NIKKO

Stereo receiver 7075

Service manual



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SPECIFICATION

1. FM TUNER SECTION

		NOMINAL	LIMIT
Sensitivity	(IHF)	1.9μV	2.8μV
Quieting Slope	(S/N 50dB)	3.0μV	5.0μV
Selectivity	(IHF)	75dB	65dB
Image Rejection	(98MHz)	90dB	75dB
IF Rejection	(98MHz)	100dB	90dB
Signal to Noise ratio		70dB	60dB
Capture Ratio	(IHF)	1.0dB	3.0dB
Muting Sensitivity		5.0dB	±6.0dB
Distortion	(MONO)	0.2%	0.5%
Distortion	(STEREO 1KHz)	0.4%	0.7%
Stereo Separation	(1KHz)	45dB	35dB
Output voltage	(TAPE OUT)	700mV	±2dB

2. AM TUNER SECTION

Sensitivity	(IHF)	300μV/m	1000μV/m
Selectivity	(IHF) ±10KHz	35dB	30dB
Image Rejection	(1000KHz)	45dB	40dB
IF Rejection	(1000KHz)	40dB	35dB
Distortion		1.0%	3.0%
Signal to Noise ratio		45dB	40dB
Output level	(TAPE OUT)	150mV	±2dB

3. AMPLIFIER SECTION

Input sensitivity	PHONO	2.5mV	±2dB
	AUX	180mV	±2dB
	MIC	2.5mV	±2dB
	TAPE MON.	180mV	±2dB
	TAPE MON. (DIN)	180mV	±2dB
Signal to Noise (INPUT SHORT)			
	PHONO	65dB	57dB
	AUX	80dB	70dB
	TAPE MON.	80dB	75dB
	4CH. IN. (MAIN IN)	90dB	85dB
	MIC.	65dB	60dB
Continuous power output			
20Hz ~ 20KHz (8Ω) 2CH Driven		42W x 2	38W x 2
20Hz ~ 20KHz (4Ω) 2CH Driven		47W x 2	44W x 2
1KHz 2CH Driven (8Ω)		45W x 2	43W x2
1KHz 2CH Driven (4Ω)		56W x 2	54W x 2
Power Bandwidth			
2CH Driven (8Ω) IHF Dist. 0.5%		15Hz ~ 30KHz	20Hz ~ 20KHz

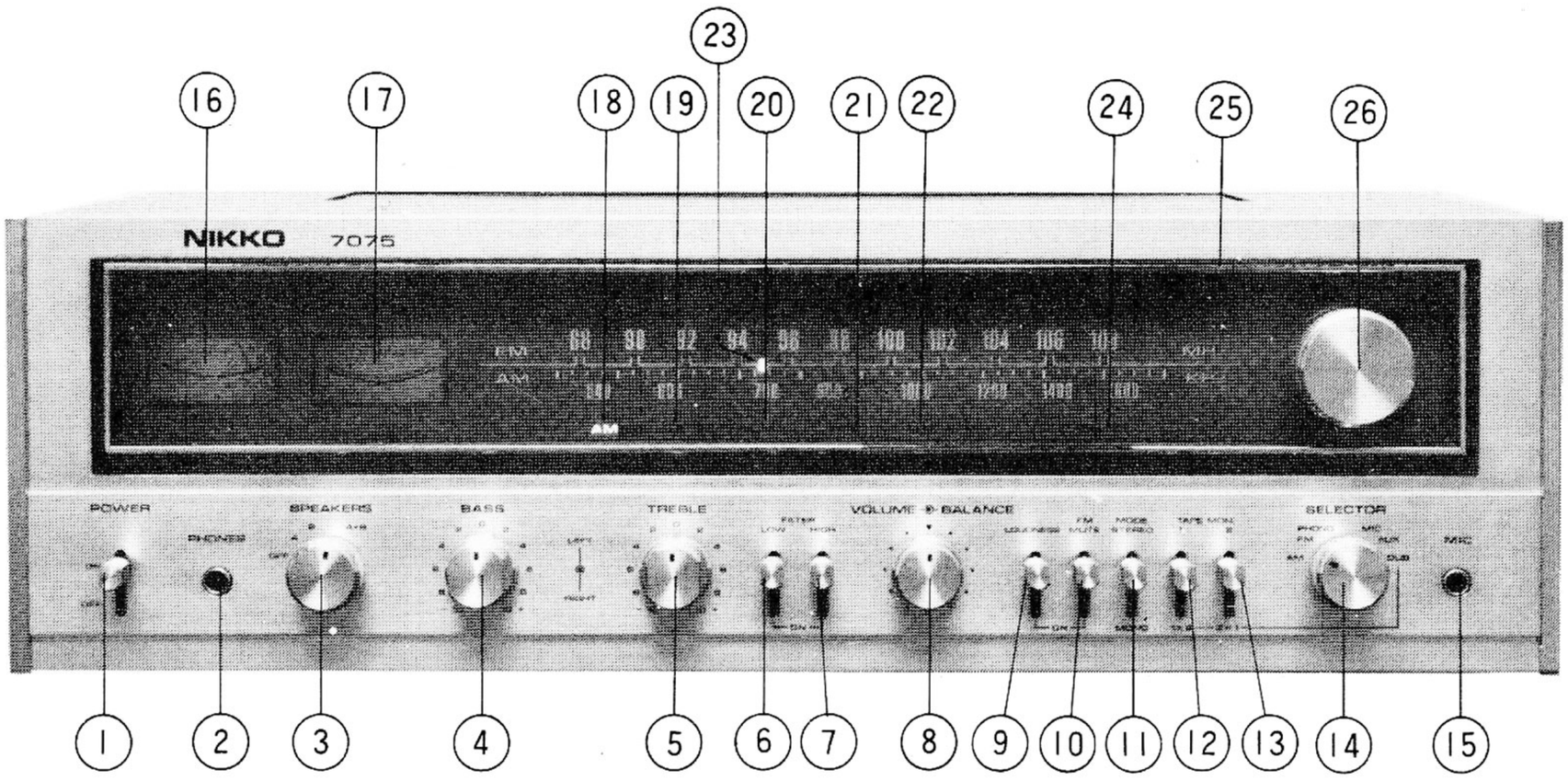
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Frequency response			
PHONO (RIAA EQUALIZATION)		30Hz ~ 15KHz	±1dB
TAPE MON.		20Hz ~ 25KHz	±2dB
Output level			
TAPE OUT		170mV	±2dB
TAPE OUT (DIN.)		35mV	±2dB
2CH OUT (PRE. OUT)		1300mV	±2dB
Tone control			
BASS 70Hz	CUT	–11dB	±2dB
	BOOST	+11dB	±2dB
TREBLE 10KHz	CUT	–9dB	±2dB
	BOOST	+9dB	±2dB
Loudness Control			
(VOLUME: –30dB)	70Hz	+10dB	±2dB
	10KHz	+4dB	±2dB
Low Filter	70Hz	–8dB	±2dB
High Filter	10KHz	–7dB	±2dB
Idling Current		30mV	±5mA
Mid-Point Voltage		0mV	±30mV
Residual Hum & Noise (8Ω)		0.6mV	1.5mV
Muting Delay		3 sec.	±1.5 sec.

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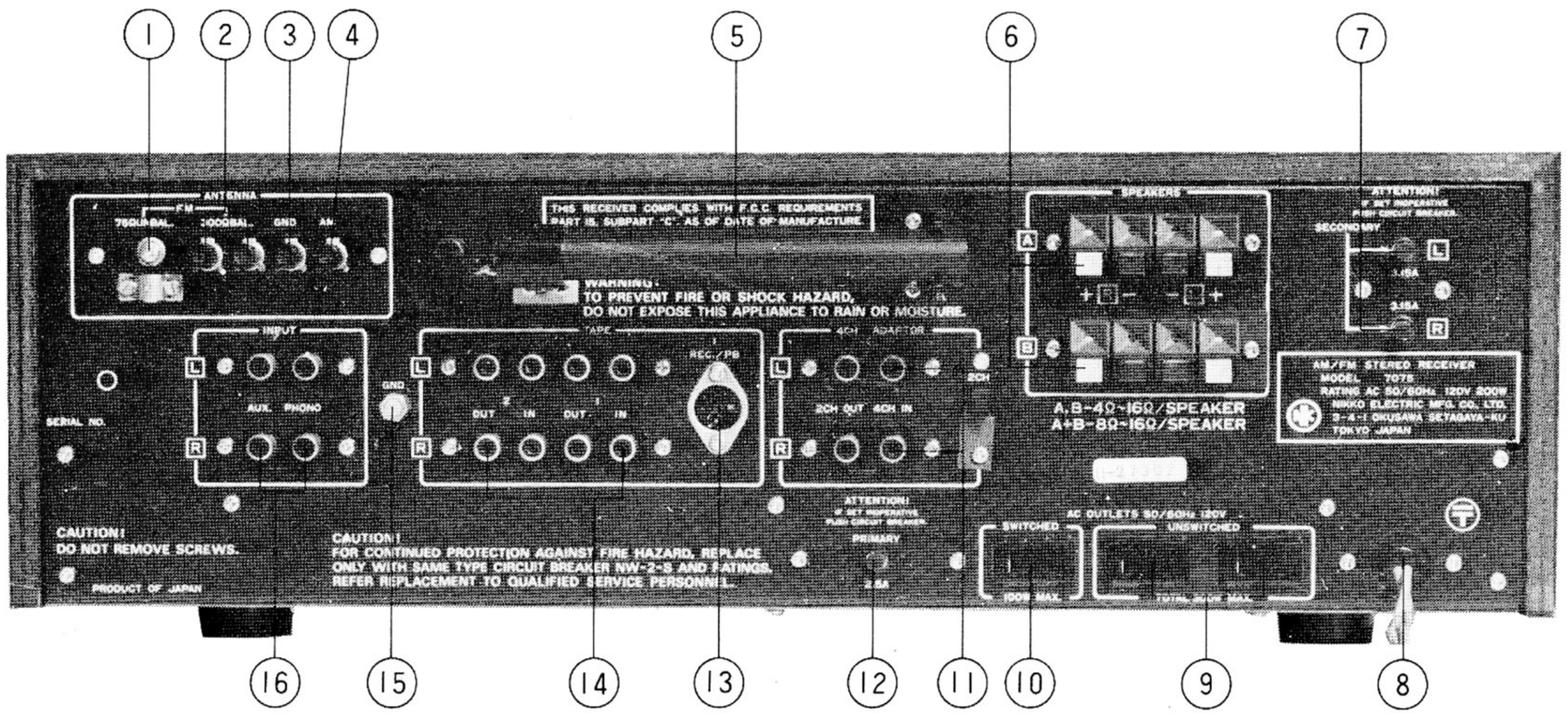
EXTERNAL VIEW

FRONT PANEL



1 POWER SWITCH
2 HEAD-PHONE JACK
3 SPEAKERS SWITCH
4 BASS CONTROL
5 TREBLE CONTROL
6 LOW FILTER SWITCH
7 HIGH FILTER SWITCH
8 VOLUME/BALANCE CONTROL
9 LOUDNESS SWITCH
10 FM MUTING SWITCH
11 MODE SWITCH
12 TAPE MONITOR SWITCH #1
13 TAPE MONITOR SWITCH #2
14 SELECTOR SWITCH
15 MIC JACK
16 SIGNAL METER
17 TUNING METER
18 AM INDICATOR
19 FM INDICATOR
20 PHONO INDICATOR
21 MIC INDICATOR
22 AUX INDICATOR
23 DIAL POINTER
24 DUBBING INDICATOR
25 STEREO INDICATOR
26 TUNING KNOB

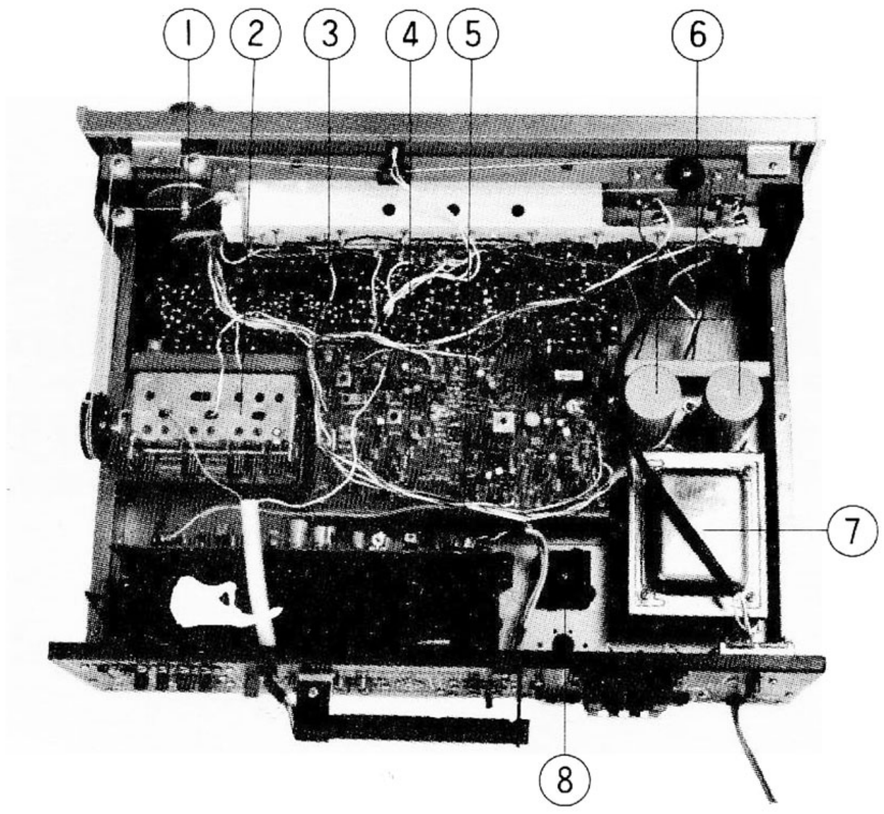
REAR PANEL



1 FM ANTENNA TERMINAL (75Ω UNBALANCED)
2 FM ANTENNA TERMINALS (300Ω BALANCED)
3 GND TERMINAL
4 AM ANTENNA TERMINAL
5 AM BAR ANTENNA
6 SPEAKER TERMINALS
7 SECONDARY NO FUSE BREAKERS
8 AC CORD
9 AC OUTLETS (UNSWITCHED)
10 AC OUTLET (SWITCHED)
11 4CH ADAPTER TERMINALS
12 PRIMARY NO FUSE BREAKER
13 TAPE REC/PB DIN SOCKET
14 TAPE IN/OUT TERMINALS
15 PHONO GND TERMINAL
16 INPUT TERMINALS

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INTERNAL VIEW



TOP VIEW

1	FLYWHEEL	
2	FRONT END	Parts No. 4910020
3	PRE AMP PCB ASSY BOARD	Parts No. 9440770
4	TUNER PCB ASSY BOARD	Parts No. 9492070
5	MAIN AMP PCB ASSY BOARD	Parts No. 9430370
6	E-CAP 50L6800 CE62W	Parts No. 212547Q
7	POWER TRANSFORMER (T-1-225)	Parts No. 1102250
8	DIODE	Parts No. 560034S

