

# TANDBERG® TIA 3012

## Service Manual



## Dismantling

- Top cover, rear (1).
- Top cover, front (2).
- Rear panel (3).
- Front panel (4). Remove rotary knobs.
- Bottom cover (5).

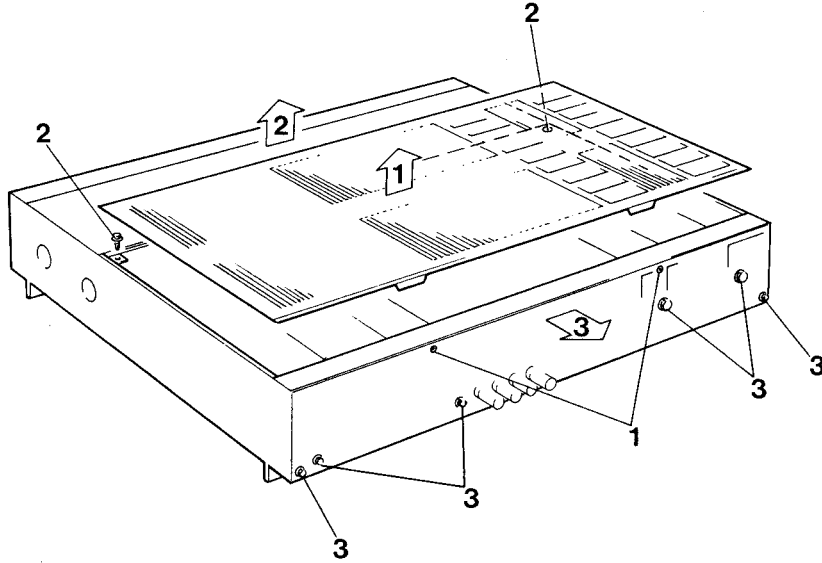
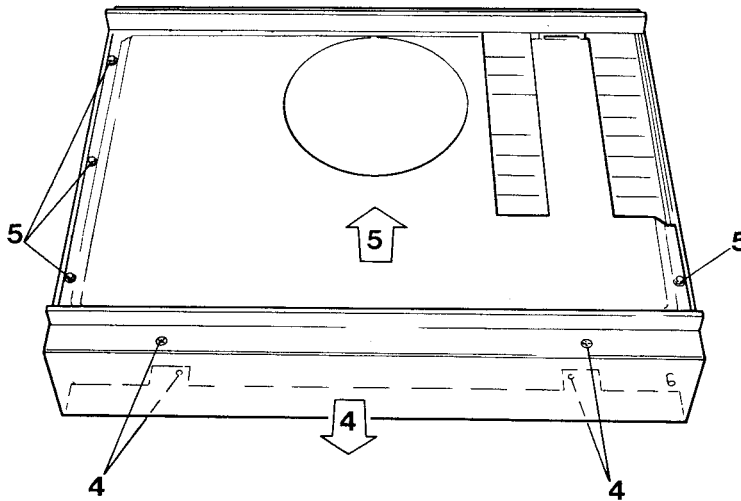


Figure 1 Dismantling the rear and top covers



2 Figure 2 Dismantling the front and bottom covers

**General**

**IMPORTANT!** Switch on the unit at least 30 minutes before adjustments. The top and bottom cover should not be removed, otherwise the unit must be covered.

The output transistors can be removed without soldering. Remove the two screws and lift the transistor out.

**NOTE!** The washers must have heat-sink compound on both sides.

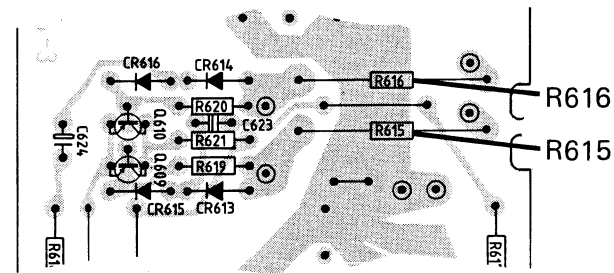
The output power (100 W) should be measured with a mains voltage of at least 240 V (voltage selector switch in 230 V) or 120 V (voltage selector switch in 115 V).

