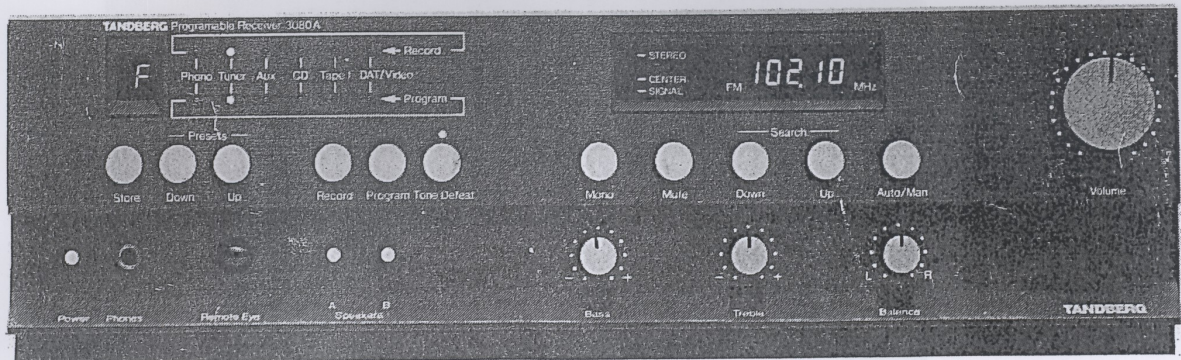


TANBERG® TPR 3080A

Circuit Diagrams and Alignment Instructions

Page 2 of 4

*Displ. 102.10
102.24*

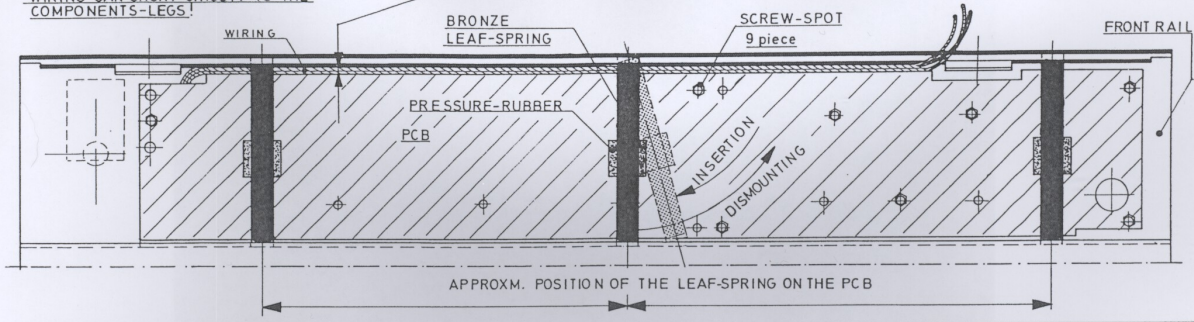


January 1989

Dismantling/Mounting the Display board

IMPORTANT!

PUT THE WIRING IN THIS SPACING, INSIDE OF THE LEAF SPRING.
KEEP THE WIRING FROM THE PCB SURFACES—IF NOT THE WIRING CAN SHORT-CIRCUIT TO THE COMPONENTS—LEGS!



Alignment of the Tuner board

- DC voltage control
 - DC voltage across C726 shall be $30V \pm 1V$
 - DC voltage across C708 shall be $15V \pm 1V$
 - DC voltage across C757 shall be $5.6V \pm 0.3V$
- For alignment the display board has to be connected. Connect the FM-generator to the antenna connector (75 ohm) and use the following set up.
 - Frequency to 98 MHz.
 - Modulation, FM 100% = ± 75 kHz
Audio 1 kHz, 91%, and pilot 19 kHz, 9%.
 - RF level, 65 dBf (approx. 0.5 mV).
 - Mode, mono.
 - Adjust the FM tuner to 98 MHz on the display.
- Adjust the frequency at J707, TP101, to 108.7 MHz exactly with C774 using a frequency counter. The accuracy in this adjustment is very important for the following adjustments.
- Connect a distortion analyzer and a level meter to the audio output terminal, L or R channel, and connect a DC mV meter across pin 7 and 10 on U707.
 - Adjust L713 until the DC meter indicates $0V \pm 20$ mV.
 - Adjust L714 for minimum distortion.
 - The adjustments have to be repeated several times to attain minimum DC level and minimum distortion, $d \leq 0.2\%$.
- Adjust the FM generator for modulation on the L channel only.
 - Measure the audio output level, L channel.
 - Change to the R channel and adjust R709, channel separation, for minimum deflection on the level meter. The output level shall be ≤ 45 dB relative to the level measured in the L channel.
 - Change modulation to R channel only and repeat the measurements but this time on L channel.
- Adjust the RF level from the FM generator to 20 dBf (approx. $3\mu V$).
 - Adjust R708, center LED, so that it just goes on (lights up).
- Adjust the RF level from the FM generator to 30 dBf (approx. $10\mu V$).
 - Adjust R710, signal strength LED, so that it just goes on (lights up).
- Adjust the FM generator to 107 MHz exactly and RF level to 65 dBf.
 - Set the tuner into autosearch mode and start searching.
 - The tuner shall stop at 107 MHz exactly and the center LED and signal LED shall go on (light up).
 - Do the same check at 88 MHz.
- Switch settings

