

## Quick Reference Guide to AKAI GX-630(DB):

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Things that often fail and most are better replaced beforehand:

- 1) **PSU** – Akai calls it 'relay' board (TE-2002)
  - a) replace rectifier diodes: D1-4 → **1N4007**, D5,6 → **1N5408**
  - b) some TE-2002 models have RIFA spark quenchers that need replacing. If black blocks, not necessary
  - c) replace **2SD361** on side of relay pcb with for instance **KSC2690**, but mind the pinout
- 2) **SERVO / Capstan** pcb
  - 1) replace diodes D2-5 → **1N4007**
- 3) **Motor Caps** sometimes need replacing:
  - a) capstan: 5  $\mu$ F (50Hz) 3,5  $\mu$ F (60Hz) >250V
  - b) reel motors: 4  $\mu$ F (50Hz) 3  $\mu$ F (60Hz) >250V
- 4) **TIP47** transistor on back, responsible for capstan motor speed (can also be replaced with **TIP50**)
- 5) replace all **caps** on all audio boards for those of a well known brand like panasonic etc.
- 6) replace all **transistors** on all audio boards. **2SC458** and **2SC945** can all be replaced here with **KSC1845**
- 7) **clean** the tape/source switch and others, if possible open and clean them → channel loss!

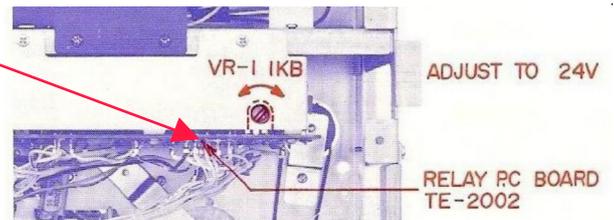
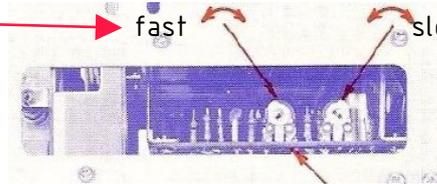
Above steps are the most needed. Below are some additional steps, if you want to take things further, or if there are certain problems

- 8) replace transistors on the control & switch & bias boards **2SC945** → **KSC1815** because better suited

After 1-8 have been done, the following adjustment are necessary:

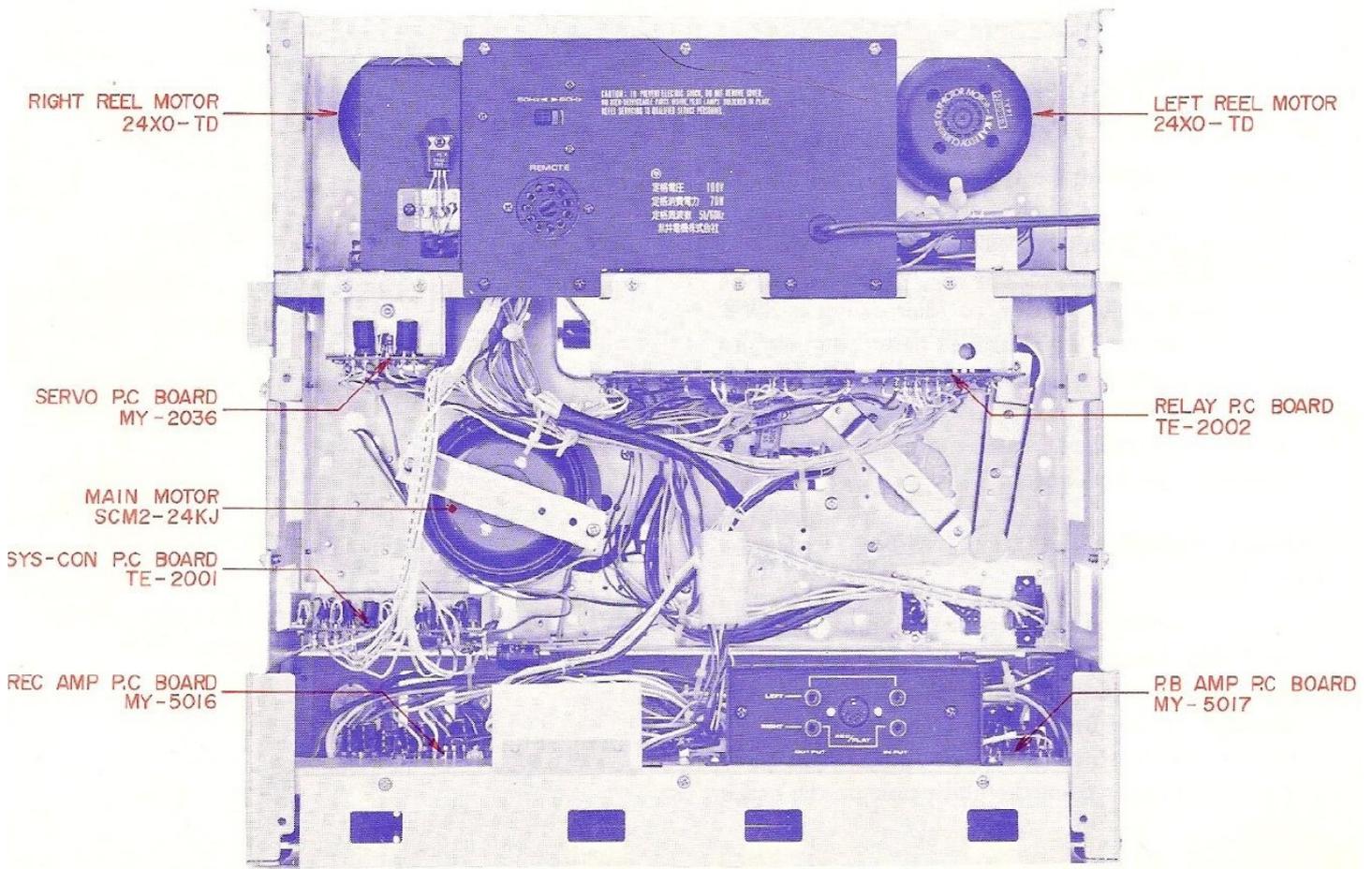
- 9) adjust VR1 for 24 Volt, measure on yellow middle wire

