

NIKKO

Stereo receiver **9095**

Service manual



SPECIFICATION

		MOMINAL	LIMIT
Sensitivity	(IHF)	1.8 μ V	2.5 μ V
Quieting Slope	(S/N 50dB)	3.0 μ V	5.0 μ V
Selectivity	(IHF)	70dB	50dB
Image Rejection	(98MHz)	85dB	75dB
IF Rejection	(98MHz)	100dB	90dB
Signal to Noise ratio	(98MHz)	70dB	60dB
Capture Ratio	(IHF)	1.8dB	3.0dB
Muting Sensitivity		25dB	10dB
Distortion	(MONO)	0.2%	0.5%
Distortion	(STEREO 1KHz)	0.4%	1.0%
Stereo Separation	(1KHz)	45dB	35dB
Output voltage	(TAPE OUT)	780mV	$\pm$ 2dB

2. AM TUNER SECTION

Sensitivity	(IHF)	250 μ V/m	500 μ V/m
Selectivity	(IHF) $\pm$ 10KHz	25dB	20dB
Image Rejection	(1000KHz)	60dB	40dB
IF Rejection	(1000KHz)	60dB	40dB
Distortion		1.0%	2.5%
Signal to Noise ratio		55dB	40dB
Output level	(TAPE OUT)	150mV	$\pm$ 3dB

3. AMPLIFIER SECTION

Input sensitivity	PHONO 1	2.8mV	$\pm$ 2dB
	PHONO 2	2.8mV	$\pm$ 2dB
	AUX 1	200mV	$\pm$ 2dB
	AUX 2	350mV	$\pm$ 2dB
	MIC	2.9mV	$\pm$ 2dB
	TAPE MON.	200mV	$\pm$ 2dB
	TAPE MON. (DIN)	200mV	$\pm$ 2dB
	4 CH. IN (MAIN IN)	1400mV	$\pm$ 2dB
Signal to Noise (INPUT SHOT)			
	PHONO 1, 2	65dB	60dB
	AUX 1, 2	85dB	80dB
	TAPE MON.	85dB	80dB
	4CH. IN. (MAIN IN)	95dB	90dB
	MIC	65dB	60dB
Continuous power output			
	20Hz ~ 20KHz (8 Ω) 2cH Driven	65W x 2	63W x 2
	20Hz ~ 20KHz (4 Ω) 2CH Driven	71W x 2	68W x 2
	1KHz 2CH Driven (8 Ω)	68W x 2	65W x 2
	1KHz 2CH Driven (4 Ω)	76W x 2	74W x 2
Power Bandwidth			
	2CH Driven (8 Ω) IHF Dist. 0.5%	5Hz ~ 40KHz	20Hz ~ 20KHz

Frequency response

PHONO (RIAA EQUALIZATION)	30Hz ~ 15KHz	±1.5dB
TAPE MON.	20Hz ~ 20KHz	±2dB
OTHERS	20Hz ~ 30KHz	±2dB

Output level

TAPE OUT 1, 2	190mV	±2dB
TAPE OUT (DIN.)	40mV	±2dB
2CH OUT (PRE. OUT)	1400mV	±2dB

Tone control

BASS 70Hz	CUT	-10dB	±2dB
	BOOST	+10dB	±2dB
MID. 1KHz	CUT	-6dB	±2dB
	BOOST	+6dB	±2dB
TREBLE 10KHz	CUT	-10dB	±2dB
	BOOST	+10dB	±2dB

Loudness Control

(VOLUME: -30dB)	70Hz	+10dB	±2dB
	10KHz	+4dB	±2dB

Low Filter	70Hz	-7dB	±2dB
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High Filter	8KHz	-6dB	±2dB
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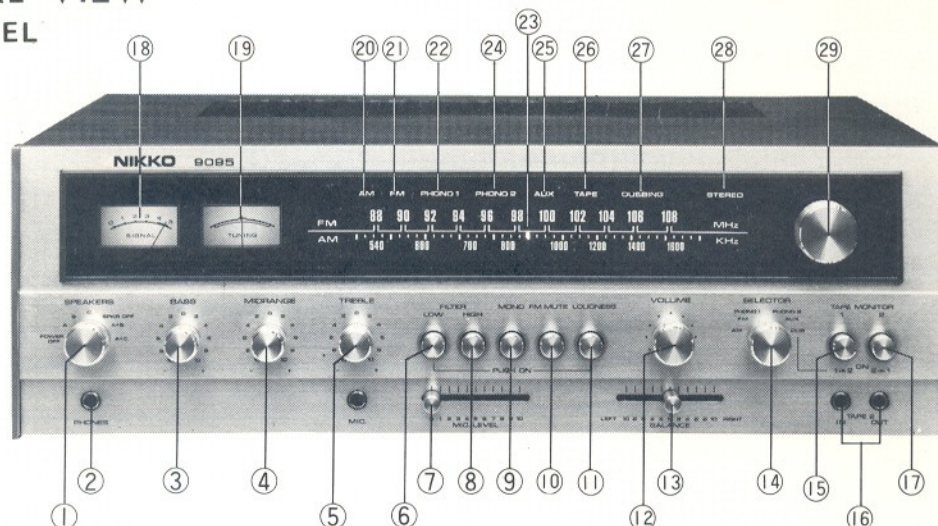
Idling Current	20mA	±10mA
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Mid-Point Voltage	0mV	±30mV
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Residual Hum & Noise (8Ω)	0.8mV	1.5mV
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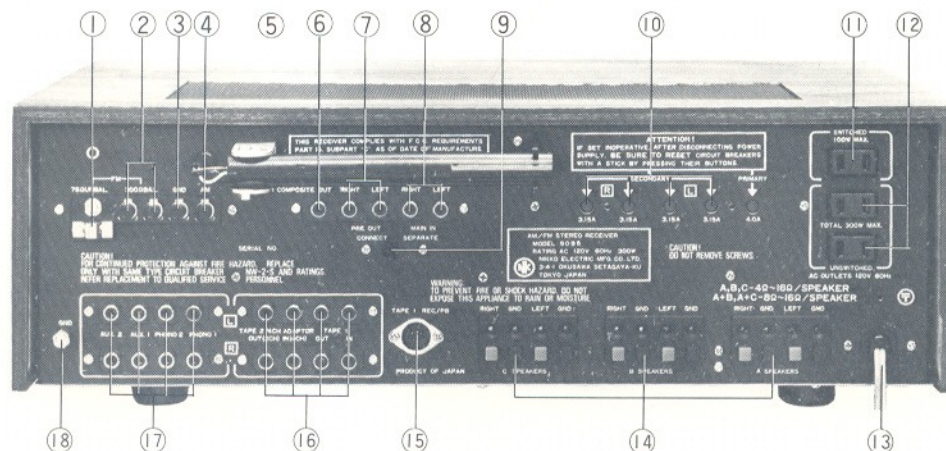
Muting Delay	2.5 sec.	±1.5 sec.
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EXTERNAL VIEW FRONT PANEL