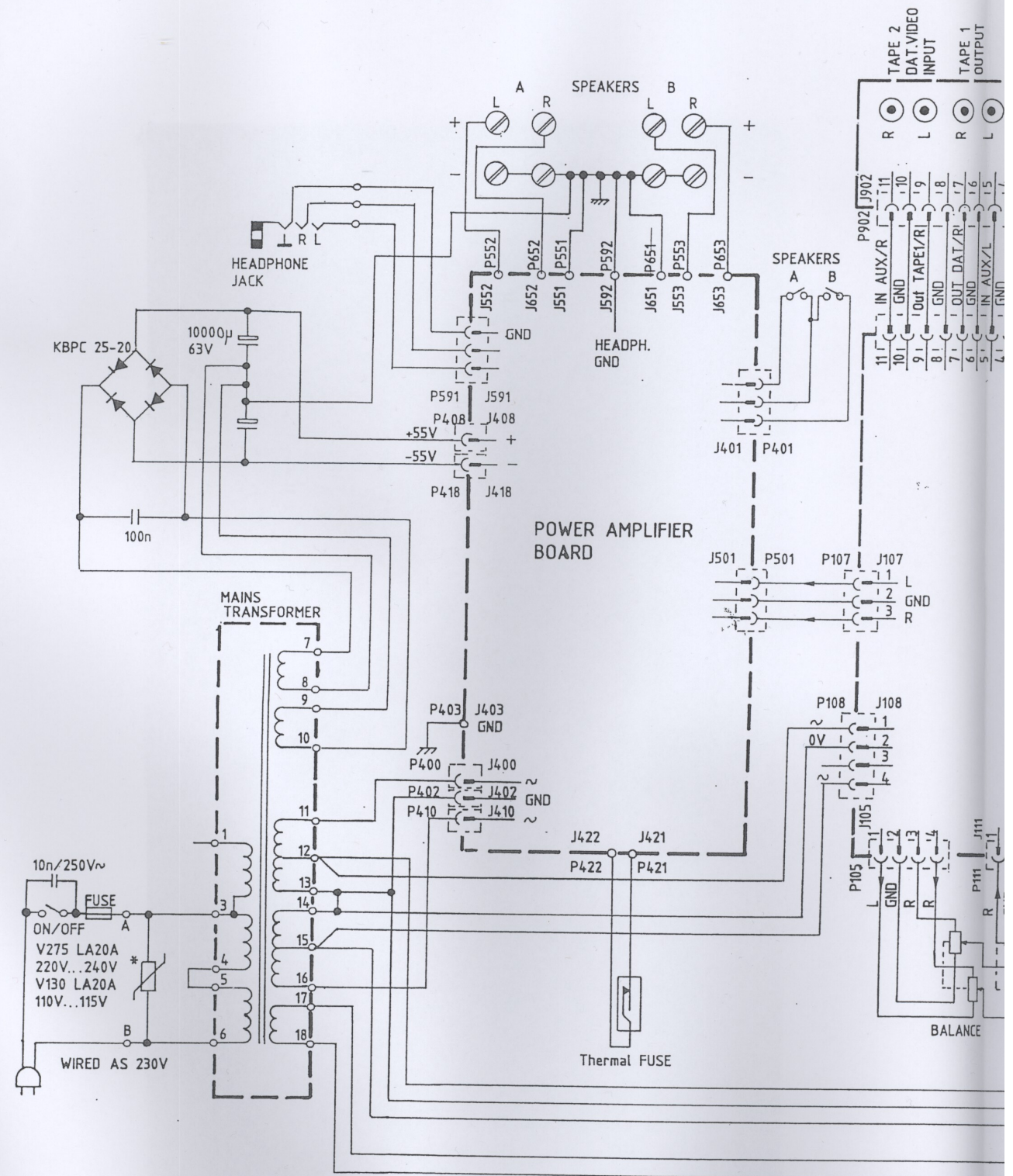
	S701	S702	S704	S705 L. ch	S706 R. ch
EU	OFF	ON	OFF		
USA	ON	OFF	ON		
75 μs				OFF	OFF
50 μs				ON	ON
Not allowed	ON	ON			

S701 and S702 sets the frequency steps to either 50 kHz (EU) or 100 kHz (USA). S704 changes the bandwidth of the detected signal. It is from the factory set to low for all other markets except USA, which is high.
- In case of too high 19 kHz pilot leakthrough to the audio output.
 - Set the FM generator to stereo and no audio modulation.
 - Adjust L707 L ch, and L708 R ch, for minimum 19 kHz at the audio output.

NOTE! Minimum deflection on the level meter will not be exactly at the same position on R709 for both channels.