**Electrical adjustments**

**Quiescent current**

The quiescent current should be adjusted without load and the volume control must be set to minimum.

- Adjust R475 (left) and R476 (right) to 25 mV across R615 (left) and R616 (right).



Part of the Power supply board, solder side.

**Power amplifier – d.c. offset adjustment**

- Solder two LED's (light emitting diodes) with opposite polarity together in parallel and connect them to the collectors on Q415/Q417 (left) and Q416/ Q418 (right), see figure 4.
- Adjust R409 (left) and R410 (right) until both diodes are switched off. Readjust after about 2 minutes.

Remove the LED's and measure the d.c. voltage on the output sockets. The d.c. voltage should be less than  $\pm 40$  mV.

**NOTE!** Do not adjust without light emitting diodes in the collectors on Q415/Q417 and Q416/Q418.

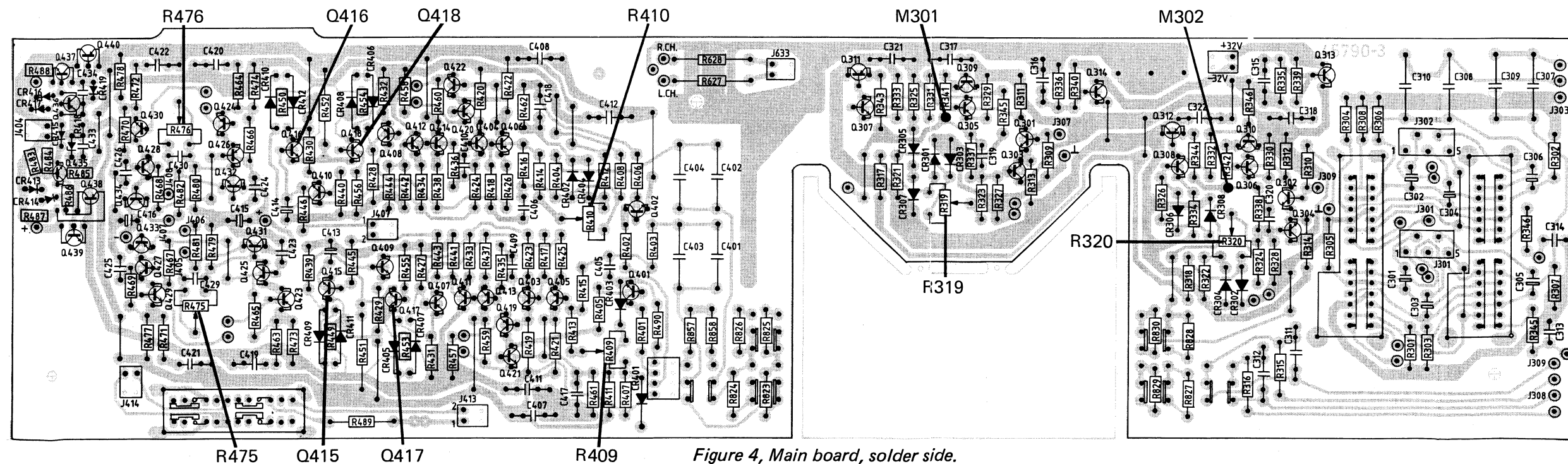


Figure 4, Main board, solder side.

**RIAA amplifier – d.c. offset adjustments**

- Insert two phonoplugs each with 100 ohms to ground into the phono MC sockets.
- Connect a d.c. meter to M101 (left) and M102 (right), see figure 3.
- Use a probe or at least 10 kohms in serial with the instrument.
- Adjust R123 (left) and R124 (right) to  $0\text{ V} \pm 100\text{ mV}$ .
- Remove the phonoplugs from the MC sockets.
- Insert two phonoplugs each with 1 kohm to ground into the phono MM sockets.

The d.c. voltage in M101 and M102 should be  $0\text{ V} \pm 1\text{ V}$ .