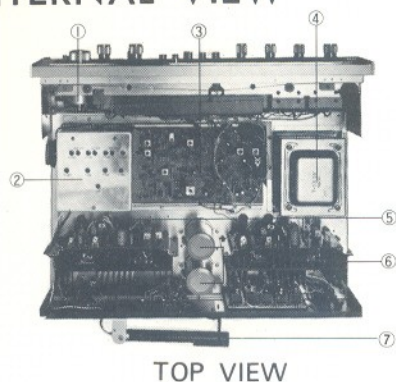
- | | |
|---------------------------|---------------------------|
| 1 POWER/SPEAKER SWITCH | 16 TAPE 2. IN/OUT JACK |
| 2 HEAD-PHONE JACK | 17 TAPE MONITOR SWITCH #2 |
| 3 BASS CONTROL | 18 SIGNAL METER |
| 4 MID RENG CONTROL | 19 TUNING METER |
| 5 TREBLE CONTROL | 20 AM INDICATOR |
| 6 LOW FILTER SWITCH | 21 FM INDICATOR |
| 7 MIC LEVEL CONTROL | 22 PHONO 1 INDICATOR |
| 8 HIGH FILTER SWITCH | 23 DIAL POINTER |
| 9 MONO SWITCH | 24 PHONO 2 INDICATOR |
| 10 FM MUTING SWITCH | 25 AUX INDICATOR |
| 11 LOUDNESS SWITCH | 26 TAPE INDICATOR |
| 12 VOLUME CONTROL | 27 DUBBING INDICATOR |
| 13 BALANCE CONTROL | 28 STEREO INDICATOR |
| 14 SELECTOR SWITCH | 29 TUNING KNOB |
| 15 TAPE MONITOR SWITCH #1 | |

REAR PANEL



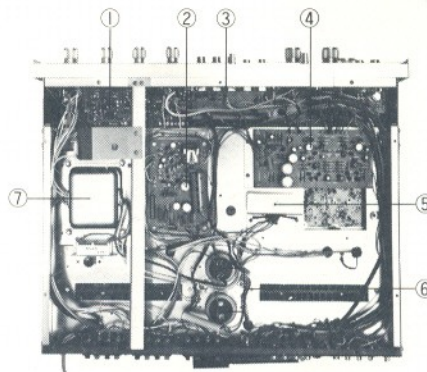
- | | |
|---|-------------------------------|
| 1 FM ANTENNA TERMINAL (75 OHM UNBALANCED) | 10 SECONDARY NO FUSE BREAKERS |
| 2 FM ANTENNA TERMINAL (300 OHM BALANCED) | 11 AC OUT LET (SWITCHED) |
| 3 GND TERMINAL | 12 AC OUT LET (UNSWITCHED) |
| 4 AM ANTENNA TERMINAL | 13 AC CORD |
| 5 AM BAR ANTENNA | 14 SPEAKER TERMINALS |
| 6 FM 4 CHANNEL COMPOSITE OUT PUT TERMINAL | 15 TAPE REC/PB SOCKET |
| 7 PRE OUT TERMINAL | 16 TAPE OUT/IN TERMINALS |
| 8 MAIN IN TERMINAL | 17 INPUT TERMINALS |
| 9 MAIN CONNECT/SEPARATE SWITCH | 18 PHONO GND TERMINAL |

INTERNAL VIEW



TOP VIEW

- 1 FLYWHEEL
- 2 FRONT END
- 3 TUNER PCB ASSY
- 4 POWER TRANSFORMER
- 5 MAIN AMP PCB ASSY
- 6 E-CAP 63L10000
- 7 AM BAR ANTENNA



BOTTOM VIEW

- 1 TONE AMP PCB ASSY BOARD
- 2 PROTECT REG. PCB ASSY BOARD
- 3 PUSH SW PCB ASSY BOARD
- 4 EQ AMP PCB ASSY BOARD
- 5 RECTIFIER DIODE
- 6 E-CAP 63L10000
- 7 POWER TRANSFORMER

PARTIAL DISASSEMBLY CABINET REMOVAL

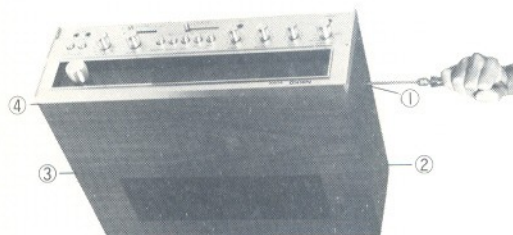


PHOTO 1

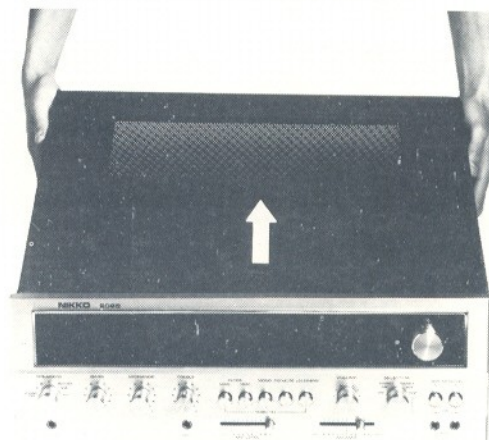


PHOTO 2

- 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)

BOTTOM PLATE REMOVAL

Turn the cabinet and remove screws (1 ~ 9) as shown in Photo 3.

