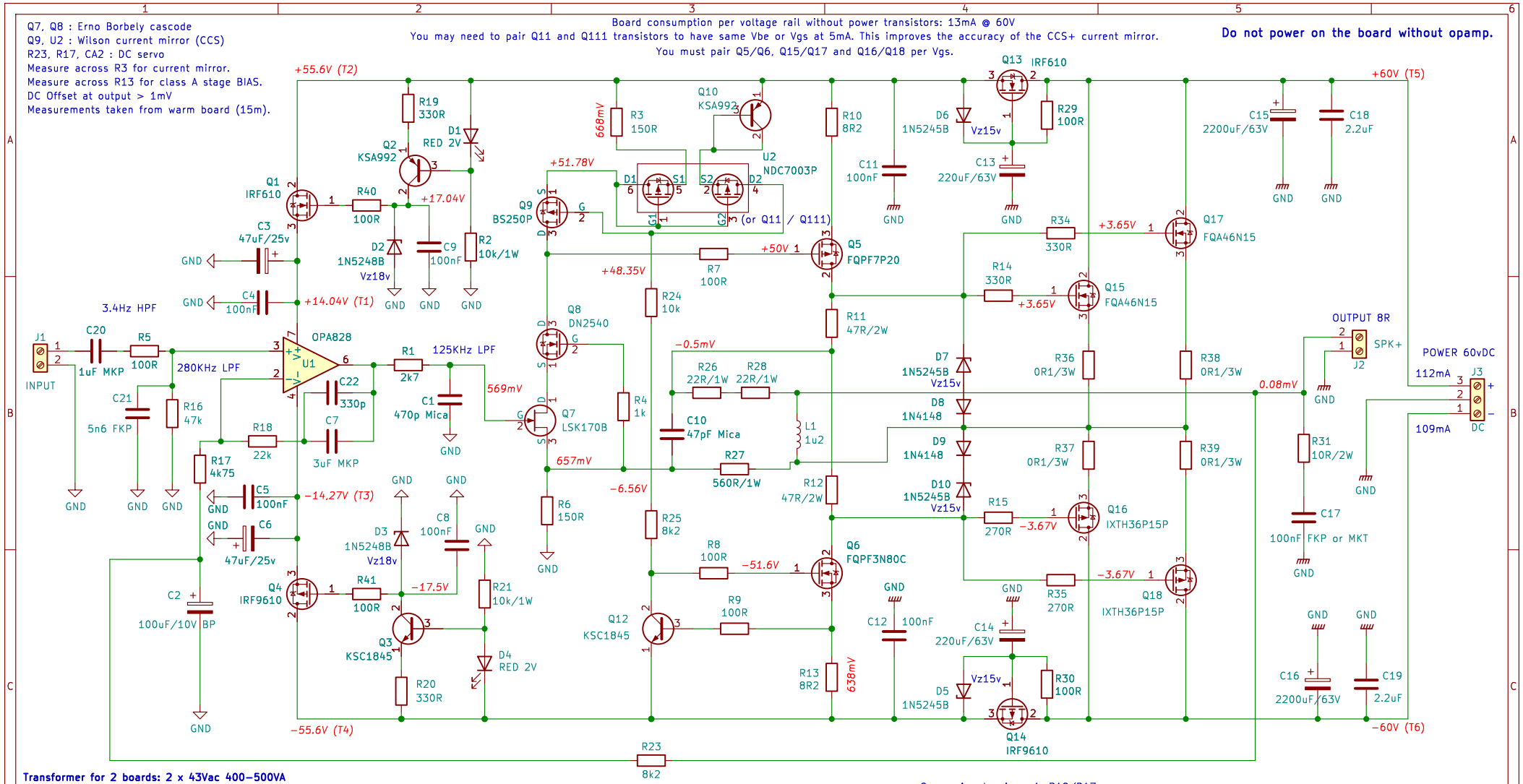

Transformer for 2 boards: 2 x 43Vac 400-500VA

L1 : 19.5 turns of a 1mm diameter copper insulated wire wound around a 8mm tube.
This will give you a coil of 10x20mm (see picture on github repository).

U1 : OPA1611 (BIPOLAR) or OPA828 (JFET)
U2: NDC7003P or PJS6839
Q1, Q13 : IRF610
Q2, Q10 : KSA992
Q3, Q12 : KSC1845
Q4, Q14 : IRF9610
Q5 : FQP3P20 (isolator) or FQPF7P20
Q6 : FQP3N30 (isolator) or FQPF3N80C
Q7 : LSK170B (TH) or JFE150 (SMD SOT23-5)
Q8 : DN2540 or DN2535
Q9, Q11, Q111 : BS250P
Q15, Q17 : FQA46N15 or IXTQ36N30P (isolator)
Q16, Q18 : FQA36P15 or IXTQ36P15P (isolator)

100nF capacitor : Wima MKS2
1W resistor : Vishay PR01
2W resistor : Vishay CCF02 or PR02
D1, D4 : LED RED 2V TLHR5400
D2, D3 : 1N5248B
D5, D6, D7, D10 : 1N5245B
D8, D9 : 1N4148
C3, C6 : Panasonic EEU-FC1V470B
C7 : 3uF CDE 935C1W3K-F
TO-220 thermal pad : Aavid 4171G
TO-247 thermal pad : Aavid 4180G
J1: KF127 or JST B2B-XH-A-GU

For resistor < 150R : sort then or use 1% range.
0.25W, 0.5W resistor : Vishay MRS25 or CCF07 or MB
R27 : 560R 1W 1% Ohmite WNB560FET or Vishay CMF60560R00JKR6
R26, R28 : 22R 1% 1W TE Connectivity H4P22RFZA
R36, R37, R38, R39 : OR1 MOSX3CT631RR10J
C1 : 470pF CDE CD15FD471JO3F or polystyrene capacitor.
C2 : Non polar capacitor Nichicon Muse UES1A101MPM.
C10 : 47pF Mica CDE CD15ED470JO3 or ceramic NP0.
C15, C16 : Vishay MAL225628222E3 or Wurth 861140783006.
C17 : 100nF capacitor FKP3C031004C00JSSD or MKT1822410255.
C18, C19 : 2.2uF MKP MKP4D042205I00KSSD or PHC1254220KG.
C20 : 1uF Wima MKP2C041001N00MN00
C21 : 5.6nF Wima FKP2C015601D00HC00

Opamp input gain = 1+R18/R17
Global gain = ((R17+R18)/R17)x((R27+R6)/R6)
For input sensibility at 1.2Vrms (+4dBu): R17=4k75 and R6=150R
For input sensibility at 0.7Vrms (0dBu): R17 = 5k1 and R6=100R
The value of R25 depends on the input voltage (42v = 2K7, 50v = 7K5, 60v = 8k2).

Q17 a QUAD405 audiophile approach

Modified by Stef for the Q17-TURBO project
by eng. Tiberiu Vicol

Sheet: /
File: Q17-TURBO.kicad_sch

Title: Q17-TURBO (P2) Amplifier

Size: A4	Date: 2024-10-05	**Rev: 1.5.3**
KiCad E.D.A. 8.0.5		Id: 1/1