PARTIAL DISASSEMBLY

CABINET REMOVAL

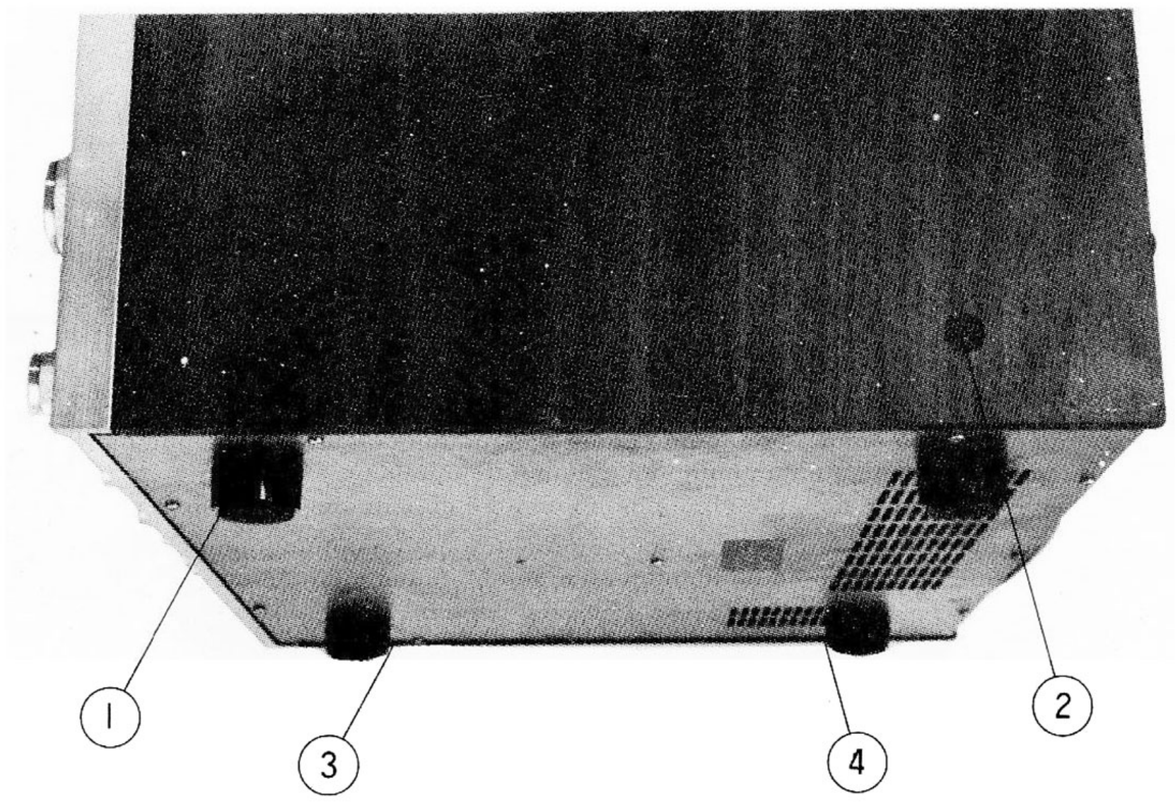


PHOTO 1

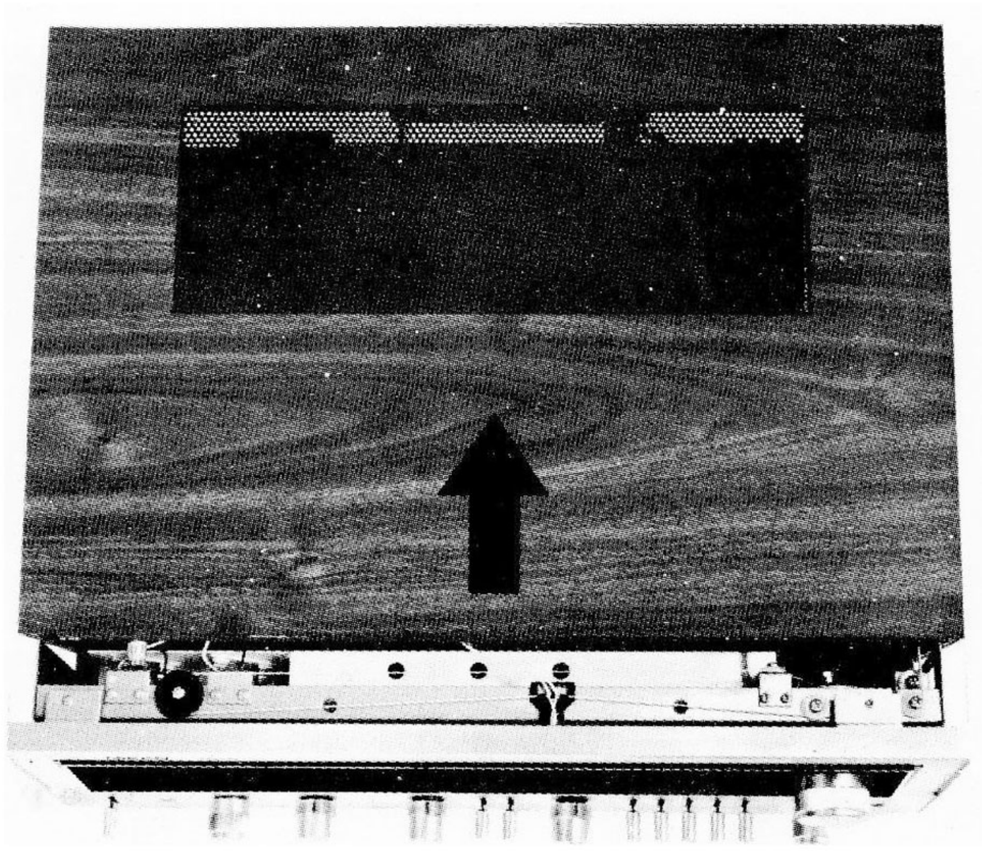


PHOTO 2

a. Stand the cabinet up and remove screws (1 ~ 4) as shown in Photo 1.
b. Return the cabinet to its original position and pull forward and then lift up to remove it. (Photo 2)

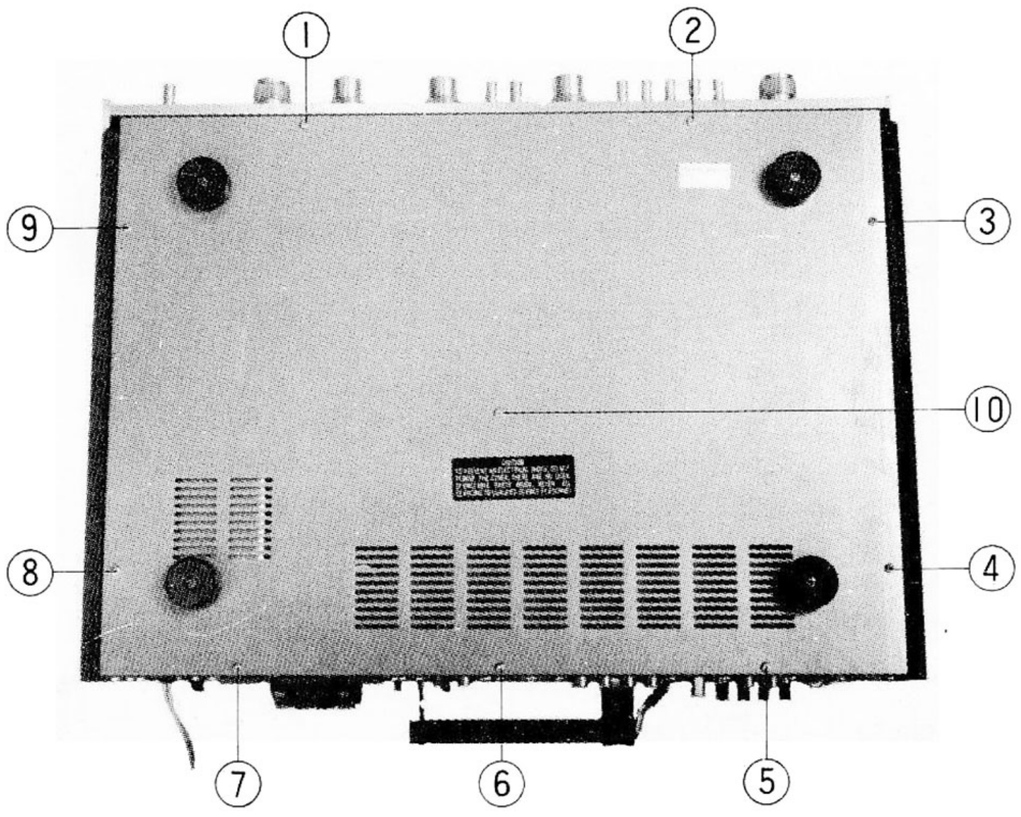


PHOTO 3

BOTTOM PLATE REMOVAL

Turn the cabinet and remove screws (1 ~ 10) as shown in Photo 3.

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FRONT PANEL REMOVAL

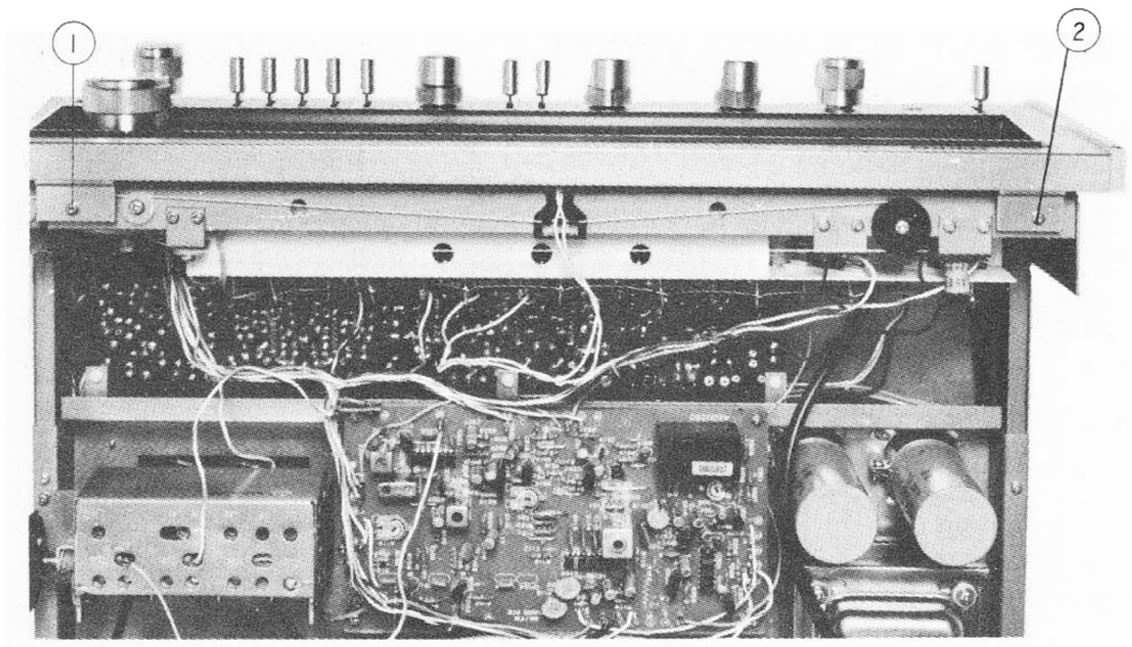


PHOTO 4

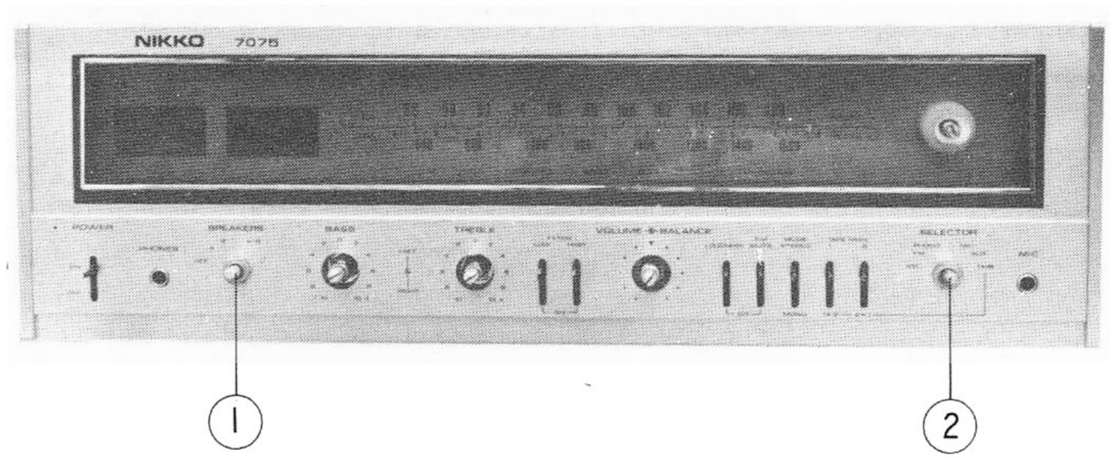


PHOTO 5

Remove screws (1 ~ 2) and nuts (1 ~ 2) as shown in Photo 4 ~ 5.

TUNER PCB ASSY BOARD REMOVAL

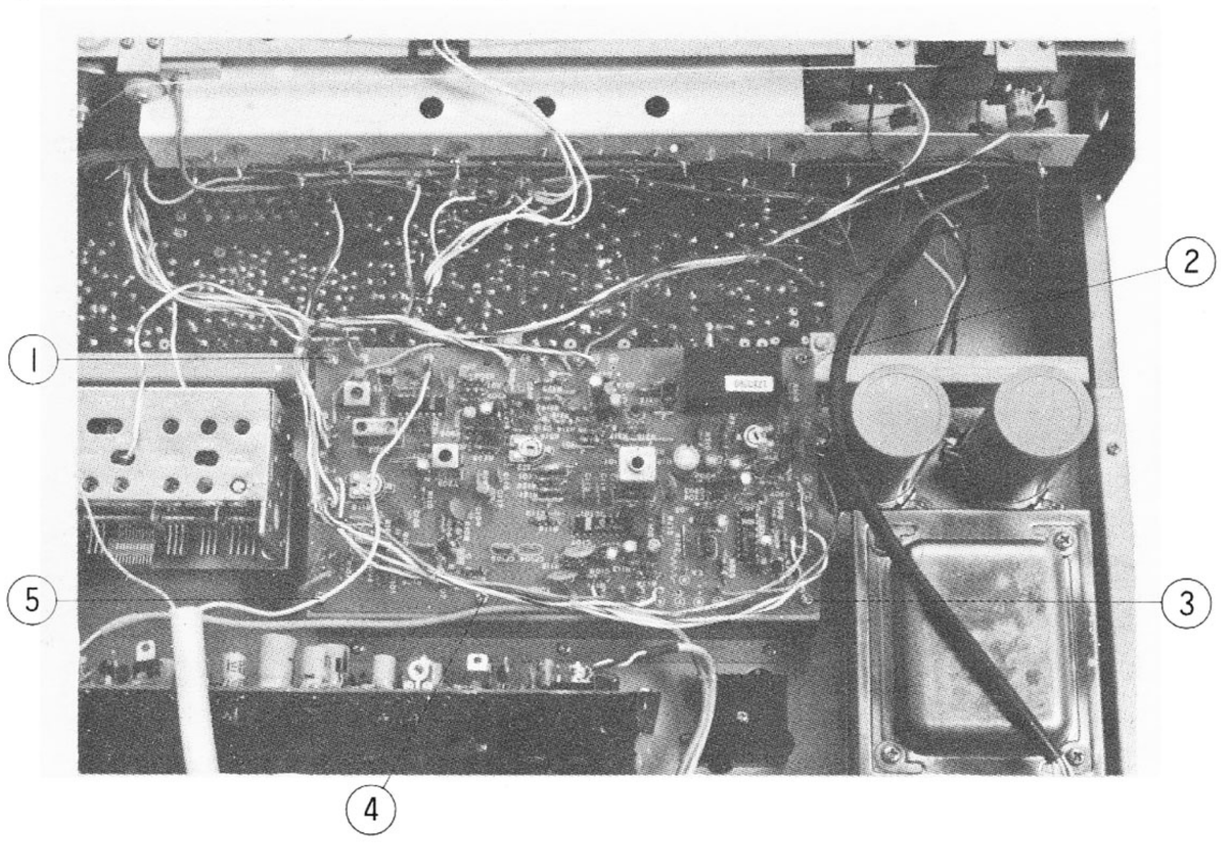


PHOTO 6

Remove screws (1 ~ 5) as shown in Photo 6 then lift the circuit board up to remove it.

PAWER TRANSFORMER REMOVAL

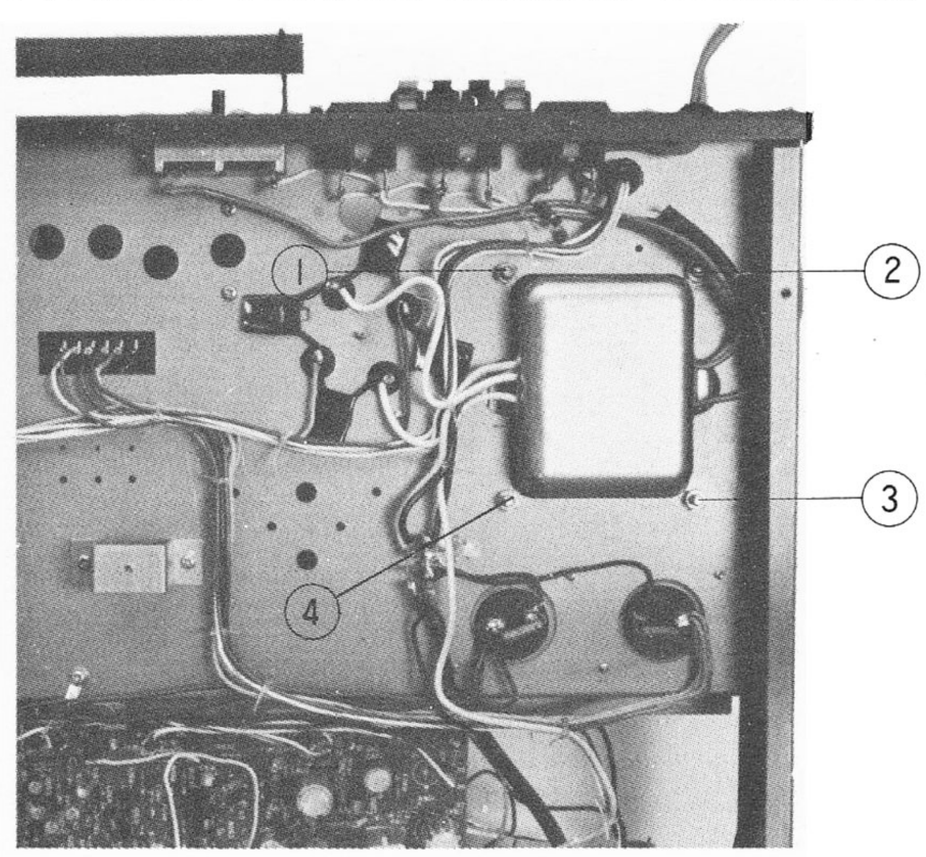


PHOTO 7

Remove nuts (1 ~ 4) as shown in Photo 7 then lift the transformer up to remove it.