- 10) adjust tape speeds → fast slow



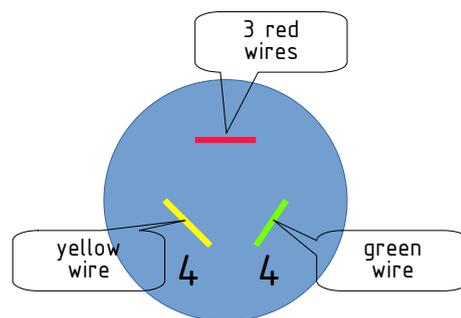
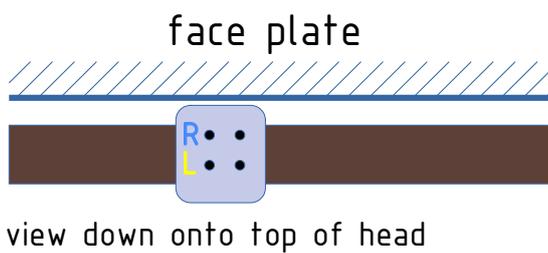
After this, continue with the **audio calibration** which is further in this QRG.

**WORK IN PROGRESS TO BE COMPLETED**

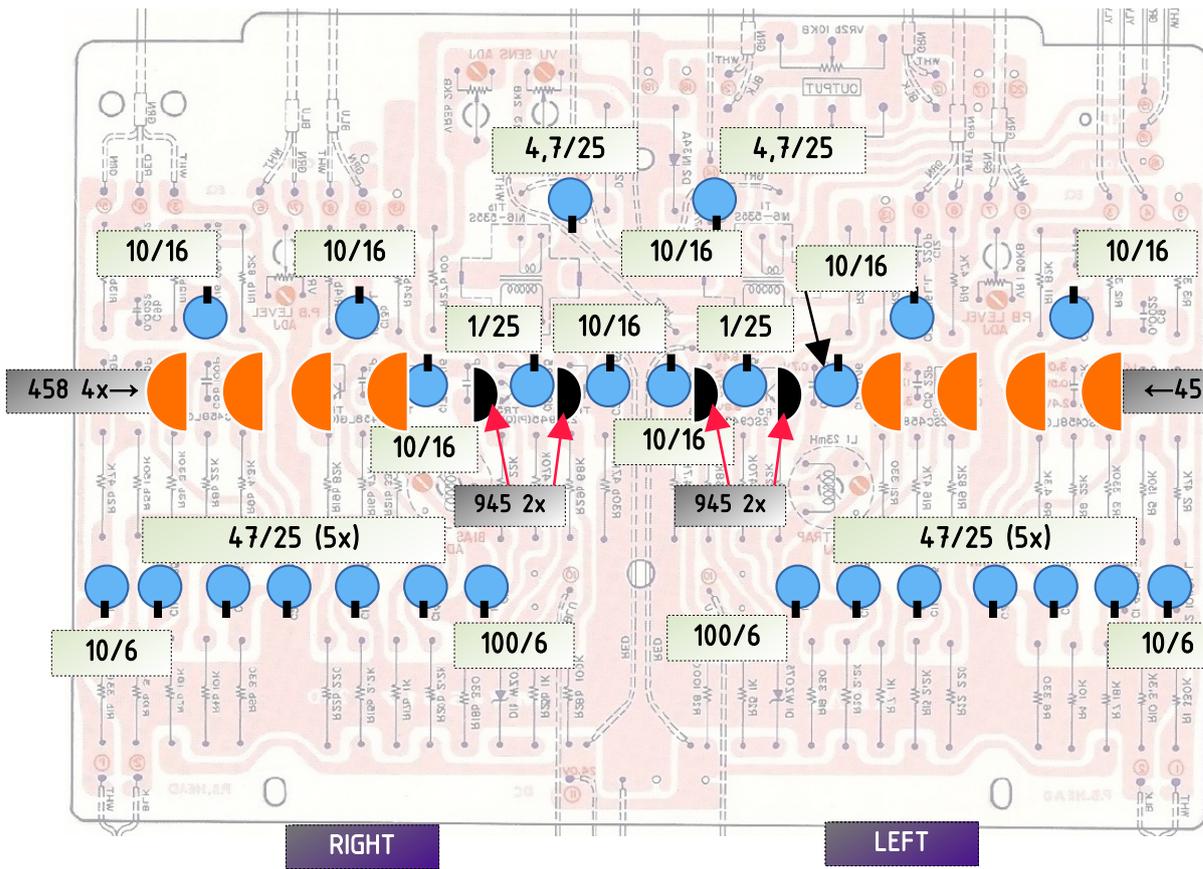