**Tone control amplifier – d.c. offset adjustment**

- Set the volume control to 9 o'clock position.
- Connect the d.c. meter to M301 (left) and M302 (right), see figure 4.
- Adjust R319 (left) and R320 (right) to  $0\text{ V} \pm 5\text{ mV}$ .

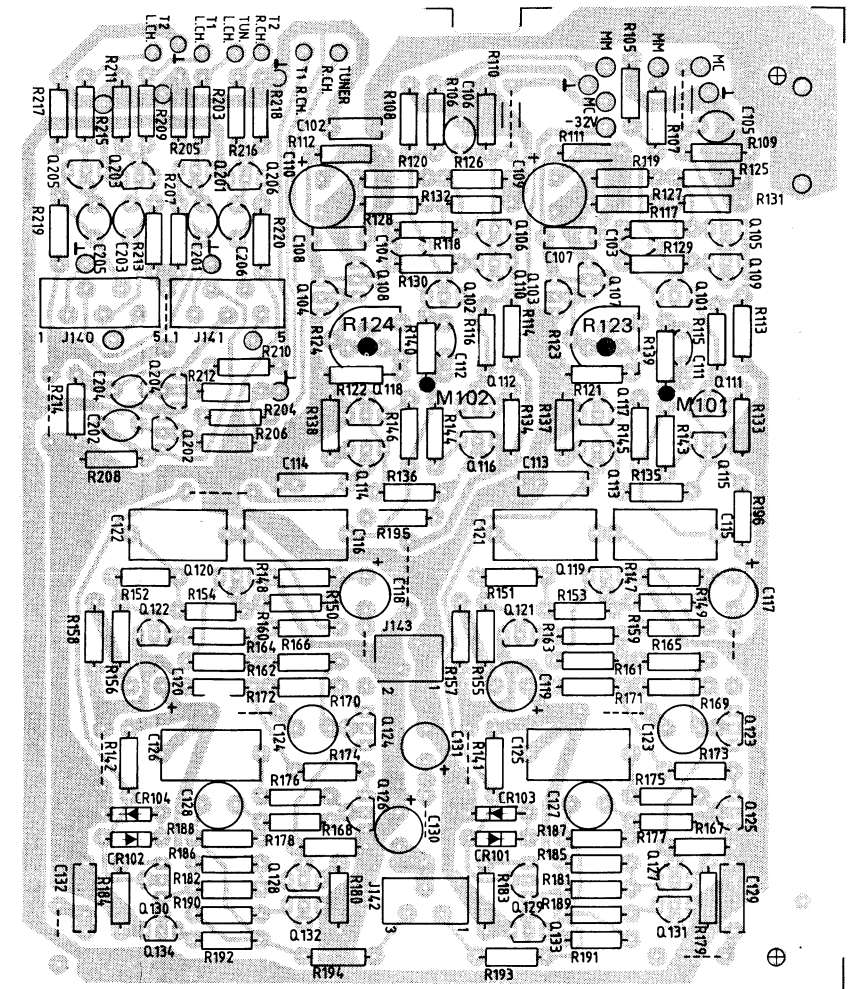
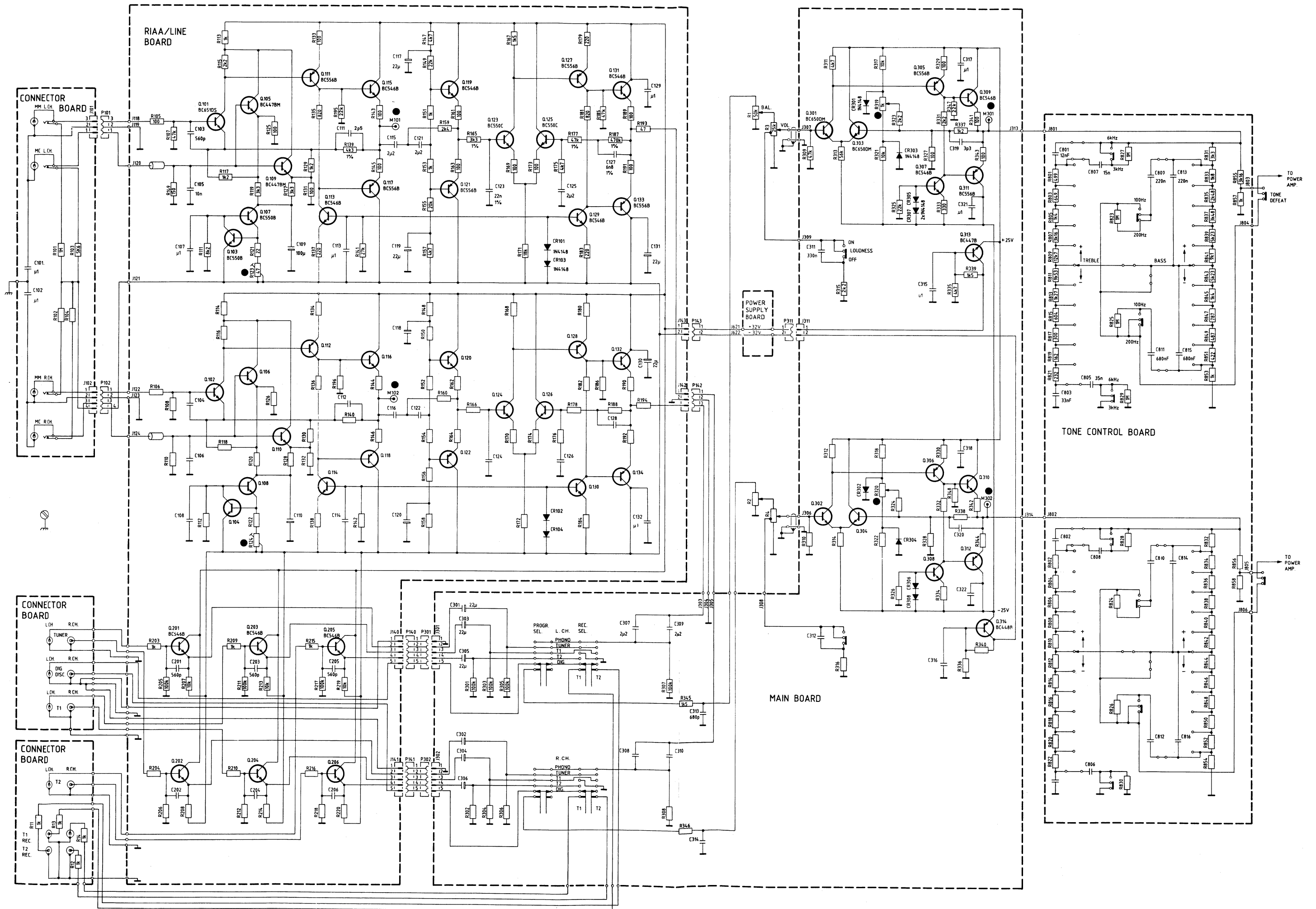


