

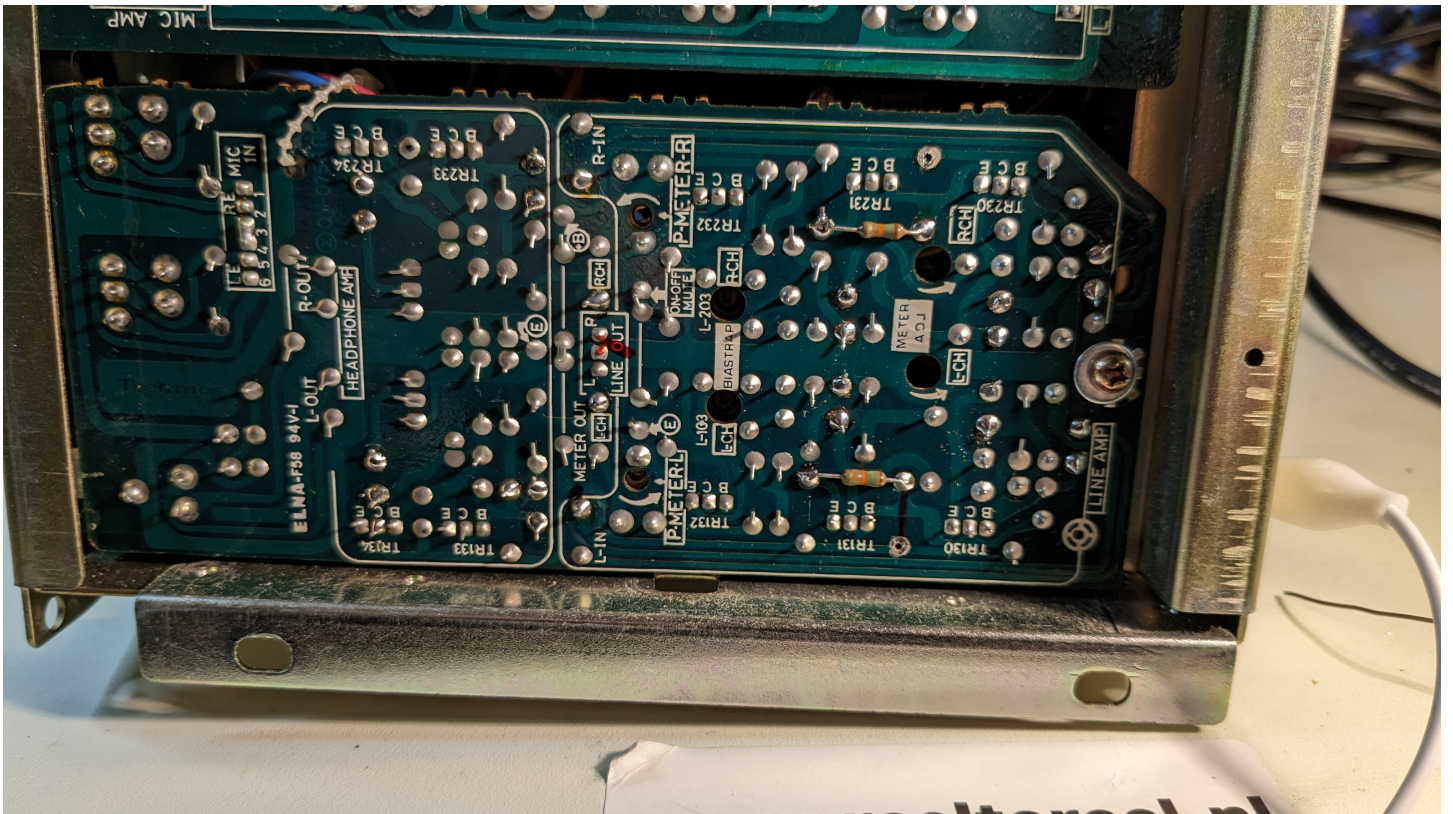
Quick Reference Guide to Technics RS-1500:

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THIS QRG IS A WORK IN PROGRESS and will be updated regularly





Technics RS-1500 Headphone Amplifier Modification

The headphones amp lacks any power, and in the calibration setting of the output controls, it distorts with LOW IMPEDANCE headphones. The Mod for it is described below:

Replace the output transistors with a 2SC3708T and those output resistors of the emitter follower (820 Ohms) with 390 Ohms / 2 Watt resistors. Now, it will play 6dB louder without distortion, or, said differently: the headroom has been raised by 6dB. Gain stays the same!

