

Amplifier red Elektrek – Build Document V1.1

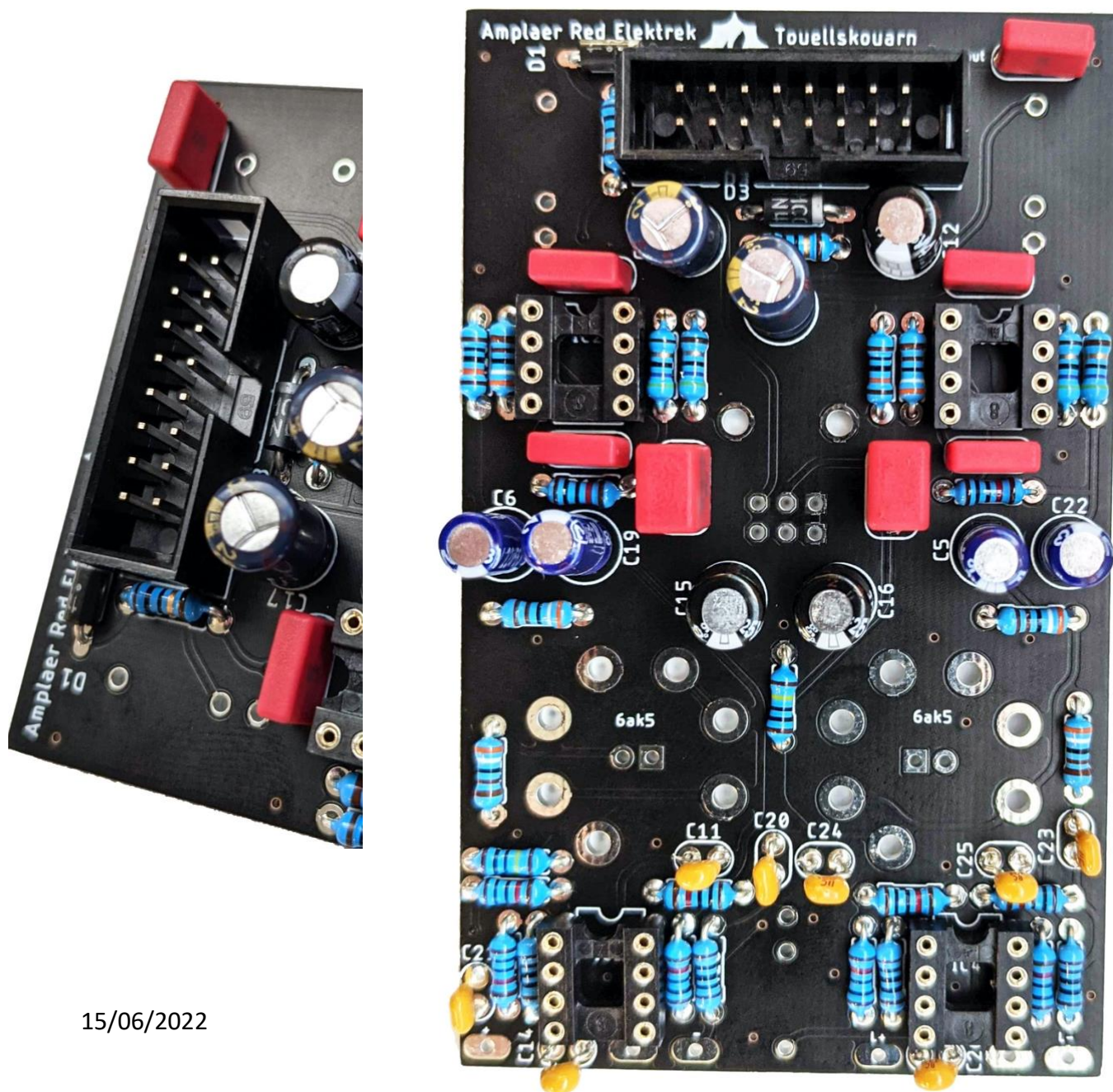
Parts List

Quantity	Part	Designator
10	10k Resistor	R12, R16, R22, R23, R24, R25, R28, R29, R30, R31
6	3.9k Resistor	R1, R2, R3, R4, R11, R15
2	10r Resistor	R19, R20
4	47r Resistor	R13, R14, R17, R18
2	100k Resistor	R8, R10
4	100r Resistor	R21, R26, R27, R32
2	1M Resistor	R5, R6
2	1N4004 Diode	D1, D3
4	220pF Ceramic capacitor	C20, C21, C23, C24
4	100nF Ceramic capacitor	C11, C14, C25, C26
5	100nF (0.1uF) Wima Film capacitor	C7, C8, C9, C10, C13
2	2.2uF Wima Film capacitor	C1, C2
