Parts list

Resistors:
R1 = 1 k
R2,R6 = 56 k
R3,R5 = 100 Ω
R4 = 2k7
R7 = 4Ω7
P1 = 100 k logarithmic potentiometer

Capacitors:
C1 = 470 p
C2 = 1 μ/16 V
C3,C7 = 220 μ/35 V
C4,C8 = 10 μ/35 V
C5 = 1p8
C6 = 47 μ/16 V
C9 = 47 n
C10,C12 = 4700 μ/40 V
C11,C13 = 330 n

Semiconductors:
D1...D4 = 1N5401
IC1 = STK077 (or STK078...STK083)

Miscellaneous:
S1 = DPST mains switch
Tr1 = mains transformer, secondary 2 × 18 V/1 A
F1 = fuse, 100 mA, slow blow
F2 = 1 A (8 Ω loudspeaker) or 1.6 A (4 Ω loudspeaker) slow blow (2 seconds)
Heat sink — temperature rise 1.7 K/W
Printed circuit board 85001

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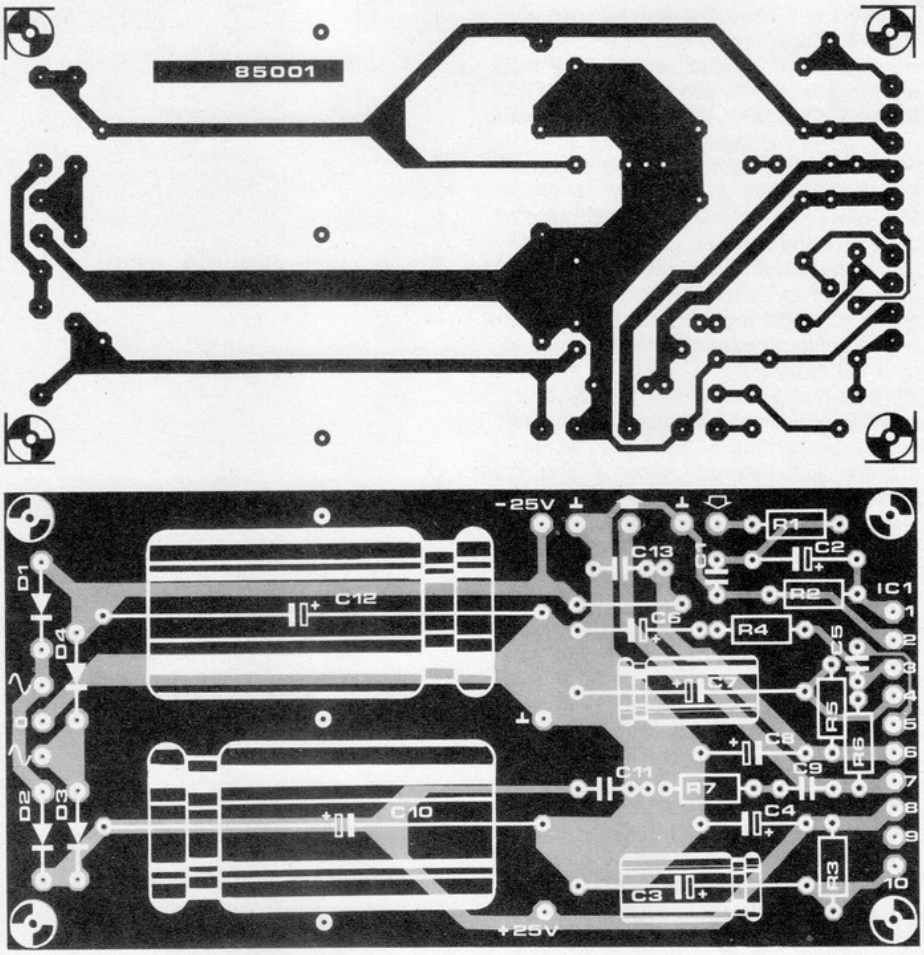

Figure 3. The printed circuit board is not only for use with the STK077 but also with other members of the family, STK078...STK083, which give output powers of not less than 24...40 watt into 8 ohms, depending on which member is used.

Failure of one of the power lines during operation of the amplifier would destroy the IC. It is, therefore, vital to ensure that both power lines are connected properly at all times. Furthermore, under no circumstances should either the positive or the negative line be protected by a fuse. It is, of course, also important that the voltages across the two secondaries as well as capacitors C10 and C12 are identical.
The value of the thermal rating of the heat sink stated in the parts list and table 2 applies to the amplifier being driven hard. If the amplifier is intended for domestic (music) use only, the value may be

Table 1

Supply voltage, U_b — maximum	± 32 volts
— recommended	± 22 volts
Case temperature — maximum	85°C
Short-circuit duration — maximum	2 seconds
Load resistance — recommended	8 ohms
— minimum	4 ohms
Quiescent current — maximum	100 mA
— typical	50 mA
Power into 8 ohms — minimum*	20 watts
Bandwidth — at 1 W into 8 Ω	10 Hz...100 kHz
— at 20 W into 8 Ω	10 Hz...30 kHz
Output direct voltage — maximum	±70 mV
Input voltage (rms) — for 20 W into 8 Ω	600 mV
— for 30 W into 4 Ω	500 mV
Input impedance	50 kilohms
Current consumption — at 20 W into 8 Ω	1 A
— at 30 w into 4 Ω	1.5 A

* in range 20 Hz...20 kHz, THD = 0.3%, U_b = ± 22 V

Table 1. Brief technical characteristics of the STK077.