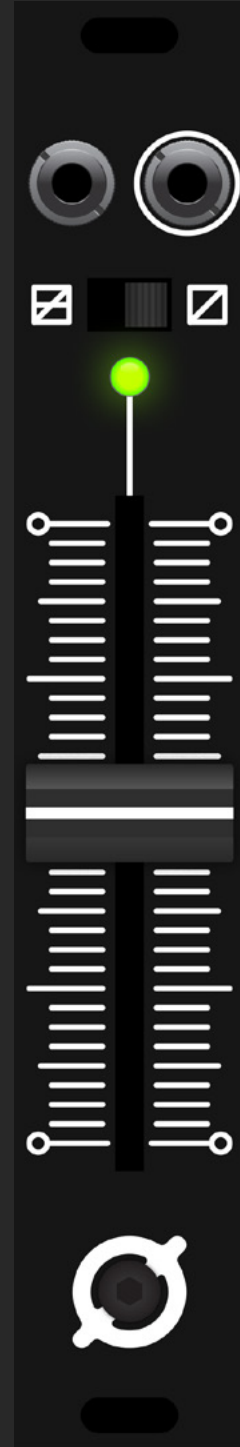
03. FRONT



INPUT • OUTPUT

BIPOLAR • UNIPOLAR SWITCH

FADER (who knows)