PRE AMP PCB ASSY BOARD REMOVAL

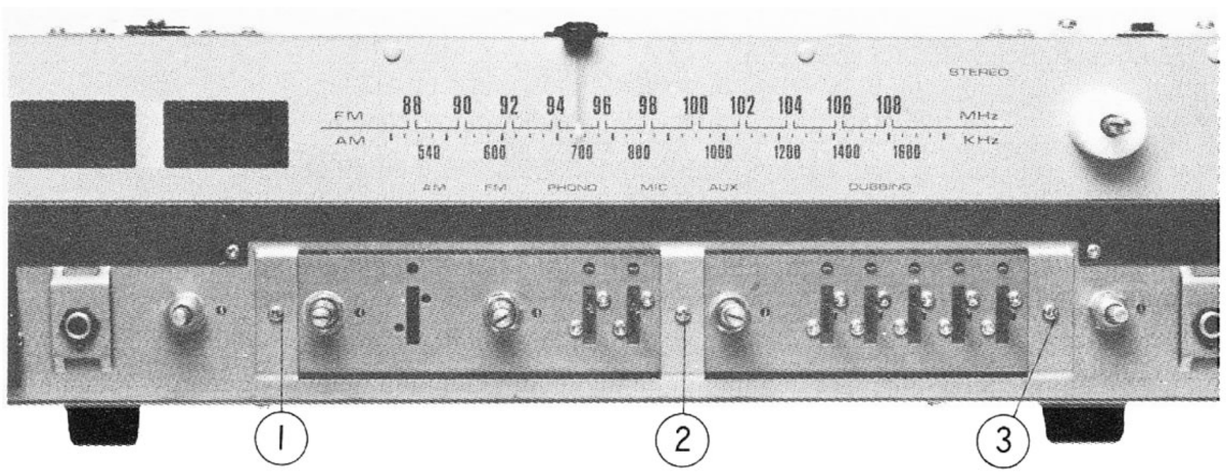


PHOTO 8

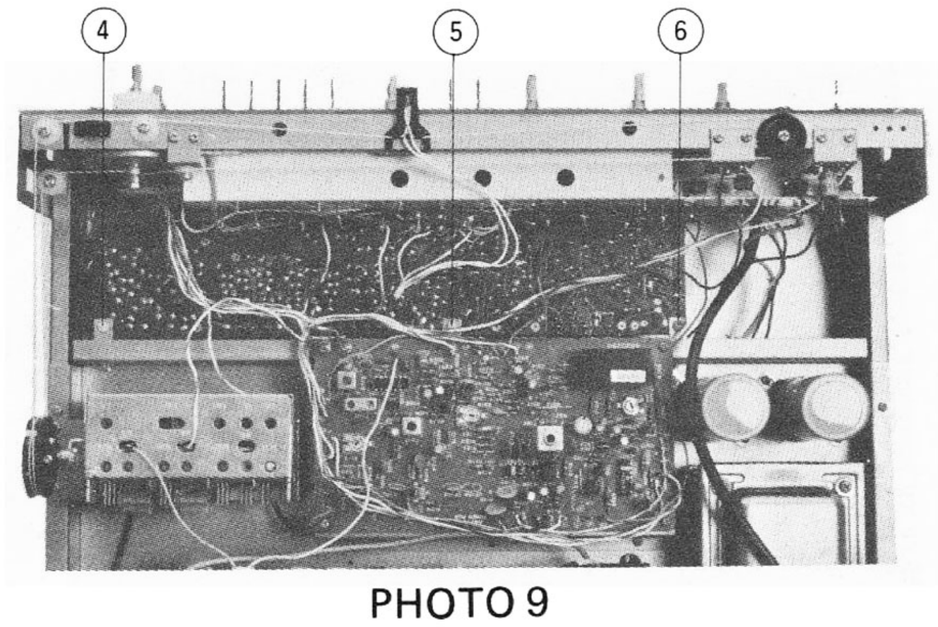


PHOTO 9

Remove screws (1 ~ 3) as shown in Photo 8 and remove rivets (4 ~ 6) as shown in Photo 9.

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FRONT END REMOVAL

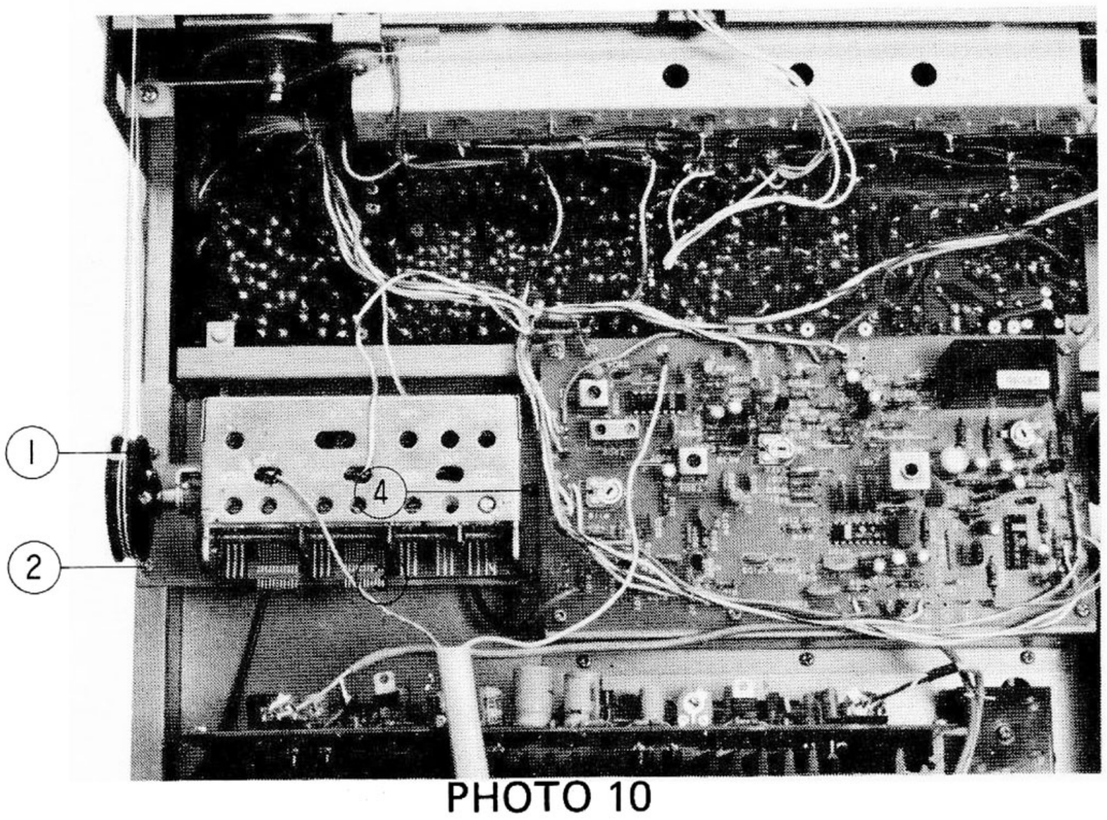


PHOTO 10

Remove the dial drum and remove screws (1 ~ 4) as shown in Photo 10.

METER REMOVAL

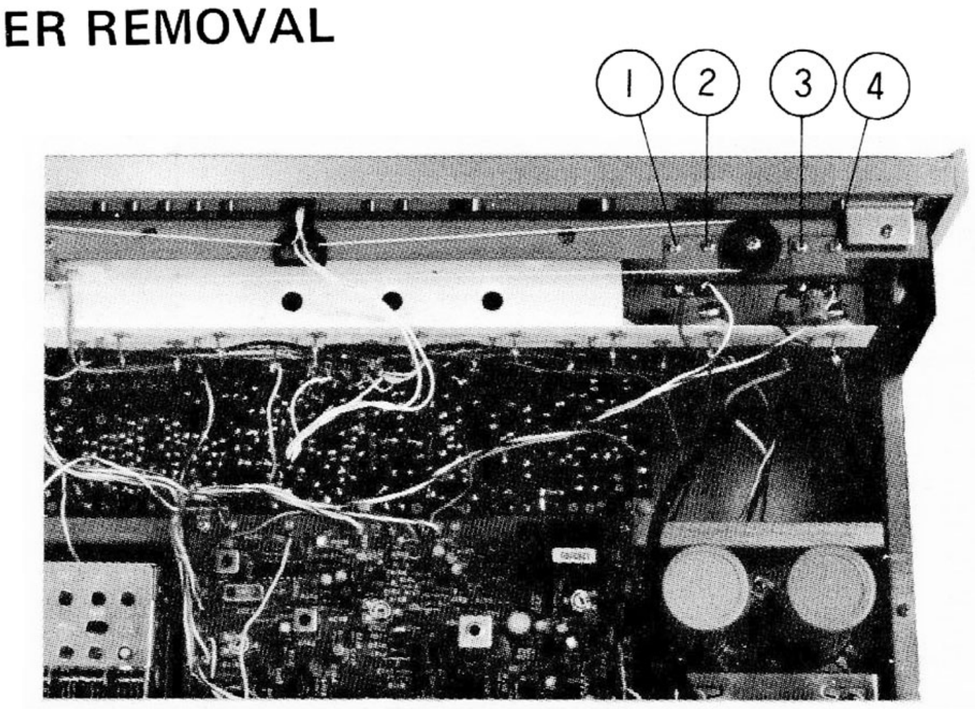


PHOTO 12

Remove screws (1 ~ 4) as shown Photo 12 and pull forward to remove it.

MAIN AMP PCB ASSY BOARD REMOVAL

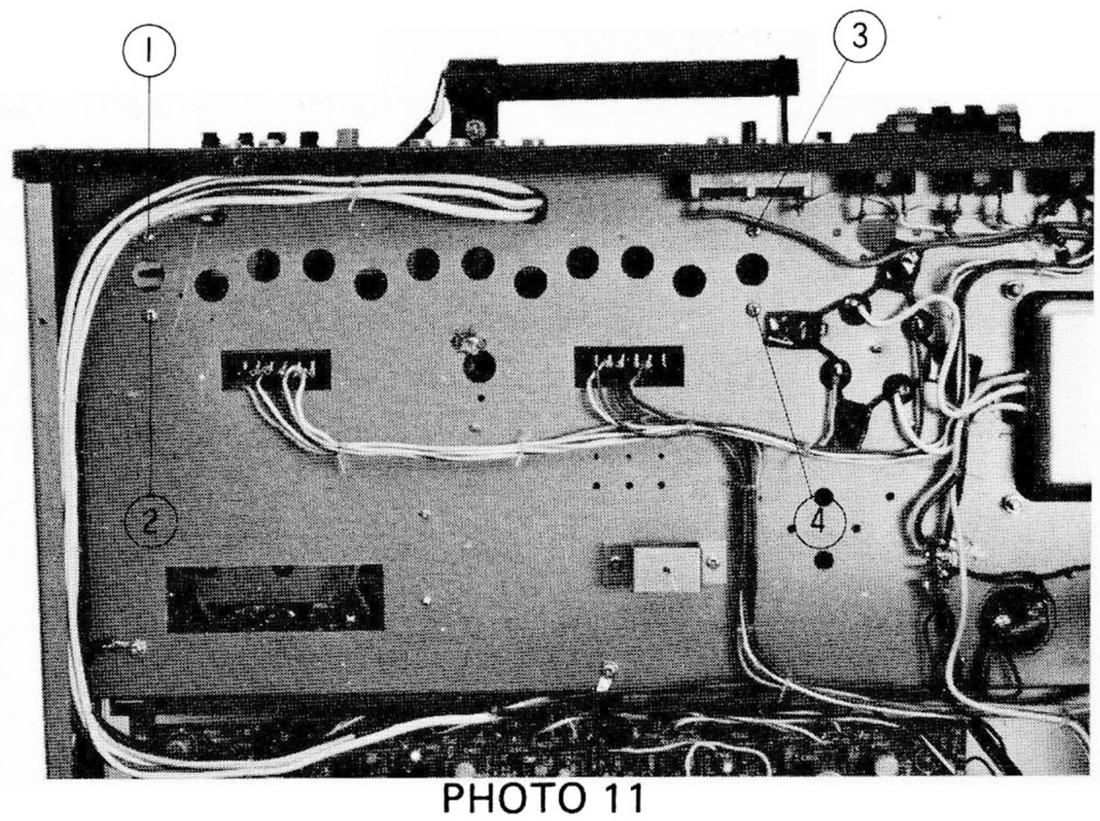


PHOTO 11

Remove screws (1 ~ 4) as shown in Photo 11.

PEFLEX PLT REMOVAL

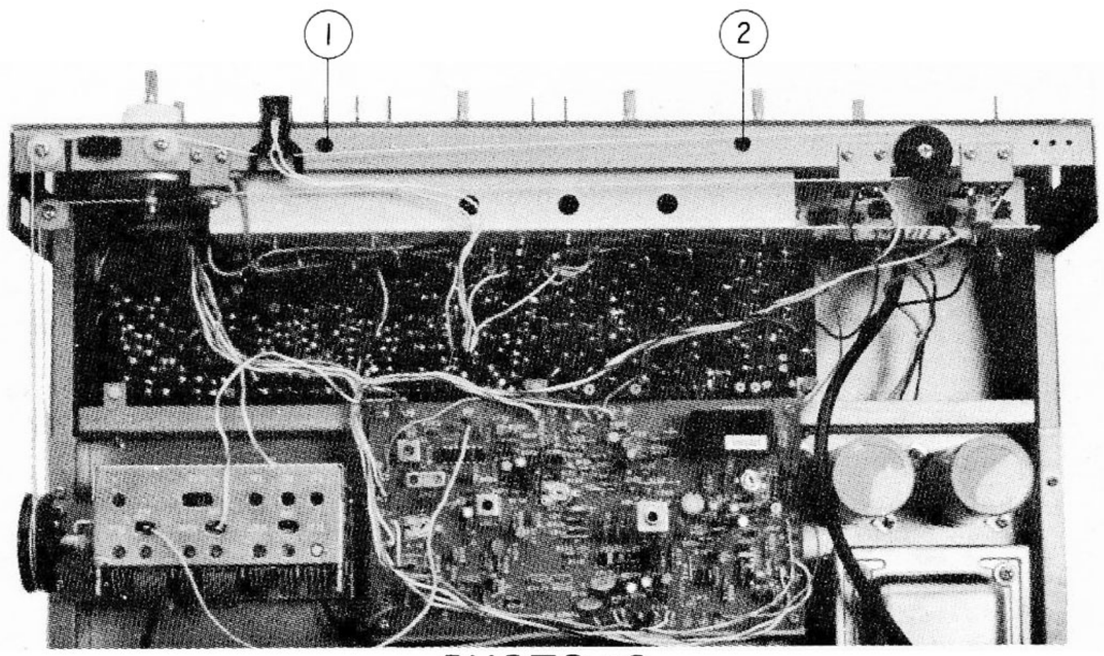
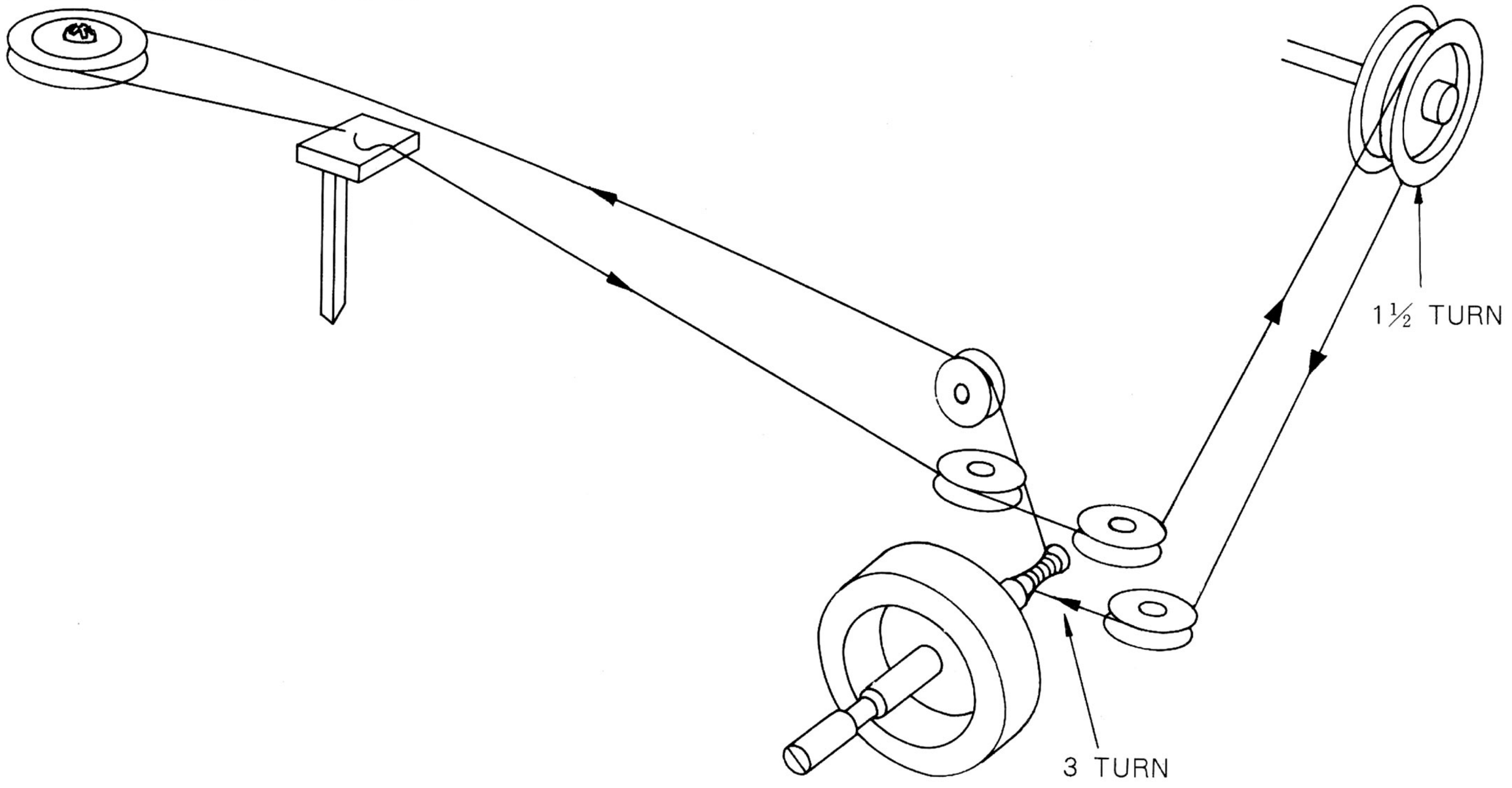


PHOTO 13

Remove screws (1 ~ 2) as shown in Photo 13 then pull foward to remove it.

DIAL MECHANISM



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MEASUREMENT AND ADJUSTMENT

FM SECTION ADJUSTMENT

1. FM-IF ADJUSTMENT

For adjustment of the discriminator coil T101, connect the testing instruments as shown in Fig. 1 and then proceed as follows:

(1) With no RF signal applied to the receiver, adjust the lower core of T101 until the pointer of the tuning meter (M1) on the receiver indicates the center position of the meter scale.

(2) Apply RF signal to the receiver and adjust the tuning knob so that the tuning meter (M1) indicates the center position and the signal meter (M2) causes maximum deflection.

(3) Under this condition, adjust the upper core of T101 for minimum distortion.

(4) Repeat the above steps (1) through (3) two or three times so that the distortion factor is most improved.

Note: For adjusting point, refer to Fig. 3.

