GLUE FUZZ
MOUNTING INSTRUCTIONS.

Zorg
Effects

Index

Important notice.

This DIY kit is not that easy and require a bit of knowledge. If you're a beginner, you're likely to go into some hardcore problems and should try easier kits before. There's a debugging chapter that you can check in case of emergency, but:

- I cannot be held responsible of any malfunction or a component burning. This board has been tested and I use it in when I build pedals myself. It's 100% functioning when everything is done correctly.
- The debugging chapter cannot take in account all the problems you may reach. (Murphy's law you know....)
- I won't refund any malfunctioning kit that has been mounted.
- Here's what you should do in case of problems:

  1- Keep calm.

  2- Check another time that each component is at it's right place and all the solders are ok.

  3- Check the debugging chapter at the end of this document.

  4- Ask for help in your surrounding family or friends. Someone who can see, plug, check and test your board is more valuable than someone on a forum or mail 10000km far.

  5- Check the freestombox forum, and ask for help if needed. When asking for help be sure to give the maximum of informations: http://freestompboxes.org/viewtopic.php?f=28&t=27134&p=255709&hilit=glue+fuzz#p255709

  I may reply to you on freestombox, I check it sometimes.

  6- Mailing me is the very last thing you will do. And if you do, be sure to write the maximum of informations I need to answer you. Yes you may add pictures if you think it's relevant. Mails with only "My kit is not working" will be either ignored, either replied with a kind of passive aggressive tone, if not clearly aggressive... After all this is "Do it YOURSELF" and not "Zorg, can you do it for me please?", and I'm always under a heavy load of work, so please spare me at the maximum!!!
- Any feedback on this document is welcome. If there's something missing, something you don't understand, something you're not sure, if you reworked the document with better explanations, pics and pink elephants, grammatic or ortografik faults, please feel free to mail me.

What's in the kit?

This is all you must find in your Zorgverdrive Deluxe kit:

Reference	Value	Units
C7	4.7nF	1
C2 C11	18nF	2
C4 C10	120nF	2
C8 C9	820nF	2
C1	33uF	1
C3	33uF Panasonic FC	1
C5 C6	1uF	2
D1	DIODE 1N4001	1
D2 D3	DIODE 1N4148	2
GAIN1	Potentiometer C500k (rev log)	1
GLUE1 VOL1	Potentiometer A10k (log)	2
GND1 GND2 GND3 GND4 IN1 LED1 OUT1 9V1	Socket SIL 8 pins	8
Q1 Q2	Transistors Hybrid Q1= AC128 Q2=2N3906 Full Ge Q1=Q2=AC128	2
Q3	Transistor AC127	1
Q4	Transistor BC547/BC550	1
R16	100 ohm	1
R19 R20	1k	2
R2	2k	1
R6 R9 R10	10k	3
R17R18	20k	2
R5	27k	1
R3	47k	1
R4 R13	100k	2
R7 R8 R11	470k	3
R1 R12 R14 R15	1M	4
SW1 SW2 (mode)	Switch DPDT	2
SW3 (bas)	Switch SPDT	1
SW4	SPST Dip switch	1
TREBLE1	Potentiometer A100k (log)	1
Jacks 6,35		2
DC jack		1
Led socket		1
Led yellow		1
Knobs		4
PCB		1
Box 1590B		1
3PDT Footswitch		2
Cable, heat shrink tube, 8 cm Window insulator		1

Components numbers in the left column, C1, R1 etc. are tied to the PCB's marks.