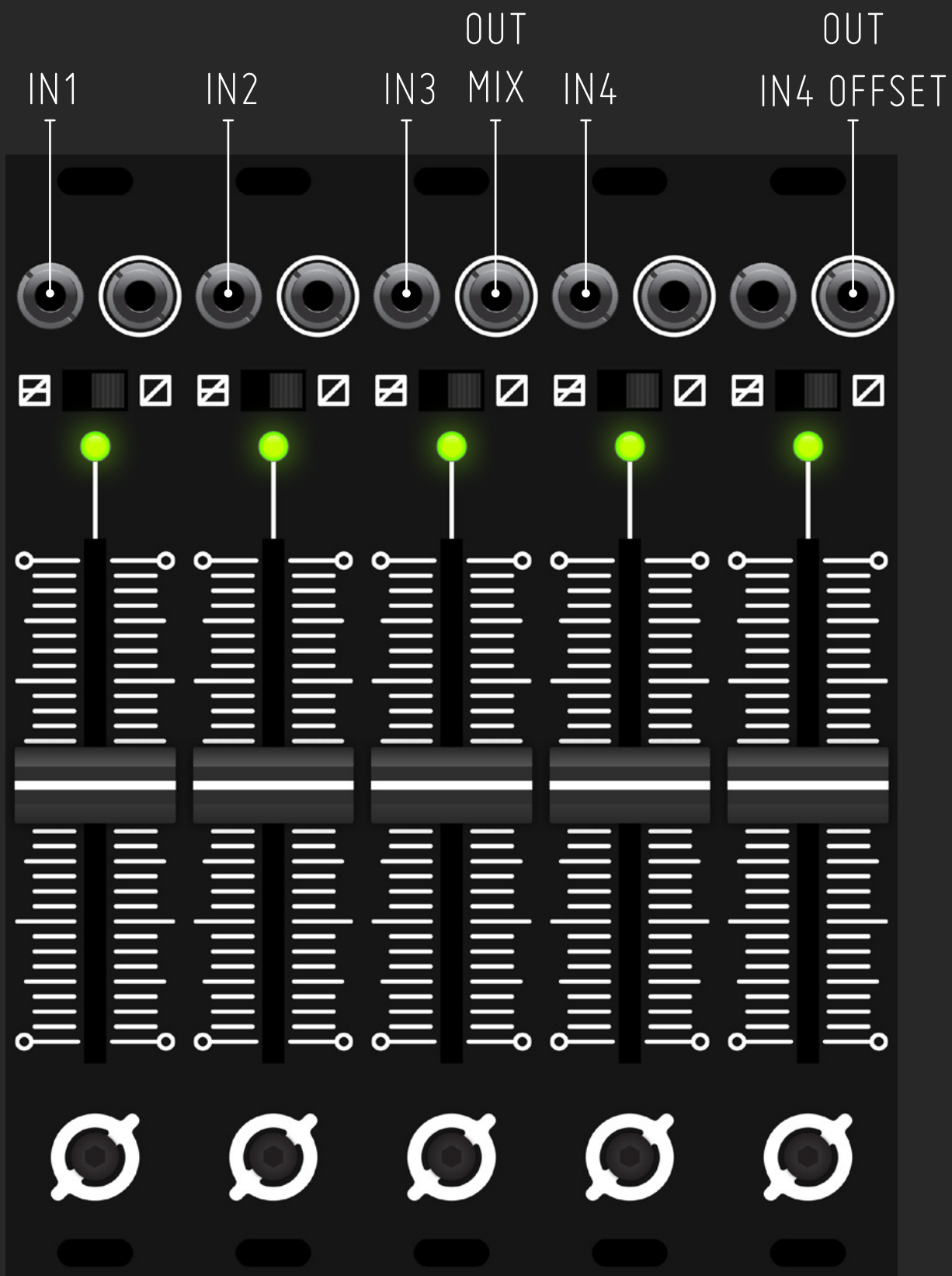
04. USE

One FADE in itself can be used as an:

- Attenuator
- Offset generator
- Manual CV source
- Inverter

When there's no input source connected, the set voltage (on the back, 5/10V) is normalized to the input, this way you can use it to generate CV in itself. The LED corresponds to the activity of the output, green is positive, red is negative voltage. If you switch to BIPOLAR mode, 0V will be in the center of the fader, down is negative voltage, up is positive.

When you connect an input source you can attenuate it with the fader.



05. LINK

FADE gets more interesting if you LINK more units, this way you can mix signals together, or offset them easily.

To mix signals, insert a cable in the output of only the last unit you want in the chain, this breaks the normalization and the signal won't appear further down the chain. You can set up a master volume by connecting the output of the module before the last one to the last one's, so that the last fader attenuates the mixed signal.

If you connect an input source in unit 1, and no input to unit 2, you can use unit 2 as an offset for the signal, great for LFOs, envelopes, etc.

QTY	PART
2	1K RESISTOR (0603 SMD • 1%)
1	10K RESISTOR (0603 SMD • 1%)
9	100K RESISTOR (0603 SMD • 0.1% • THIN FILM)
6	100NF CAPACITOR (0603 SMD • >= 16V)
1	22PF CAPACITOR (0603 SMD • <= 2%, >= 25V)
2	10UF ELECTROLYTIC CAPACITOR (SMD • >= 25V)
2	1N5819HW DIODE (SOD123)
1	LM4040 (SOT23 • 10V)
1	TL072 DUAL OP-AMP (SOIC8)
2	LME49720 DUAL OP-AMP (SOIC8)
1	LM321MF (SOT23-5)
1	SLIDE POT (B10K)
1	LED (3MM • RED/GREEN • 2 TERMINALS)
2	2X8 MALE HEADER (2.54MM LEAD SPACING)
3	1X3 MALE HEADER (2.54MM LEAD SPACING)

06. BILL OF MATERIALS

QTY	PART
3	JUMPER (2.54MM LEAD SPACING)
1	10MM SPACER
2	THONKICONN JACK
2	M3X5 SCREW
1	SLIDE POT KNOB

DETAILED EXCEL SHEET WITH PART NAMES, NUMBERS
AND LINKS: [HERE](#)

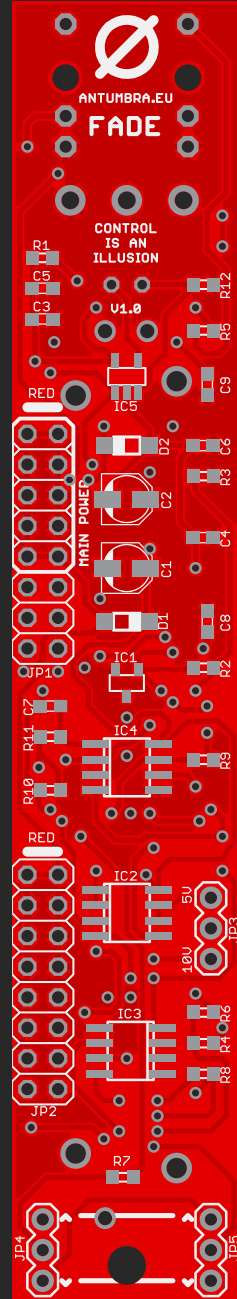
MOUSER CART: [HERE](#)