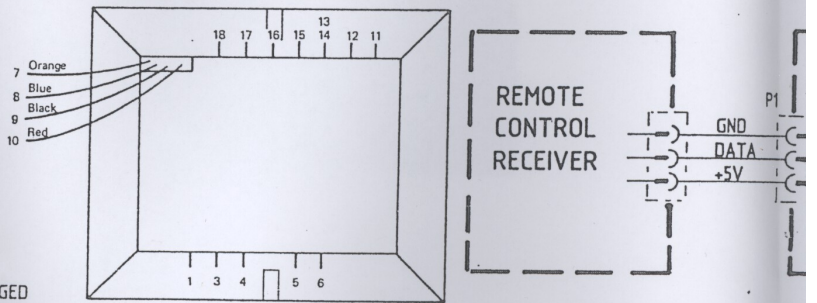
Interconnection Diagram

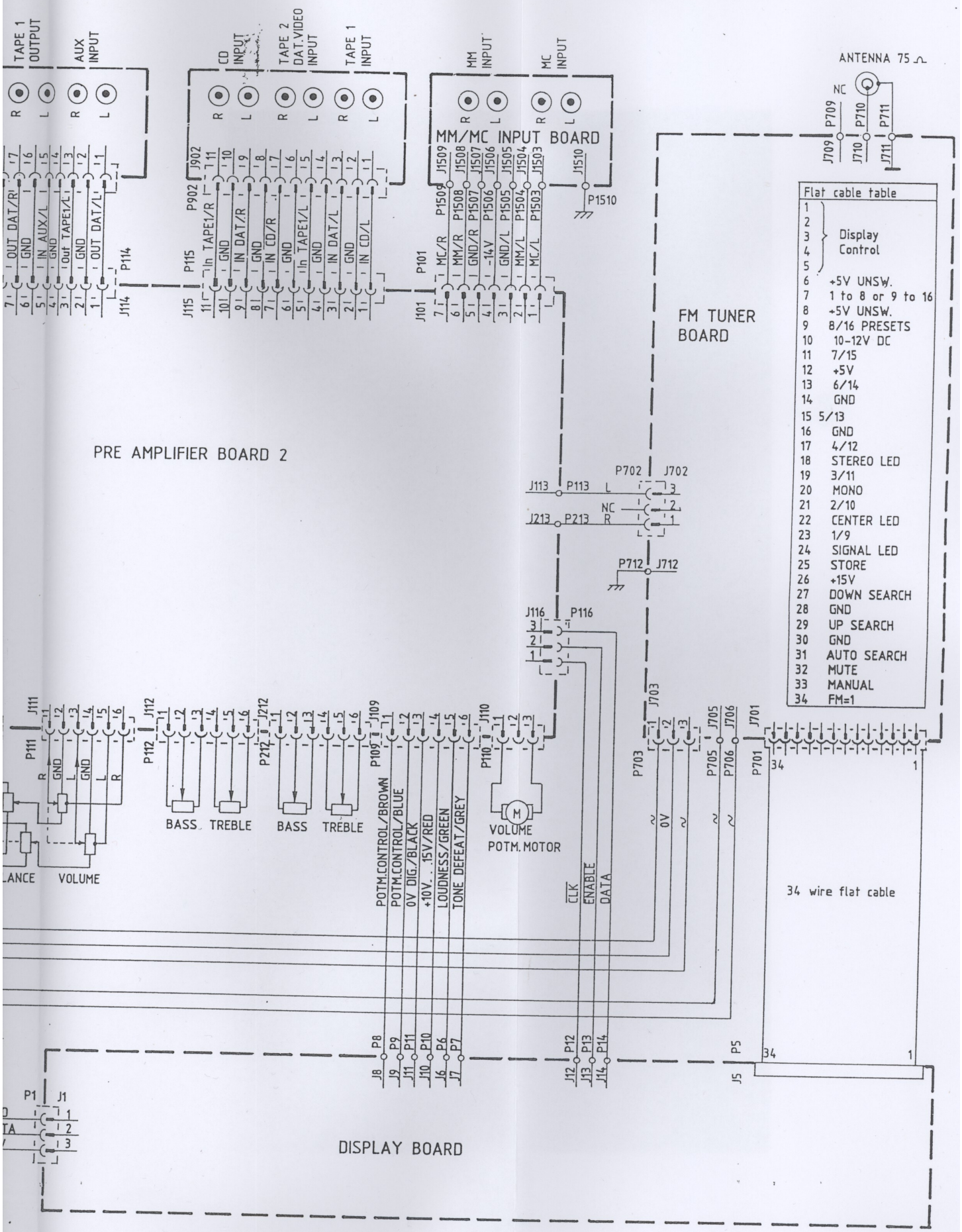
3



MAINS TRANSFORMER	WIRING	FUSE
220V - 230V	A to 3 4 to 5 B to 6	3.15 A
240V	A to 1 4 to 5 B to 6	3.15 A
110V - 115V	A to 3 and 5 B to 4 and 6	6.3 A

* THE VARISTOR MUST BE CHANGED IF MAINS IS CHANGED



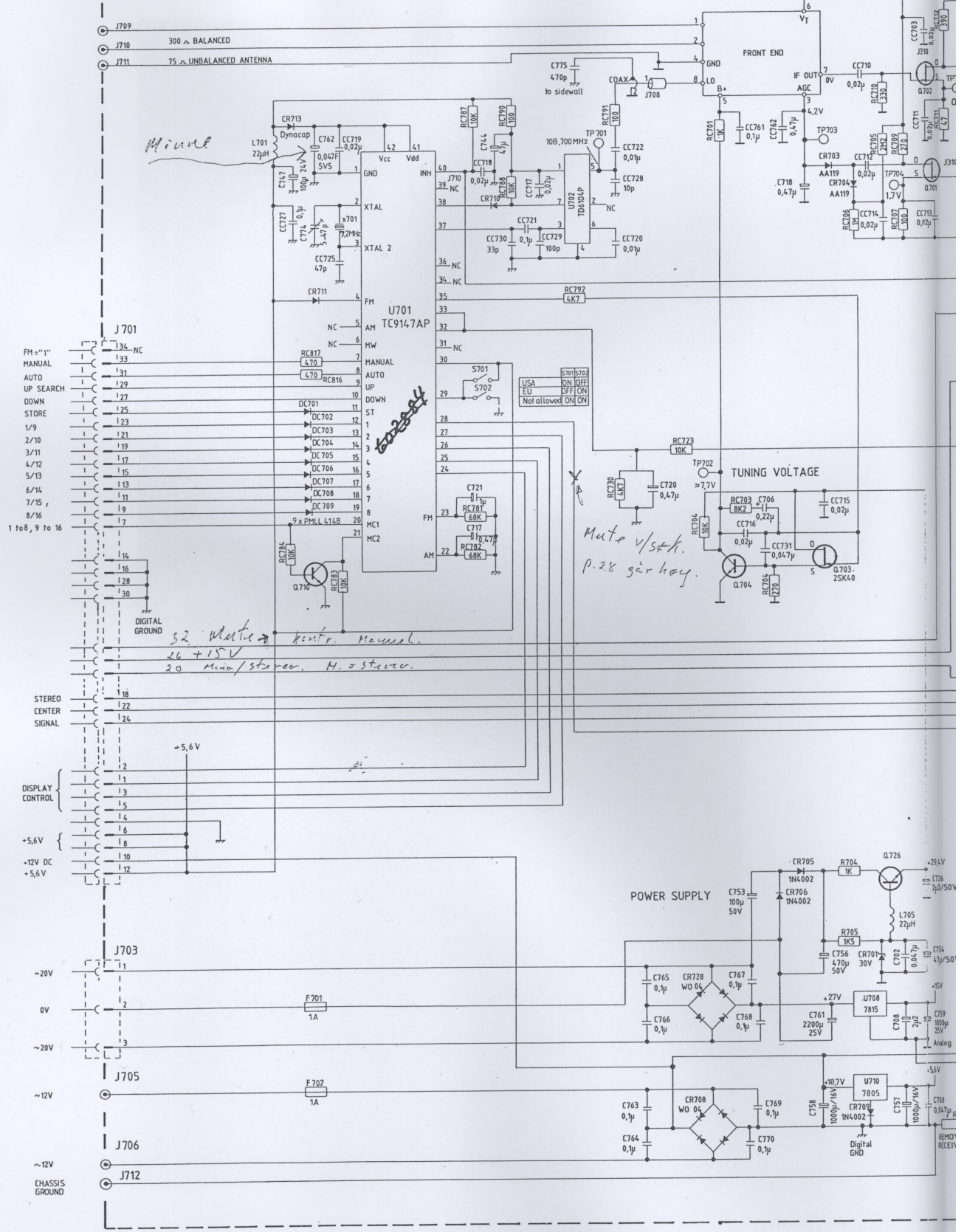


Flat cable table

1	
2	Display Control
3	
4	
5	
6	
7	+5V UNSW.
8	1 to 8 or 9 to 16
9	+5V UNSW.
10	8/16 PRESETS
11	10-12V DC
12	7/15
13	+5V
14	6/14
15	GND
16	5/13
17	GND
18	4/12
19	STEREO LED
20	3/11
21	MONO
22	2/10
23	CENTER LED
24	1/9
25	SIGNAL LED
26	STORE
27	+15V
28	DOWN SEARCH
29	GND
30	UP SEARCH
31	GND
32	AUTO SEARCH
33	MUTE
34	MANUAL
	FM=1

