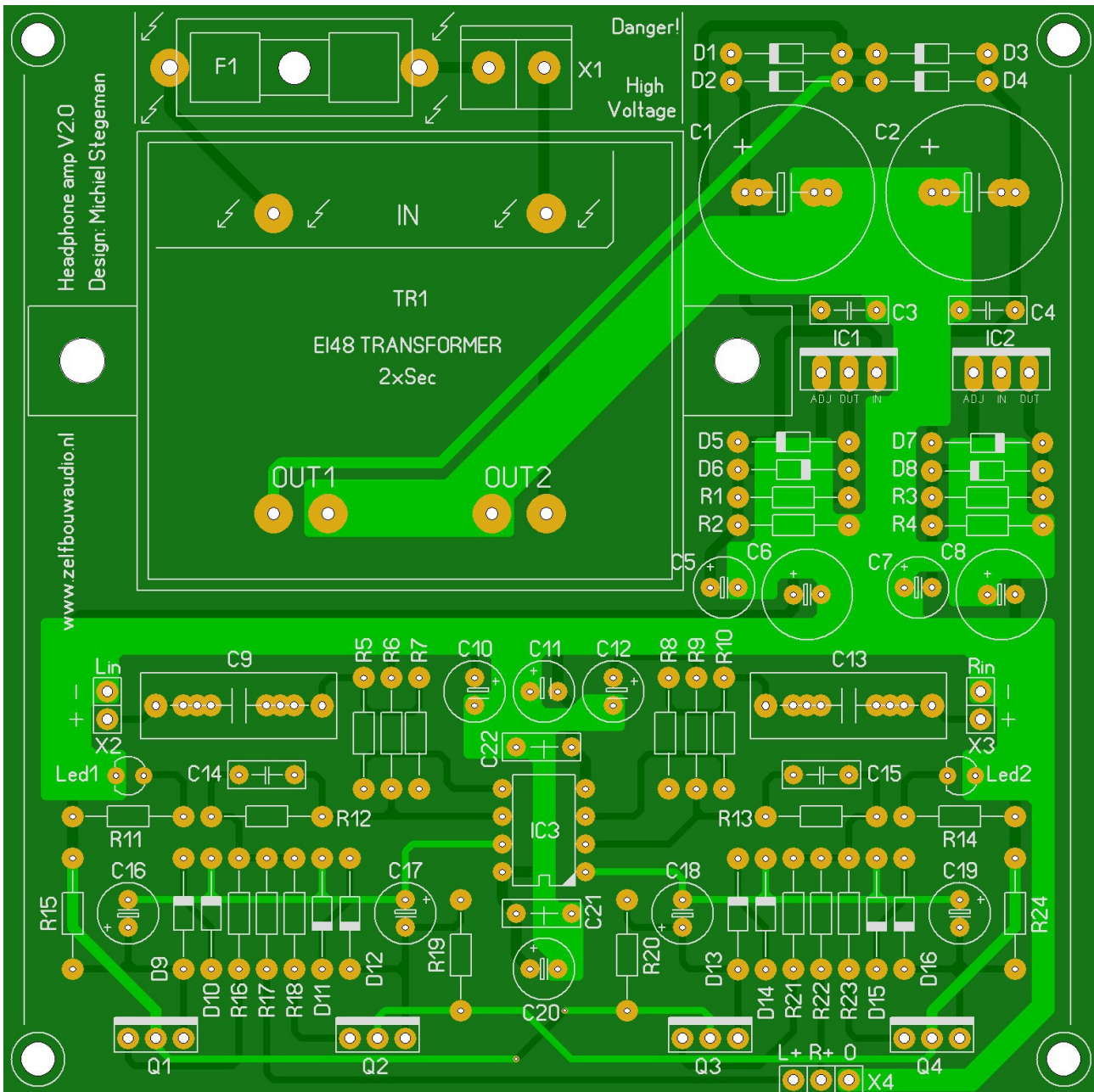


# Headphone Amp V2.0

## Component layout and partslist

Designed by: Michiel Stegeman (Jan 2013)



<b><u>Parts</u></b>	<b><u>Value</u></b>
D1, D2, D3, D4	1A / 50V min
D5, D6, D7, D8	1N4007
D9, D10, D11, D12, D13, D14, D15, D16	1N4148
C1, C2	1000u-2200u
C3, C4	100n
C5, C7, C10, C12	10u / 25V
C6, C8	470u / 25V
C9, C13	470n – 2u2
C11, C20	22u / 25V
C14, C15	4p7
C16, C17, C18, C19	47u / 25V
R1, R3	220
R2, R4	2K4
R5, R10	1K
R6, R9	56K
R7, R8	100K
R11, R14	TBD (Value depends on used led)
R12, R13	220K – 330K (Low / High gain)
R15, R19, R20, R24	6K8
R16, R18, R21, R23	27
R17, R22	22
IC1	LM317 (TO220)
IC2	LM337 (TO220)
IC3	8-pin DIL dual opamp
Q1, Q3	BD139
Q2, Q4	BD140
X1	2 pin PCB connector / pitch 5.08mm
X2, X3	2 pin header / pitch 2.54mm
X4	3 pin header / pitch 2.54mm
F1	Fuseholder / 20mm fuse
TR1	EI48 transformer / 2x 15V-18V / 8W