NOTE: jacks, screw and pot knob is not included in the
cart! See the excel sheet about these.

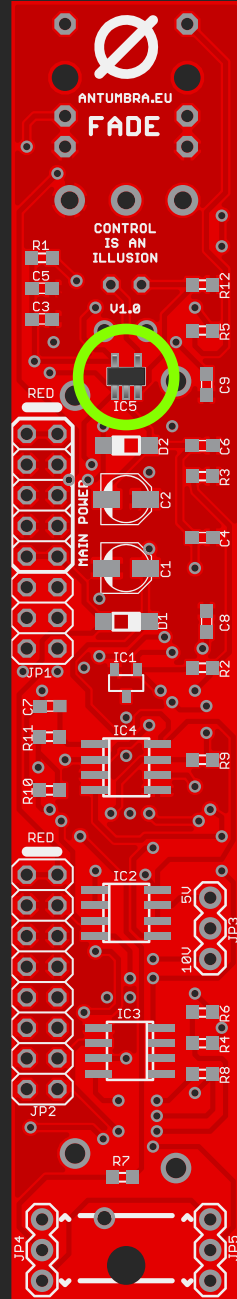
07. BUILD NOTES

Before you start building look through the build manual so that you'll be familiar with the building process and you won't run into any surprises! :)

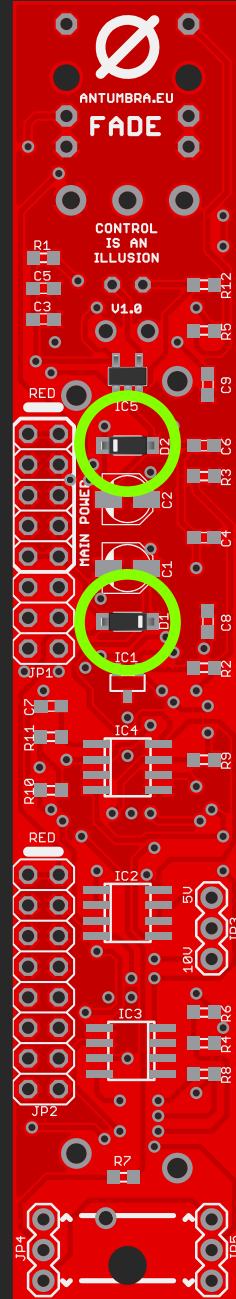
Good luck!