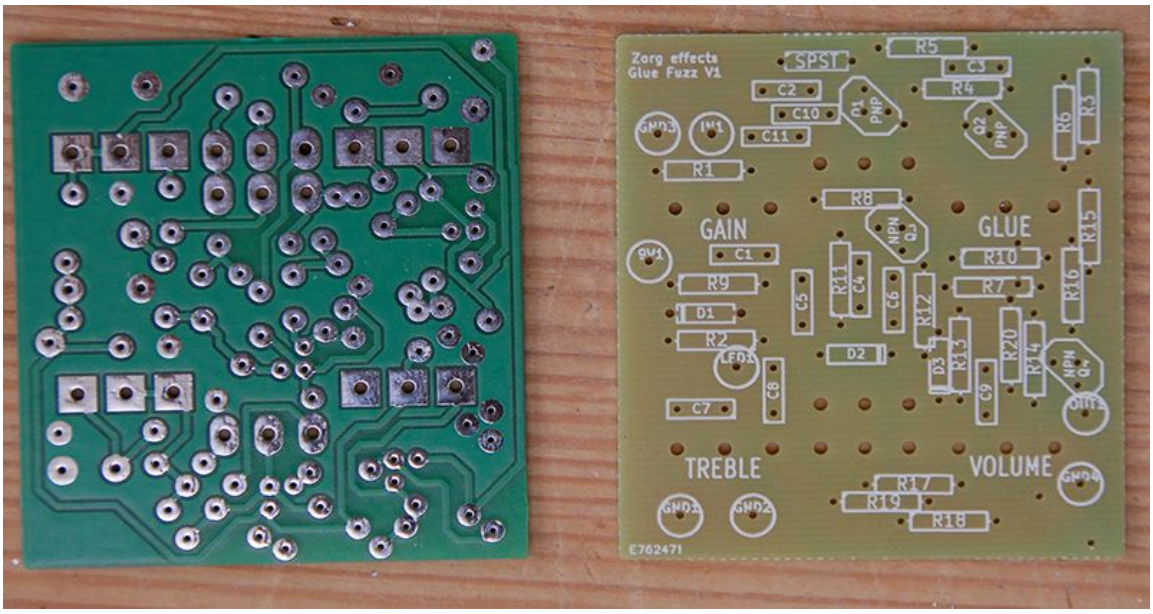
What you'll need.

The following tools are needed to build your Glue Fuzz pedal:

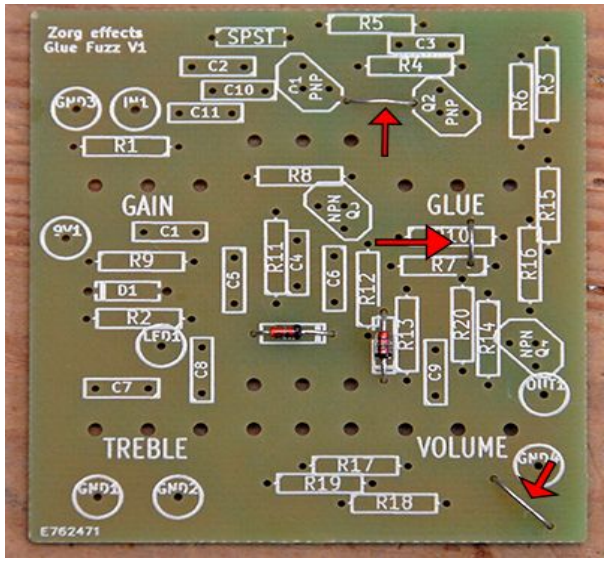
- A soldering iron.
- A un-soldering pump.
- A voltmeter/ohmmeter.
- Pliers to cut wire and remove the wire sheath.
- Pliers to screw nuts.
- A cruciform screw driver.
- And eventually wrenches.
- A 9v dc power unit, center negative.
- It's best to have an oscilloscope, and a frequency generator but not mandatory.

Soldering on the pcb.

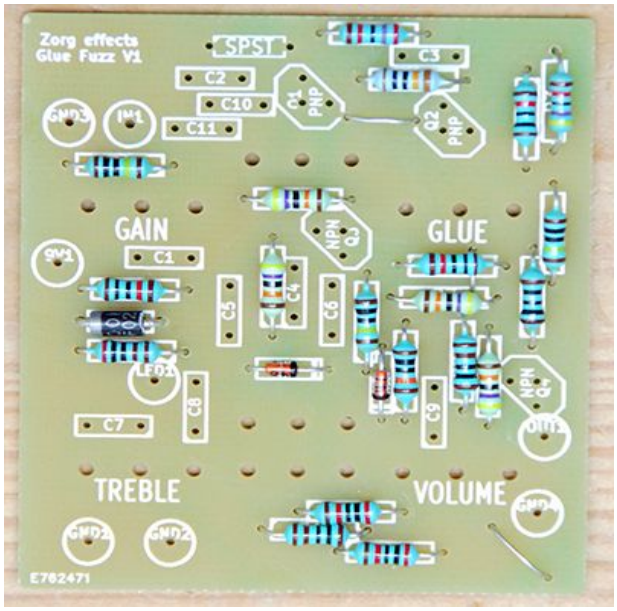
This is the PCB (Top/Bottom):