34 wire flat cable

ALL VOLTAGE MEASUREMENTS ARE READ WITH THE SIGNALGENERATOR
ADJUSTED TO 98.00 MHz 65dBm 1kHz MOD. 100%, AND MONO TO THE
75 OHM ANTENNA



Minut

602844

*Mute v/sch.
P.28 går høy.*

*52 Mute → kont. Manual.
26 + 15V
20 Minu/stereo. H. = stereo.*

- FM="1"
- MANUAL
- AUTO
- UP SEARCH
- DOWN
- STORE
- 1/9
- 2/10
- 3/11
- 4/12
- 5/13
- 6/14
- 7/15
- 8/16
- 1 to 8, 9 to 16

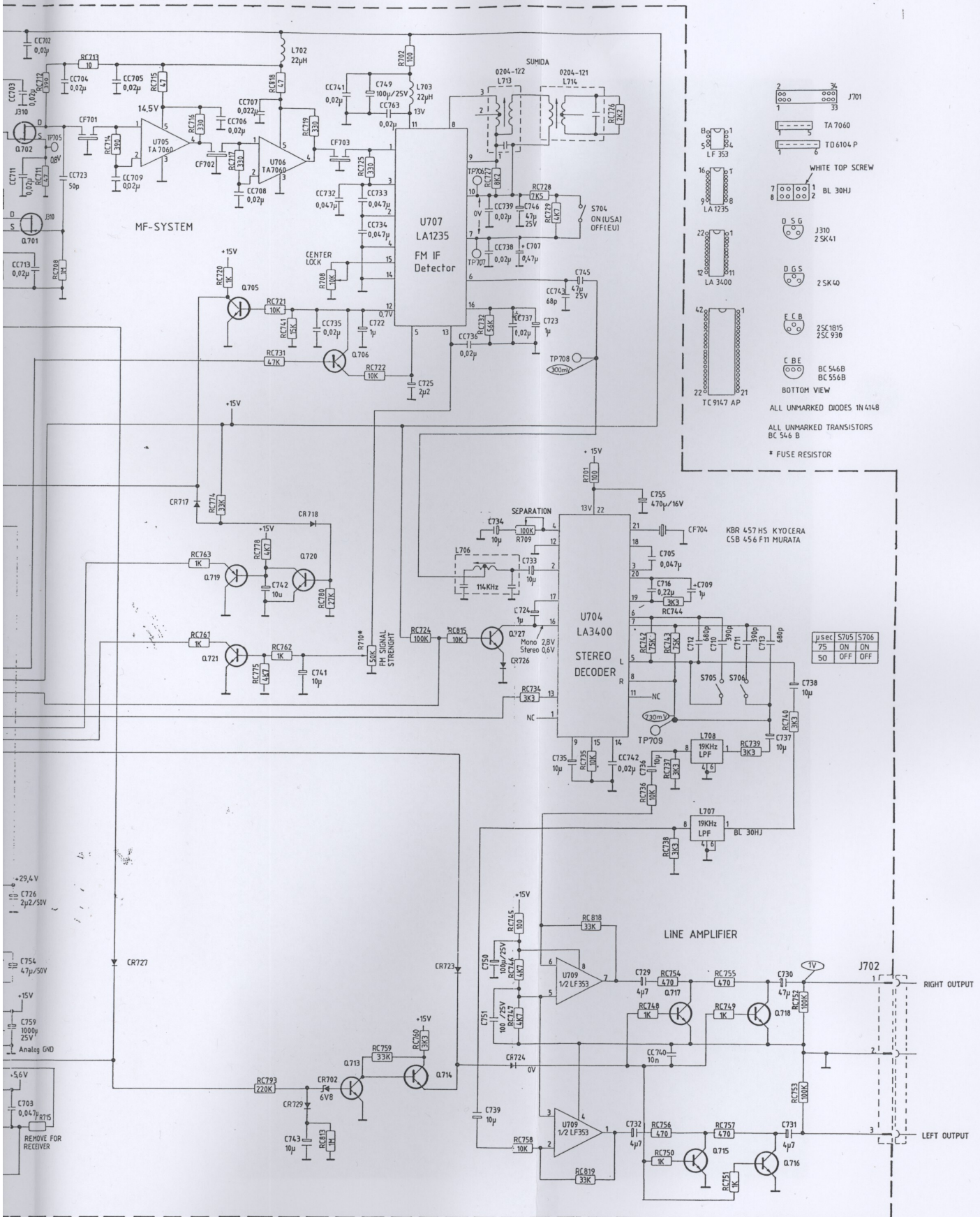
- DISPLAY CONTROL
- +5.6V
- +12V DC
- +5.6V