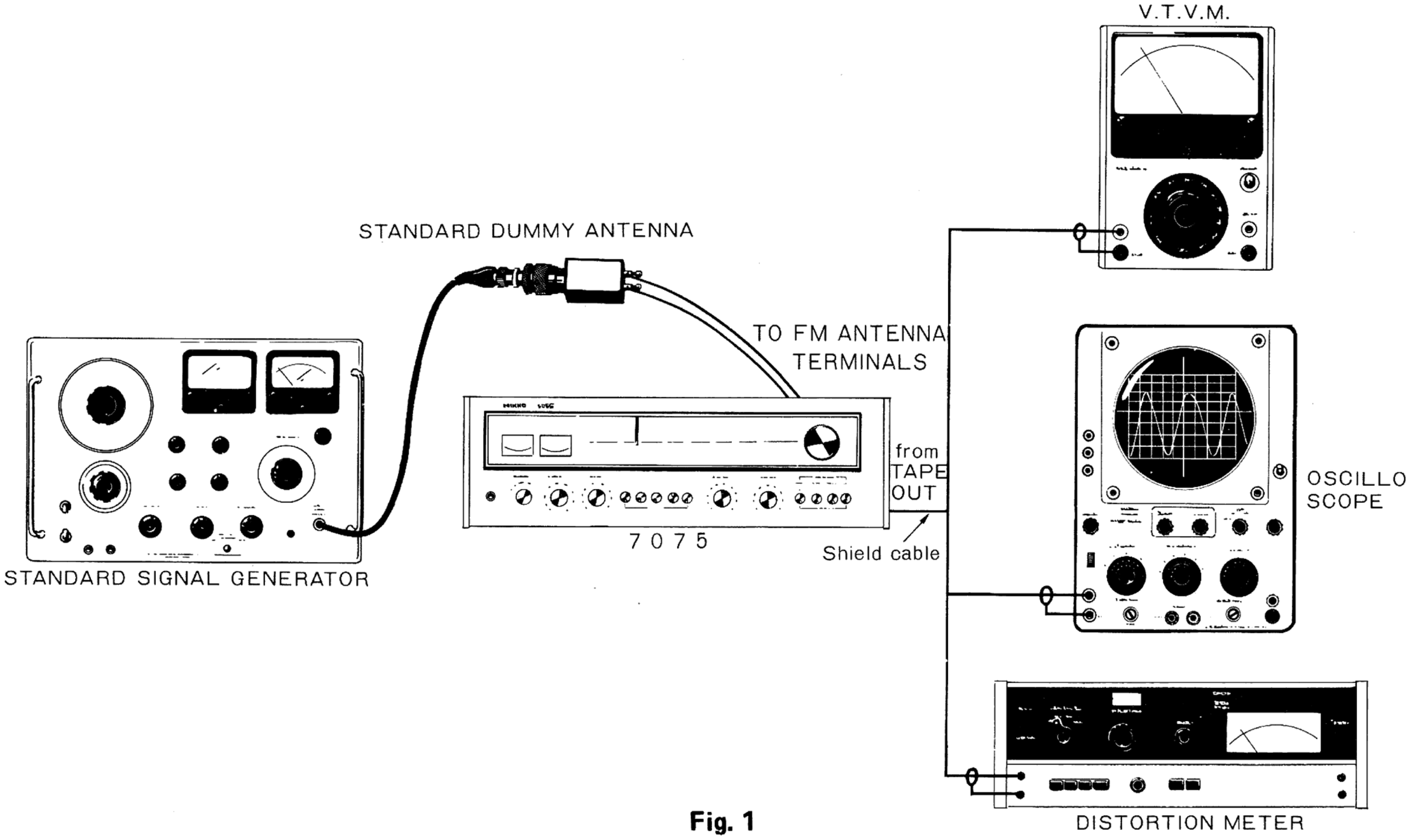


Fig. 1

2. FREQUENCY COVERAGE ADJUSTMENT

The tuner section is provided with the pre-adjusted front end, eliminating the need for frequency coverage adjustment; however, the dial scale may be checked by adjusting TCO and LO as necessary (see Fig. 2).

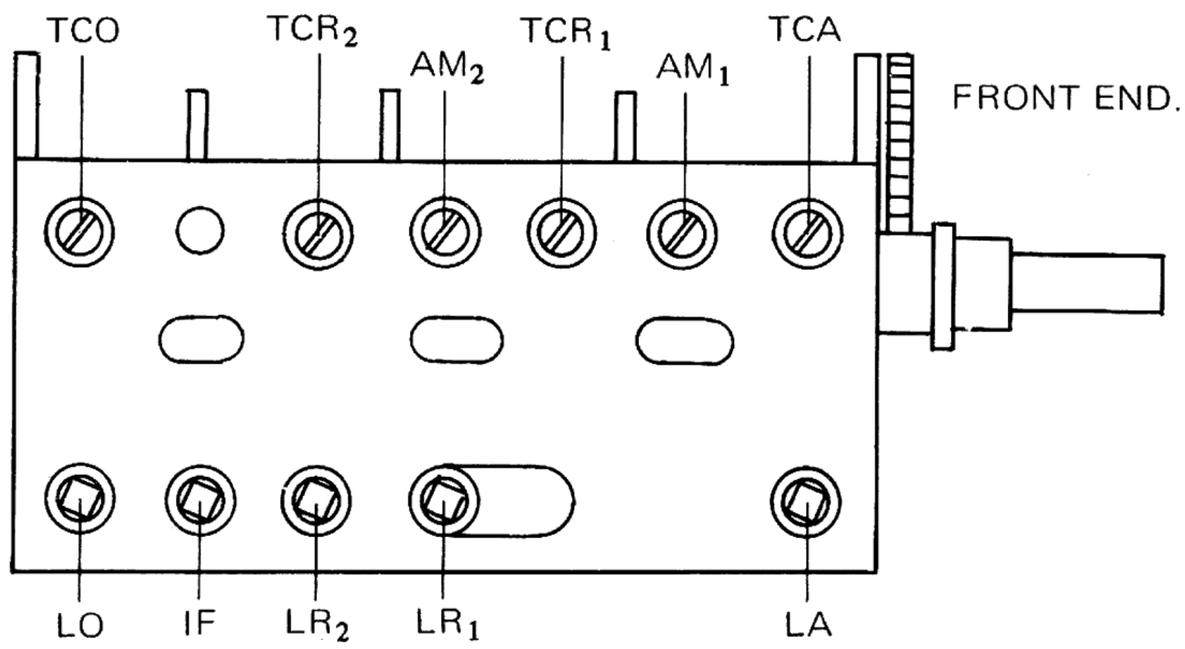


Fig. 2

3. TRACKING ADJUSTMENT

The tracking adjustment is not required because of the use of pre-adjusted front end. If necessary, adjust LA, LR_1, LR_2, TCA, TCR_1 and TCR_2 for maximum sensitivity. The input of SG should be controlled with ATT.

Note: For adjusting points, refer to Fig. 2.

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4. FM SEPARATION ADJUSTMENT

With stereo-modulated RF signal applied to the receiver, make adjustment as follows:

(1) Turn the semi-fixed resistor R322 (HVR 20K-B) fully clockwise.

(2) Connect a frequency counter to the point #14 on the Tuner PCB Ass'y Board. Adjust the semi-fixed resistor R305 (HVR 5K-B) for the frequency of 19KHz ±19Hz.

(3) Adjust the semi-fixed resistor R322 (20K-B) for maximum stereo separation.

Note: For adjusting points, refer to Fig. 3

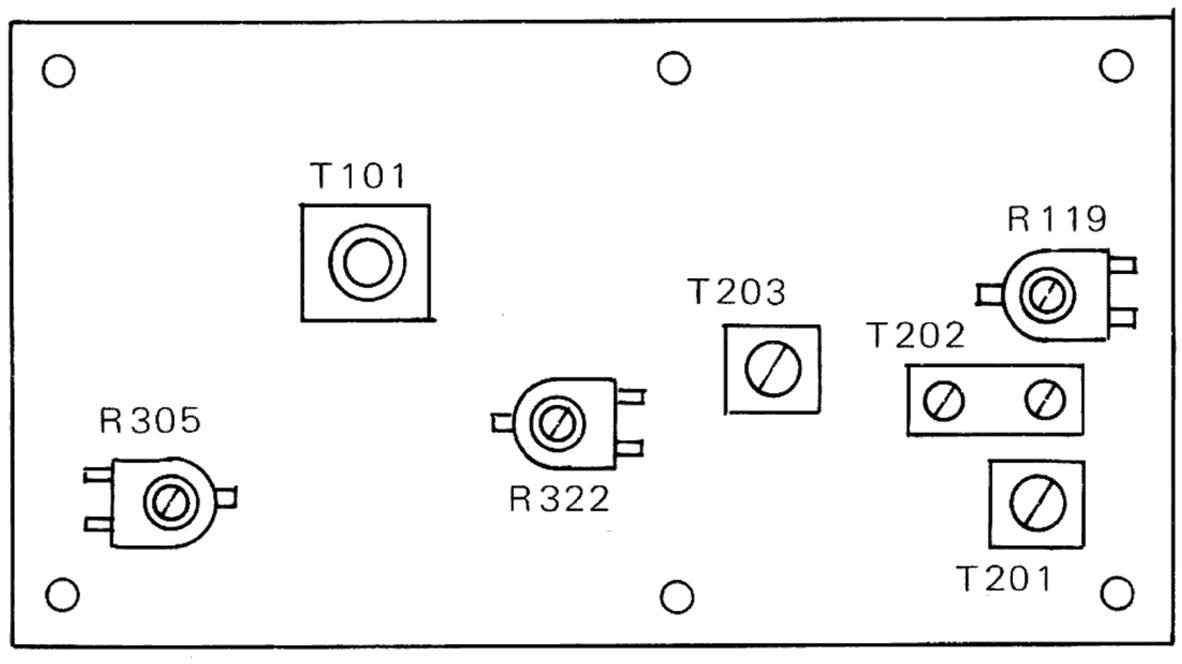


Fig. 3 TUNER PCB ASS'Y BOARD

AM SECTION ADJUSTMENT

The following is intended to describe the procedure of adjusting the AM section of the receiver using a sweep generator. In the adjustment, the output voltage is applied through inductive coupling.

1. AM-IF ADJUSTMENT

For adjustment, place a loop antenna near the receiver under test and observe the waveform of detector output (at the point #22 on the Tuner PCB Ass'y Board) displayed on the alignment oscilloscope.

The adjusting procedure is as follows:

(1) With the receiver set to a high receiving frequency (variable capacitor in full open position), adjust T202 and T203 until the IF waveform becomes maximum.

(2) If, in this case, the adjustment is difficult because of disturbing signals, the variable capacitor may be turned to facilitate the adjustment.

(3) The waveform displayed on the alignment oscilloscope is as shown in Fig. 4.

Note: For adjusting points, refer to Fig. 3.

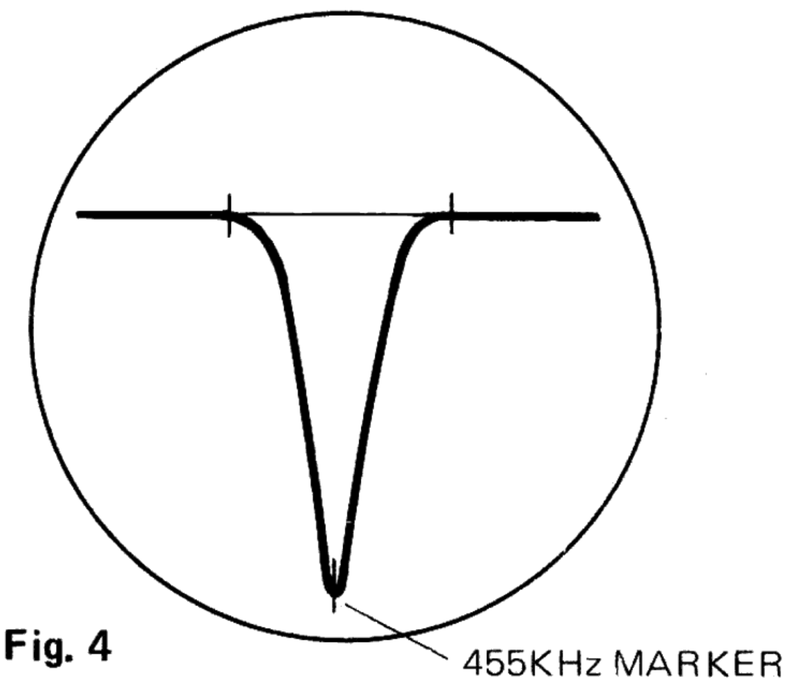


Fig. 4

2. FREQUENCY COVERAGE ADJUSTMENT

This adjustment is similar to the AM-IF adjustment. Switch the sweep generator from IF to RF and follow the procedure below.

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(1) With the variable capacitor fully closed, adjust T201 for 520kHz. Then, fully open the variable capacitor and turn AM2 for 1,650kHz.
Repeat the above adjustments two or three times so that the receiving range of 520kHz to 1,650kHz can be obtained.

(2) The waveform displayed on the alignment oscilloscope is as shown in Fig. 5.

Note: For adjusting points, refer to Fig. 2. and Fig. 3.

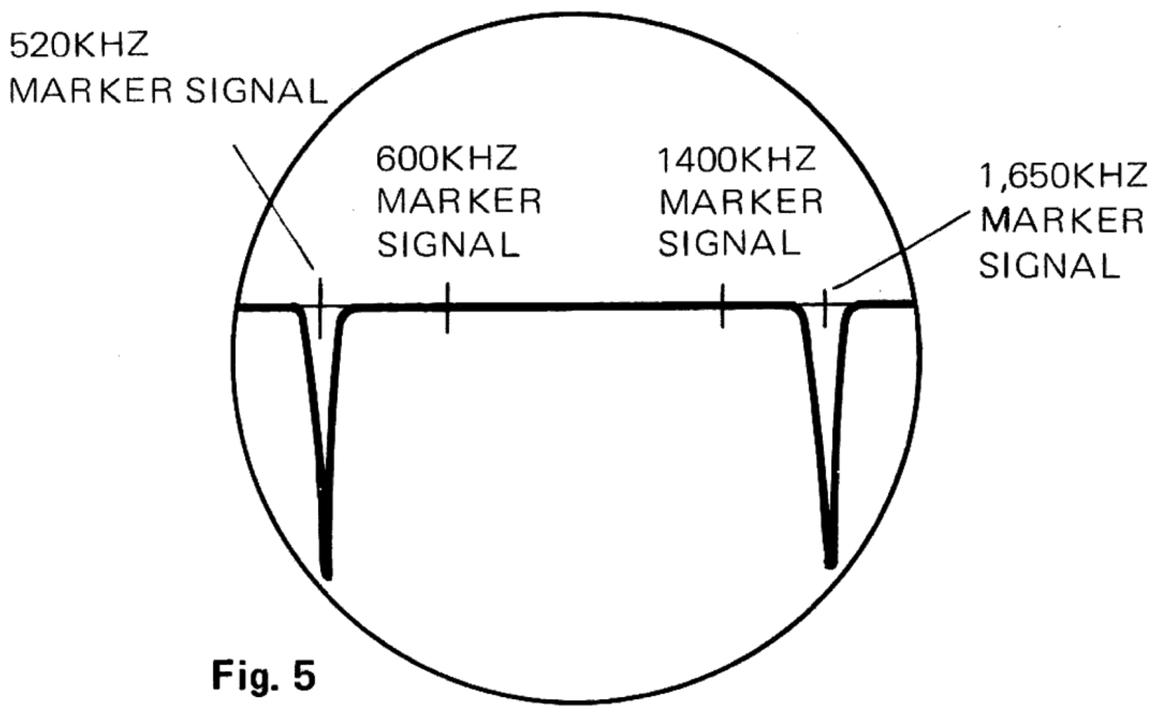


Fig. 5

3. TRACKING ADJUSTMENT

(1) Use the sweep generator in the same manner as described in Item 2 "Frequency Coverage Adjustment". First set the sweep waveform to the 600kHz marker and adjust AM ANT Coil (T3) for maximum waveform. Then set the receiver to 1400kHz and adjust AM1 for maximum waveform. Repeat the above adjustments two or three times so that tracking error can be fully eliminated.
Note: To obtain maximum sensitivity, the input signal level should be adjusted with an attenuator.

(2) To check tracking errors, use a jig made up of a copper wire ring and ferrite rod (see Fig. 6). Bring the ring and the ferrite rod alternately close to the ANT Coil and confirm that the sweep waveform is minimized.
Note: For adjusting points, refer to Fig. 2.

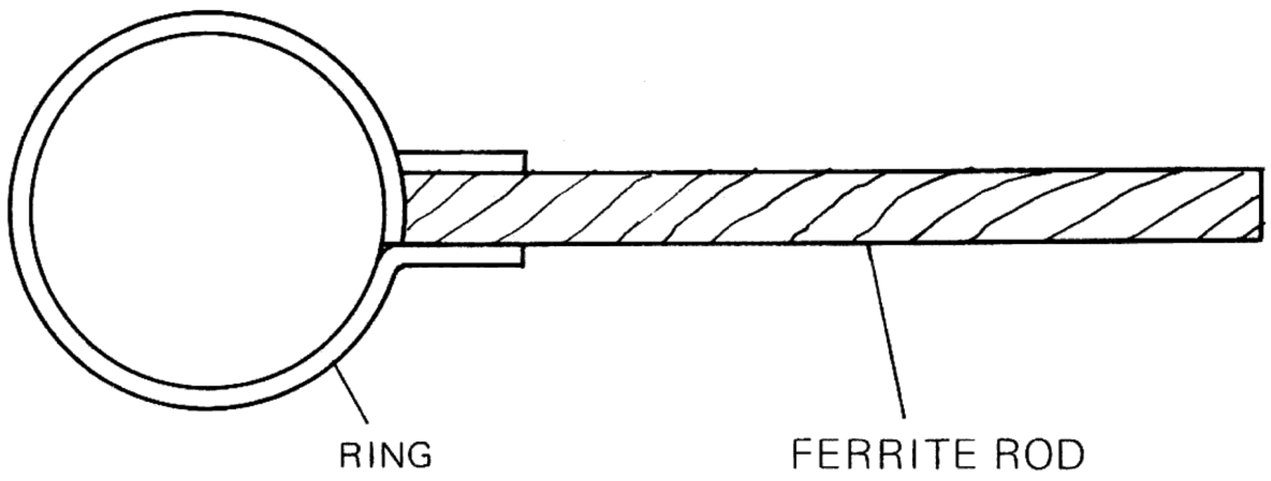


Fig. 6

AMPLIFIER SECTION ADJUSTMENT

(1) THE CENTER VOLTAGE ADJUSTMENT

Connect an 8-ohm dummy load resistor across the speaker terminals and set the Volume Control to the minimum position (fully counter-clockwise). Using a high sensitivity DC voltmeter, adjust R708 so that the voltage between GND (chassis) and TP9 on the Main Amplifier PCB Ass'y Board becomes 0±30mV. Similarly, adjust R709 so that the voltage between GND and TP16 becomes above value.