First let's solder wire jumpers. You wanna cut part of resistances legs to make them. There are 3 of them, as you can see here :



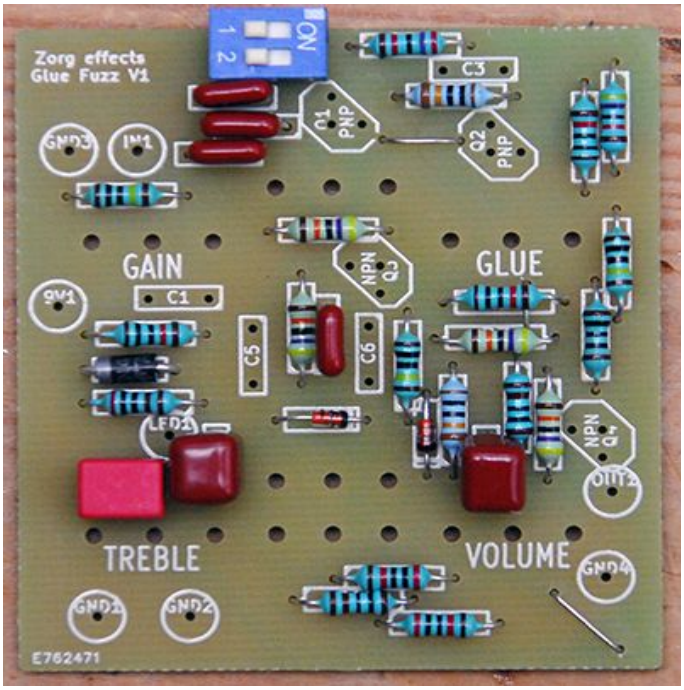
Then we're going to solder components from the smaller to the taller. First, diodes and resistances. You shall take care of the diodes positions. They MUST be on the same direction as on this picture :



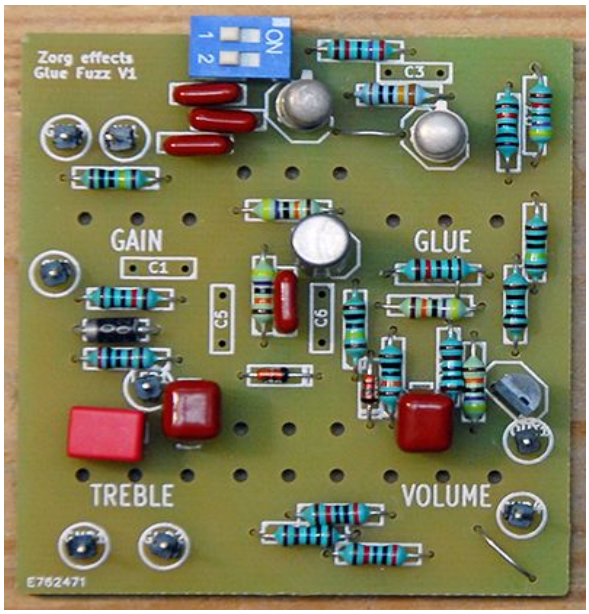
Note:in the picture above and the next, R14 is 470k. This is wrong. The 1M you have is the right one.