4	22uF Electro capacitor	C5, C6, C19, C22
3	47uF Electro capacitor	C12, C15, C16
2	100uF Electro capacitor	C17, C18
2	3mm Red LED	D2, D4
2	7 Pin Mini Tube Socket	6AKS Left/Right
1	Stereo Thonkiconn jacks	U1
2	Thonkiconn + Hex	LEFT IN / RIGHT IN
1	Alpha A100k Dual Gang Pot	VR3
2	5.35mm stereo jacks	
4	Ribbon Wire	
4	OPA2134 IC chips	IC1, IC2, IC3, IC4
1	Volume knob	
1	16-16 Long Power Cable	

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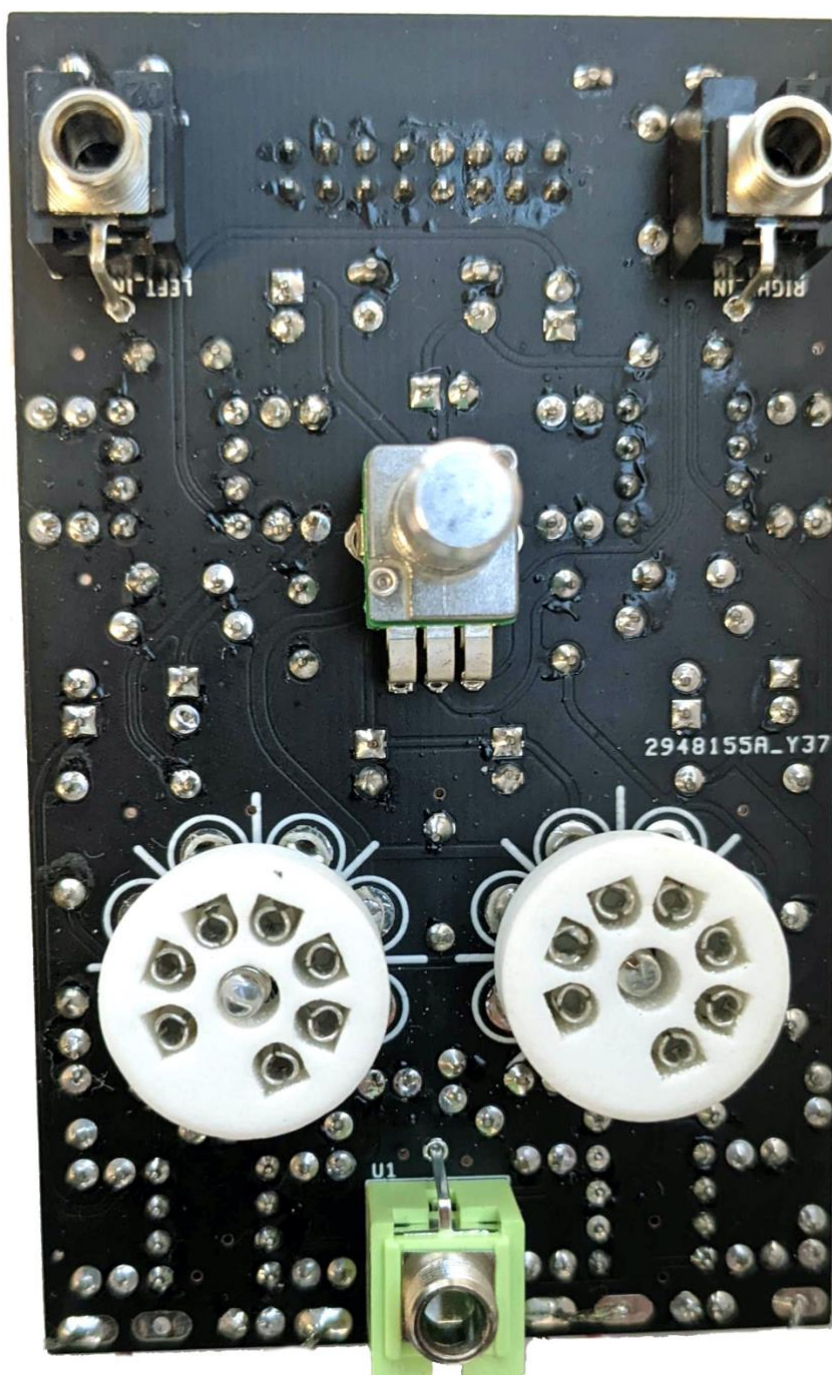
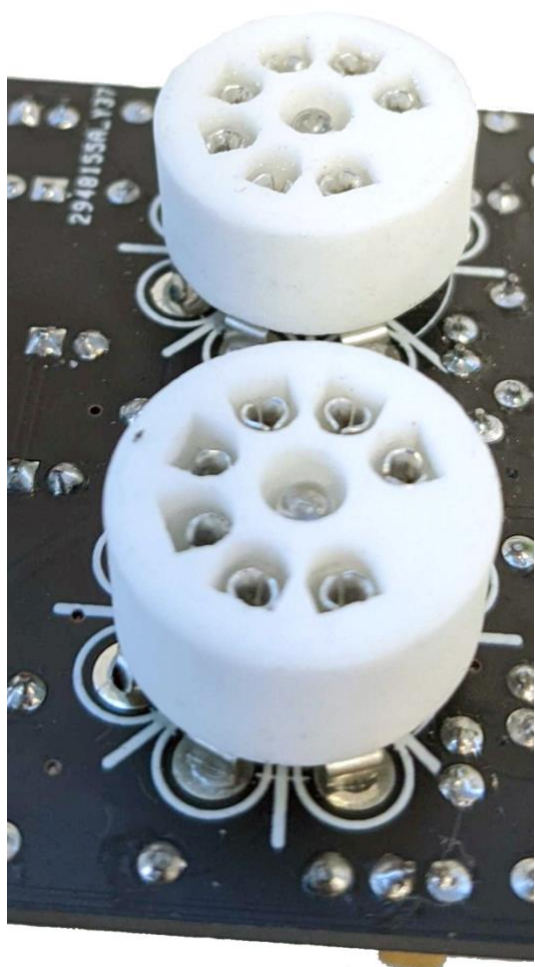
Build instructions