Figure 3, RIIA/Line board, component side.



4 Figure 5, Circuit diagram, input- and tone control amplifiers.



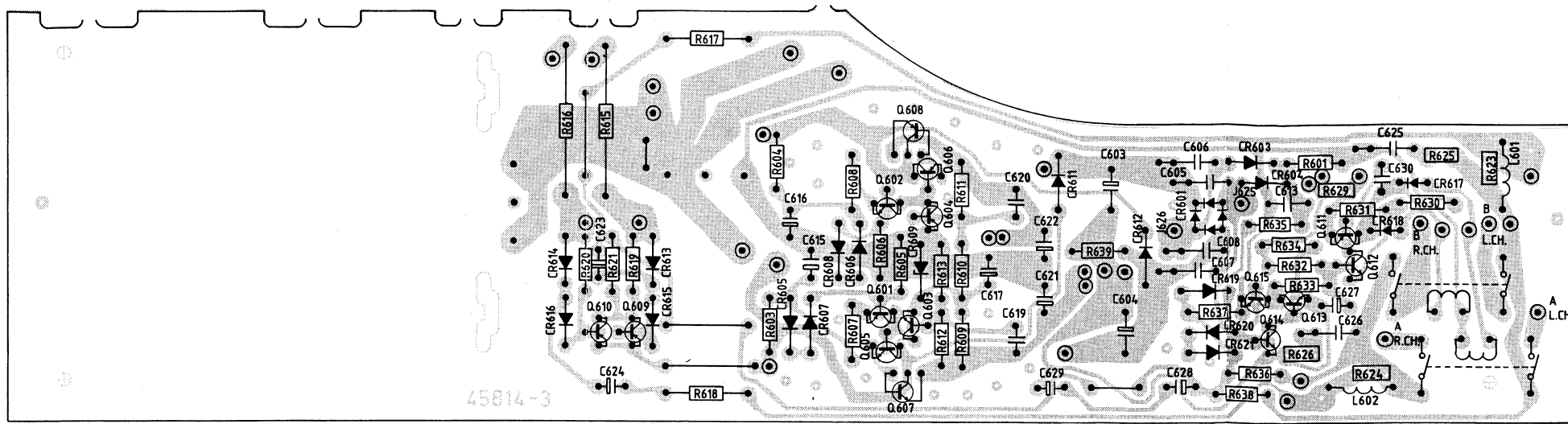


Figure 7, Power supply board, solder side.

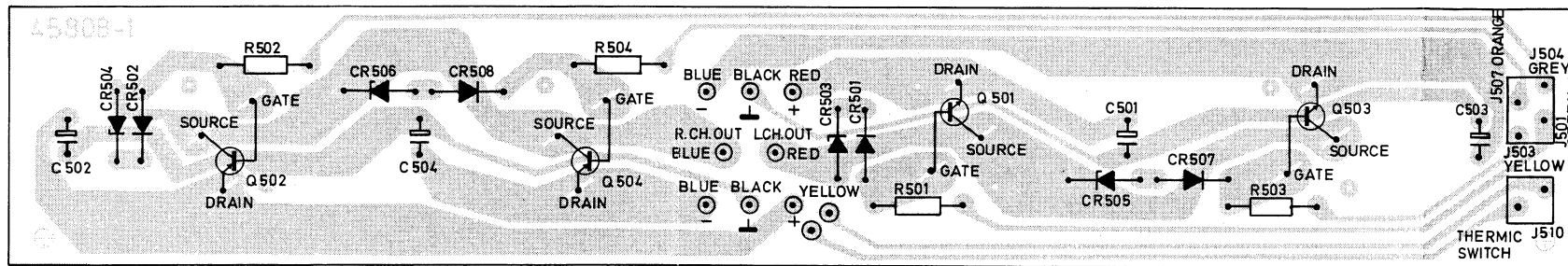


Figure 8, Power output board, solder side.

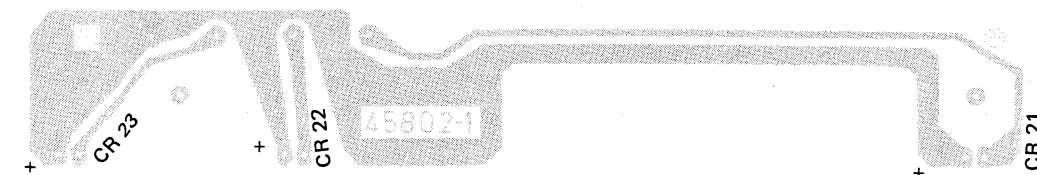


Figure 9, LED board, solder side.

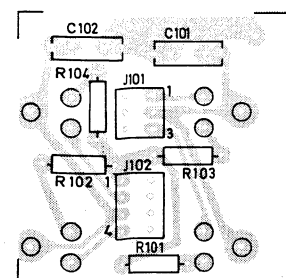


Figure 10, Connector board, component side.