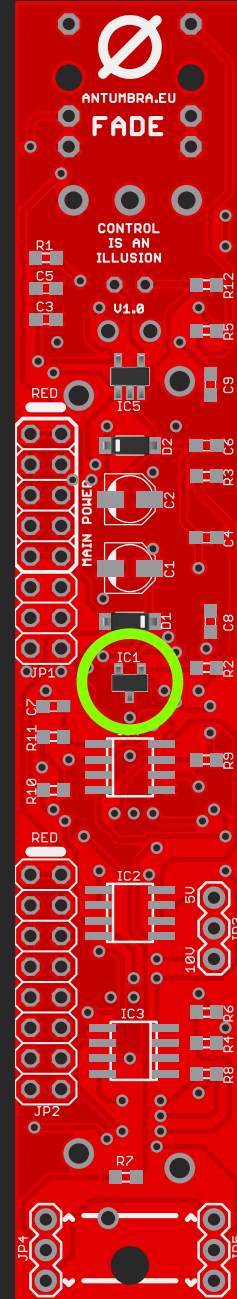
00



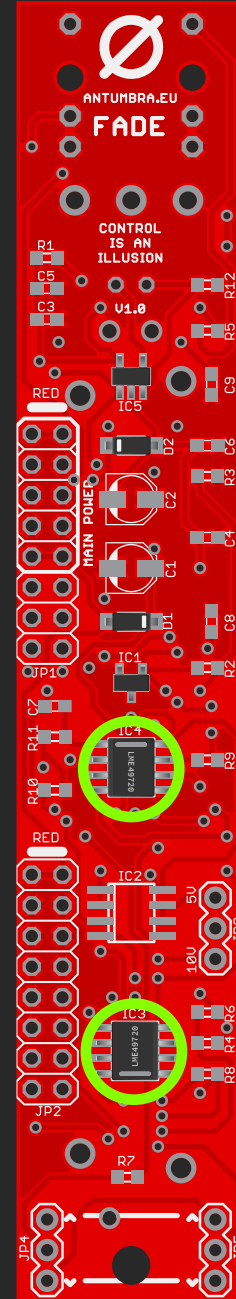
01



02



03



04

08. BACK

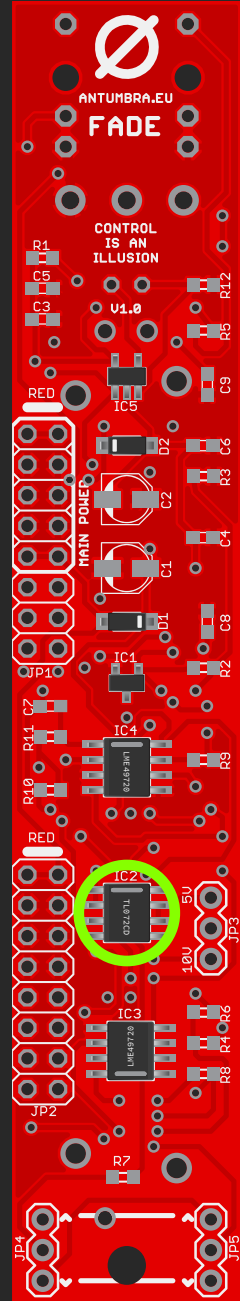
00. Orient the PCB as seen on the left.

01. Solder the LM321MF.

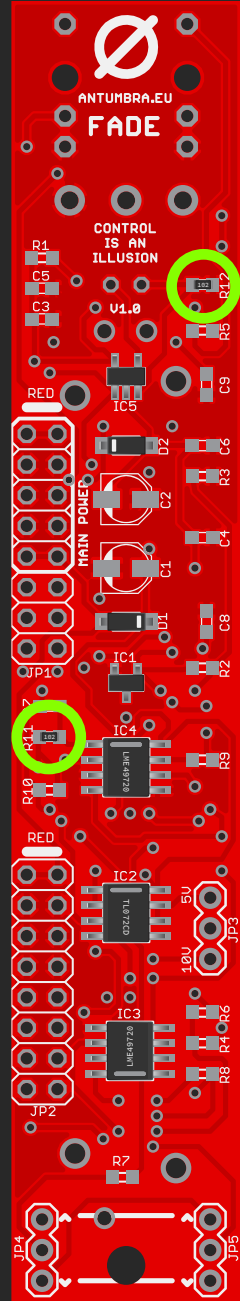
02. Solder the diodes, check the marking on them, they should align with the white lines as on the graphic.

03. Solder the LM4040.

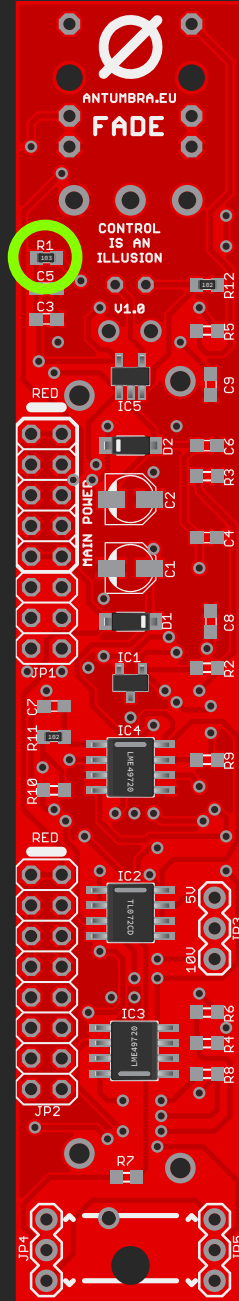
04. Solder the two LME49720 opamps, their orientation can be determined by the slope on one of it's sides. They should align up with the line on the PCB.