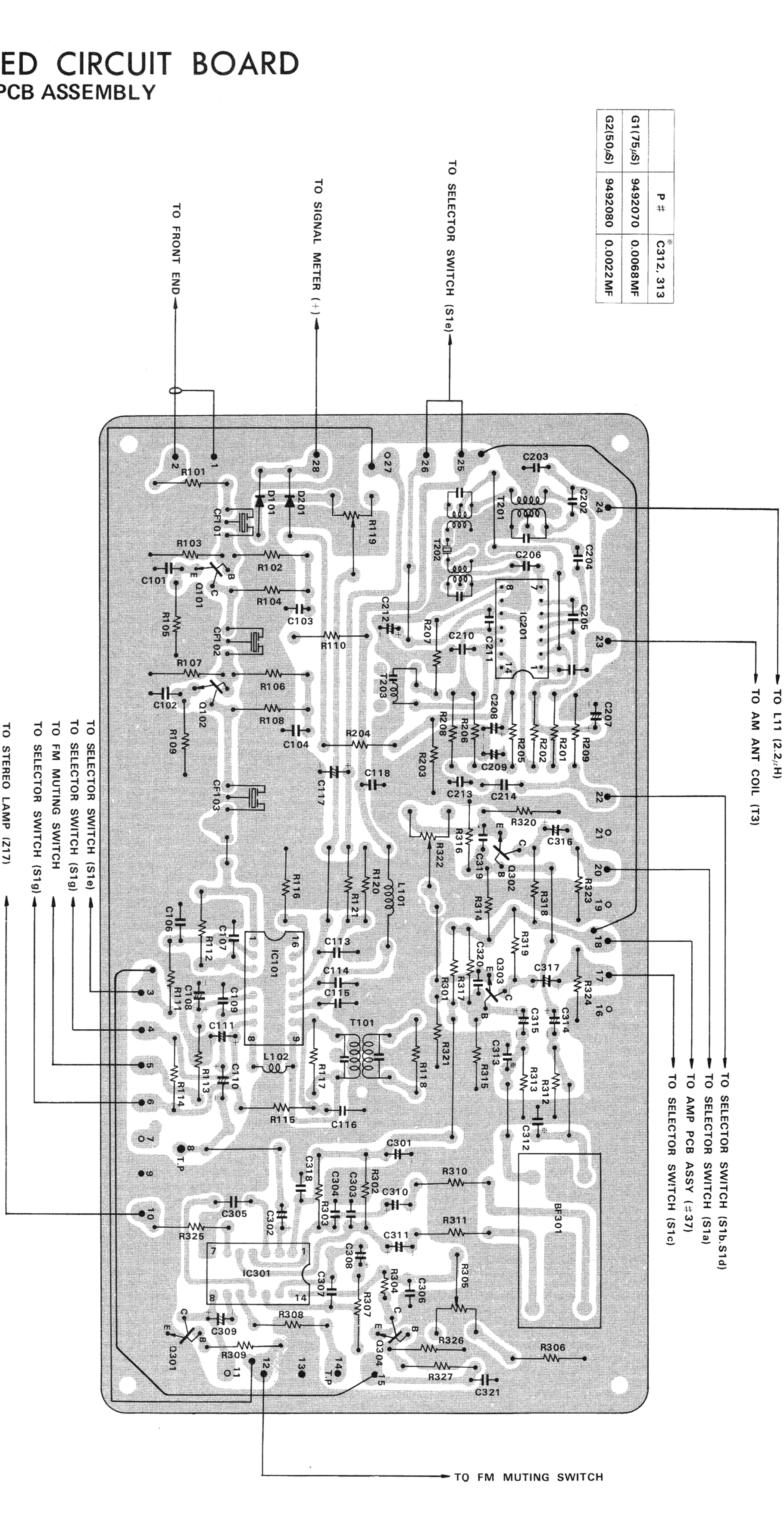
(2) IDLE CURRENT ADJUSTMENT

This adjustment is similar to the center voltage adjustment. Adjust R370 so that the voltage between TP 7 and TP 16 becomes 15mV, with the Volume control set to the minimum position. (Similary, adjust R371 so that the voltage between TP 18 and TP 16 becomes above value.)

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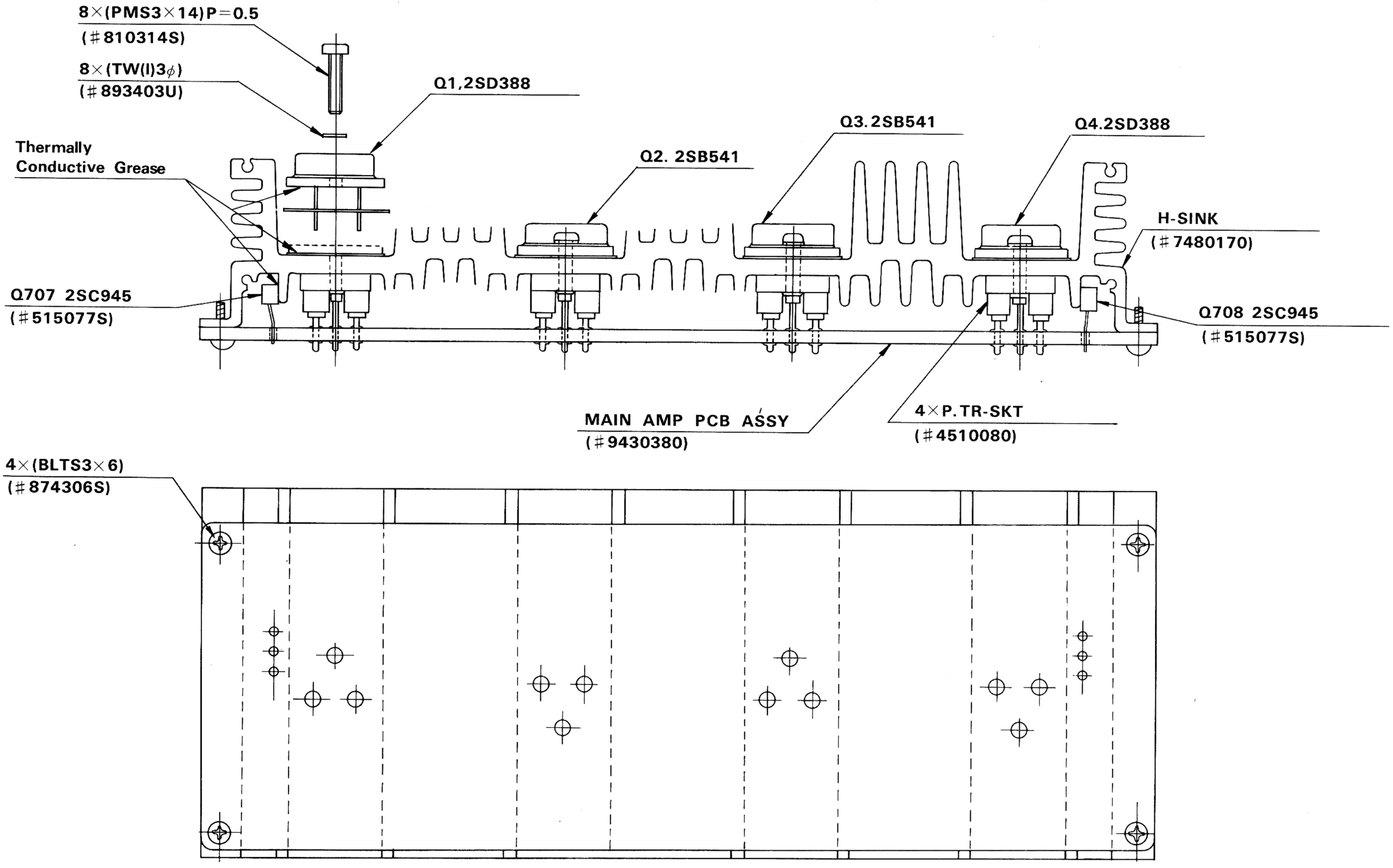
PRINTED CIRCUIT BOARD
TUNER PCB ASSEMBLY

	P #	※C312, 313
G1(75μS)	9492070	0.0068MF
G2(50μS)	9492080	0.0022MF



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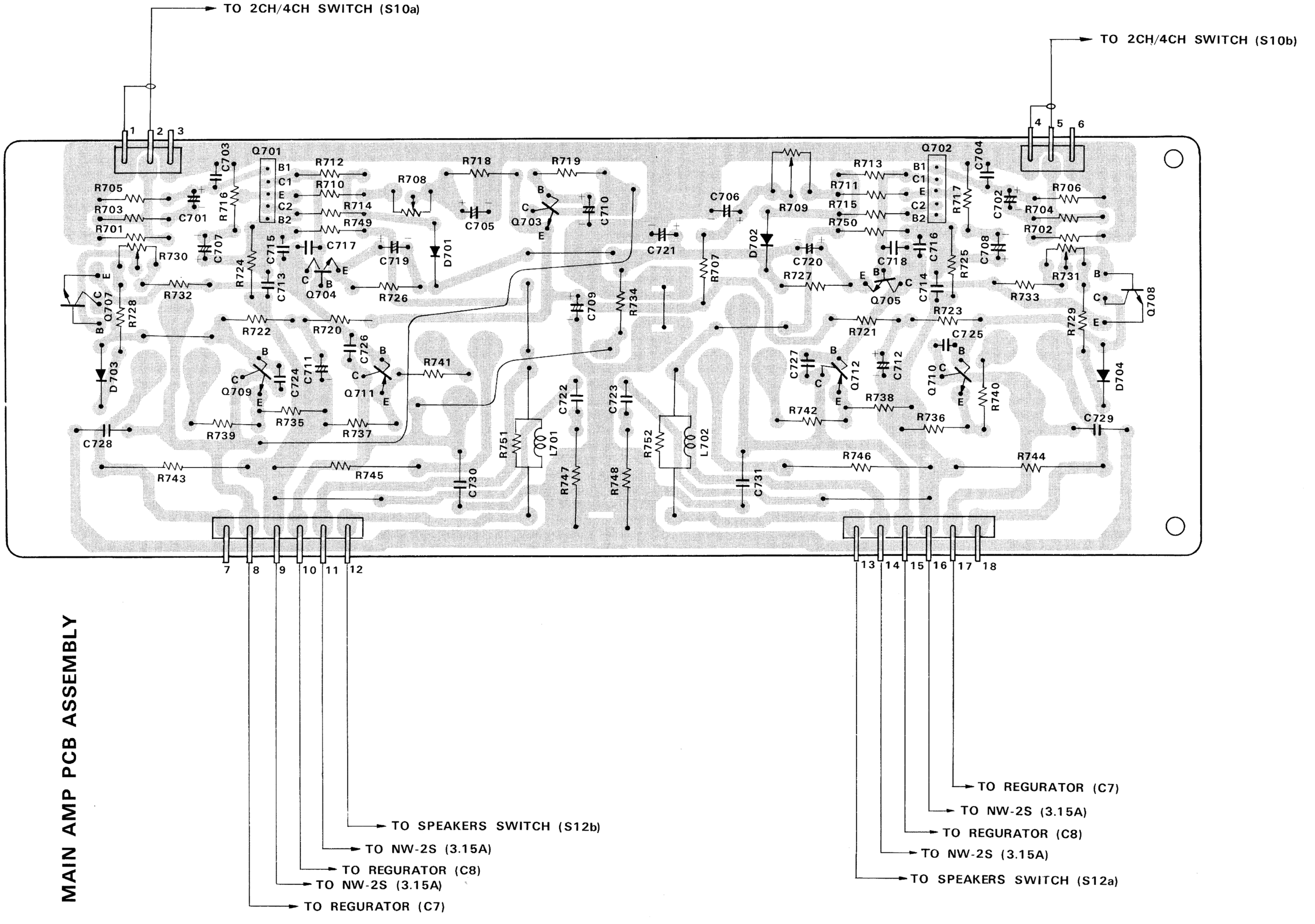
MAIN AMP ASSEMBLY



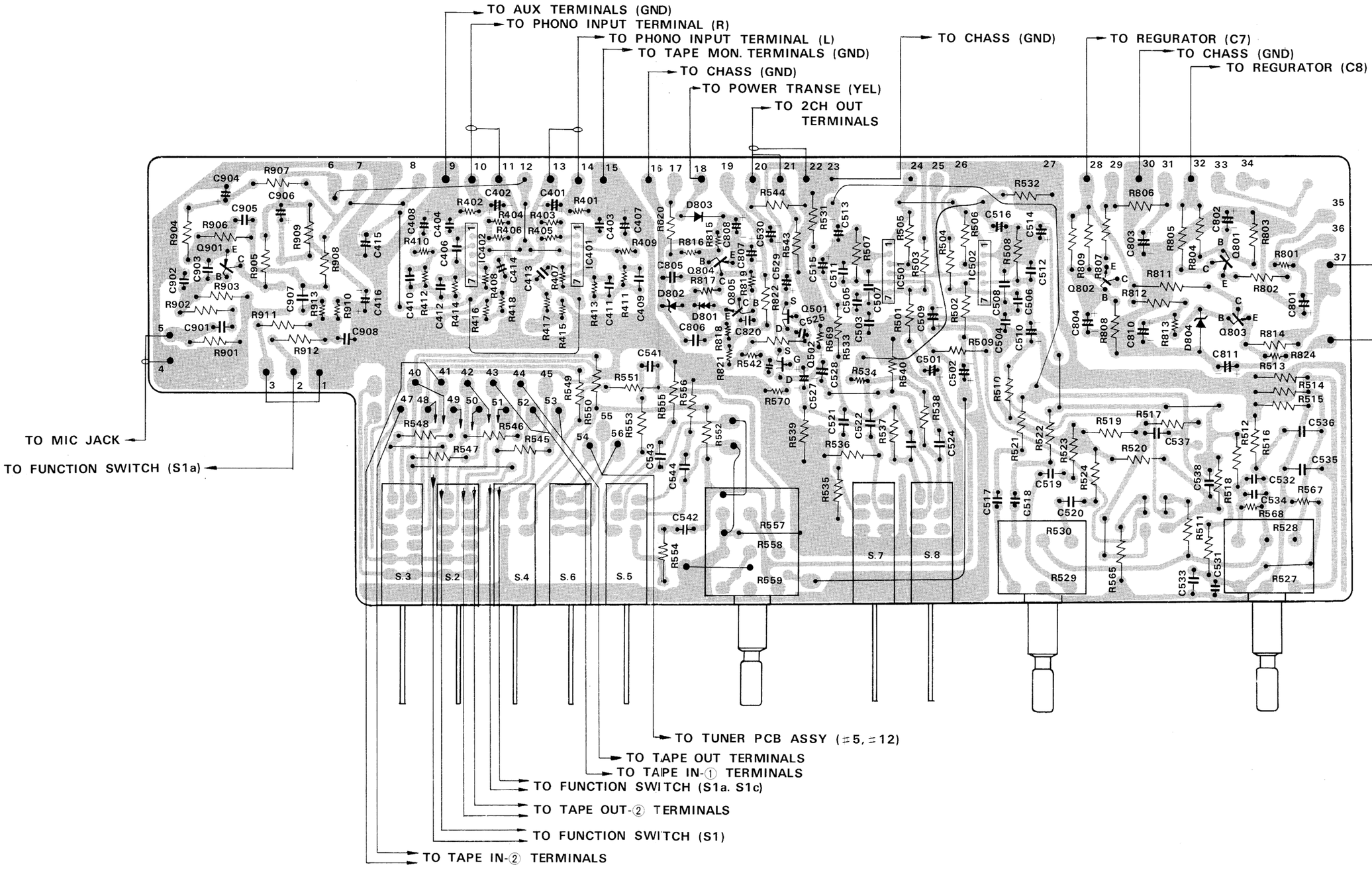
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MAIN AMP PCB ASSEMBLY