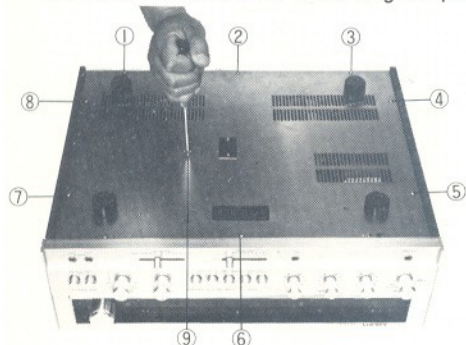
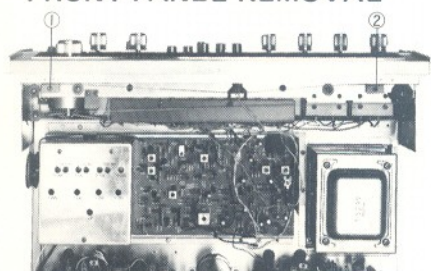


PHOTO 3

FRONT PANEL REMOVAL



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

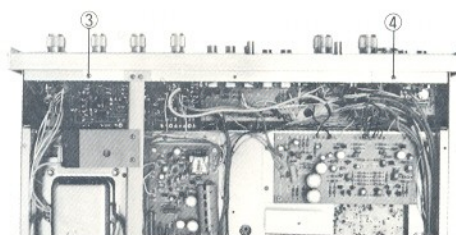


PHOTO 4

TUNER PCB ASSY BOARD REMOVAL

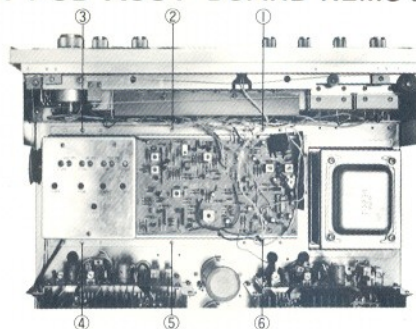


PHOTO 5

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

POWER TRANSFORMER REMOVAL

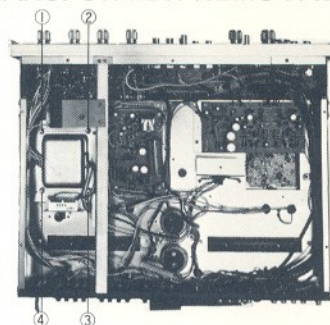


PHOTO 6

Remove nuts (1 ~ 4) as shown in Photo 6 then lift the transformer up to remove it.

MAIN AMP PCB ASSY BOARD REMOVAL

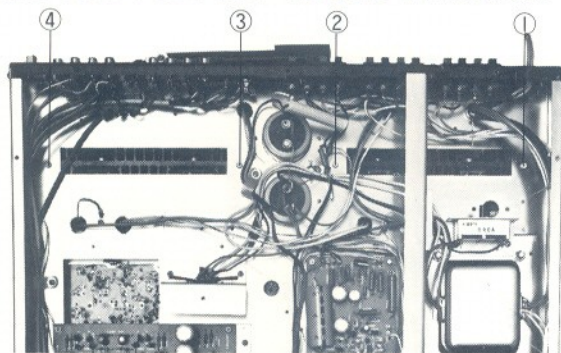


PHOTO 7

Remove screws (1 ~ 4) as shown in Photo 7.

PROTECT REG. PCB ASSY REMOVAL

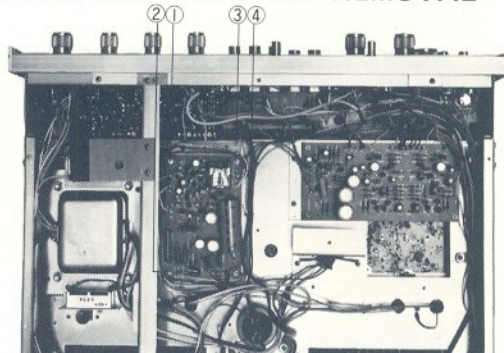


PHOTO 8

Remove screws (1 ~ 4) as shown in Photo 8.

TONE AMP PCB ASSY REMOVAL

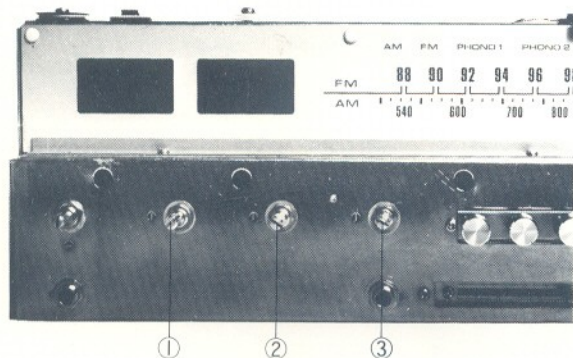


PHOTO 9

Remove nuts (1 ~ 3) as shown in Photo 9 and pull forward to remove it.

PUSH SW PCB ASSY BOARD REMOVAL

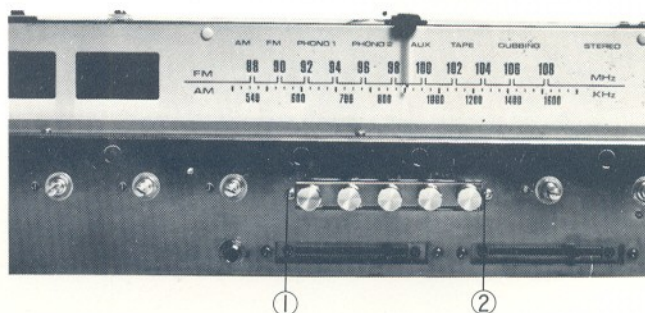


PHOTO 10

Remove screws (1 ~ 2) as shown in Photo 10 and pull forward to remove it.

METER REMOVAL

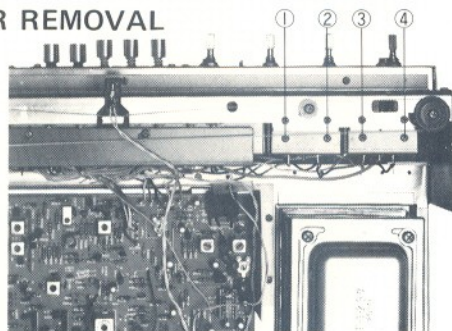


PHOTO 11

Remove screws (1 ~ 4) as shown Photo 11 and pull forward to remove it.

