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The 'austereo' 3-watt amplifier is used as a drive amplifier for the 2N3055 output transistors, and very few changes in the circuit or the component values are needed. Capacitor C7 is introduced to compensate for the phase shift due to the output transistors. The value of R1 is reduced to 56 k, and additional decoupling, in the form of a 47-k resistor and a 10- μ capacitor, is inserted between the high-potential end of R1 and supply positive. The output impedance is very low, as T5/T7 and T6/T8 form power darlings. The 'austereo' control amplifier is well capable of supplying the 1-V RMS input voltage needed.

Because of the low input sensitivity, the amplifier has good stability and its sensitivity to hum is low. Substantial negative feedback via R4 and R5 ensures low distortion.

Maximum permissible supply voltage is 42 V. The power supply circuit is developed from the stabilised power supply unit for the 'austereo' amplifier, with circuit modifications and also changes of component ratings to suit the higher working voltages.

In addition to the heat sinks shown in the amplifier and power supply circuits, the three 2N3055 transistors should be cooled by mounting them on the amplifier or power supply boxes (as applicable) using mica insulating washers.

The power supply table is worked out for stereo. Power for the control amplifier is drawn from a 2N1613 with its base potential held at half the main supply voltage.

		Power output (w) with:			
		8 Ω	4 Ω	2 Ω (R13, R14 = 0.1 Ω)	
power supply voltage (V)	30	9.5	19	35	25 C4
	36	15	30	55	25 working
	42	20	40	70	35 voltage (V)
		2200	4700	10,000	
		C4 capacity (μ F)			

Parts list for 15-30 W amplifier

Resistors:

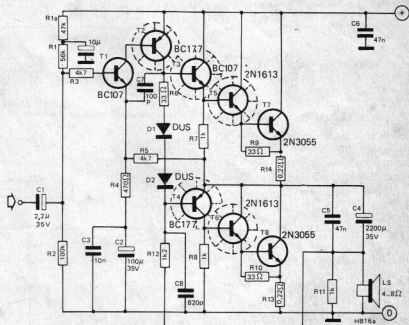
- R1 = 56 k
- R1a = 47 k
- R2 = 100 k
- R3, R5 = 4k7
- R6, R9, R10 = 33 Ω
- R7, R8, R11 = 1 k
- R12 = 1k2
- R13, R14 = 0.22 Ω , 5 W

Capacitors:

- C1 = 2.2 μ , 35 V
- C2 = 100 μ , 35 V
- C3 = 10 n
- C4 = see table
- C5, C6 = 47 n
- C7 = 100 p
- C8 = 10 μ , 35 V

Semiconductors:

- T1, T3 = BC107
- T2, T4 = BC177
- T5, T6 = 2N1613
- T7, T8 = 2N3055
- D1, D2 = DUS
- 5 heatsinks for TO5



'austereo' 15-30 watt amplifier

Parts list for 15-30 W power supply

Resistors:

- R1 = see table
- R2 = 1k8
- R3 = 100 Ω
- R4, R5 = 10 k
- R6 = 100 k

Capacitors:

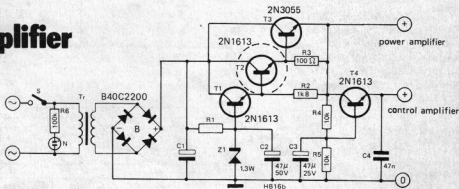
- C1 = see table
- C2 = 47 μ , 50 V
- C3 = 47 μ , 25 V
- C4 = 47 n

Transformer:

see table

Sundries:

- B = Bridge rectifier; see table
- Z = Zener diode, see table
- N = Neon lamp
- S = On/off switch
- Heat sink for TO5



Output power	Transformer secondary		B B40C...	C1 x 100 μ F	Z	R1 Ω 1 watt
	V	A				
9.5 - 19 - 35	30	1 - 2 - 4	1000 - 2200 - 5000	22 - 47 - 100 50 V	ZD 33	680
15 - 30 - 55	36	1.2 - 2.4 - 4.8	2200 - 3200 - 5000	22 - 47 - 100 60 V	ZD 39	820
20 - 40 - 70	42	1.2 - 2.5 - 5	2200 - 3200 - 5000	22 - 47 - 100 70 V	ZD 43	1 k