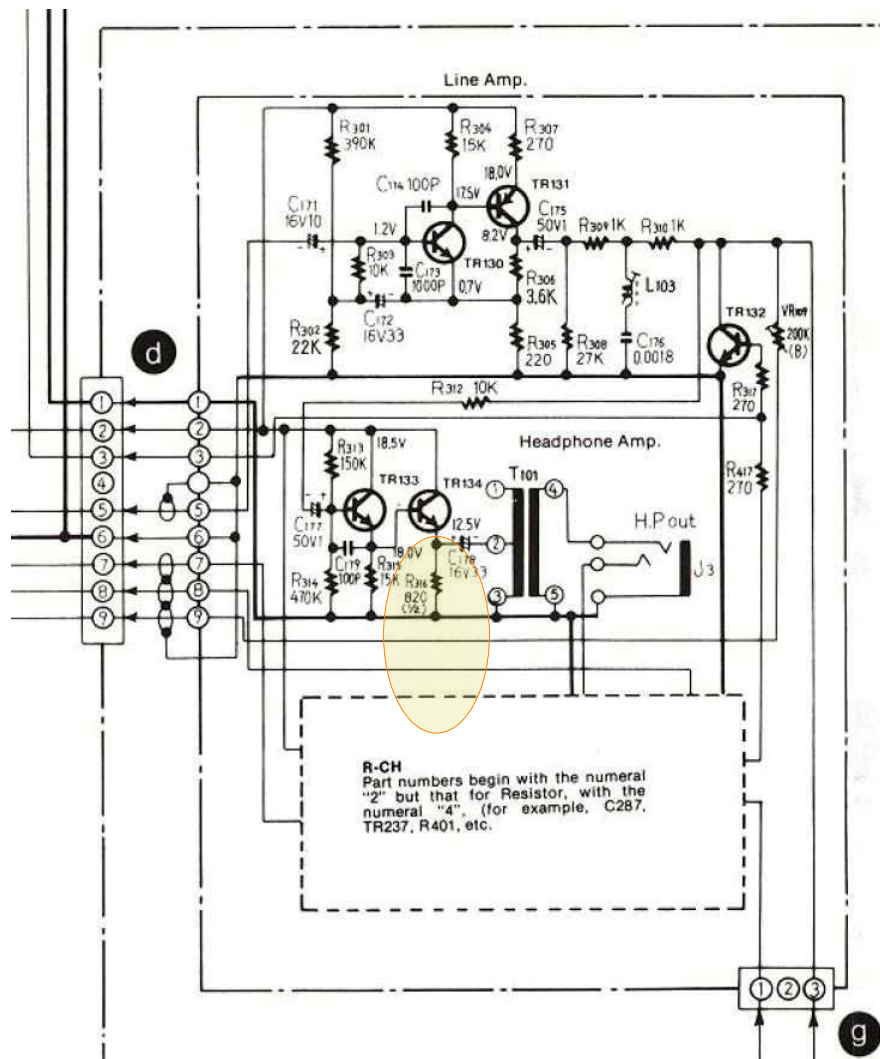
Parts needed:

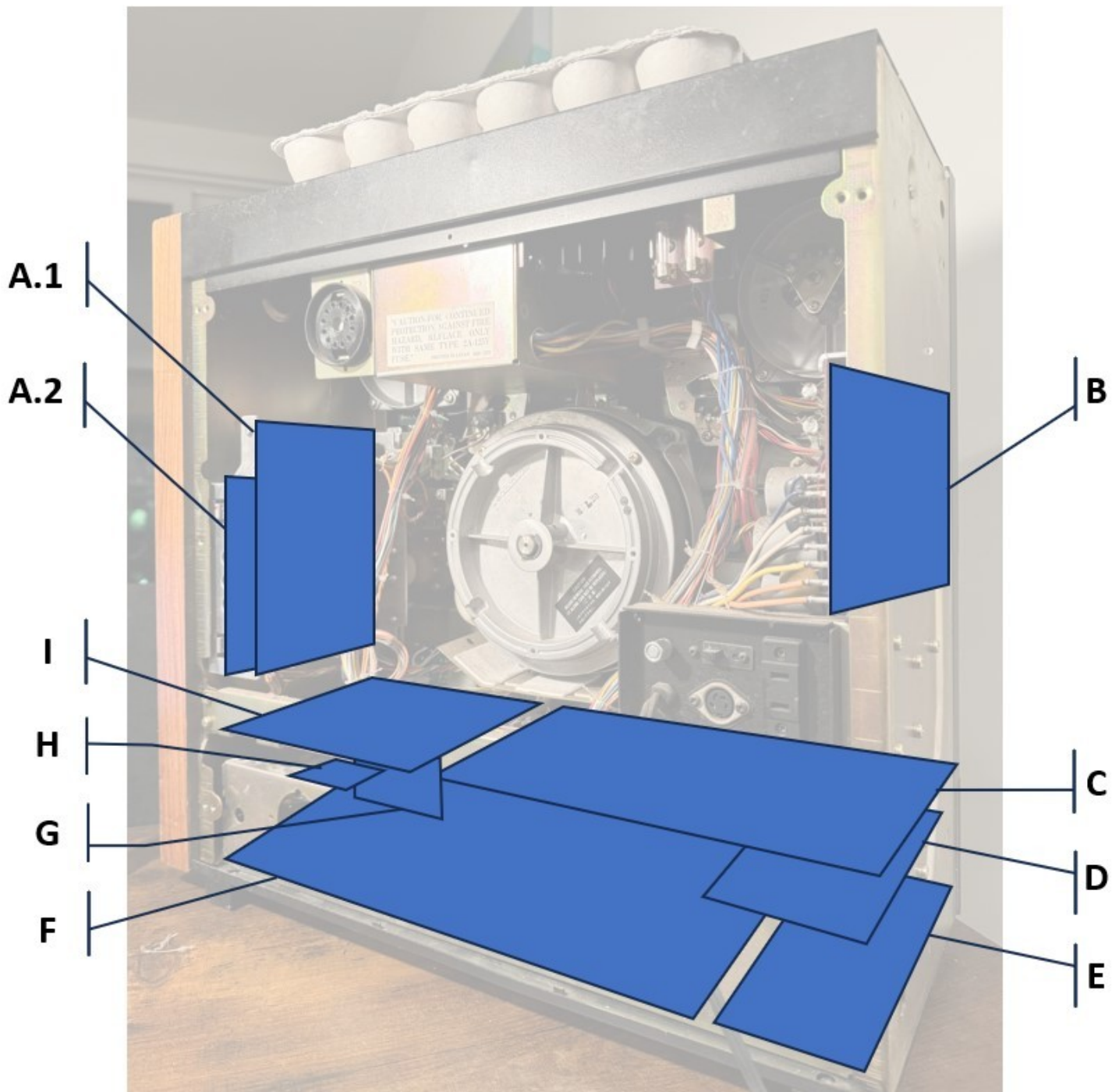
2X transistor 2SC3708T (Sanyo)
2X resistor 390 Ohms / 2W

Part numbers on jack PCB (with headphones jack):