- J703
- ~20V
- 0V
- ~20V
- J705
- ~12V
- J706
- ~12V
- J712
- CHASSIS GROUND

POWER SUPPLY

TUNING VOLTAGE

FRONT END



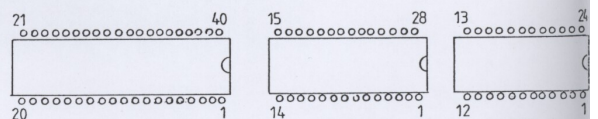
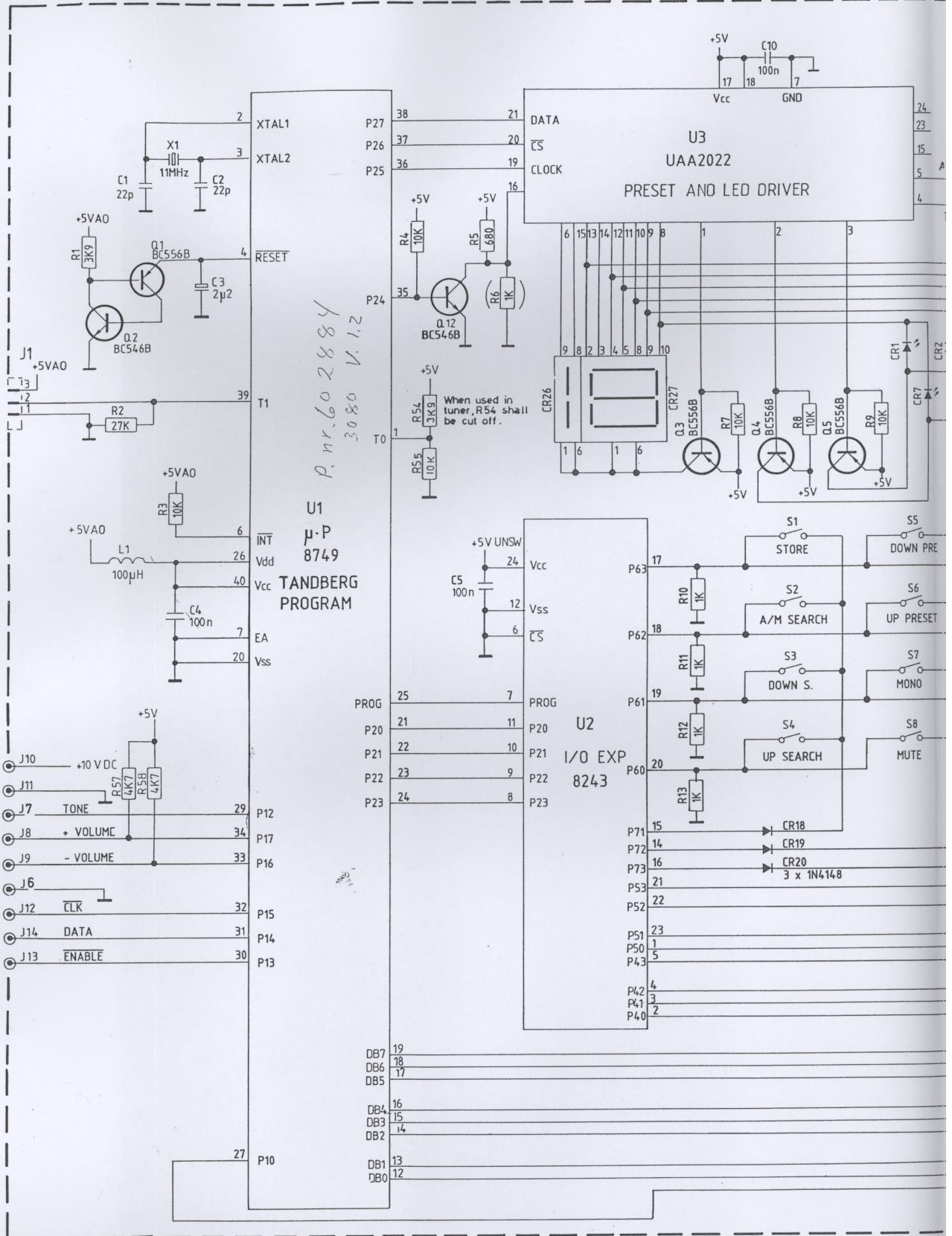
- J701
- TA 7060
- TD 6104 P
- WHITE TOP SCREW
- BL 30HJ
- LA 1235
- J310 2SK41
- 2SK40
- 25C1815 25C 930
- BC 546B BC 556B
- BOTTOM VIEW
- TC 9147 AP
- ALL UNMARKED DIODES 1N4148
- ALL UNMARKED TRANSISTORS BC 546 B
- * FUSE RESISTOR

	S705	S706
μsec	ON	ON
75	ON	ON
50	OFF	OFF

Tuner Diagram

REMOTE CONTROL RECEIVER

TO PRE AMP BOARD

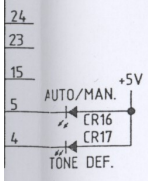


8749 TANDBERG PROGRAM

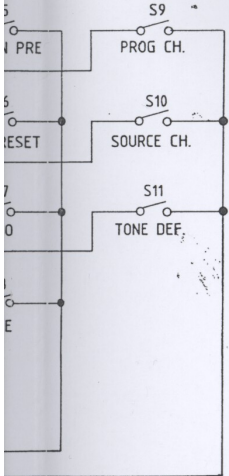
TD 6301 AP

8243

PRE AMP SELECT	LED's	
	RECORD	PROGRAM
PHONO	CR 1	CR 7
FM	CR 2	CR 8
CD	CR 3	CR 9
AUX	CR 4	CR 10
TAPE 1	CR 5	CR 11
TAPE 2	CR 6	CR 12



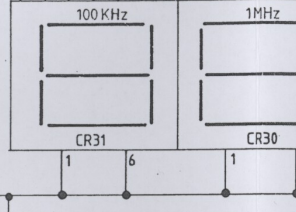
PRE AMP SELECT LED's



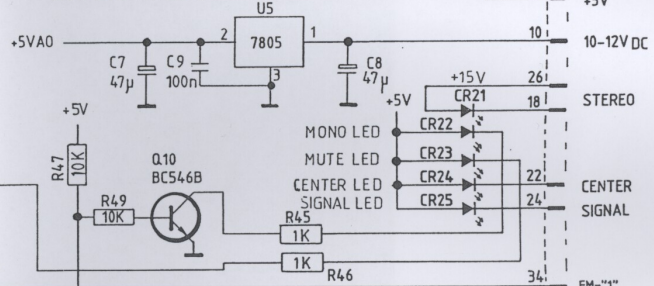
+5V

C6
1µ/16V

U4
TD6301AP
DISPLAY DRIVER



POWER SUPPLY



J5
5
3
1
2

DISPLAY CONTROL
14
16
8
6

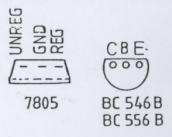
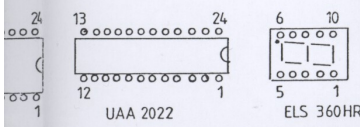
J5 TO TUNER BOARD
28
30
12