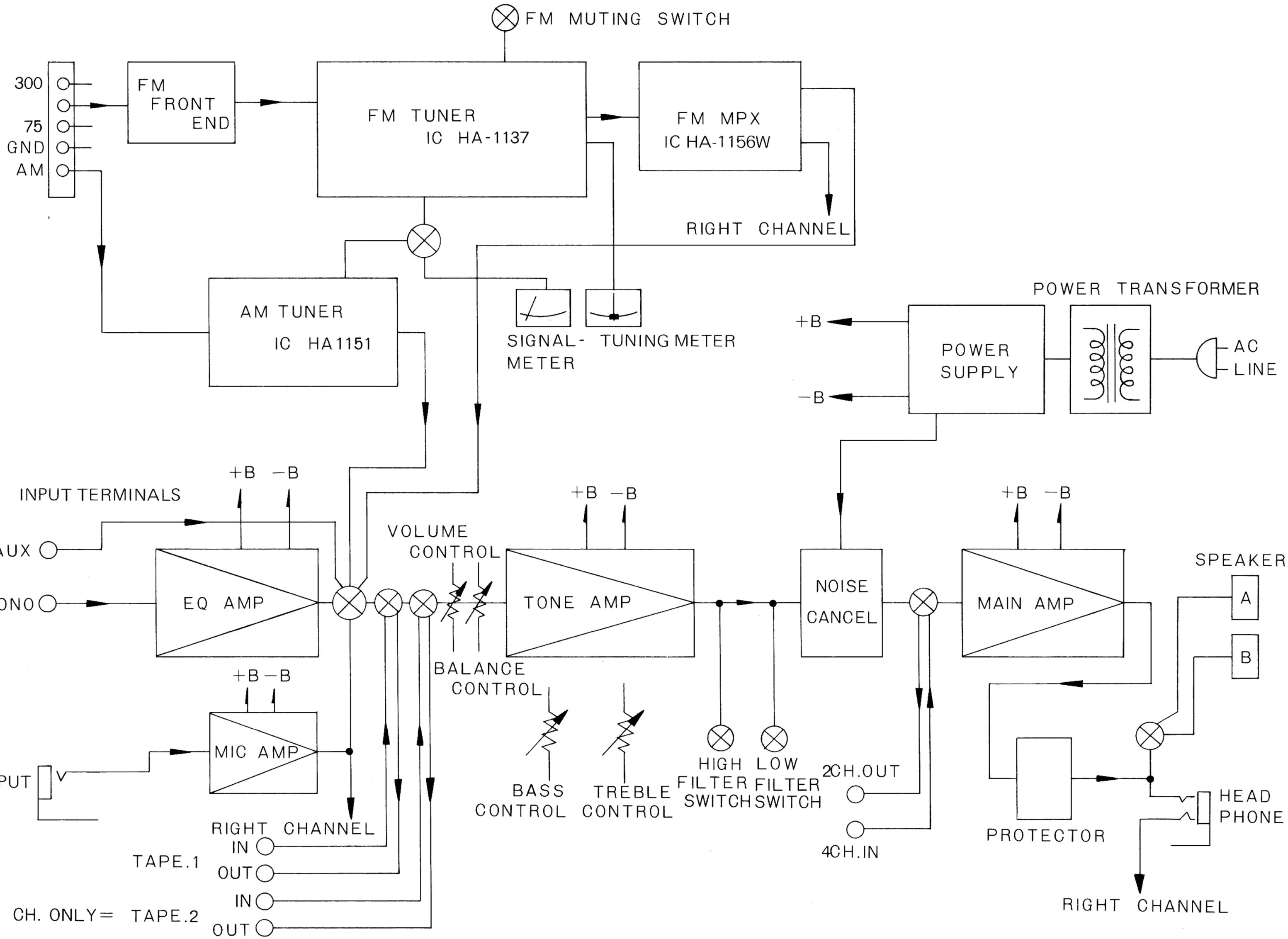


PRE AMP PCB ASSEMBLY

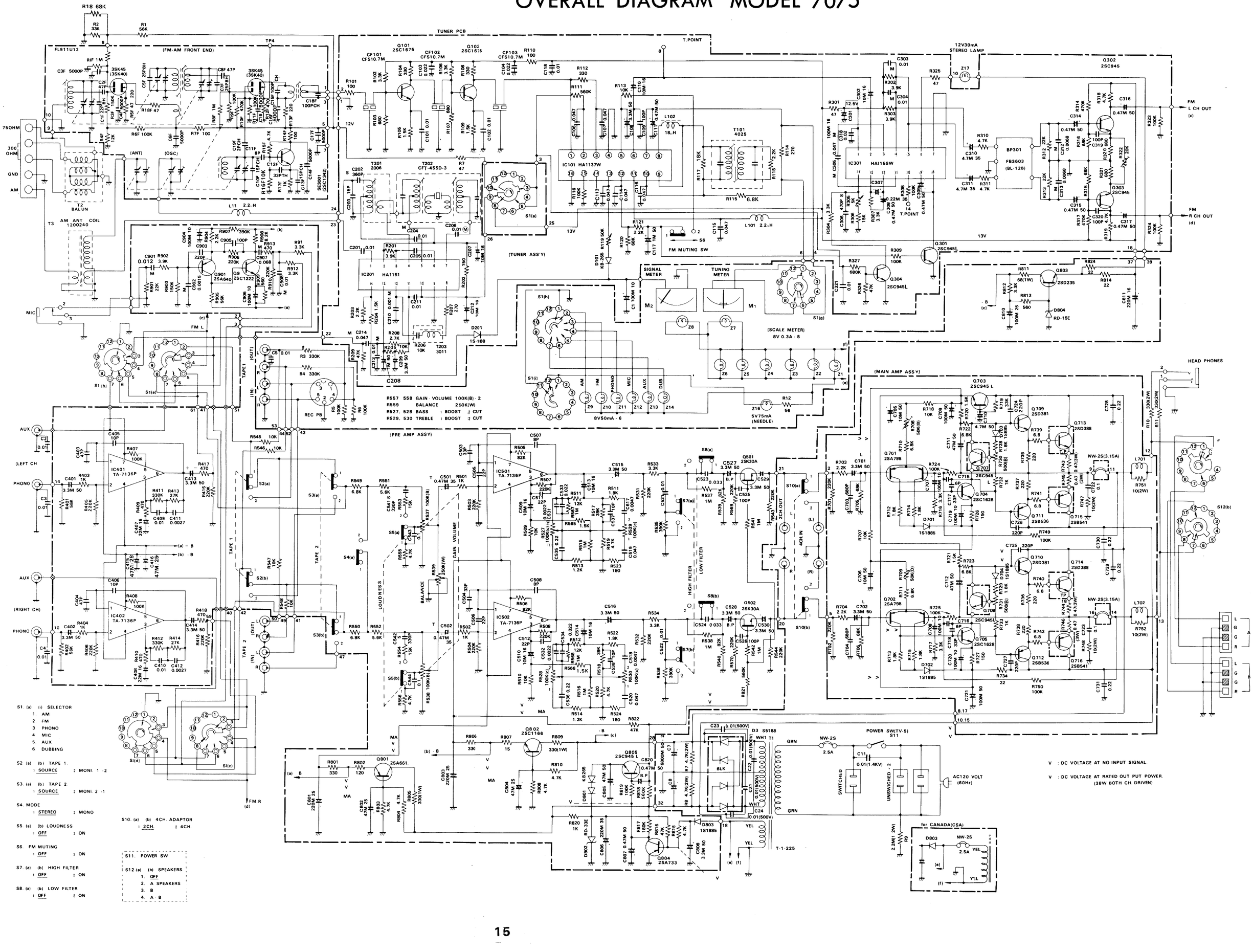


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BLOCK DIAGRAM

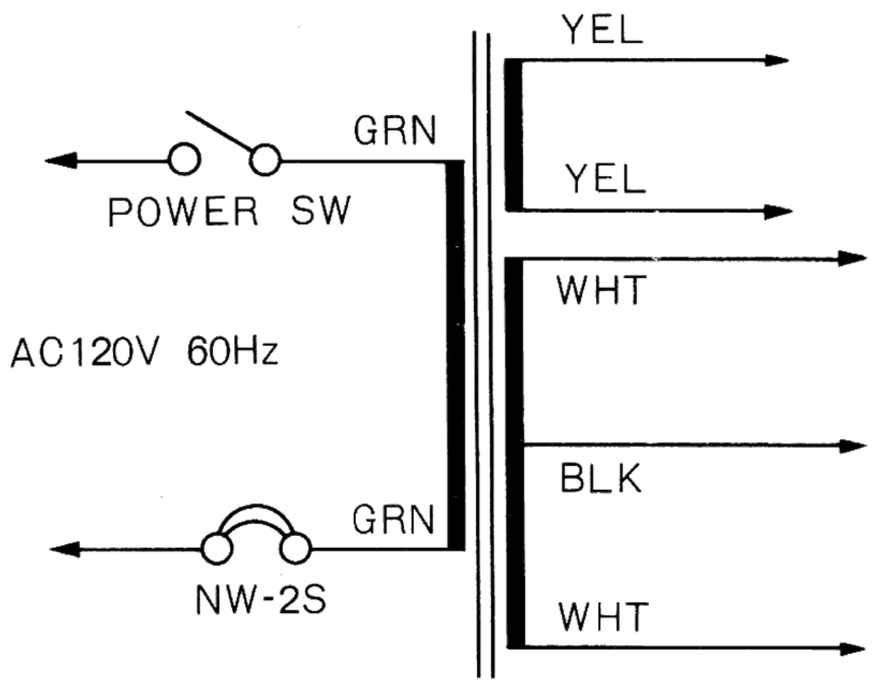


OVERALL DIAGRAM MODEL 7075

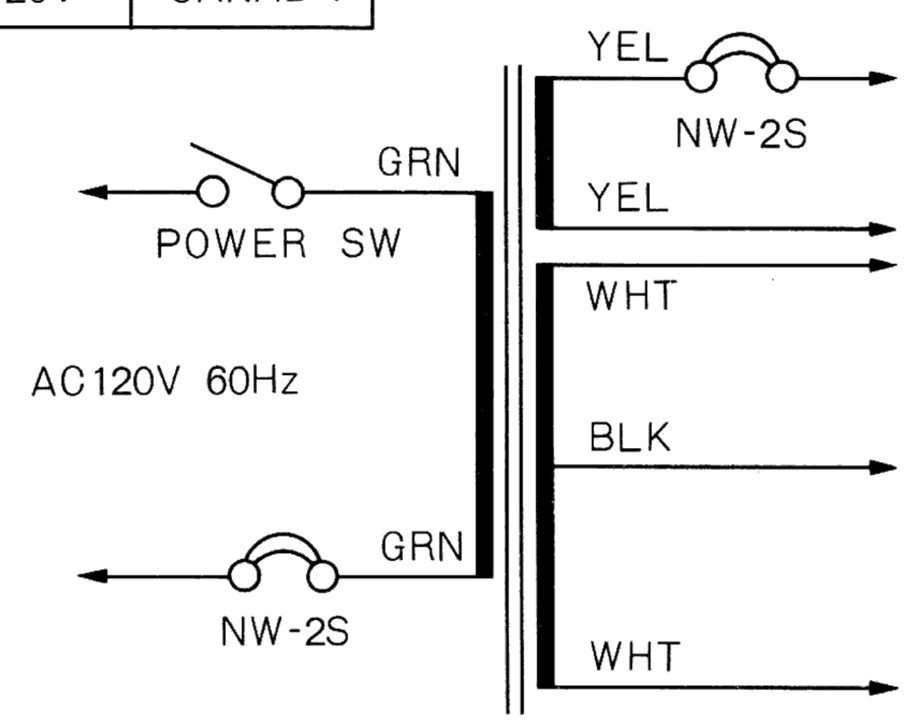


PARTIAL CHANGES MADE ACCORDING DESTINATION

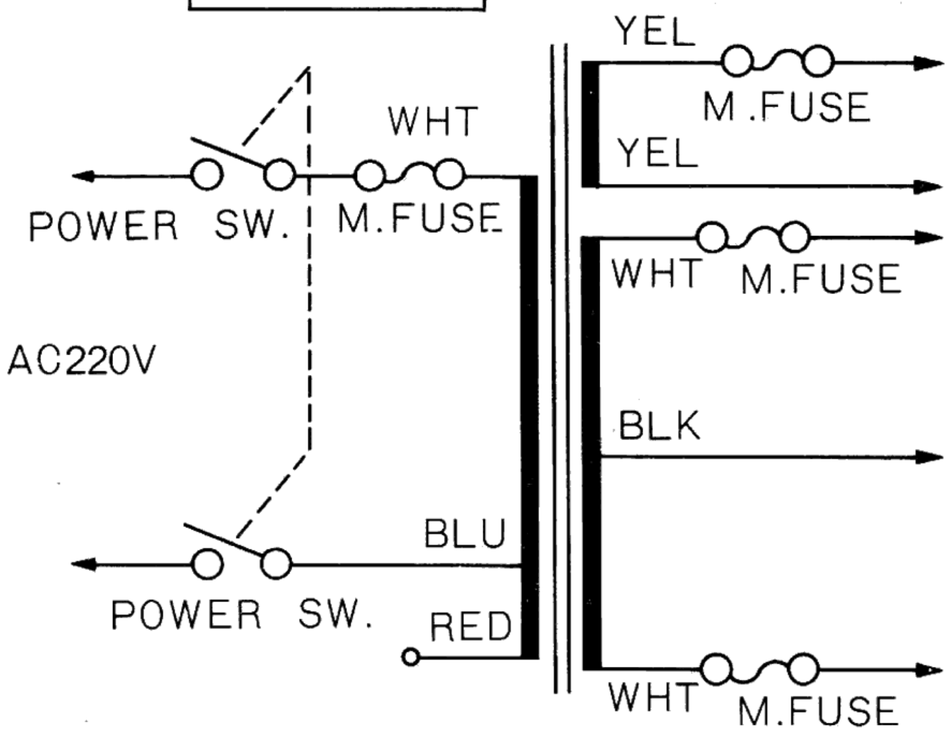
120V	U.S.A



120V	CANADA

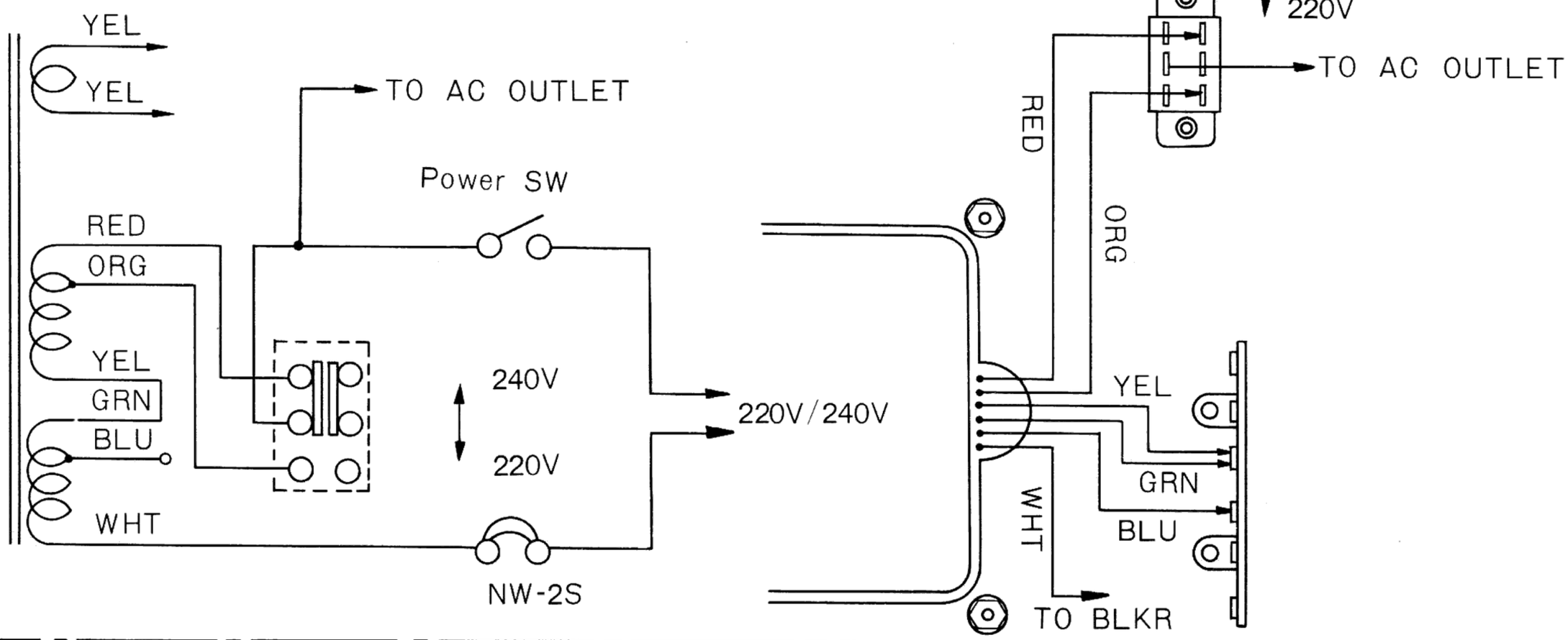


220V	SWEDEN	WEST-GERNANY
	DENMARK	

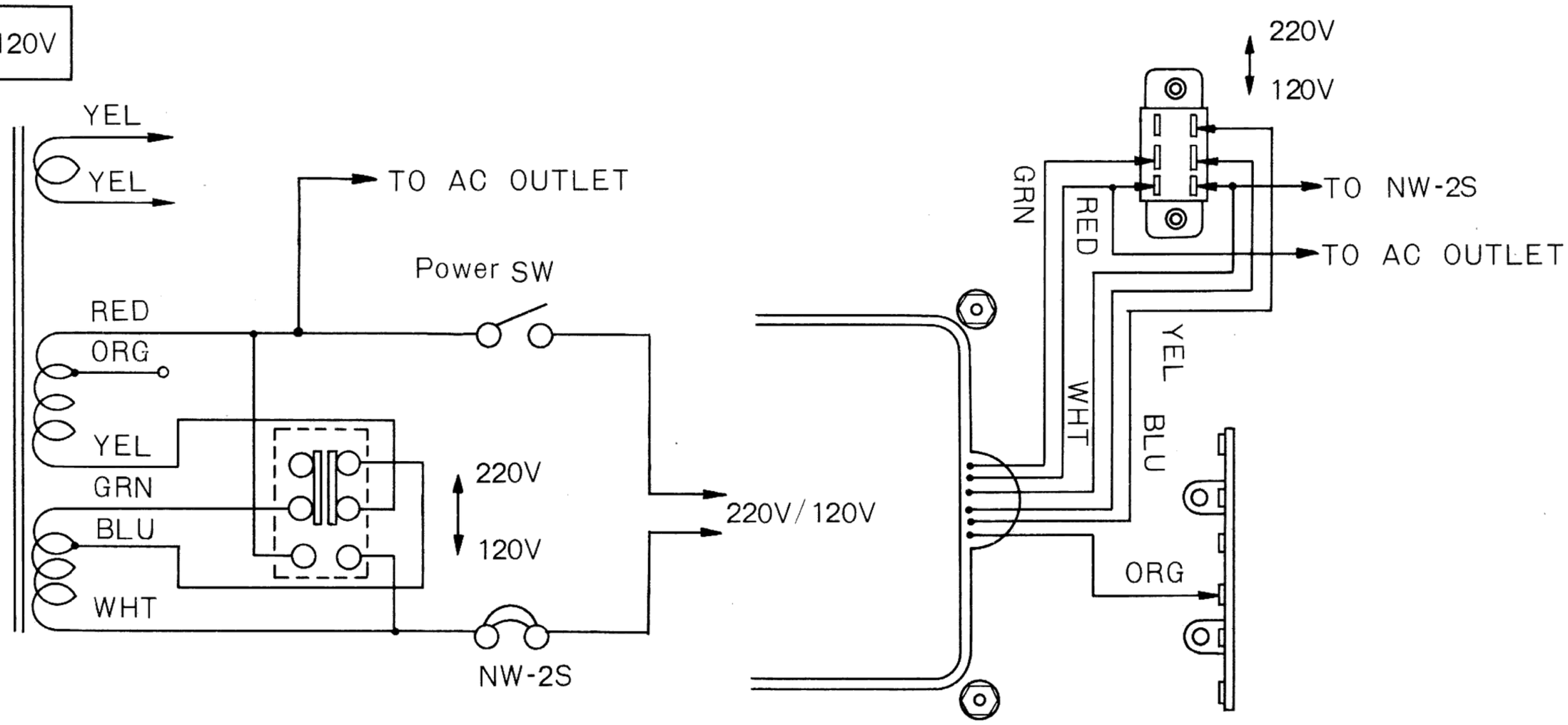


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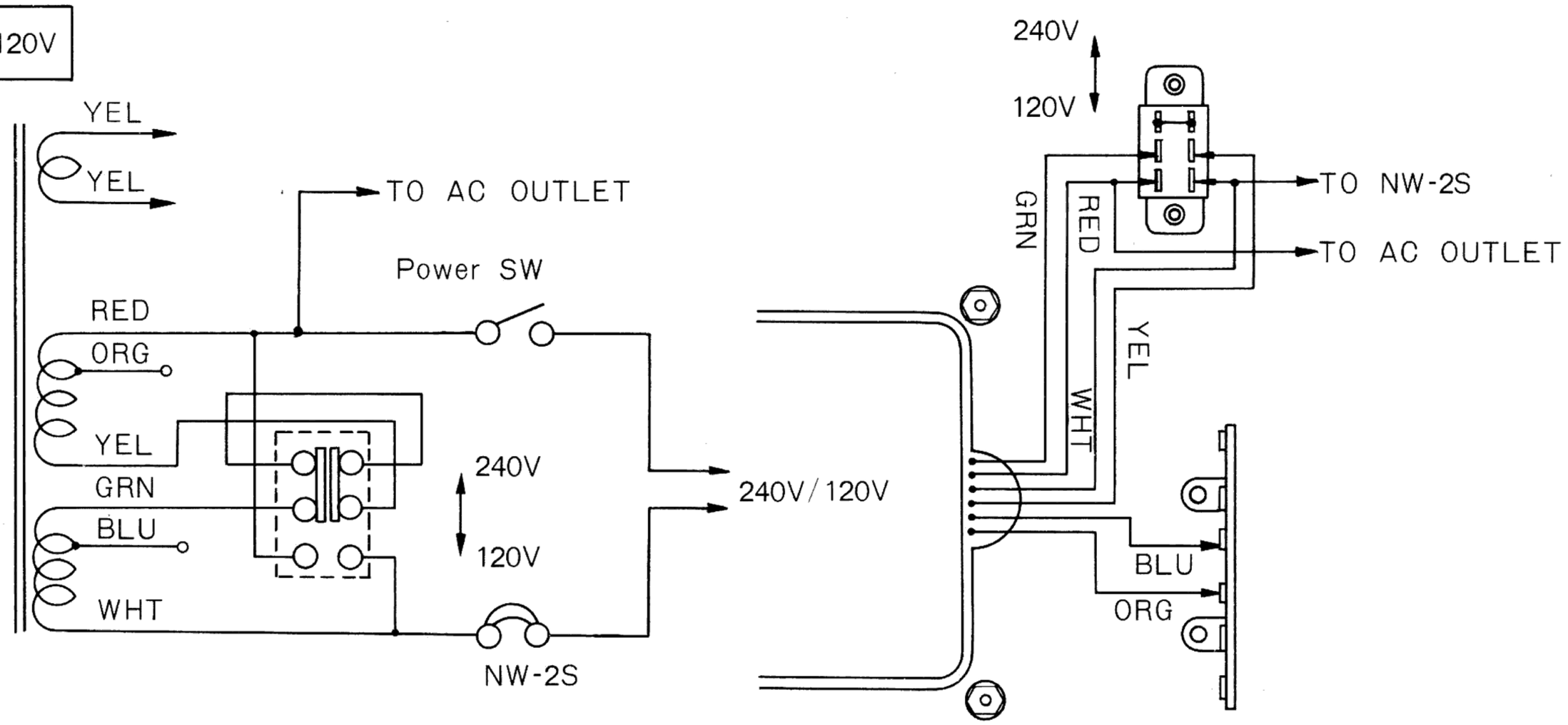
220V/240V | EUROPE



220V/120V



240V/120V



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PARTS LIST

Parts No.	Description	Symbol
	FINAL ASSEMBLY	
982479 O	CARTON BOX	
984058 O	STYROL PAD	
960148 E	OWNERS MANUAL	
961118 E	DIAGRAM	
967003 A	WARRANTY CARD	
960004 O	POLI CLOTH	
458136 O	Q-MATCH ANTENNA	
788311 O	PANEL SUB ASSEMBLY	
700167 O	DUST RING	
785104 O	KNOB R9GL-37	TUNING
758102 O	KNOB R9GL-23D	SPEAKERS SELECTOR
785112 O	KNOB R9GL-20F	VOLUME
785110 O	KNOB R9GL-20CF	TONE
785114 O	KNOB R9GL-22R	TONE BALANSE
785095 O	KNOB 8GL-9CLS	LEVER SWITCN
783105 O	WOOD COVER	
887416 W	TFTS 4×16	WOOD COVER
732362 O	BOTOM PLT	
740078 O	POLY FOOT 30×14	
	CHASS ASSEMBLY	
110225 O	POWER TRANSE T-1-225	T1
740081 O	DIAL DRUM 40ϕ	
744029 O	SPRING (J)	
121070 O	PEAKING COIL	L11
212547 Q	E-CAP 50L6800MF CE62W	C7, C8
560034 S	DIODE S5188	D3
786046 O	NEEDLE SUB ASSEMBLY	
580505 O	PL-5 5V75MA WIRE FR-1	Z16
362472 S	MO-RES RS2S 4,7KOHM2W	R7, R8
238103 P	C-CAP 0,01MF $\left(\begin{smallmatrix}+100\\-0\end{smallmatrix}\%\right)$ 500V	C21, C22, C23, C24
491002 O	FM FRONT END FL911U12	
324563 J	RES RD1/4S 56KOHM 1/4W	R1
324333 J	RES RD1/4S 33KOHM 1/4W	R2
324470 J	RES RD1/4S 47OHM 1/4W	R17
	FRONT PLATE ASSEMBLY	
580806 O	PL- 8V 0,3A	Z1~Z8
580107 O	PL-12 12V30mA WIRE FR-1	Z17
580810 O	PL-8 8V50mA WIRE FR-1	Z9~Z14
324330 J	RES RD1/4S 33OHM 1/4W	R12
712098 O	PULLY SHAFT 4L	
740079 O	PULLY 9ϕ	
740083 O	PULLY 20ϕ	
715212 O	DIAL SHAFT	
780188 O	DIAL SCALE	
458155 O	METER 49H219 (TUNING)	M1
458156 O	METER 49H218 (SIGNAL)	M2

Parts No.	Description	Symbol
405094 O	ROTARY SW SR26N5-10-6	S1 (SELECTOR)
405092 O	ROTARY SW SR26N 1-2-4	S12(SPEAKERS)
402509 O	LEVER SW SYO2U74SM TV-5	S11(POWER SW)
239103 P	C-CAP 0.01MF $\left(\begin{smallmatrix}+100\\-0\end{smallmatrix}\%\right)$ 1.4KV	C11
455013 O	EAR JACK SE-MONO	M1C
455010 O	EAR JACK SE-(US)	HEAD PHONE
740085 O	PANEL SPACER	
362331 S	MO-RES RS2S 330 0HM 2W	R10, R11
211130 Q	E-CAP 10R100 CE04W	C1
	BACK PLATE ASSEMBLY	
606002 J	PLUG CORD KP-2	
740062 O	CORD STOPER SR-3P-4	
450015 O	AC SOCKET	
490068 O	NW-2S 2.5AL=12	
490069 O	NW-2S 3.15AL=12	
446047 O	PUSH TERMINAL 4P	SPEAKERS
445052 O	ANTENNA TERMINAL	
121042 O	BALUN	T2
120024 O	AM BAR ANTENNA	T3
444081 O	US PIN TER 4P×2	
444047 O	US PIN TER 2P×2	
402044 O	SLIDE SW SL-13-10H	S10
453022 O	DIN CONECTOR	
324334 J	RES RD1/4S 330KOHM 1/4W	R3, R4
324104 J	RES RD1/4S 100KOHM 1/4W	R5, R6
315225 K	RES RC1/2GF 2.2MOHM 1/2W	R9
	TUNER PCB ASSEMBLY	
462025 O	TUNER PCB	
491002 O	FRONT END	
	FM IF SECTION	
518038 S	IC HA1137W	IC101
515082 S	TR 2SC1675	Q101, 102
505011 S	DIODE HVKB-265	D101
121067 O	INDUCTOR 180J 18μH	L102
121070 O	PEAKING COIL 2.2μH	L101
124025 O	FM DET	T101
430048 O	KVSF10-7SNF (B) 50K	R119
128023 A	C-FIL SFE10.7MA8 (RED)	CF101, 102, 103
324101 J	RES RD1/4S 100 OHM 1/4W	R101, 110
324271 J	RES RD1/4S 270 OHM 1/4W	R114
324331 J	RES RD1/4S 330 OHM 1/4W	R104, 108, 112
324681 J	RES RD1/4S 680 OHM 1/4W	R163, 107
324152 J	RES RD1/4S 1.5KOHM 1/4W	R105, 109
324222 J	RES RD1/4S 2.2KOHM 1/4W	R121, 118

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Parts No.	Description	Symbol
324332 J	RES RD1/4S 3.3KOHM 1/4W	R102, 106
324103 J	RES RD1/4S 10KOHM 1/4W	R113, 115
324183 J	RES RD1/4S 18KOHM 1/4W	R117
324104 J	RES RD1/4S 100KOHM 1/4W	R116
324564 J	RES RD1/4S 560KOHM 1/4W	R111
232101 K	C-CAP 100PF (±10%) SL	C109
231103 Z	C-CAP 0.01MF $\left(\begin{smallmatrix}+80\%\\-20\end{smallmatrix}\right)$ CK45YG	C101, 102, 118
231203 Z	C-CAP 0.02MF $\left(\begin{smallmatrix}+80\%\\-20\end{smallmatrix}\right)$ CK45YG	C103, 104
231473 Z	C-CAP 0.047MF $\left(\begin{smallmatrix}+80\%\\-20\end{smallmatrix}\right)$ CK45YG	C116, 115, 106 C107, 113, 114