REFLEX PLT REMOVAL

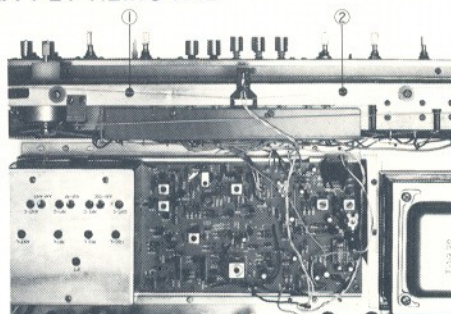
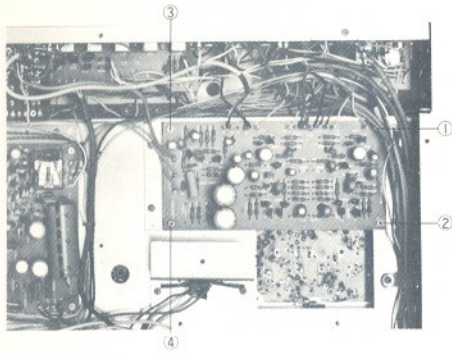


PHOTO 12

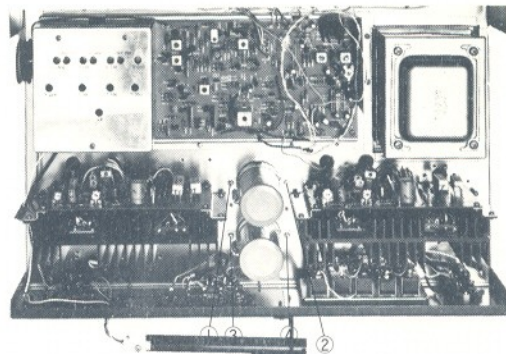
Remove screws (1 ~ 2) as shown Photo 11 and pull forward to remove it.

EQ AMP PCB ASSY REMOVAL



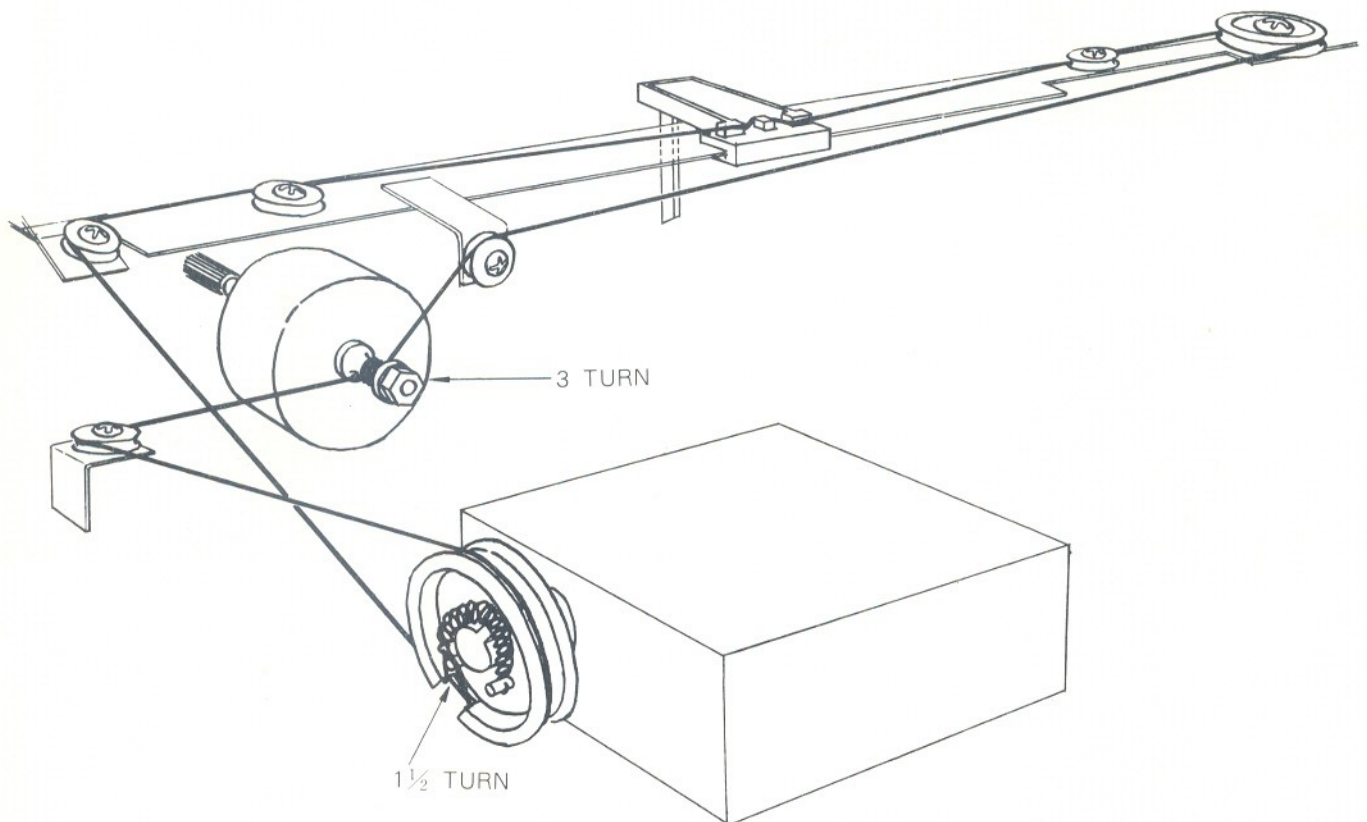
Remove screws (1 ~ 4) as shown in Photo 13.

E-CAP REMOVAL



Remove screws (1 ~ 4) as shown in Photo 14.

DIAL MECHANISM



MEASUREMENT AND ADJUSTMENT

FM SECTION ADJUSTMENT

1. FM-IF ADJUSTMENT

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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 upper core of T202 until the pointer of the turning 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 lower core of T202 for minimum distortion.
- (4) Repeat the above steps (1) through (3) two or three times so that the distortion factor is most improved. Adjust the coil T201 so that the signal meter causes maximum deflection.