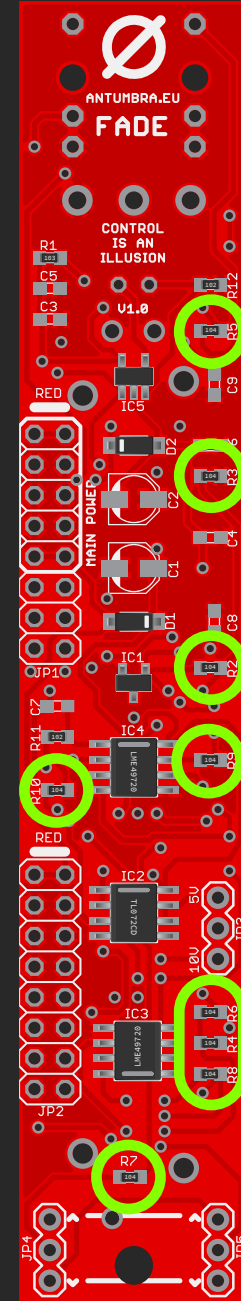
05



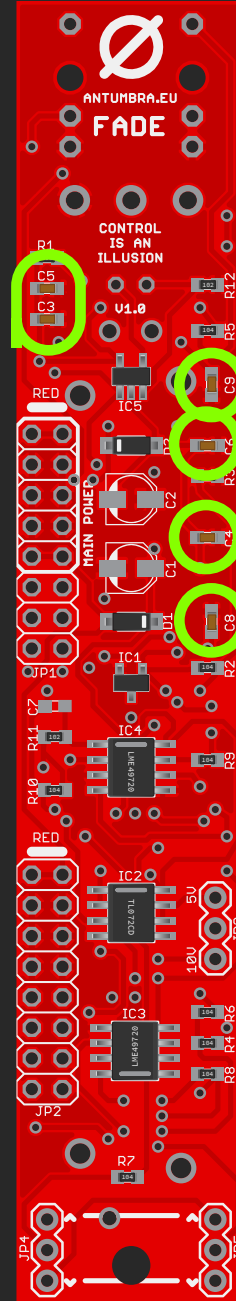
06



07



08



09

08. BACK

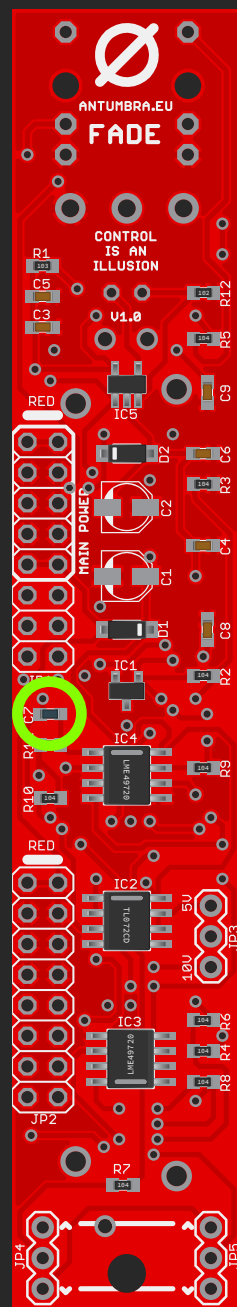
05. Solder the single TL072 IC, it's orientation is determined as the previous IC-s (but usually it also has a marking on the top).