211505 Q	E-CAP 50R0.47 CE04W	C111
211513 Q	E-CAP 50R3.3 CE04W	C108
211220 Q	E-CAP 16R10 CE04W	C110
211510 Q	E-CAP 50R1 CE04W	C117

AM SECTION

518039 S	IC HA1151	IC201
500009 G	DIODE IS188 FM-1	D201
122006 O	AM OSC COIL	T201
123011 O	AM IFT COIL	T203
128021 O	C-FIL CFT-455D-3	T202
324151 J	RES RD1/4S 150 OHM 1/4W	R202
324271 J	RES RD1/4S 270 OHM 1/4W	R207
324152 J	RES RD1/4S 1.5 KOHM 1/4W	R204
324222 J	RES RD1/4S 2.2 KOHM 1/4W	R203
324272 J	RES RD1/4S 2.7 KOHM 1/4W	R208
324392 J	RES RD1/4S 3.9 KOHM 1/4W	R201
324103 J	RES RD1/4S 10 KOHM 1/4W	R205, 206
324473 J	RES RD1/4S 47 KOHM 1/4W	R209
232150 K	C-CAP 15PF (±10%) SL	C203
231103 Z	C-CAP 0.01MF $\left(\begin{smallmatrix}+80\%\\-20\end{smallmatrix}\right)$ CK45YG	C211, 205, 206
222102 K	M-CAP 0.001MF (±10%) CQ92M	C210
222473 K	M-CAP 0.047MF (±10%) CQ92M	C214
222103 K	M-CAP 0.01MF (±10%) CQ92M	C204, 213, 206
223361 K	S-CAP 360PF (±10%) CQ09S	C202
211510 Q	E-CAP 50R1 CE04W	C208
211513 Q	E-CAP 50R3.3 CE04W	C209
211220 Q	E-CAP 16R10 CE04W	C207, 212

MPX. SECTION

518036 S	IC HA1156W	IC301
515077 S	TR 2SC945 Ⓛ	Q301, 302, 303, 304
128026 O	MPX FIL FB-3603	BF301
324470 J	RES RD1/4S 47 OHM 1/4W	R301, 325
324681 J	RES RD1/4S 680 OHM 1/4W	R320, 321
324332 V	RES RD1/4U 3.3KOHM 1/4W	R304
324332 J	RES RD1/4S 3.3KOHM 1/4W	R307
324392 J	RES RD1/4S 3.9KOHM 1/4W	R302, 303
324472 J	RES RD1/4S 4.7KOHM 1/4W	R318, 319, 310, 311
324153 J	RES RD1/4S 15KOHM 1/4W	R306
324223 J	RES RD1/4S 22KOHM 1/4W	R312, 313
324683 J	RES RD1/4S 68 KOHM 1/4W	R316, 315
324473 J	RES RD1/4S 47 KOHM 1/4W	R326
324104 J	RES RD1/4S 100KOHM 1/4W	R308, 323, 324 309
324474 J	RES RD1/4S 470KOHM 1/4W	R314, 317
324684 J	RES RD1/4S 680KOHM 1/4W	R327
430031 O	KVSF 10-7ANF (B) 5K	R305
430033 O	KVSF 10-7ANF (B) 20K	R322
222103 K	M-CAP 0.01MF (±10%) CQ92M	C303, 304
222222 K	M-CAP 0.0022MF (±10%) CQ92M	(C312, 313) 50μSEC
222682 K	M-CAP 0.0068MF (±10%) CQ92M	(C312, 313) 75μSEC
222473 K	M-CAP 0.047MF ±10%) CQ92M	C305
252402 M	T-CAP 35D0.22 CS15E	C307
231103 Z	C-CAP 0.01MF CK45 YG	C321
231203 Z	C-CAP 0.02MF CK45 YG	C318
223471 J	S-CAP 470PF (±5%)CQ09S	C306
211505 Q	E-CAP 50RO.47 CE04W	C309, 308, 314 C315, 316, 317
211415 Q	E-CAP 35R4.7 CE04W	C310, 311
211230 Q	E-CAP 16R100 CE04W	C301
211220 Q	E-CAP 16R10 CE04W	C302
232101 K	C-CAP 100PF (±10%) SL	C319, 320

MAIN AMP ASSEMBLY

943037 O	MAIN AMP PCB ASSY	
874306 S	BLTS 3×6	
748017 O	HEAT SINK	
451008 O	POWER TRANSISTOR SOCKET	
513041 S	TR 2SD388	Q713, 714
513053 S	TS 2SB541	Q715, 716
810314 S	PMS 3×14 P=0.5	
893403 U	TW (I) 3φ	

MAIN AMP PCB ASSEMBLY

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Parts No.	Description	Symbol
463059 O	MAIN AMP PCB	
510039 S	TR 2SB536	Q711, 712
510038 S	TR 2SD381	Q709, 710
515078 S	TR 2SC1628 Ⓨ	Q704, 705
515077 S	TR 2SC945 Ⓛ	Q703, 707, 708
514086 S	TR 2SA798	Q701, 702
560032 S	DIODE IS1885	D701, 702, 703, 704
430044 O	KVSF10-5BM (B) 500 OHM	R730, 731
430050 O	KVSF10-5BM (B) 50KOHM	R708, 709
121069 O	CH COIL ASSY	L701, 702
362100 S	MO-RES RS2S 10 OHM 2W	R751, 752
363479 B	MO-RES RS3B 0.47 OHM 3W	R743, 744, 745, 746
362100 B	MO-RES RS2S 10 OHM 2W	R747, 748
324688 J	RES RD1/4S 6.8 OHM 1/4W	R739, 740, 741, 742
324151 J	RES RD1/4S 150 OHM 1/4W	R726, 727
324221 J	RES RD1/4S 220 OHM 1/4W	R735, 736, 737, 738
324220 J	RES RD1/4S 22 OHM 1/4W	R734
324102 J	RES RD1/4S 1 KOHM 1/4W	R732, 733
324152 J	RES RD1/4S 1.5 KOHM 1/4W	R720, 721
324182 J	RES RD1/4S 1.8 KOHM 1/4W	R728, 729, 712 R713, 714, 715
324222 J	RES RD1/4S 2.2 KOHM 1/4W	R703, 704
324332 J	RES RD1/4S 3.3 KOHM 1/4W	R716, 717
324682 J	RES RD1/4S 6.8 KOHM 1/4W	R722, 723, 710, 711
324103 J	RES RD1/4S 10 KOHM 1/4W	R707, 708
324683 J	RES RD1/4S 68 KOHM 1/4W	R705, 706
324333 J	RES RD1/4S 33 KOHM 1/4W	R719
324104 J	RES RD1/4S 100 KOHM 1/4W	R724, 725, 749, 750
324224 J	RES RD1/4S 220 KOHM 1/4W	R701, 702
211513 L	E-CAP 50R3.3 CE04W-LC	C701, 702
211525 Q	E-CAP 50R47 CE04W	C711, 712, 710
211520 Q	E-CAP 50R10 CE04W	C705, 706
211530 Q	E-CAP 50R100 CE04W	C721, 709
211130 Q	E-CAP 10R100 CE04W	C707, 708, 719 720
222104 K	M-CAP 0.1MF (±10%) CQ92M	C722, 723
222224 K	M-CAP 0.22MF (±10%) CQ92M	C728, 729, 730, 731
232609 D	C-CAP 6PF±0.5PF SL	C713, 714, 715, 716
232330 K	C-CAP 33PF (±10%) SL	C717, 718
232221 K	C-CAP 220PF (±10%) SL	C724, 725, 726, 727
232681 K	C-CAP 680PF (±10%) SL	C703, 704