Playback head: wire connections colour

Reel motors capacitor wire colour

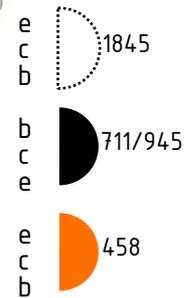


# Layout of the PLAYBACK pcb component side MY-5017

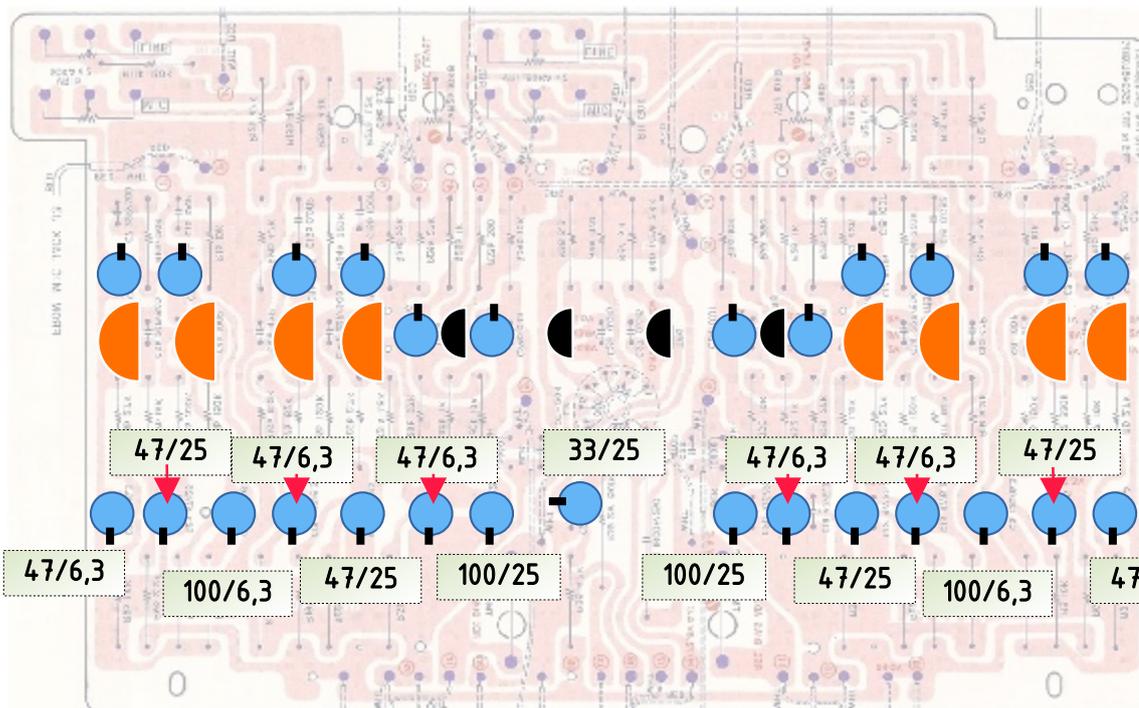


In audio circuits, both 2SC458 and 2SC945 can be replaced by the KSC1845FTA