TR134
TR234
R316
R416

Source: tapeheads.net

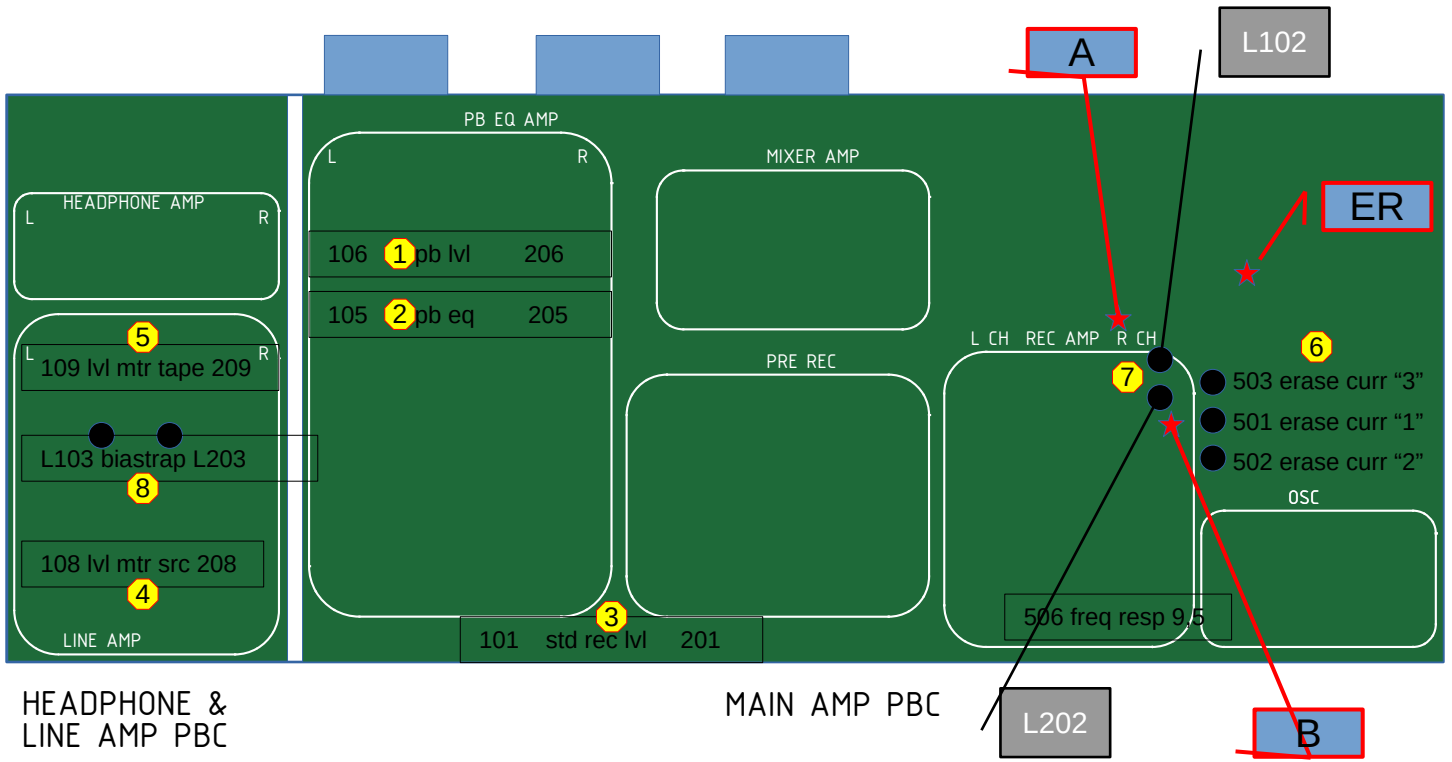




- A1 Reel Motor Drive
- A2 Reel Motor Tension
- B PSU
- C Capstan Motor Control
- D Mic and Meter Amp
- E Headphone and Line Amp
- F Main Amp
- G
- H
- I Main Control

Location of the trim pots and test points:

RS-1500 View from BOTTOM SIDE



Behind LINE AMP PCB: ↑



MIC & METER AMP PCB

- 505 freq resp L
- 504 freq resp R

head selector; 2T | Output control "8" position | equalizer "2" position | bias "2" position |
 mic level min | line in "min" | meter scale +3 dB

step		instruction	remark	signal source action	adjust	output
1	pb level	play reference tone	nab calibration tape	calibration tape	VR106 / VR206	0,55 V
2	pb eq	play frequency section	curve straight as possible	calibration tape	VR105 / VR205	
3 (4)	rec level	feed	line in to maximum, monitor to "source"	1 khz @ 63 mv	VR101 / VR 201	0,55 V
4	vu meter for rec	feed		1 khz @ 63 mv	VR108 / VR208	0 VU
5	vu meter for pb	record	record mode selector to "on", monitor to "tape"	1 khz @ 63 mv	VR109 / VR209	0 VU
6	Erase current	record	Line in minimum, bias "1", speed 38, rec mode LEFT on, rec mode RIGHT off	Measure testpoint "ER"	VR501	~ 65 mA
			Bias "2"	Measure testpoint "ER"	VR502	~ 71 mA
			Bias "3"	Measure testpoint "ER"	VR503	~ 78 mA
7	Bias leak-1	Record blank test tape	rec mode LEFT on, rec mode RIGHT off, place unit in record and playback modes	Measure testpoint "A"	L102	minimum voltage
			rec mode LEFT off, rec mode RIGHT on, place unit in record and playback modes	Measure testpoint "B"	L202	minimum voltage
8	Bias leak-2	Record blank test tape	Both rec mode on, place unit in recording and pause modes	Measure line out	L103 / L203	minimum voltage
9 (7)	Overall freq response	Adjust input signal amplitude	record mode to "on", monitor to "source", input level "max", output "8", bias "2"	400 Hz @ 63 mV	Just check	0,55 V
			Adjust input signal 20 dB lower (-44 dB) and record 400 Hz @ 6,3 mV. Speed: 19 cm/s	6,3 mV	read output	
			change frequency to 24 kHz (then after, repeat for 38 cm/s)	difference to 400 Hz	VR505 / VR504	within +/- 1 dB
			repeat at 19 cm/s, if not within range, adjust		L101 / L201	
			check 9,5 cm/s	14 kHz @ 6,3 mV	VR506	
10	Overall gain		source	400 Hz @ 63 mV	ATT	0,55 V
		Start recording	tape		VR104 / VR204	0,55 V

After this, the procedure has some additional steps, for complete instructions see the Service Manual!

Bearings

Bearings:		outside x hole x width
NSK 608Z	2x idle roller	22 x 8 x 7
NSK 605Z	2x tension rollers	14 x 5 x 5