

Resistors:

- R1 = 2M7
- R2 = 4M7
- R3, R4, R5, R12 = 1 k
- R6, R9, R13 = 4k7
- R7 = 39 k
- R8 = 5k6
- R10 = 47 k
- R11 = 220 k
- R14 = 100 k

Capacitors:

- C1 = 1 μ, 6 V tantalum
- C2 = 470 μ, 6 V electrolytic
- C3 = 100 μ, 16 V
- C4 = 100 μ, 25 V
- C5, C6 = 2n2
- C7 = 39 n
- C8, C9, C12 = 25 μ, 16 V
- C10 = 1 n
- C11 = 50 μ, 6 V

Sundries:

- P1 = preset potentiometer 1 k lin.
- P2 = potentiometer 4k7 log. stereo
- P3, P4 = potentiometer 100 k lin. stereo
- P5 = potentiometer 10 k lin.

Semiconductors:

- T1, T3 = TUN
- T2 = TUP

astereo control amplifier

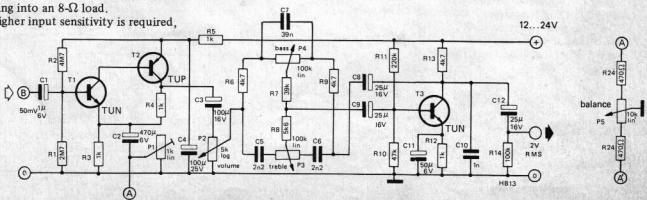
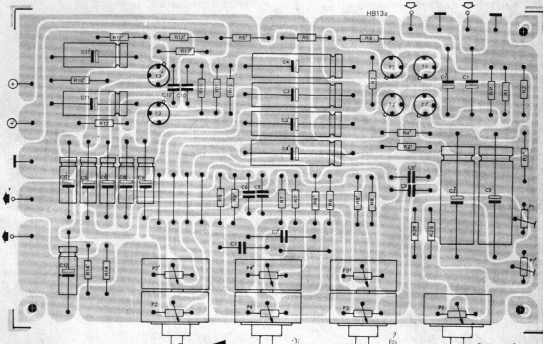
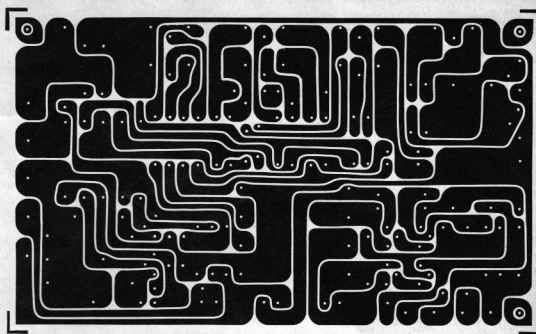
Transistors T1 and T2 form a voltage amplifier with a high input impedance and a low output impedance. When the slider of preset potentiometer P1 is set to give the full value of 1 k, the input sensitivity in combination with the 3-watt amplifier is about 150 mV for the 12-volt version working into a 4-Ω load, or 200 mV for the 17-volt version working into an 8-Ω load.

If a higher input sensitivity is required,

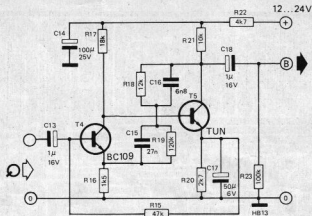
P1 can be set to a value lower than 1 k. If switching to different values of input sensitivity is needed, fixed resistors can be used in place of P1, with values determined according to the formula:

$$R_x = \frac{500 \times V_{in}}{300 - V_{in}} \text{ (ohms)}$$

where V_{in} is the RMS input voltage in mV. The formula holds good for input voltages from 5 mV to 250 mV. T3 is used in a standard Baxandall tone control circuit. The 1 nF capacitor between the collector and earth is to prevent oscillation.



45



The disc preamplifier, of which only one channel is shown in the circuit, incorporates equalisation to correct the output of a magnetic cartridge according to the RIAA playback curve, and also amplifies the signal to a level sufficient to drive the control amplifier. It consists of a two-stage voltage amplifier, T4 and T5, with the RIAA feedback network R18, R19, C15 and C16 connected from the collector of T5 to the emitter of T4. DC feedback and biasing of T4 is

provided by R15. The disc preamplifier board should preferably be mounted inside the turntable box as otherwise the capacitance of the screened lead between the cartridge and the disc preamplifier can form a resonant circuit with the self-inductance of the cartridge. If this resonance lies within the audio spectrum it may cause a peak in the frequency response. Of course some cartridge manufacturers quote a recommended load capacitance and if this

astereo disc preamplifier

is so their recommendations should be adhered to. Another good reason for mounting the disc preamplifier inside the turntable is to keep it away from the hum fields of the amplifier's mains transformer. Turntable motors usually have much less stray field than the average mains transformer! It can be seen that the layout for the two channels is symmetrical.

Resistors:

R15 = 47 k
R16 = 1k5
R17 = 18 k
R18 = 12 k
R19 = 120 k
R20 = 2k7
R21 = 10 k
R22 = 4k7
R23 = 100 k

Capacitors:

C13, C18 = 1 µ (16 V)
C14 = 100 µ/25 V
C15 = 27 n
C16 = 6n8
C17 = 47 ... 50 µ/6 V

Semiconductors:

T4 = BC 109 C
T5 = TUN