GND
+5V

10-12V DC
STEREO
CENTER SIGNAL

FM="1"
MANUAL
AUTO UP
DOWN
MUTE
MONO
STORE

PRESETS
8/16
7/15
6/14
5/13
4/12
3/11
2/10
1/9
7
4

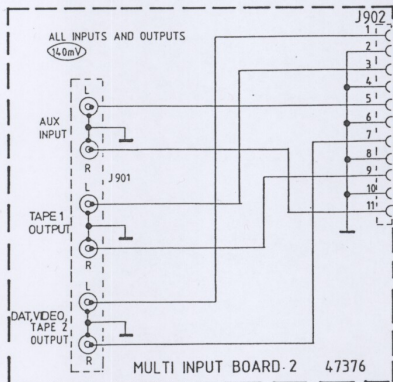
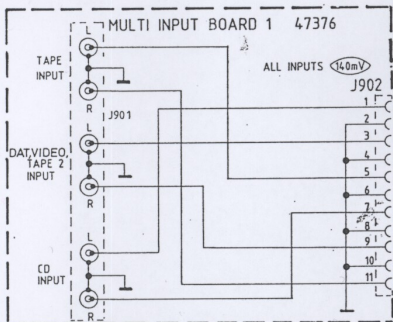
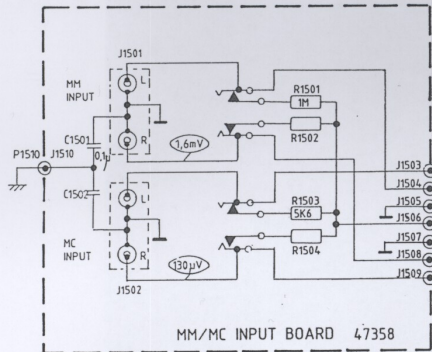
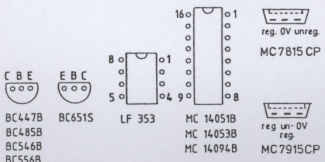


BOTTOM VIEW

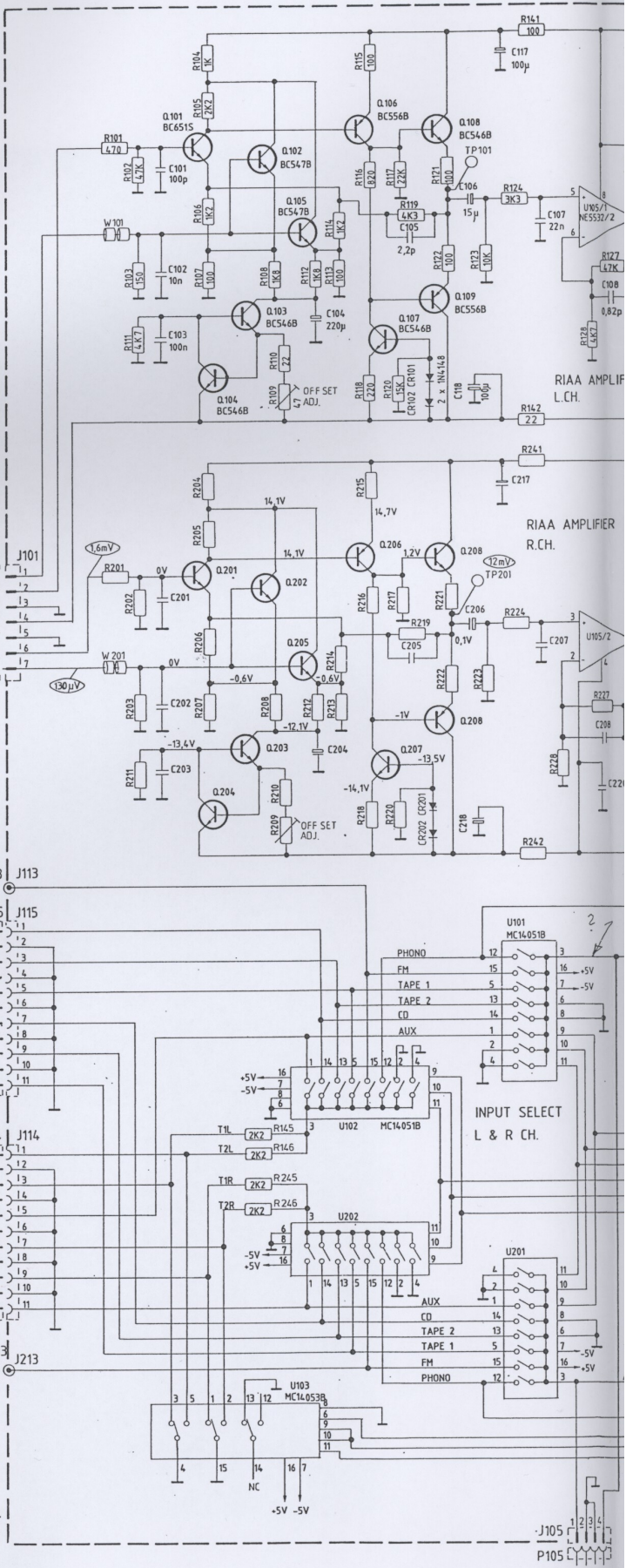
5mV AC VOLTAGES.
 AC VOLTAGES ARE APPROXIMATE VALUES.
 VOLUME IN MAX POSITION BALANCE IN MIDDLE POSITION

5V DC VOLTAGES.
 MC INPUT AND ALL HIGH LEVEL INPUTS LOADED WITH 100Ω AND 1kΩ RESPECTIVELY.
 ALL DC VOLTAGES ARE TYPICAL VALUES

ALL TRANSISTORS AND IC'S: BOTTOM VIEW



ADJUSTMENTS:
 Adjustments can first be performed after 10 minutes warmup.
 Adjust R109/R209 until the DC-voltage at TP101/TP201 is 0V±100mV.
 Short circuit connectors shall be used at the MC-inputs.