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

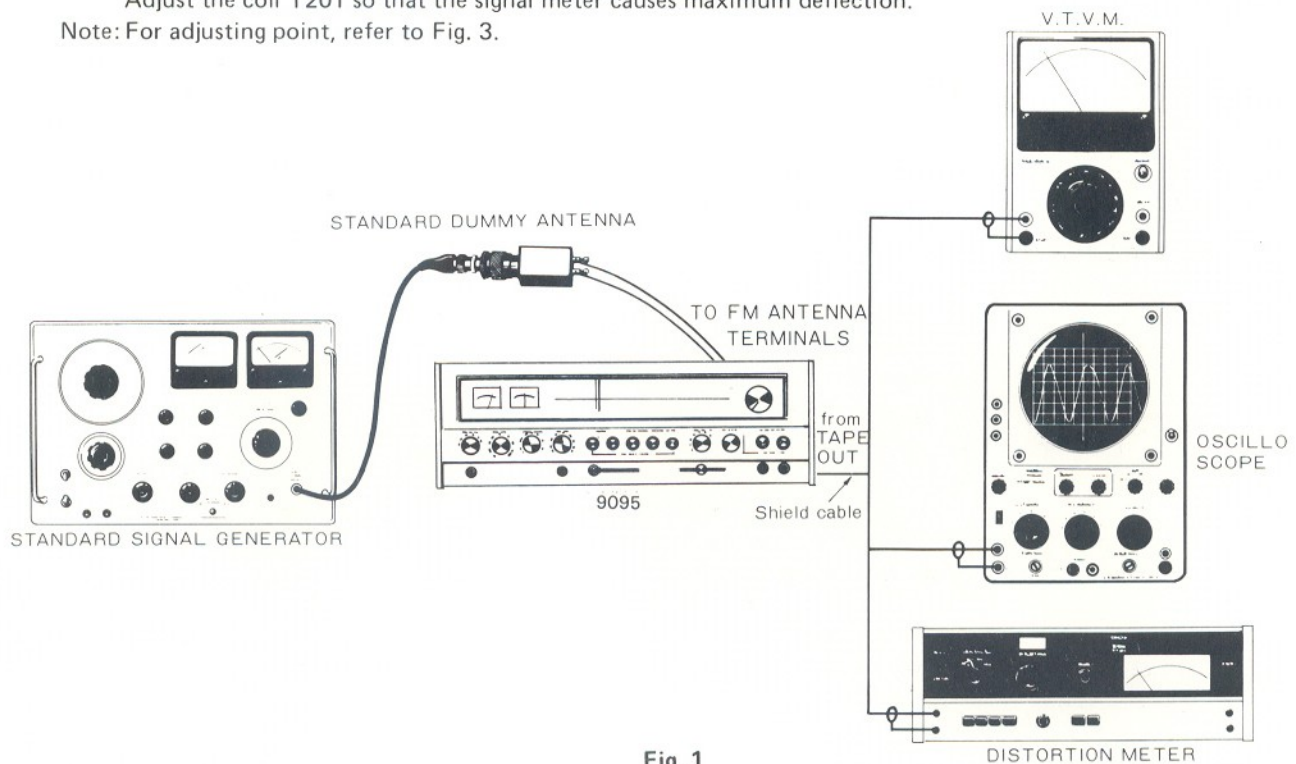


Fig. 1

2. Frequency Coverage Adjustment

Turn the tuning knob fully counterclockwise and check that the tuning pointer is indicating "0" point on the dial scale. Then, set the tuning pointer to the 88MHz and adjust OSC-L of the front-end so that 88MHz signals are received.

Similarly, adjust OSC-C to receive 108MHz signals. Repeat these adjustments two or three times. (see Fig. 2)

3. Tracking Adjustment

While receiving 88MHz signals, adjust ANT-L, RFL-L and RF2-L of the front-end until maximum sensitivity is obtained. Similarly, adjust ANT-C, RF1-C and RF2-C at 108MHz. (see Fig. 2)

4. FM Separation Adjustment

Turn the semi-fixed variable resistor R469 on TUNER PCB ASSY BOARD fully clockwise. Then connect a frequency counter to the test point adjacent to IC451(HA-1156) and adjust the semi-fixed variable resistor R457 so that the frequency counter indicates 19kHz. Next, adjust the semifixed variable resistor R469 for maximum separation, and then adjust the coils T451 and T452 for minimum carrier leak. Finally, adjust the semi-fixed variable resistor R417 until the output level from TAPE OUT reaches $780\text{mV} \pm 2\text{dB}$ while receiving a monaural signal. (see Fig. 3)

FRONT END ASSEMBLY

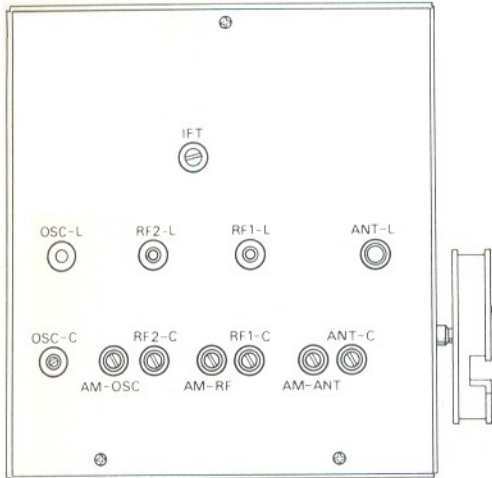


Fig 2

TUNER PCB ASSEMBLY

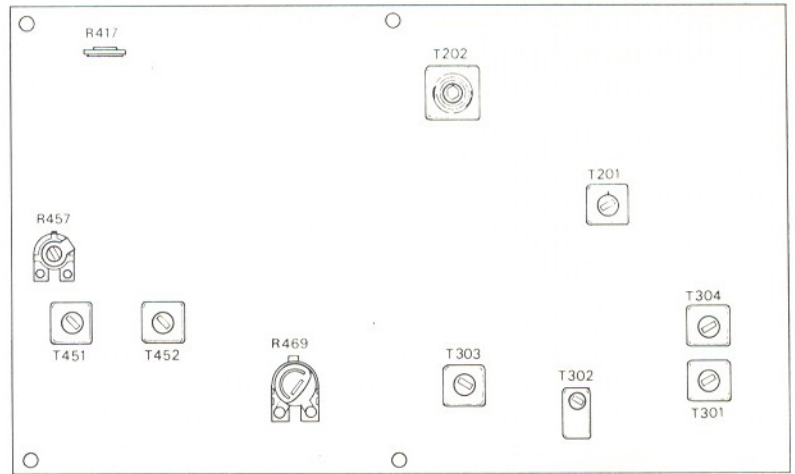


Fig 3

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 AM OUT TERMINAL 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 T302 and T303 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.