Then by order :

- The DIP switch (Cut the two legs of the upper part).
- Panasonic and red Wima caps:



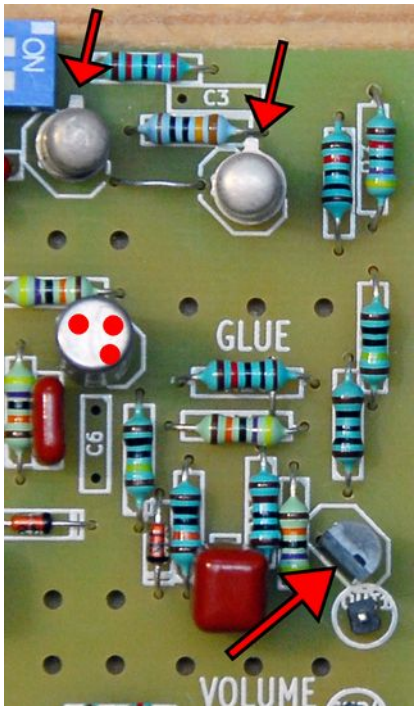
Cut the DIP14 in line socket to make soldering terminals for inputs/outputs (GND1,2,3, IN1 etc...). Then put the transistors:



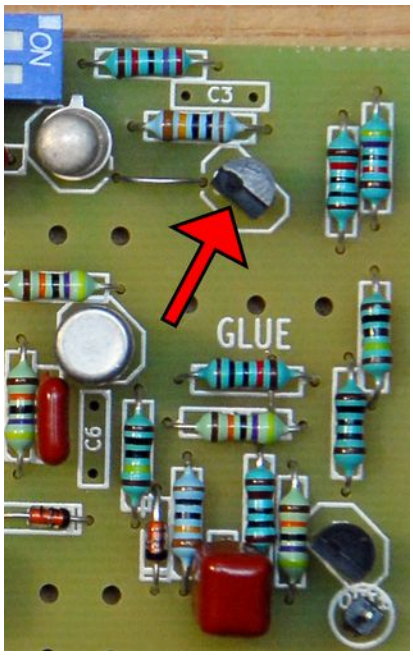
For the full Ge version, you'll notice papers on the transistors with two numbers. Susbstract the smaller number from the bigger, this will give you the transistor gain. Put the transistor with the smaller gain in Q1.

Beware of transistors directions :

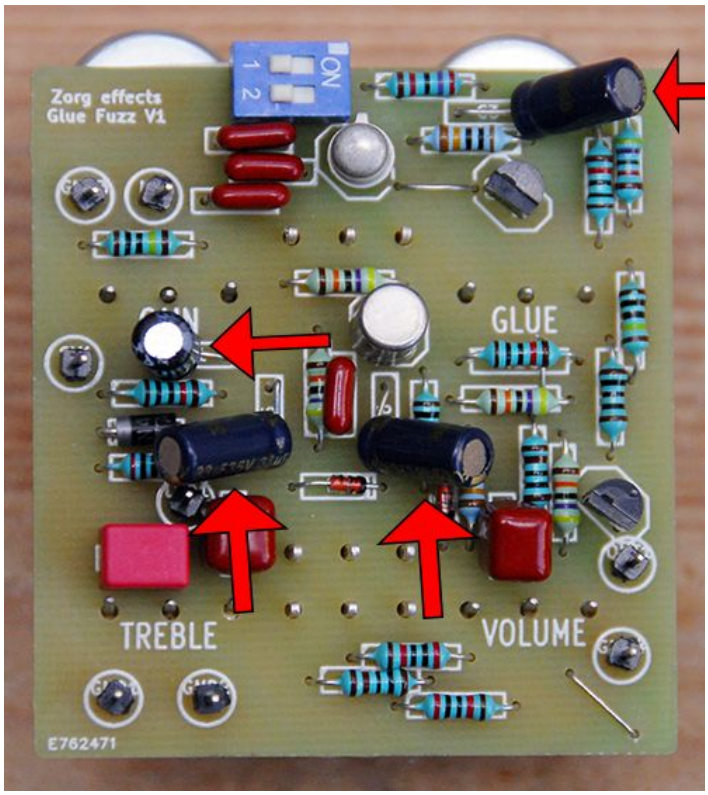
In fulll GE version, the little metal lug of AC128s (Q1 et Q2) must be on top. Legs of AC127 forms a triangle similar to the one drilled on the board. BC547/BC550 Q4 direstion is the same as drawn on the board:



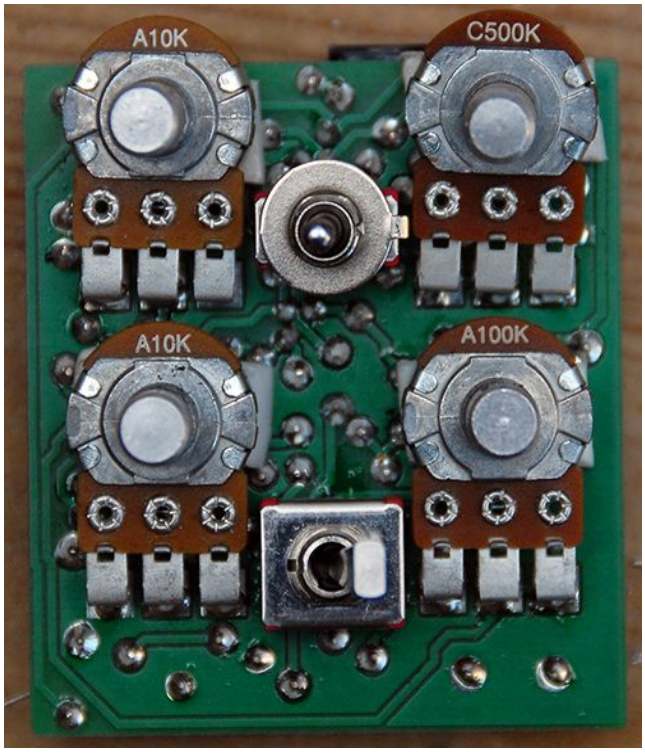
In the hybrid version, beware of Q2 position which should be reversed as the one drawn:



We now can add electrolytic caps. Beware of the direction of electrolytic caps, they must be with the white negative (-) stripe as shown by the arrows on the picture below. One should also tilt a bit the caps so that the box can close:



Now flip the board. We're going to solder the switch and pots on the other side. Begin with the DPDT switch, then the SPDT.

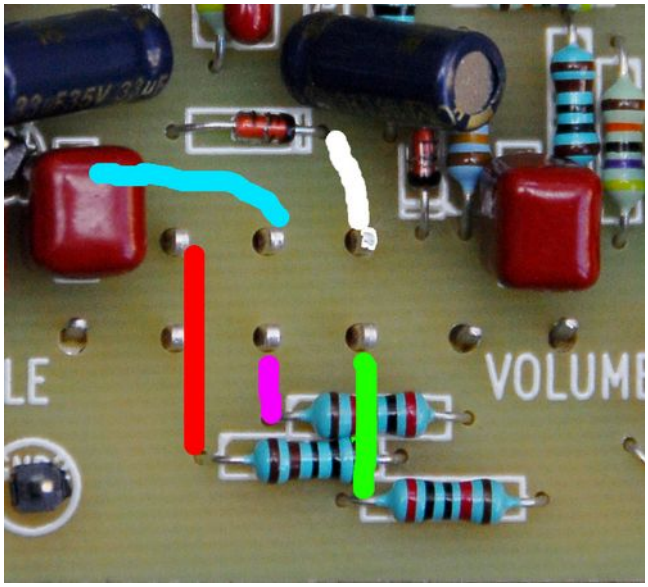


Soldering the switch is a bit shitty. First you should push it all the way into the board. If you let some space between the board and the switch, the problem will be that the height of the switch will be a bit higher than the pots height and this can somewhat be a problem when screwing the pots on the enclosure...

But doing so, there's little place left between the switch and the PCB to solder his legs. You'll need a fine soldering iron.

Then just after soldering, you must test that your solders are ok. To do so, use your ohmmeter and check that the following path are not opened:

- The 2 legs on the left on component side should be connected to left leg of R19 (Red path)
- The middle leg, bottom row, on component side should be connected to left leg of R17 (Violet path)
- The right leg, bottom row, on component side should be connected to left leg of R17 (Green path)
- The right leg, upper row, on component side should be connected to right leg of D2 (White path)
- The middle leg, upper row, on component side should be connected to right leg of D2 (Blue path)



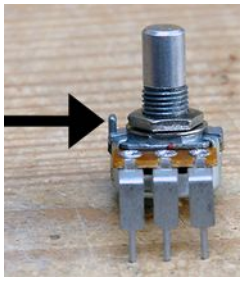
Many of the problems with this board can come from a bad soldering on the DPDT switch. Check it carefully and again when the card is screwed in the box.