1. Start by soldering all the resistors
2. Next solder the 2 x IN4004 Diodes – **mind polarity**: match the grey stripe with the stripe on the PCB silkscreen.
3. Then solder the 4 x IC Sockets – match the curved notch on each socket with the PCB silkscreen.
4. Now solder the ceramic capacitors and then the red film capacitors.
5. Then solder the 16pin power header – **mind polarity**: the notch in the header should face inwards towards the centre of the PCB as shown below.
6. Next solder the electrolytic capacitors – **mind polarity**: The long leg goes to the square pad marked '+’.



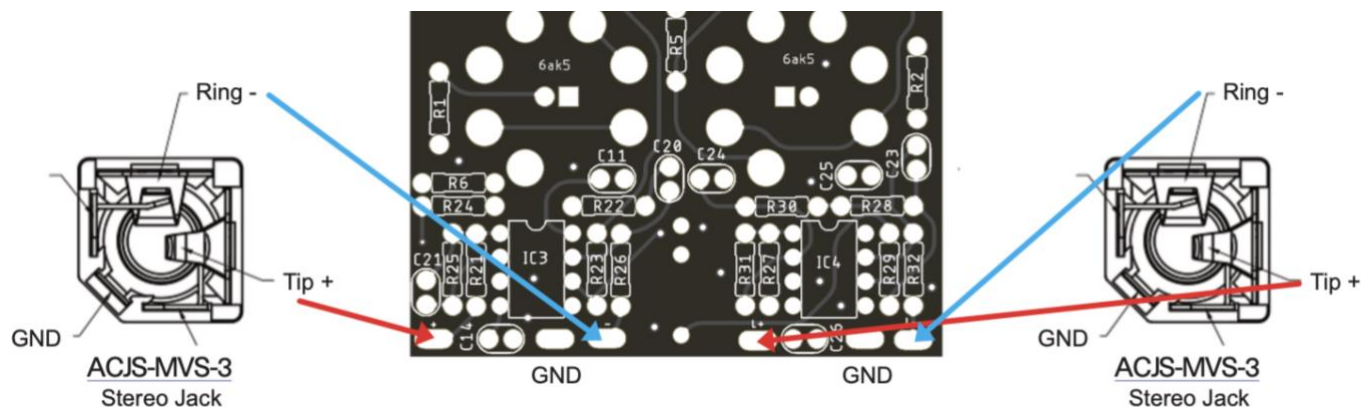
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- Next turn over the PCB and place but **don't solder yet** the 2 x LEDs. **Mind polarity:** The long leg must go to the square pad. Before soldering the LEDs place the white tube sockets - the LEDs sit in the centre of each socket. Turn The PCB over and push the LEDs down so that the LED bulb sits roughly level with the top of the hole in the tube socket as shown below, then solder the pins of both LEDs and sockets.
- Next place but **don't solder yet** the 3 x jack sockets and single pot. Make sure the green jack is placed at 'U1' at the bottom of the PCB. Place the front panel and screw the nuts and washers on the pot and jacks to hold everything in place then turn over and solder the jacks and pot in place.