06. Solder the two 1K resistors.

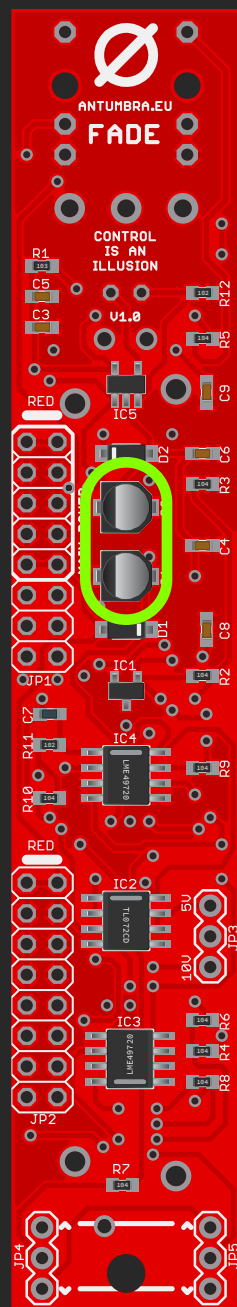
07. Solder the single 10K resistor.

08. Solder the nine 100K resistors.

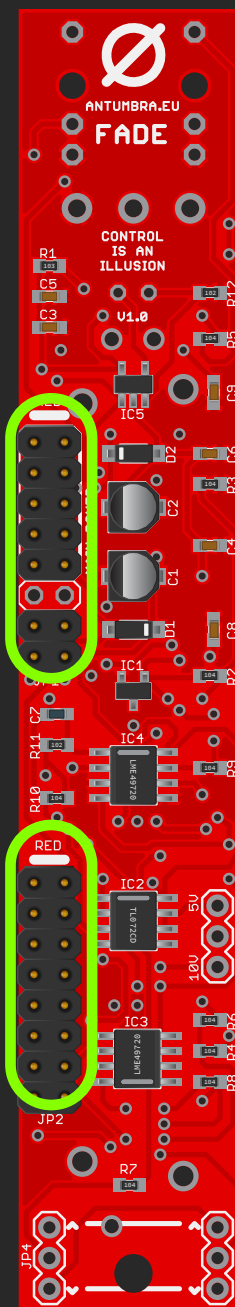
09. Solder the six 100nF capacitors.