You can let a bit of space between the board and the SPDT switch so that it has the same height as the DPDT. Or you can use a washer to rise it up.

Now we're going to solder the pots on the same side of the switch.

First you'll need to prepare the pots:

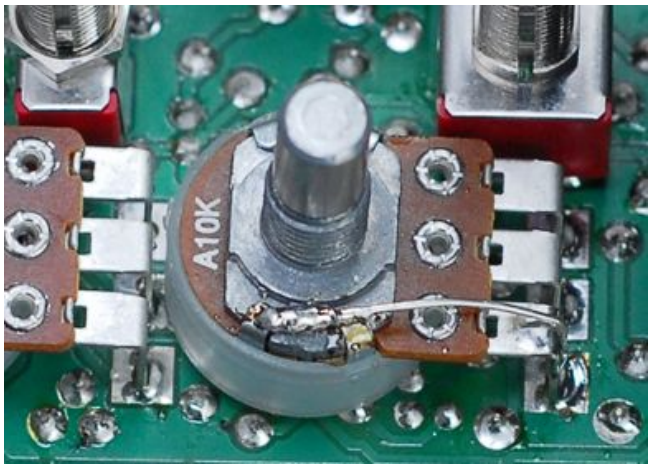
Cut the little rectangular shaft next to the axis, you won't need it.



Stick 16mm length of window insulator under each pot. It's in order to prevent solders on the board to connect with the body of the pot and shortcut some circuits.

Now you are ready to solder them on the board. But don't go too quick! First put one of them and solder ONLY the middle leg. Then try to fit the card in the enclosure. It can happen that the pot is not in right the middle of the hole in the enclosure. If it's the case, you have only one solder to heat to move it a bit and rectify the position. Then add them one by one, soldering only the middle leg, and adjusting after each one to have them in front of their holes. At the end it should enter the enclosure without to much force (sometime a bit though).

Last thing to do is to solder the ground leg from the volume pot to it’s enclosure. It will connect the pedal’s enclosure to the ground. Use a resistance leg for that. The solder may not stick to the pot’s enclosure, that’s not a problem as one should just insure that the leg will contact with the enclosure when the pot is screwed. Contact will be made by pressure:



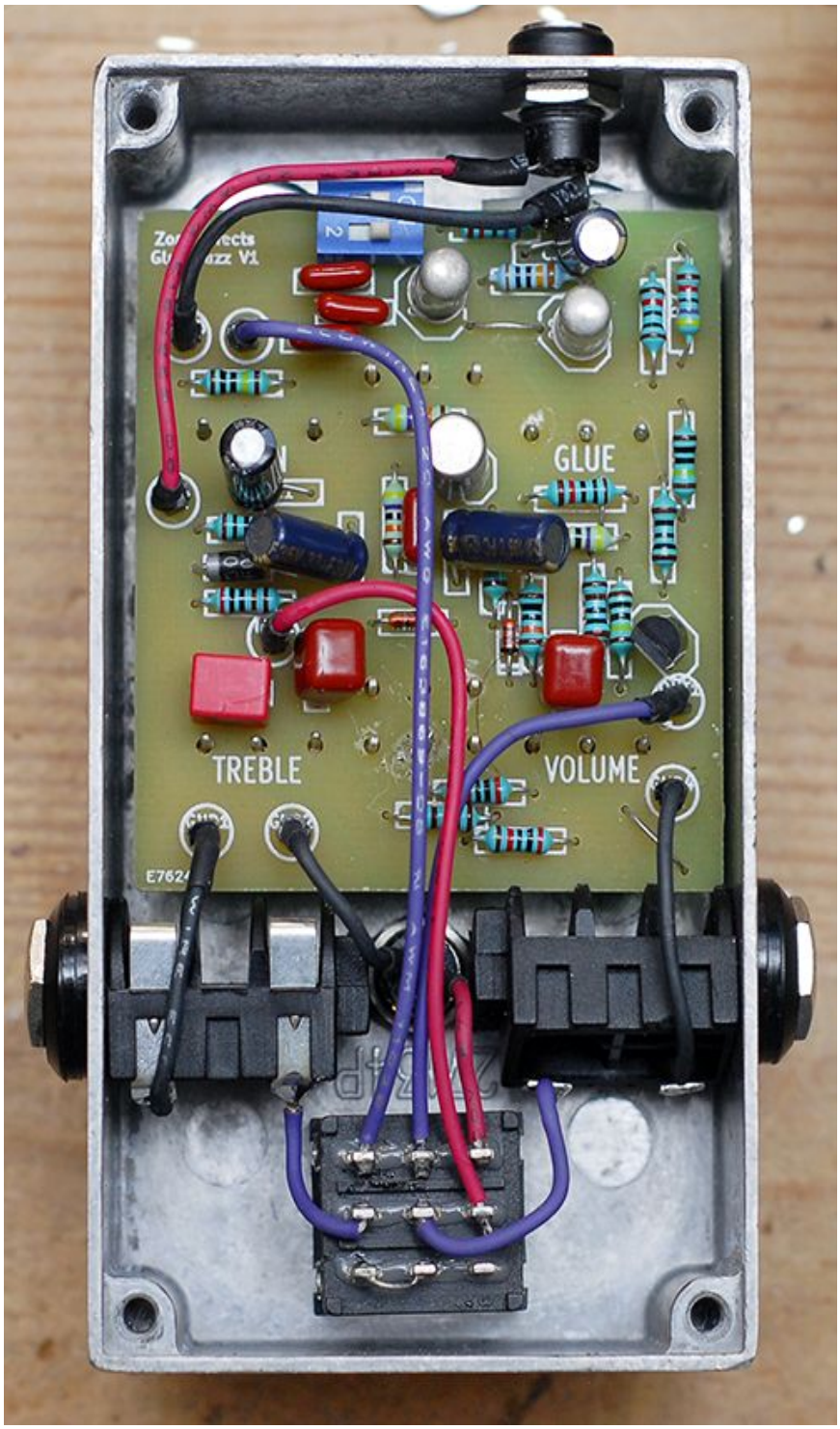
Wiring the pedal.

So there you go with the card in the box.

Now you can screw the audio jacks, led socket, footswitches and DC jack.

It can happen that the audio jacks do not fit in the box because of the PCB. The solution is to remove with a cutting plier 2-3mm from the rounded top part of it and turn the cut side towards the PCB.

We're going to wire it like this:



Here's a list of the wirings:

9V1 goes +9v of DC jack (long leg if you wish to wire it center negative)

Gnd3 goes to gnd of the DC jack (short leg if you wish to wire it center negative)

GND1 and GND4 go to audio jacks grounds.

GND2 goes on the negative leg of the LED (Flat side, shorter of both leg).

If we number the legs of the footswitch :

1 2 3

4 5 6

7 8 9

Then :

4 Is connected to input jack

5 Is connected to output jack

6 Is connected to LED1 on the board

7 and 8 are soldered together. 9 is not connected

1 Is connected to IN1 on the board

2 Is connected to OUT1 on the board

3 Is connected to the the positive leg of the LED (longest leg)

Important: Use the eat shrink tube to strengthen and protect all your wire connections (on the board and on the connectors).

Now, there's only left to...

Test the board.

Connect the DC 9V alim to DC jack. Switch on and of the board. The Led should switch on and off.

If you did all well, your Glue Fuzz should now work perfectly.

Plug in your favorite instrument an rock it! (And then screw all the pots screws as well as the knobs).

IMPORTANT: if you play with the glue setting at 0% or 100% you're likely to get no sound out of it. Move the pot a little before suspecting a problem.

If this is not working you're good to read the...

Debugging chapter.

If you have little or no sound with all glue pots positions, check:

- Your solders, specially when there's little space between them: they must not touch...
- Capa's directions.
- Transistors directions.
- Diodes directions.
- That each resistance is on its good location.
- That the DPDT switc is soldered correctly.

With some DC power units within maximum gain settings, the glue fuzz can produce oscillations. Try another power unit or lower the gain. This is normal.

