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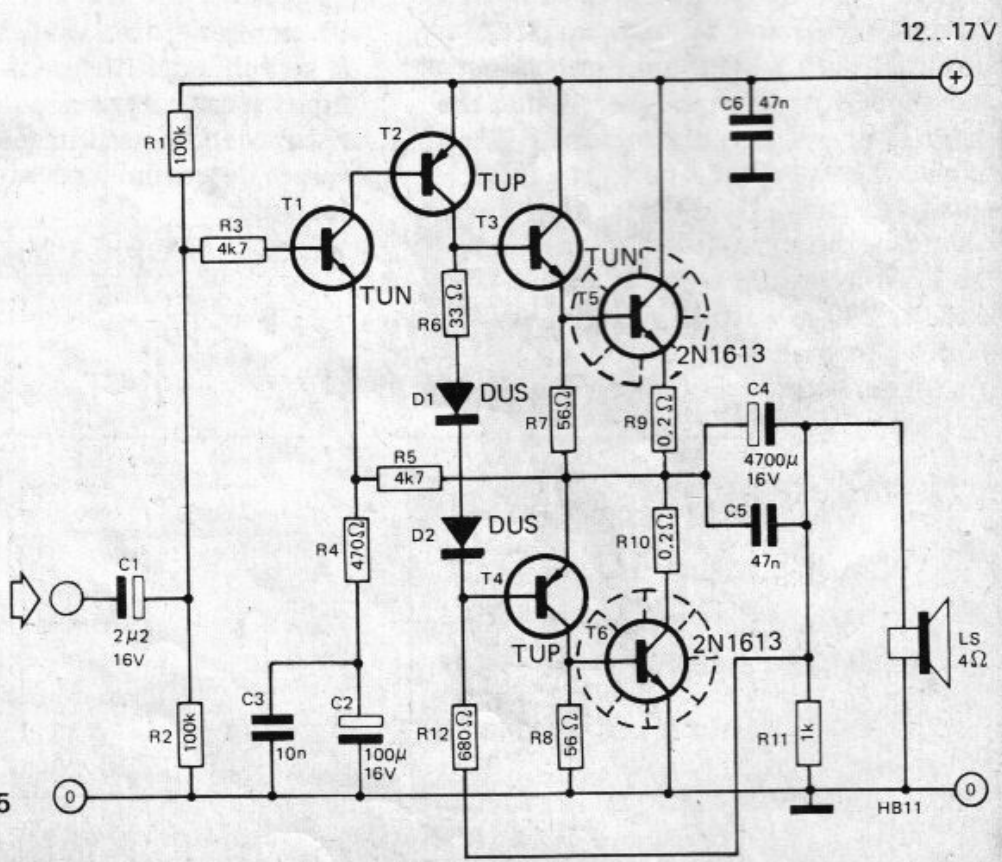
austereo 3-watt hifi amplifier

Transistors T1 and T2 form a direct-coupled voltage amplifier. Resistor R6 and diodes D1/D2 determine the quiescent current of the quasi-complementary driver stage T3/T4 and the output stage T5/T6. The values of resistors R7 and R8 are chosen so that the output transistors are either just biased on or

Resistors:
R1,R2 = 100 k
R3,R5 = 4k7
R4 = 470 Ω
R6 = 33 Ω
R7,R8 = 56 Ω
R9,R10 = 0,2 Ω
R11 = 1 k
R12 = see table

Capacitors:
C1 = 2,2 μ, 16 V
C2 = 100 μ, 16 V
C3 = 10 n
C4 = see table
C5,C6 = 47 n

Semiconductors:
T1,T3 = TUN
T2,T4 = TUP
T5,T6 = 2N1613
D1,D2 = DUS
heatsinks for TO-5



just cut off depending on the gain of the transistors used. C3, C5, C6 and R3 help to maintain stability. The input sensitivity of the amplifier is about 400 mV for 12-volt operation with a 4-Ω load, and 600 mV for 17-volt operation with an 8-Ω load. The gain may be increased by reducing R4 but this is not recommended as instability may occur and distortion is increased.

The following layout precautions should be noted when assembling the completed board onto a chassis:

	12 V	17 V
R12	680 Ω	1 k
C4	4700 μ	2200 μ
LS	4 Ω	8 Ω

1. Loudspeaker common must be connected directly to the power supply common and should be kept well away from the boards.
2. Separate leads must be run from the supply to the supply points on each board.
3. Outputs of any board should be kept well away from inputs of other boards (except of course where the output of a stage is connected to the input of the succeeding stage).
4. Care should be taken to avoid earth loops. Each section of the amplifier should have only one connection to supply common.