but be aware of the pinout. So all new 1845 should point the same



# Layout of the REC amp pcb component side MY-5016



Be aware of the pinout on rec pcb: 1845 that replace 945/711 transistors should be flipped

all 12 caps: 10/25

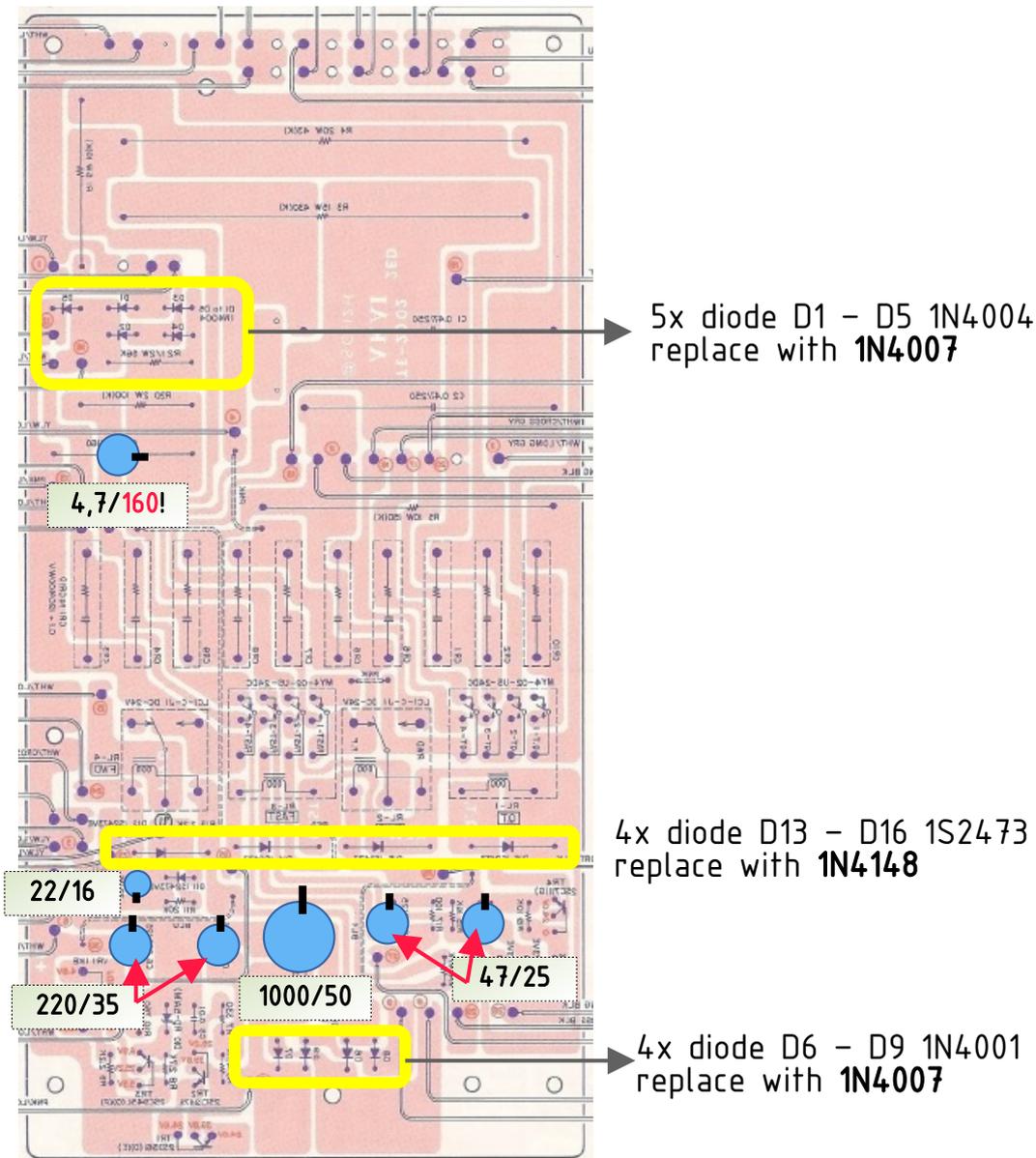
total caps:

10/25	12
33/25	1
47/25	10
100/25	4

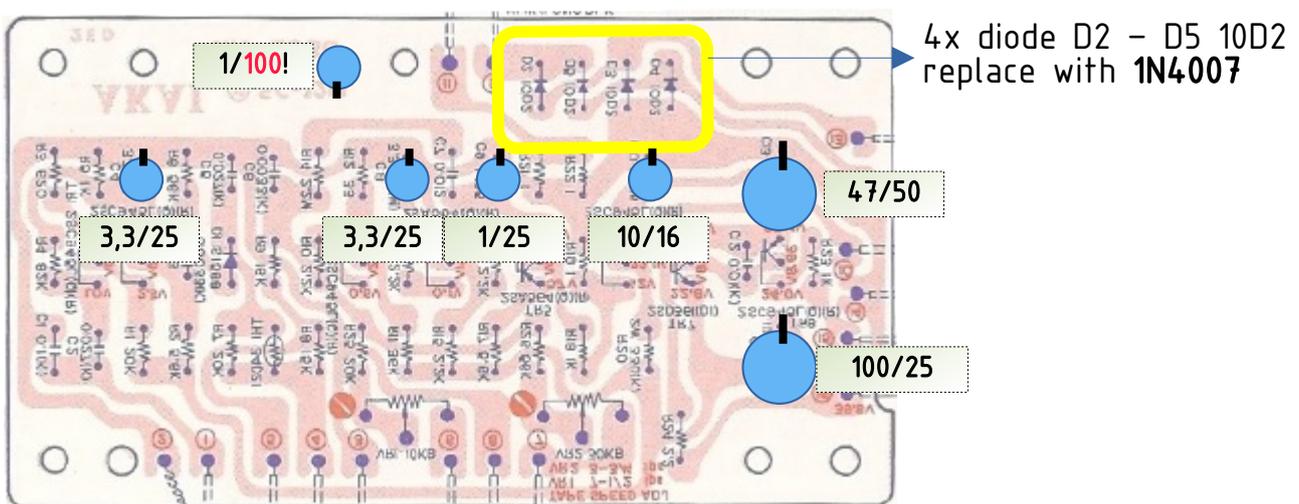
LEFT???

RIGHT?????

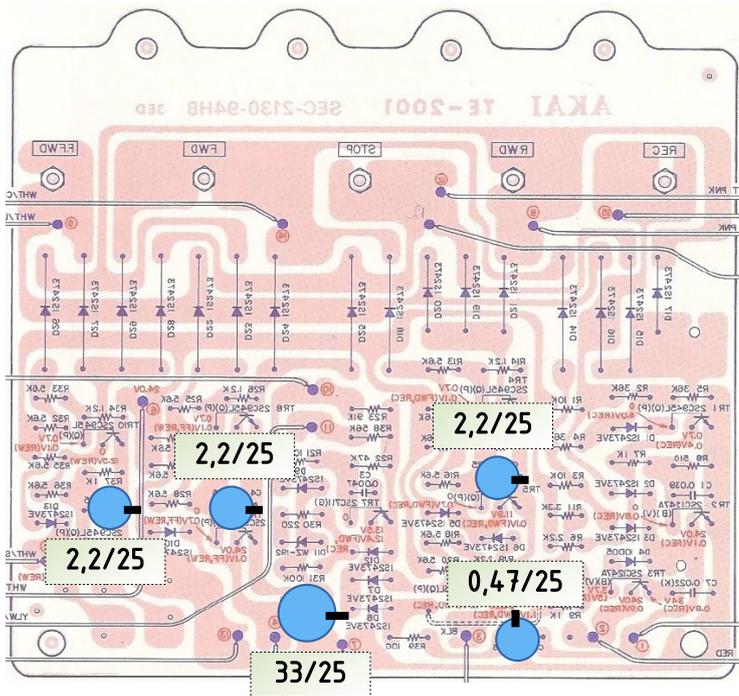
# Layout of the RELAY / PSU pcb component side TE-2002