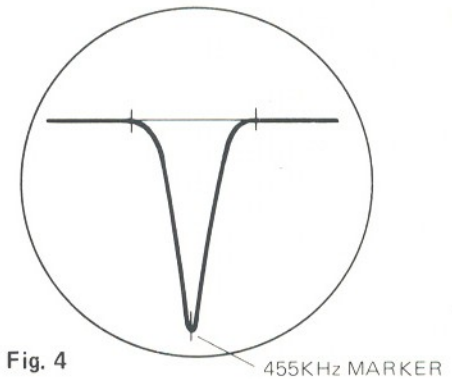


Fig. 4

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.

- (1) With the variable capacitor fully closed, adjust T304 for 520kHz. Then, fully open the variable capacitor and turn AM OSC 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.

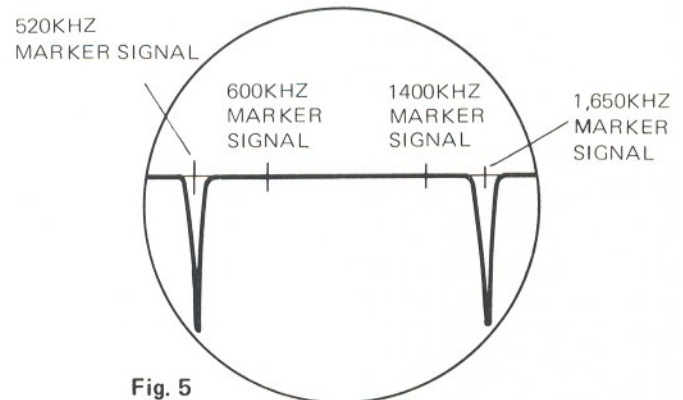


Fig. 5

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 for maximum waveform. Then set the receiver to 1400kHz and adjust AM ANT, AM RF (FRONT END ASSY) 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.

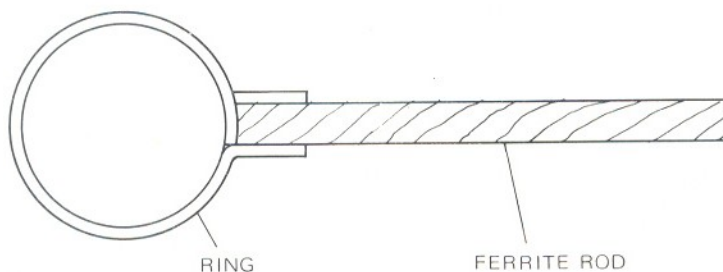


Fig. 6

AMPLIFIER SECTION ADJUSTMENT

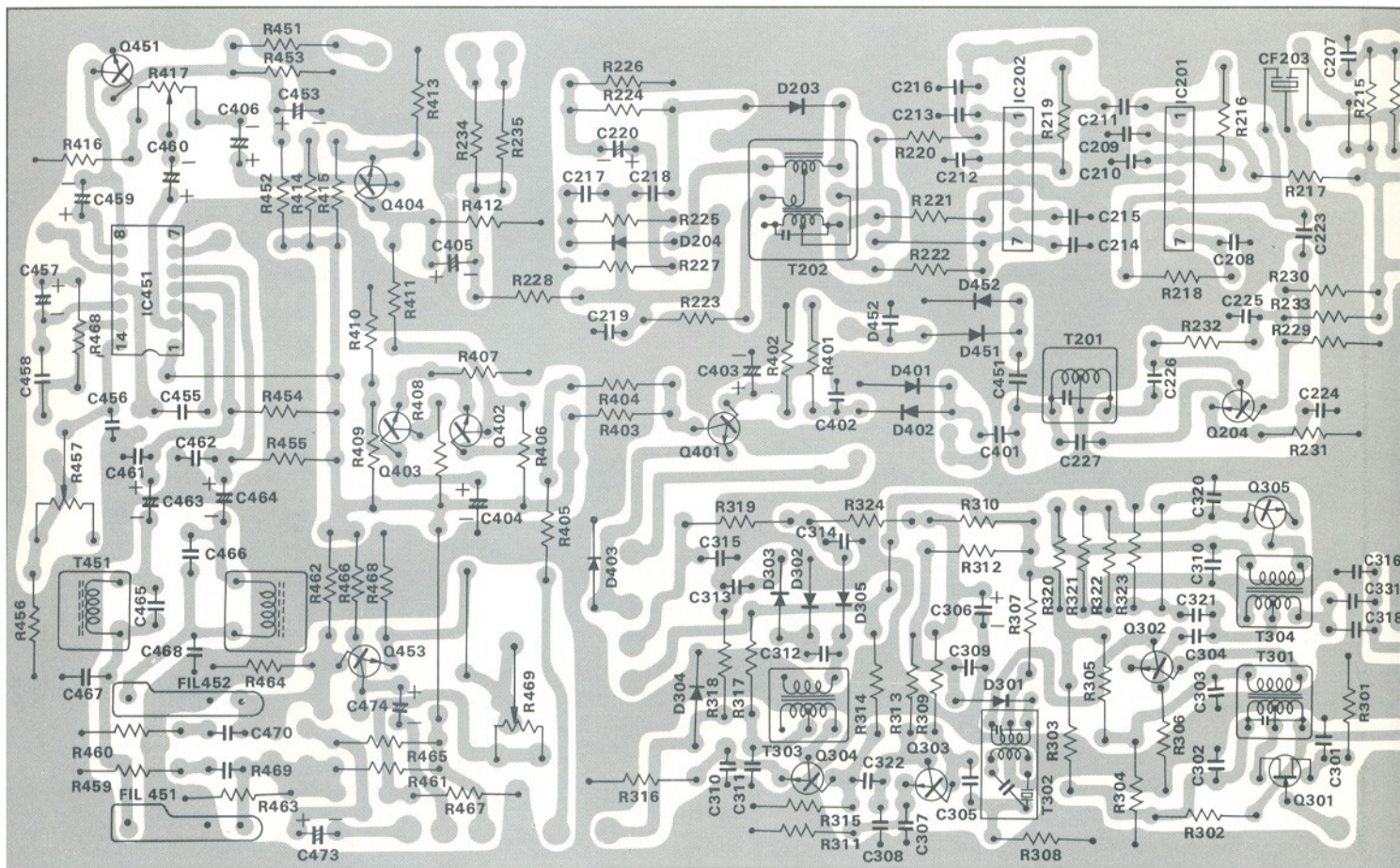
(1) THE CENTER VOLTAGE ADJUSTMENT

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 R809 so that the voltage between GND (chassis) and TP(0) on the Main Amplifier PCB Ass'y Board becomes $0 \pm 30\text{mV}$. Similarly, adjust R810 so that the voltage between GND and TP(0) becomes above value.