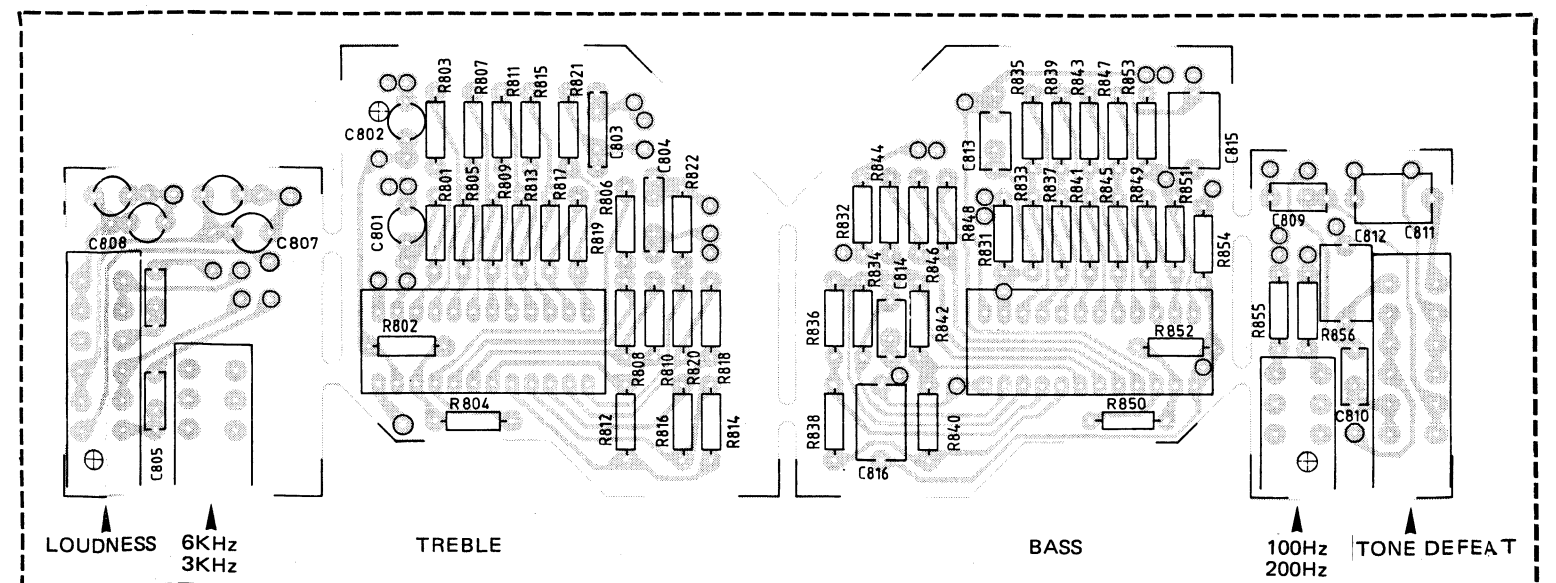


Figure 11, Tone control boards, component side.

## Technical data according to IHF-A-202, 1978

<b>Continuous Average Power Output</b> (8 ohms, 20 – 20,000 Hz, THD < 0.02%)	2 x 100 W
<b>Dynamic Headroom</b>	0.35 dB
<b>Frequency Response</b> Linear inputs Phono MC and MM inputs	5 – 100,000 Hz + 0/– 3 dB 20 – 20,000 Hz ± 0.2 dB
<b>Sensitivity</b> Phono MC Phono MM D.D., Aux. Tuner, Tape 1, Tape 2	15 µV 190 µV 15 mV 15 mV
<b>A-weighted Signal-to-Noise Ratio</b> Phono MC Phono MM D.D., Aux. Tuner, Tape 1, Tape 2	73 dB 78 dB 87 dB 87 dB
<b>Maximum Input Signal</b> Phono MC Phono MM D.D., Aux. Tuner, Tape 1, Tape 2	20 mV 250 mV > 20 V 5 V
<b>Input Impedance</b> Phono MC Phono MM D.D., Aux. Tuner, Tape 1, Tape 2	150 ohms 47 kohms 13 kohms 100 kohms
<b>Dimensions</b> Width Height Depth	17 1/8" (43.5 cm) 3 1/4" ( 8.3 cm) 13 3/4" (35.0 cm)
<b>Weight</b>	22 lbs. ( 9.7 kg)

- Specifications subject to change without notice.