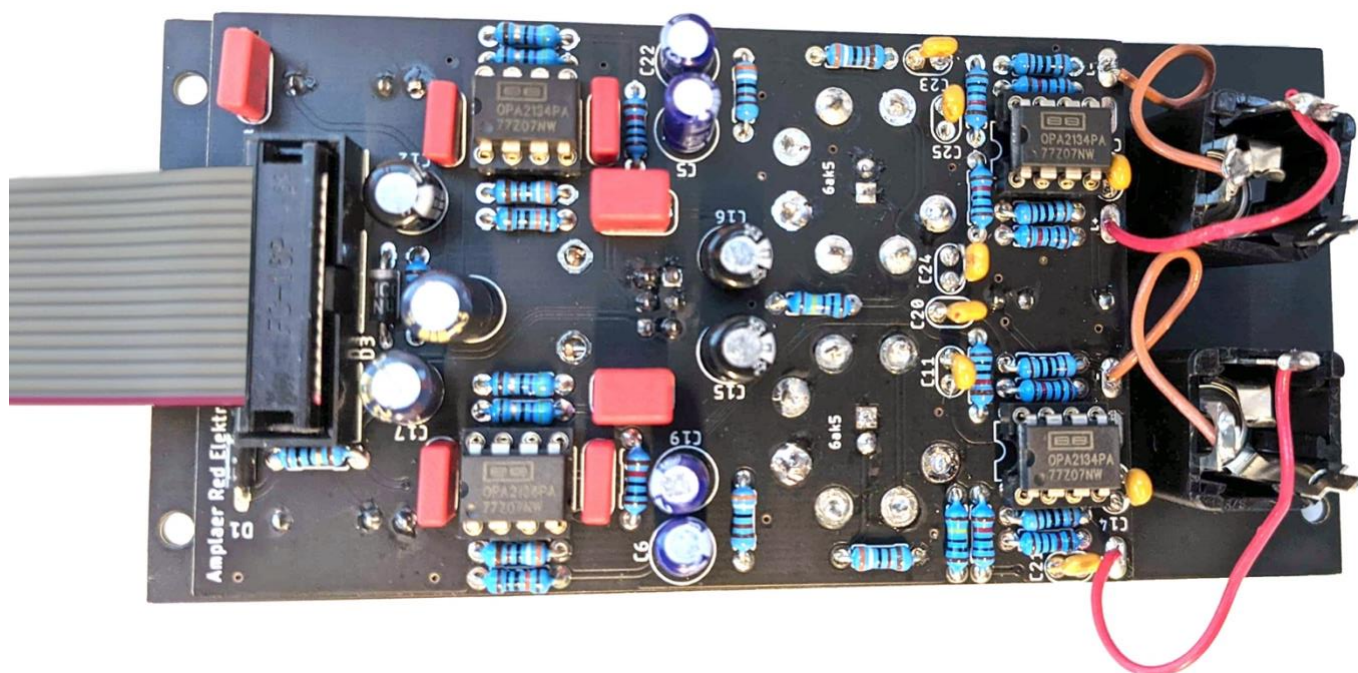
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9. Now remove the front panel again. Take the 6.35mm jack sockets and attach them to the front panel. These jacks need to be wired to the PCB following the diagram below.



10. When the large jack sockets have been soldered you can fit the front panel onto the PCB again and then place the 4 x OPA2134 chips into the IC sockets – **mind polarity**: The notch in each chip must match the notch on the IC socket as shown below.
11. Now finally attach the knob and place the tubes all the way into their sockets.

Important: It is essential to have the module switched off when placing or replacing the tubes! Do not power up this module unless the tubes are installed!!!



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