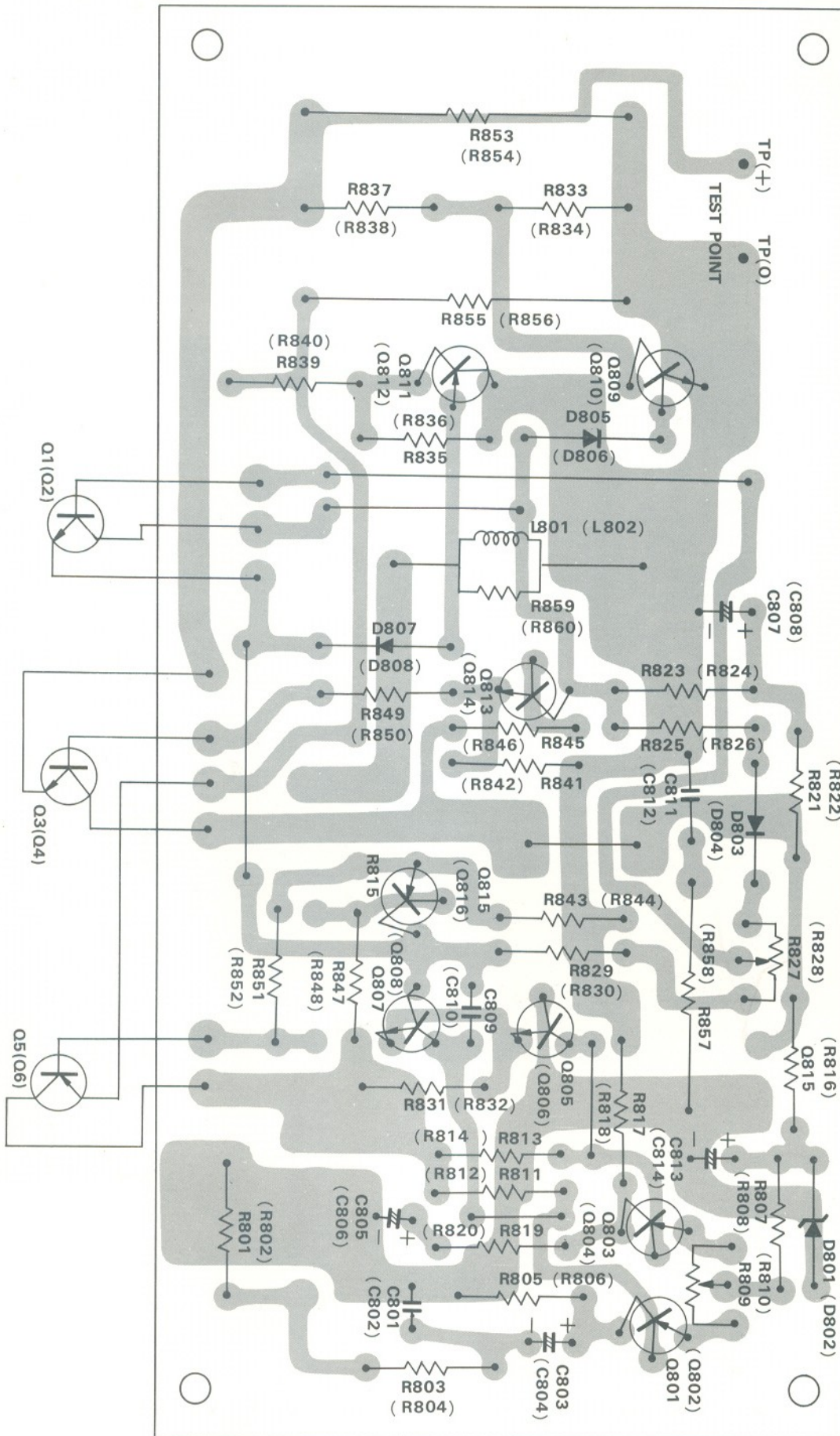
(2) IDLE CURRENT ADJUSTMENT

This adjustment is similar to the center voltage adjustment. Adjust R827 so that the voltage between TP(+) and TP(0) becomes 15mV, with the Volume control set to the minimum position. (Similarly, adjust R828 so that the voltage between TP(+) and TP(0) becomes above value.)

