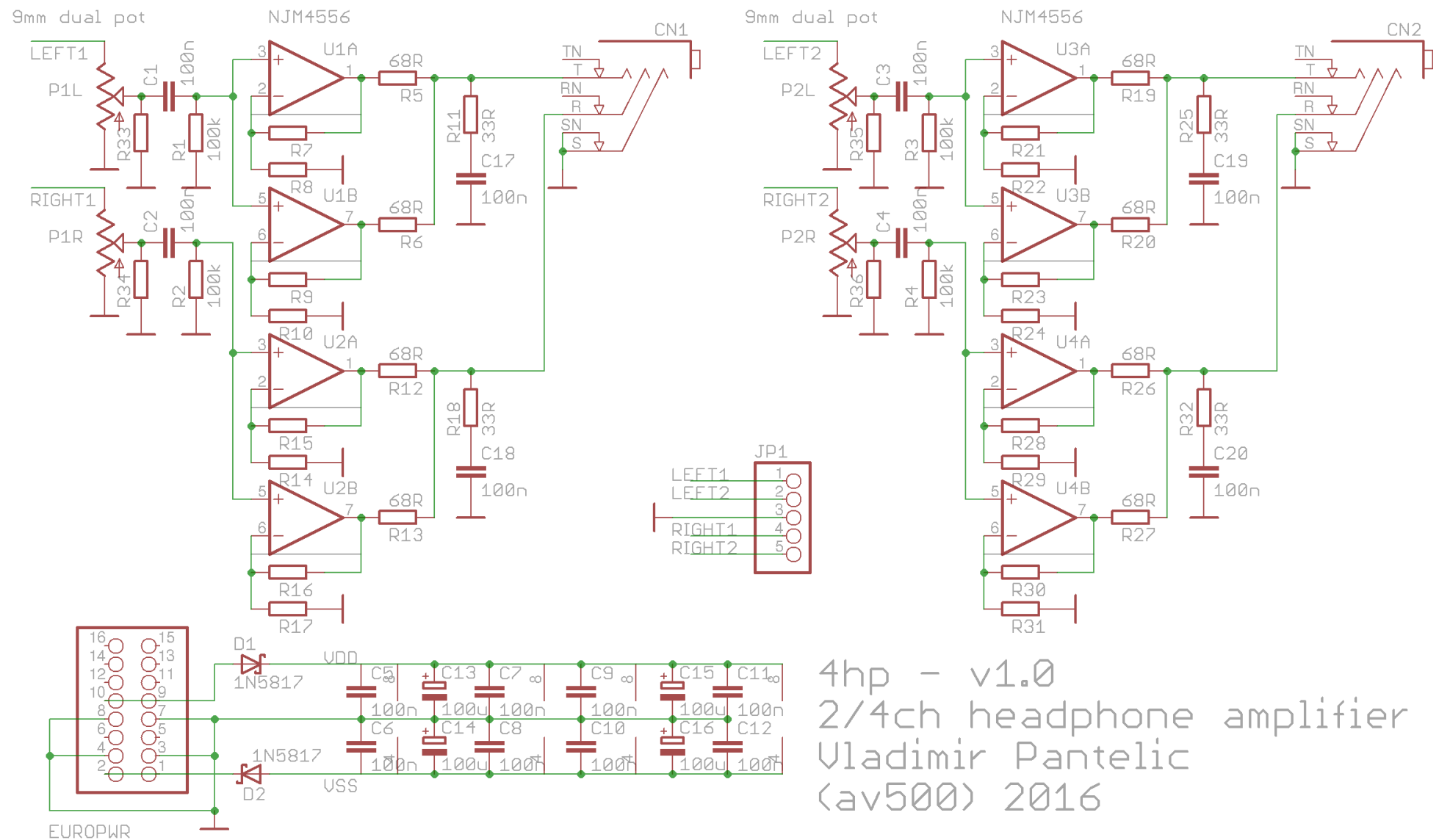


Qty	Value	Device	Package	Parts	Description
4	33R	R 0207/2V	0207/2V	R11, R18, R25, R32	RESISTOR, 0.25W, 1%
8	68R	R 0207/2V	0207/2V	R5, R6, R12, R13, R19, R20, R26, R27	RESISTOR, 0.5W , 1% (1)
4	100k	R 0207/2V	0207/2V	R1, R2, R3, R4	RESISTOR, 0.25W, 1%
4	DNI	R 0207/2V	0207/2V	R33, R34, R35, R36	RESISTOR (2)
16	DNI	R 0805	0805	R7, R8, R9, R10, R14, R15, R16, R17, R21, R22, R23, R24, R28, R29, R30, R31	RESISTOR, SMT (5)
8	100n/2.5mm	C-025-024X044	C025-024X044	C5, C6, C7, C8, C9, C10, C11, C12	CAPACITOR, ceramic, 2.5mm spacing
8	100n/5mm	C5/5	C5B-5	C1, C2, C3, C4, C17, C18, C19, C20	CAPACITOR, film / poly, MKS2-100 100N (3)
4	100u/35V	CPOL 2.5-	E2,5-5	C13, C14, C15, C16	Electrolytic capacitor, 2.5mm / 6mm dia
2	1N5817-B	1N5817-B	DO41-7.6	D1, D2	1.0A SCHOTTKY DIODE (4)
4	NJM4556	NJM4556	DIP08	U1, U2, U3, U4	DUAL OPAMP
2	A50k/A100k	ALPS_RK0971220	ALPS_RK0971220	P1, P2	9mm dual pot, log/audio-taper, see (2)
2	NRJ6HF	NRJ6HF	NRJ6HF	CN1, CN2	Neutrik NRJ6HF + NUT needed!
1	(1x5)	PINHD-1X5	1X05	JP1	PIN HEADER, 0.1" (or solder wires directly)
1	2x8	PINHD-2X8	2X08	EUROPWR	PIN HEADER, 0.1", for schrouded see (4)
4	3.5mm jack	3.5mm jack		J1, J2, J3, J4	Kobiconn, Thonkiconn, or Erthenvar (6)

Assembly Notes, please read carefully:

- (1) NJM4556 paralleled should be stable for resistor values as low as 1R, adjust to taste if you want to drive low impedance loads
- (2) install R33, R34, R35, R36 to change P1, P2 taper, see <http://sound.westhost.com/project01.htm>, note that if you use e.g. 100k lin/10k the resulting input impedance will only be ~10k.
- (3) the space for the 100n film caps is tight. Be sure to get WIMA MKS2-100 100N in 5mm or WIMA MK02-100 63 in 2.5mm grid – there is no need to get a big one with a high voltage rating. Other 100nF film caps will work too, just make sure they fit physically
- (4) for PCB v1.0 if you are installing a shrouded header for the power supply, you need to install D1 and D2 after the header and bend them slightly to the side
- (5) install R7, R8, R9, R10, R14, R15, R16, R17, R21, R22, R23, R24, R28, R29, R30, R31 to increase opamp gain from unity. You will also need to cut the traces between opamp “out” and “–” pins on the bottom, see solder mask lines
- (6) wiring options for 3.5mm jacks (see wiring diagram):
 - wire both left jacks to LEFT1 and LEFT2, wire both right jacks to RIGHT1 and RIGHT2 and normal top left jack to top right
 - wire top left to LEFT1, bottom left to LEFT2, top right to RIGHT1, bottom right to RIGHT2. Normal top left to top right and bottom left to bottom right.

4hp by av500 <https://www.muffwiggler.com/forum/viewtopic.php?t=163062> – **BOM, schematic and build guide, v1.0**



4hp headphone amplifier wiring options