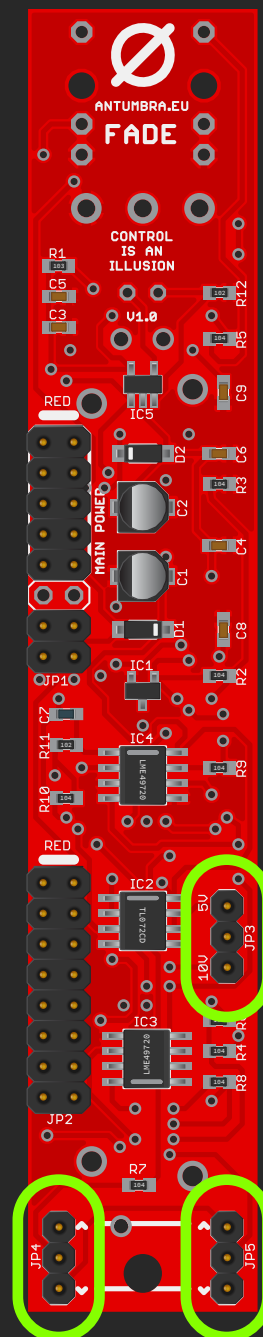
10



11



12



13

08. BACK

10. Solder the single 22pF capacitor.

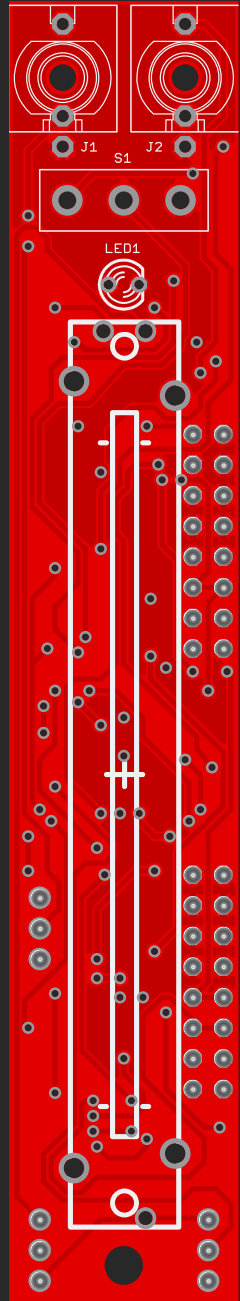
11. Solder the two 10uF electrolytic capacitors, their orientation matter! The black line on them should face to the left.

12. Solder the 2x8 pin headers.

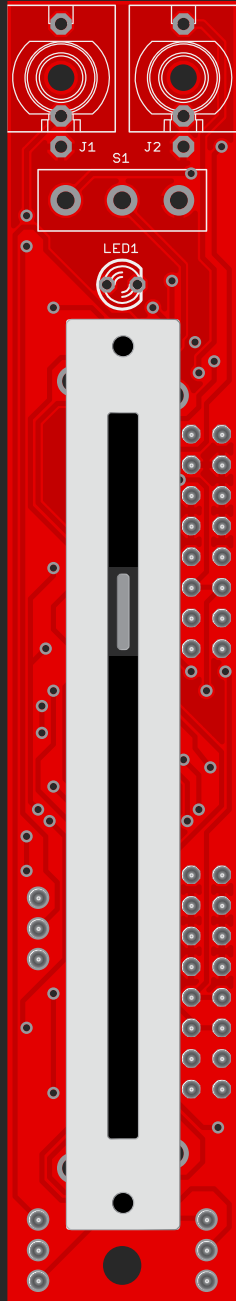
On the top header (JP1) snip off the 6th row pins so that you can connect the 10 pin header. This is only necessary for the first module in the chain, alternatively you can just install a 2x5 header if you are very sure it'll be chained (and that it will be the first).

If you have the PCB v1.0, you'll have to make a bit of modification to make it work with versions v1.1 and above. Learn about this in section 11.

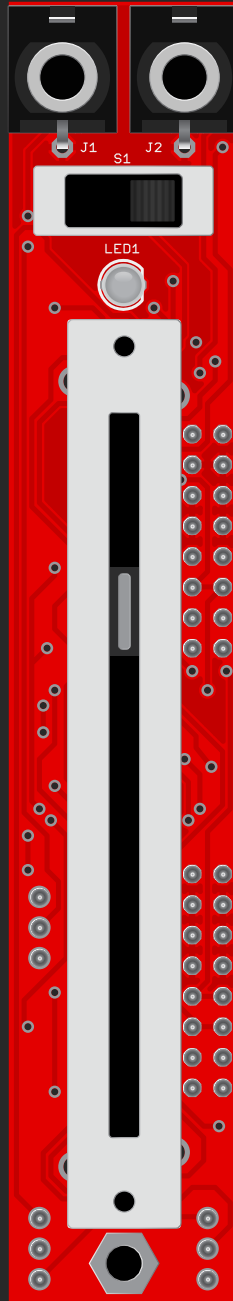
13. Solder the three 1x3 pin headers. You can already insert the jumpers if you like, as described in section 2.