# Layout of the SERVO pcb component side MY-2036

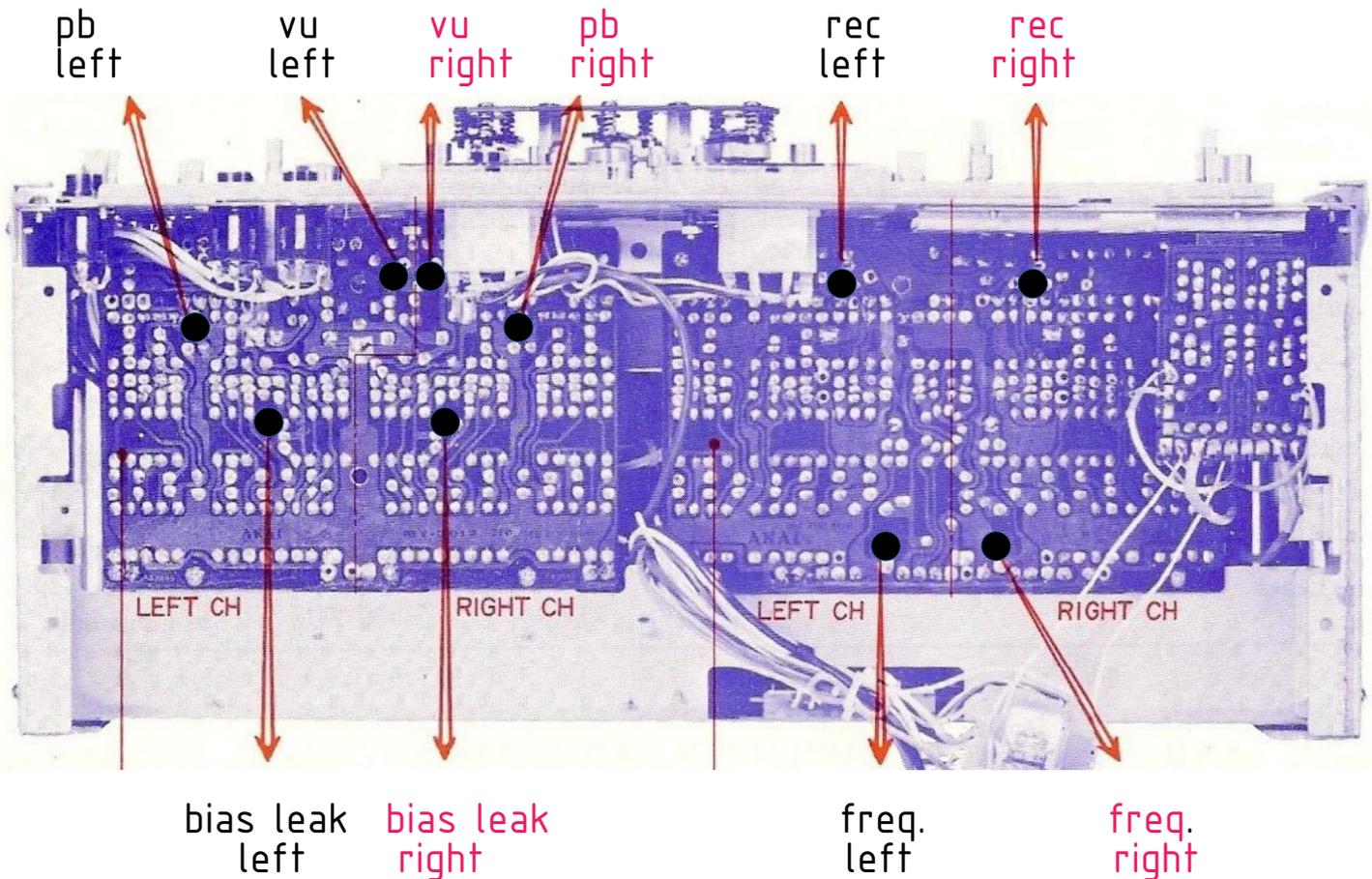


# Layout of the Syscon pcb TE-2001 component side



← Service Manual is wrong about these 3x 2,2  $\mu$ F!  
(listed as 22  $\mu$ F)

## Location of the trimpots @ bottom of audio boards



### Audio calibration instructions:

- 1) Set Tape Selector to "LOW NOISE", set output volume at maximum, set mpx off (backside)
- 2) Playback level: play reference tone and adjust pb trimpot for 0,775 V
- 3) Also adjust VU trimpot for 0 VU
- 4) Rec level: 1 kHz @ 0 VU: adjust rec trimpot for 0,775 V
- 5) Freq. Response: record 1 kHz & 10 kHz @ -20 dB and adjust freq. trimpot for flat response
- 6) Bias leak: adjust bias leak for less than -30/-50 VU