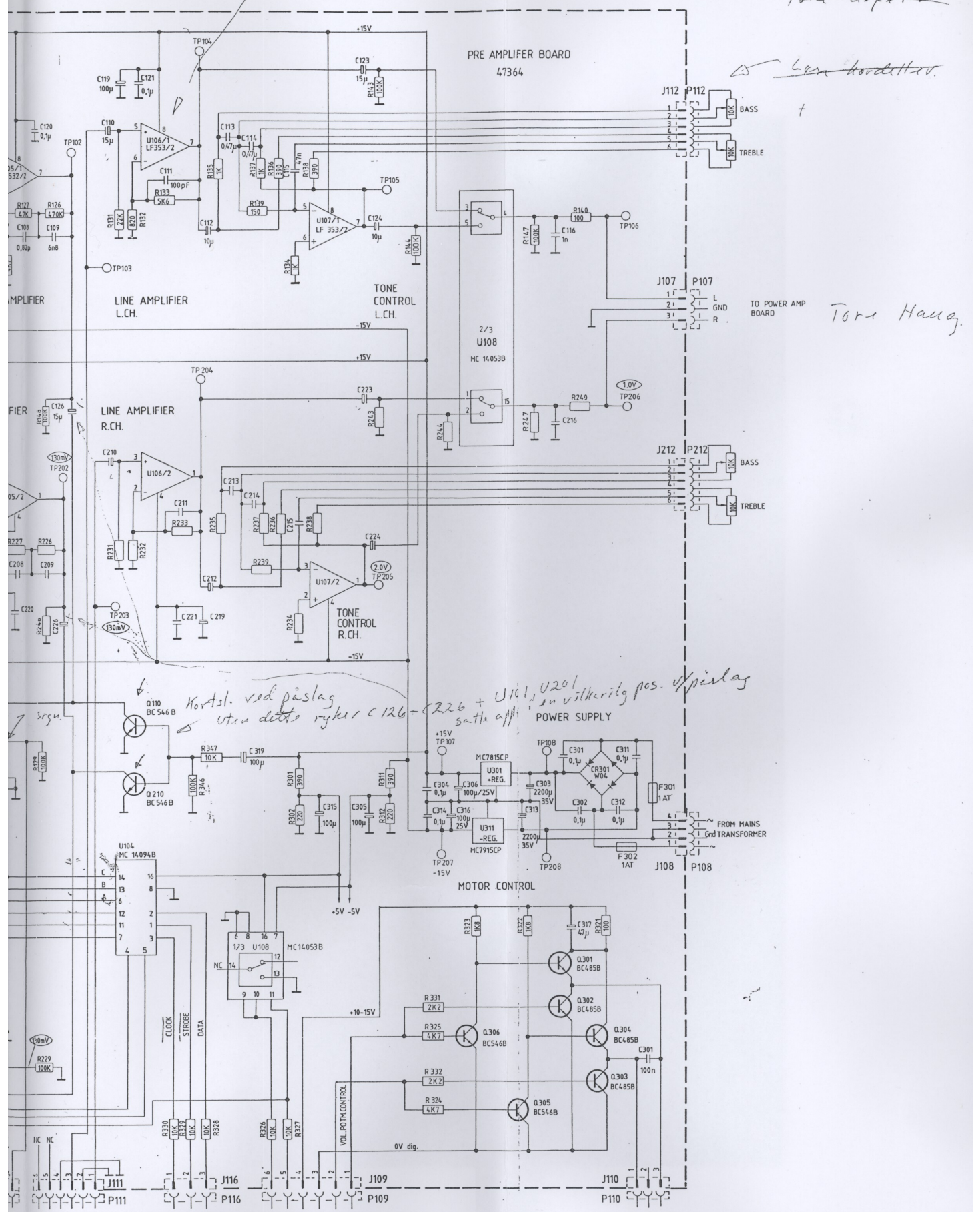
TO BALANCE POTMETER

Bytt U106

Tone control?

Len hördhet.

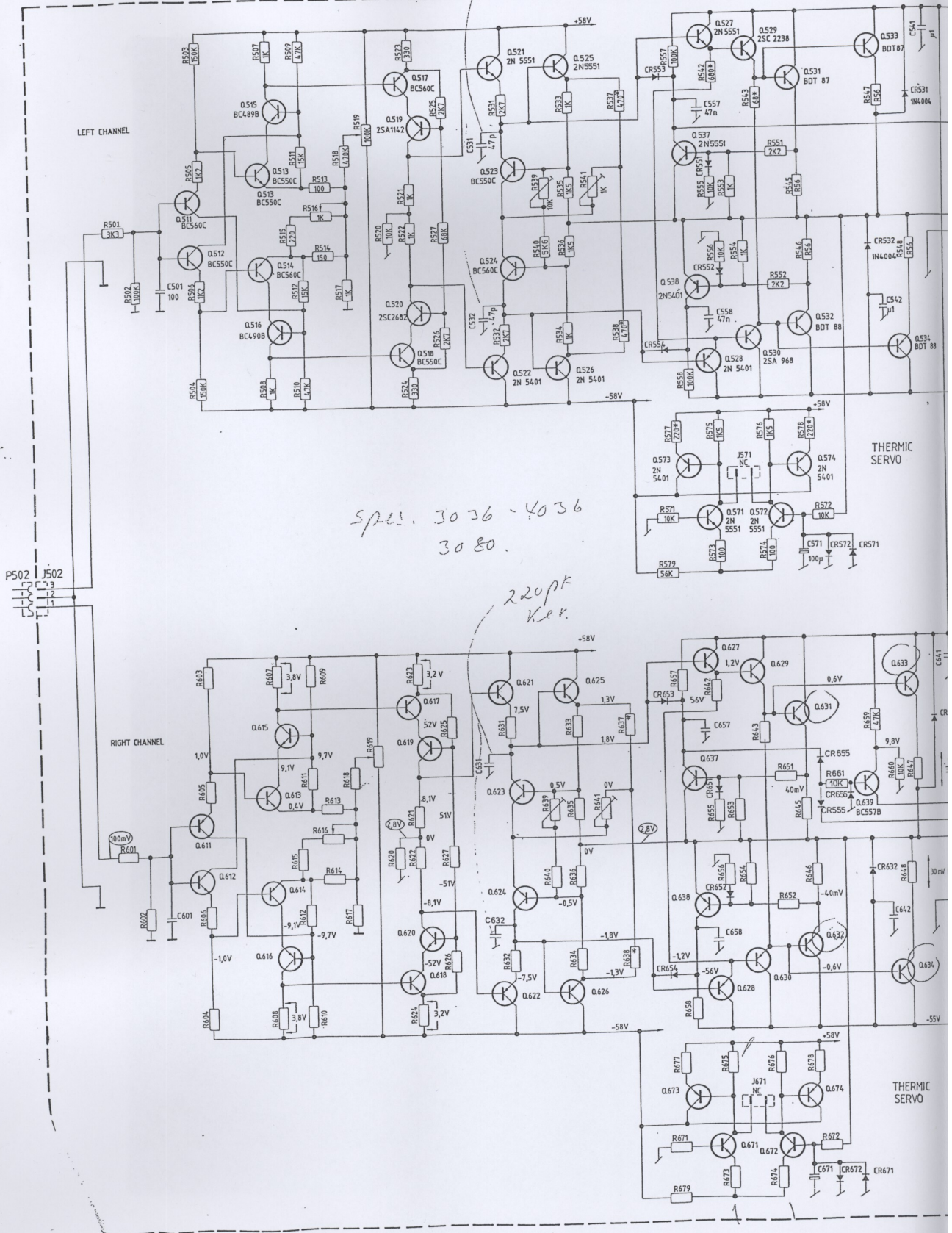
Tone Huvud.