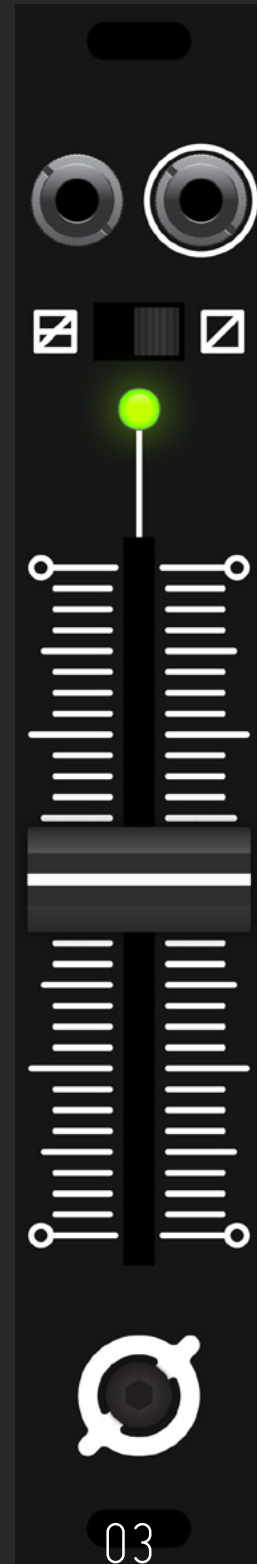
00



01



02



03

09. FRONT

00. Orient the PCB as it is seen on the left.

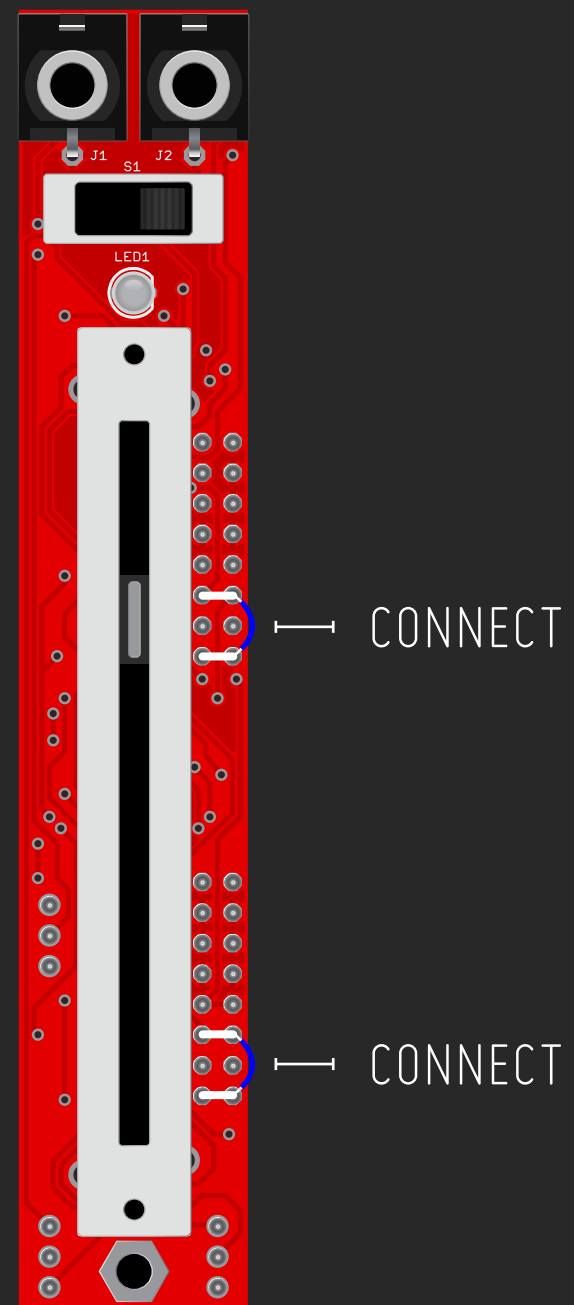
01. Solder the fader in place. (there should only be one possible way to insert it)

02. **DO NOT SOLDER YET!**

Add the:

- jacks
- switch (orientation doesn't matter)
- LED
- Spacer (screw it to the PCB)

03. Put the panel on top, screw it to the spacer and add the nuts to the jacks, align the switch and LED nicely, as you like it. Then solder everything in place.



10. MODIFICATION

If the version number of your PCB is v1.0, you have to make a small modification to make it work with versions above it.

You only have to connect pin row 6 to pin row 8 with some wire on both headers as seen on the image to the left. You also have to connect the pins next to each other with some solder.

That's it!

11. FINISHED

You are now finished with building the module, congratulations for your new awesome FADE! 😊

Now you can go back to section 2. to connect the unit to a power source and set up the jumpers as you like it.