PRE AMP PCB ASSEMBLY

Parts No.	Description	Symbol
463060 O	PRE AMP PCB	
	MIC AMP SECTION	
514069 S	TR 2SA640	Q901
515068 S	TR 2SC1222	Q902
324561 J	RES RD1/4S 560 OHM 1/4W	R909
324222 J	RES RD1/4S 2.2 KOHM 1/4W	R904
324332 J	RES RD1/4S 3.3 KOHM 1/4W	R911, 912
324392 J	RES RD1/4S 3.9 KOHM 1/4W	R902
324822 J	RES RD1/4S 8.2 KOHM 1/4W	R908
324223 J	RES RD1/4S 22 KOHM 1/4W	R901
324563 J	RES RD1/4S 56 KOHM 1/4W	R905
324224 J	RES RD1/4S 220 KOHM 1/4W	R906
324394 J	RES RD1/4S 390 KOHM 1/4W	R907
324154 J	RES RD1/4S 150 KOHM 1/4W	R903
324224 V	RES RD1/4U 220 KOHM 1/4W	R910
324471 V	RES RD1/4U 470 OHM 1/4W	R913
222683 K	M-CAP 0.068MF (±10%) CQ92M	C907
211325 Q	E-CAP 25R47 CE04W	C415, 416
211130 Q	E-CAP 10R100 CE04W	C904, 906
222123 K	M-CAP 0.012MF (±10%) CQ92M	C901
222152 K	M-CAP 0.0015MF (±10%) CQ92M	C902
222103 K	M-CAP 0.01MF (±10%) CQ92M	C908
232221 K	C-CAP 220PF (±10%) SL	C903
232101 K	C-CAP 100PF (±10%) SL	C905
	EQ AMP SECTION	
518040 S	IC TA-7136P	IC401, 402
402512 O	LV SLD SW S×15-9 Ⓜ	S4, S5 (a)~(b) S6
402513 O	LV SLD SW S×15-10 Ⓑ	S2 (a)~(b) S3 (a)~(b)
434010 O	FJ60E 250KW-100KB×2	R557, 558, 559
324102 V	RES RD1/4U1 KOHM 1/4W	R403, 404
324563 V	RES RD1/4U 56 KOHM 1/4W	R401, 402
324104 V	RES RD1/4U 100 KOHM 1/4W	R407, 408
324224 V	RES RD1/4U 220 KOHM 1/4W	R405, 406, 415, 416
324471 V	RES RD1/4U 470 OHM 1/4W	R409, 410, 417, 418
324273 V	RES RD1/4U 27 KOHM 1/4W	R413, 414
324334 V	RES RD1/4U 330 KOHM 1/4W	R411, 412
211513 Q	E-CAP 50R3.3 CE04W	C401, 402, 413 414

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Parts No.	Description	Symbol
211222 Q	E-CAP 16R22 CE04W	C407, 408
222272 J	M-CAP 0.0027MF (±5%) CQ92M	C411, 412
222103 J	M-CAP 0.01MF (±5%) CQ92M	C409, 410
232100 K	C-CAP 10PF (±10%) SL	C405, 406
232470 K	C-CAP 47PF (±10%) SL	C403, 404
TONE FILTER MUTING SECTION		
518040 S	IC TA-7136P	IC501, 502
516013 S	FET 2SK30A	Q501, 502
515077 S	TR 2SC995 Ⓛ	Q805
514074 S	TR 2SA733	Q804
505011 S	D HV KB-265	D801
502029 S	ZD RD33E	D802
560032 S	D IS1885	D803
402512 O	LV SLD SW S×15−9 Ⓜ	S7(a)~(b) S8(a)~(b)
433005 O	VR DJ20E-100K(C)×2	R527, 528, 529 530
324152 J	RES RD1/4S 1.5 KOHM 1/4W	R565, 566
324181 J	RES RD1/4S 180 OHM 1/4W	R523, 524
324102 J	RES RD1/4S 1 KOHM 1/4W	R501, 502, 820
324122 J	RES RD1/4S 1.2 KOHM 1/4W	R513, 514
324182 J	RES RD1/4S 1.8 KOHM 1/4W	R521, 522
324332 J	RES RD1/4S 3.3 KOHM 1/4W	R533
324472 J	RES RD1/4S 4.7 KOHM 1/4W	R519, 520, 555, 556
324682 J	RES RD1/4S 6.8 KOHM 1/4W	R549, 550
324103 J	RES RD1/4S 10 KOHM 1/4W	R545, 546, 547 R548, 509, 510
324123 J	RES RD1/4S 12 KOHM 1/4W	R511, 512
324153 J	RES RD1/4S 15 KOHM 1/4W	R553, 554
324393 J	RES RD1/4S 39 KOHM 1/4W	R517, 518
324823 J	RES RD1/4S 82 KOHM 1/4W	R505, 506, 539, 540
324473 J	RES RD1/4S 47 KOHM 1/4W	R822
324562 J	RES RD1/4S 5.6 KOHM 1/4W	R551, 552
324224 J	RES RD1/4S 220 KOHM 1/4W	R503,504,507,508 R531,532,543,544
324394 J	RES RD1/4S 390 KOHM 1/4W	R535, 536
324105 J	RES RD1/4S 1 MOHM 1/4W	R537, 538, 541 R515, 516
324332 V	RES RD1/4U 3.3 KOHM 1/4W	R534
324472 V	RES RD1/4U 4.7 KOHM 1/4W	R815
324473 V	RES RD1/4U 47 KOHM 1/4W	R816
324104 V	RES RD1/4U 100 KOHM 1/4W	R819

Parts No.	Description	Symbol
324184 J	RES RD1/4S 180 KOHM 1/4W	R817
324564 V	RES RD1/4U 560 KOHM 1/4W	R818, 821
324105 V	RES RD1/4U 1 MOHM 1/4W	R542, 567, 568
324224 V	RES RD1/4U 220 KOHM 1/4W	R569, 570
211505 Q	E-CAP 50R0.47 CE04W	C807
211513 Q	E-CAP 50R3.3 CE04W	C808, 515, 516 C529, 530
211220 Q	E-CAP 16R10 CE04W	C509, 510, 513 514
211525 Q	E-CAP 50R47 CE04W	C805
211432 Q	E-CAP 35R220 CE04W	C806
215513 N	BP-CAP 50R3.3 CE04D	C527, 528
252406 M	T-CAP 35DO.47 CS15E	C501, 502
223331 J	S-CAP 330PF (±5%) CQ09S	C541, 542
222222 K	M-CAP 0.0022MF (±10%) CQ92M	C531, 532
222472 K	M-CAP 0.0047MF (±10%) CQ92M	C517, 518
222223 K	M-CAP 0.022MF (±10%) CQ92M	C534, 533
222103 K	M-CAP 0.01MF (±10%) CQ92M	C521, 522
222333 K	M-CAP 0.033MF (±10%) CQ92M	C523, 524
222473 K	M-CAP 0.047MF (±10%) CQ92M	C519, 520
222104 K	M-CAP 0.1MF (±10%) CQ92M	C529, 530
222224 K	M-CAP 0.22MF (±10%) CQ92M	C519, 520
232809 D	C-CAP 8PF (±0.5PF) SL	C507, 508
232100 K	C-CAP 10PF (±10%) SL	C517, 518
232101 K	C-CAP 100PF (±10%) SL	C525, 526
2322220K	C-CAP 22PF (±10%) SL	C511, 512, 505, 506
232330 K	C-CAP 33PF (±10%) SL	C503, 504
REG. SECTION		
502027 S	ZD RD15E	D804
514084 S	TR 2SA661 (O.Y)	Q801
515075 S	TR 2SC1166 (O,Y)	Q802
513056 S	TR 2SD235 (O,Y)	Q803
361680 S	MO-RES RSIS 68OHM IW	R811
361331 S	MO-RES RSIS 330OHM IW	R805, 809
708170 O	H-SINK (M) AL100P H12	
324150 J	RES RD1/4S 15OHM 1/4W	R802
324220 J	RES RD1/4S 22OHM 1/4W	R814
324121 J	RES RD1/4S 120OHM1/W	R807
324331 J	RES RD1/4S 330OHM 1/4W	R806
324332 J	RES RD1/4S 3.3 KOHM 1/4W	R812
324472 J	RES RD1/4S 4.7 KOHM 1/4W	R804, 810, 803, 808
324331 V	RES RD1/4U 330 OHM 1/4W	R801
324561 J	RES RD1/4S 560 OHM 1/4W	R813

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Parts No.	Description	Symbol	Parts No.	Description	Symbol
324220 V	RES RD1/4U 22 OHM 1/4W	R824			
211232 Q	E-CAP 16R220 CE04W	C811			
211325 Q	E-CAP 25R47 CE04W	C802, 804			
211330 Q	E-CAP 25R100 CE04W	C810			
211332 Q	E-CAP 25R220 CE04W	C801, 803			
215505 N	BP-CAP 50R0.47 CE04D	C820			

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SEMICONDUCTOR SPECIFICATION

TRANSISTOR COMPLEMENT.

Type	Description ★Note	Class of Service	Maximum Ratings (T_A=25°C) (Absolute Values)						Electrical Characteristics (Typical Value) T_A=25°C										Manufacture
			Collector to Base Voltage V_{CBO} (V)	Emitter to Base Voltage V_{EBO} (V)	Collector Current I_C (mA)	Emitter Current I_E (mA)	Collector Dissipation P_C (mw)	Junction Temperature (°C)	Condition of Measurement V_{CE} (V)	Condition of Measurement I_E (mA)	hfe (hFE)	NF (dB)	$f_{\alpha b}$ (fT) MHz	Cob pF	hie (real) Ω	Collector Cut-off Current I_{CBO} (max. μA)	Collector Cut-off Current V_{CB} (V)	Emitter Cut-off Current V_{EB} (max. μA)	Emitter Cut-off Current V_{EB} (V)	
2SC1342	NPN Si-P	RF AMP	30	20	30		100	125	6.0	1.0	35 ~200	MAX 8.5	MIN. 150	MAX 1.5		0.5	10			HITACHI
2SC1675	NPN Si-EP	RF AMP	50	5	30		250	125	6.0	1.0	90	2.0	250	1.9		0.1	50	0.1	5	NEC
2SC945	NPN Si-E	LOW FREQ. AMP	50	5	100		250	125	6.0	1.0	150	4.0	300	4.5		0.1	40	0.1	3	NEC
2SD235	NPN Si-D-J	Power Out put	50	10	3.0A		1.5W	150	5.0	500	80		1.0			100	20	100	5	TOSHIBA
2SA640	PNP Si-E	LOW FREQ. AMP	− 50	−5	−30		250	125	−3.0	−0.1	300	1.5	100	8.0		−0.1	− 40	−0.1	−3	NEC
2SC1222	NPN Si-E	LOW FREQ. AMP	50	5	30		250	125	3.0	0.1	320	1.5	100			0.05	25	0.1	3	NEC
2SA733	PNP Si-E	LOW FREQ. AMP	− 50	−5	−100		250	125	−6.0	−1.0	200	6.0	180	8.0		−0.1	− 40	−0.1	−5	NEC
2SA661	PNP Si-E	DRIVER STAGE AMP	− 60	−5	−200		600	150	−2.0	−50	100		100	9.0		−0.1	− 20	−0.1	−5	TOSHIBA
2SC1166	NPN Si-E	DRIVER STAGE AMP	60	5	200		600	150	2.0	50	100		120	9.0		0.1	20	0.1	5	TOSHIBA
2SD388	NPN Si-T-D	Power Out put	150	7	8A		80W	150	5.0	1A	80					100	100	100	5	NEC
2SB541	PNP Si-T-D	Power Out put	−110	−6	−8A		80W	150	−5.0	−1A	80					−100	−100	−500	−5	NEC
2SB536	PNP Si-E	Power Out put	−130	−5	−1.5A		20W	150	−5.0	−0.3A	110					−1.0	−120	−1.0	−3	NEC
2SD381	NPN Si-E	Power Out put	130	5	1.5A		20W	150	5.0	0.3A	110					1.0	120	1.0	3	NEC
2SC1628	NPN Si-T-D	DRIVER STAGE AMP	180	5	50		1.0W	150	5.0	10	120		120	5.0		1.0	100	1.0	5	TOSHIBA
2SA798	PNP Si EP	AF LOW NOISE AMP	− 50	−5	−100		200	125	−6.0	−1.0	600		100	3.0		−0.1	− 35	−0.1	−2	MITSUBISHI

★Note.

Si-P; Silicon Planar Transistor
Si-EP; Silicon Eptaxial Planar Transistor
Si-D-J; Silicon Diffused Junction Transistor
Si-E; Silicon Eptaxial Transistor
Si-T-D; Silicon Triple Diffused Transistor

FIELD EFFECT TRANSISTOR COMPLEMENT.

Type	Description	Class of Service	Maximum Ratings						Electrical Characteristics (Typical Value) T_A=25°C														Manufacture
			B_{DSE} (V)	V_{GDO} (V)	I_D (mA)	P_T (mw)	T_{stg} (°C)	T_{ch} (°C)	I_{GSS} Condition	I_{GSS} (nA)	I_{DSS} Condition	I_{DSS} (mA)	V_{GS} Condition	V_{GS} (V)	Y_{fs} Condition	Y_{fs} (m℧)	Y_{OS} Condition	Y_{OS} (m℧)	C_{RSS} Condition	C_{RSS} (PF)	P_G Condition	P_G (dB)	NF Condition	NF (dB)	
3SK45	N-CH. MOS-FET	RF AMP	$\begin{pmatrix} V_{GS} \\ -7 \\ \downarrow \\ +7 \end{pmatrix}$	$\begin{pmatrix} V_{DS} \\ -0.2 \\ \downarrow \\ +22 \end{pmatrix}$	35	330	−65 ↓ +175		$V_{G1S}=\pm 7V$ $V_{DS}=0V$ $V_{G2S}=0V$	IG1SS 20	$V_{DS}=15V$ $V_{G2S}=4V$	4 ↓ 32	$V_{DS}=15V$ $V_{G2S}=4V$ $I_D=100\mu A$	V_{G1S} MAX −0.3							$V_{DD}=15V$ $V_{G2S}=4V$ $I_D=20mA$ f=200MHZ	MIN 17	$V_{DD}=15V$ $V_{G2S}=4V$ $I_D=10mA$ f=200MHZ	MAX 3.3	HITACHI
									$V_{G2S}=\pm 7V$ $V_{DS}=0V$ $V_{G1S}=0V$	IG2SS 20	$V_{G2S}=4V$		$V_{DS}=15V$ $V_{G1S}=0V$ $I_D=100\mu A$	V_{G2S} MIN −2.0											
3SK40	N-CH. MOS-FET	RF AMP	$\begin{pmatrix} V_{GS} \\ -7 \\ \downarrow \\ +7 \end{pmatrix}$	$\begin{pmatrix} V_{DS} \\ \\ \\ 20 \end{pmatrix}$	25	250	−65 ↓ +150	150	$V_{G1S}=\pm 5V$ $V_{DS}=0V$ $V_{G2S}=0V$	100	$V_{DS}=10V$ $V_{G1S}=0V$	4 ↓ 25	$V_{DS}=15V$ $V_{G2S}=0V$ $I_D=100\mu A$	V_{G1S} MAX −4V							$V_{DS}=15V$ $I_D=5mA$ f=200MHZ	MIN 18	$V_{DS}=15V$ $I_D=5mA$ f=200MHZ	MAX 4.5	NEC
									$V_{G2S}=\pm 5V$ $V_{DS}=0V$ $V_{G1S}=0V$	100	$V_{G2S}=4V$		$V_{DS}=15V$ $V_{G1S}=0V$ $I_D=100\mu A$	V_{G2S} MAX −4V											
2SK30A	N-CH. J-FET	AF AMP		$\begin{pmatrix} V_{GDS} \\ \\ \\ -50 \end{pmatrix}$		100	−55 ↓ +125		$V_{GS}=-30V$ $V_{DS}=0V$	−1.0	$V_{DS}=10V$ $V_{GS}=0V$	0.3 ↓ 6.5								$V_{GD}=-10V$ $V_{DS}=0V$ f=1MHZ	2.6			$V_{DS}=15V$ $V_{GS}=0V$ $R_g=100K\Omega$ f=120HZ	MAX 5.0	TOSHIBA

RECTIFIER, DIODE, ZENER-DIODE COMPLEMENT.

Type	Description	Maximum Ratings (T_A=25°C)						Electrical Characteristics (Typical Value) T_A=25°C						Manufacture
		Peak Inverse Voltage (V)	Dissipation (mw)	Out-put Current (mA)	Inverse Current (A)	Surge Current (A)	Junction Temperature (°C)	Condition		Condition		Condition		
S5188	Si RECTIFIER	200		11	MAX. 2mA (V_R=200V)	250	150							TOSHIBA
KB-265	Si VARISTER	6		30	10μA (V_R=6V)		110	I_F=3mA	V_F= 1.24V~ 1.38V	I_F=3mA	γF= −4mV/°C			KURAKE
1S188 FM-1	Ge. FM DETECTOR	35		50	MAX. 75μA (V_R=10V)	500mA	70	40MHz	γ= 50%	V_R=1V	C= 0.8pF			KURAKE
1S1885	Si RECTIFIER	100		1.0A (Ta=65°C)	MAX. 0.4 (V_R=100V)	60	150							TOSHIBA
RD33E	Si ZENER DIODE			400	V_R=25V 2μA		175	I_Z=5mA	V_Z= 31.0V~ 35.0V	I_Z=5mA	R_D= MAX 160Ω	I_Z=0.5mA	Z_{EK}= MAX 400Ω	NEC
RD15E	Si ZENER DIODE			400	V_R=11V 2μA		175	I_Z=10mA	V_Z= 13.8V~ 15.6V	I_Z=10mA	R_D= MAX 30Ω	I_Z=0.5mA	Z_{EK}= MAX 150Ω	NEC

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