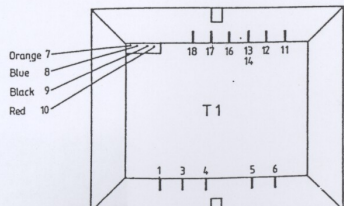
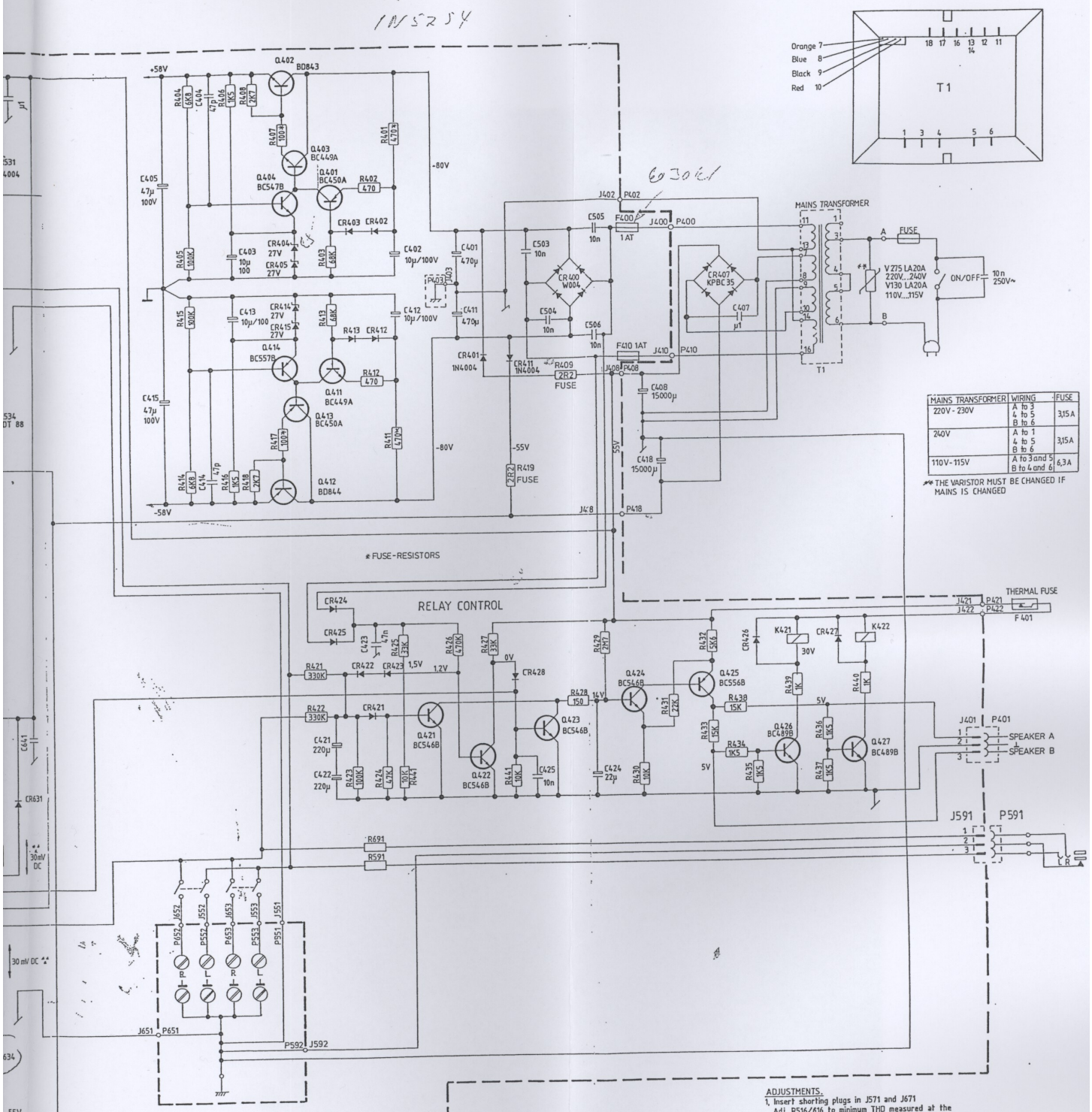
Pre-amplifier 2 Diagram 6

Pots: 602037
110 K @ 85%

220pF Ver.



315324 102 H₈
 270893
 1N5254



MAINS TRANSFORMER WIRING		
220V - 230V	A to 3 4 to 5 B to 6	3,15A
240V	A to 1 4 to 5 B to 6	3,15A
110V - 115V	A to 3 and 5 B to 4 and 6	6,3A

* THE VARIATOR MUST BE CHANGED IF MAINS IS CHANGED

* FUSE-RESISTORS

RELAY CONTROL

ADJUSTMENTS

1. Insert shorting plugs in J571 and J671. Adj. R516/416 to minimum THD measured at the output with 15V rms 1kHz and NO LOAD. Max. 0,006% THD
2. Measure DC at the outputs and adjust to less than 20mV DC OFFSET with R519/619.
3. Apply 1w loading of the outputs and adjust to minimum THD at 15V rms 1kHz. 0,01% max
4. Repeat 2. and then remove the shorting plugs in J571 and J671.
5. Check that the OFFSET IS WITHIN ± 50mV DC after 5 min.

- BC447 2N5401
- BC449 BOT 87
- BC450 2N5551
- BC546 2SA1142
- BC547 2SC2682
- BC548 2SA968
- BC549 2SC2238
- BC550 2N5551
- BC551 2N5551
- BC552 2N5551
- BC553 2N5551
- BC554 2N5551
- BC555 2N5551
- BC556 2N5551
- BC557 2N5551
- BC558 2N5551
- BC559 2N5551
- BC560 2N5551
- BD843 2N5551
- BD844 2N5551
- BD829 2N5551
- BD830 2N5551
- LF353 2N5551

TRANSISTORS ARE SEEN FROM UNDERNEATH.
 UNMARKED DIODES ARE 1N 4148

** After 30 minutes warmup with no load
 Adjustable with R539/R639