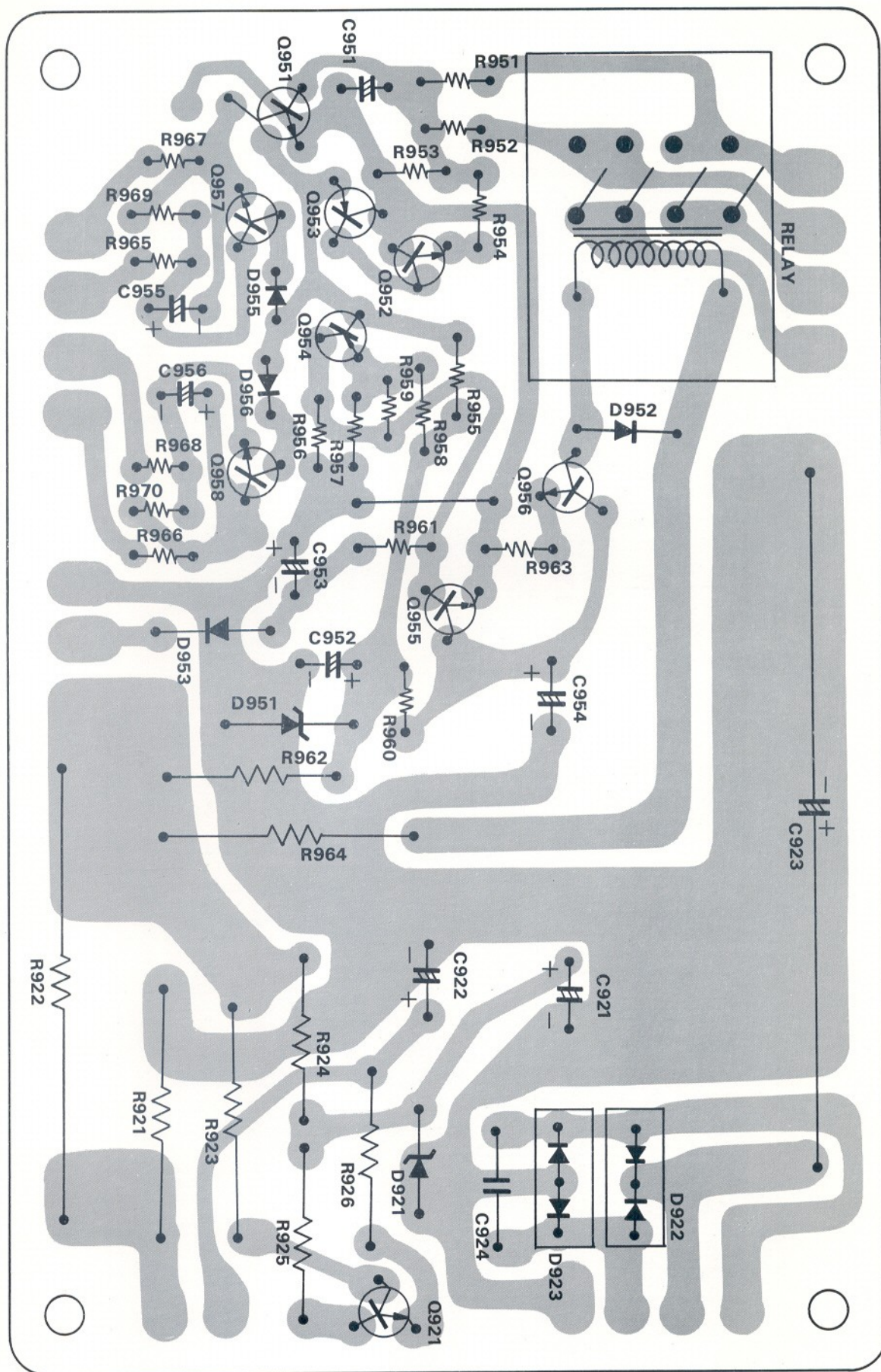
TUNER PCB ASSEMBLY



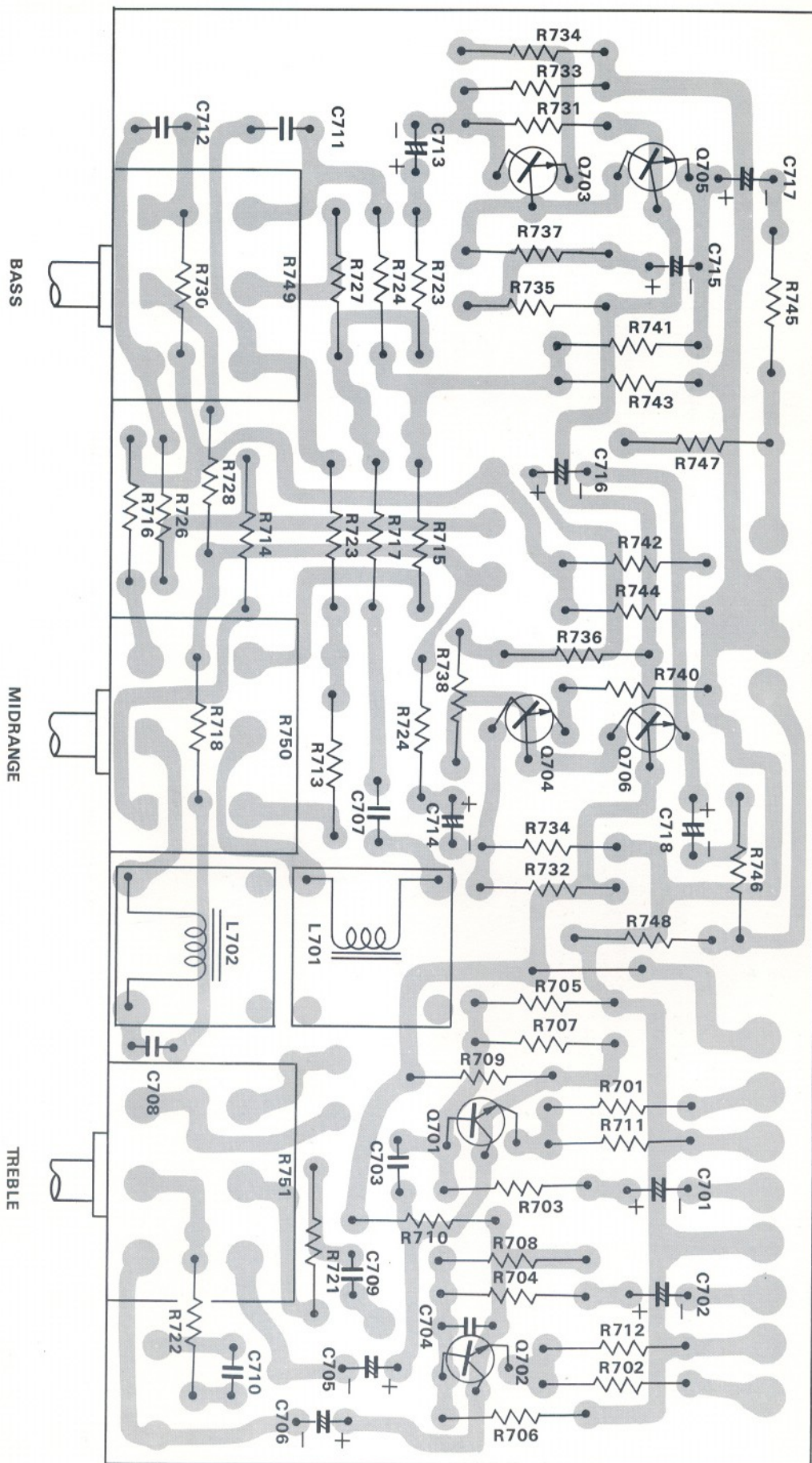
MAIN AMP PCB ASSEMBLY



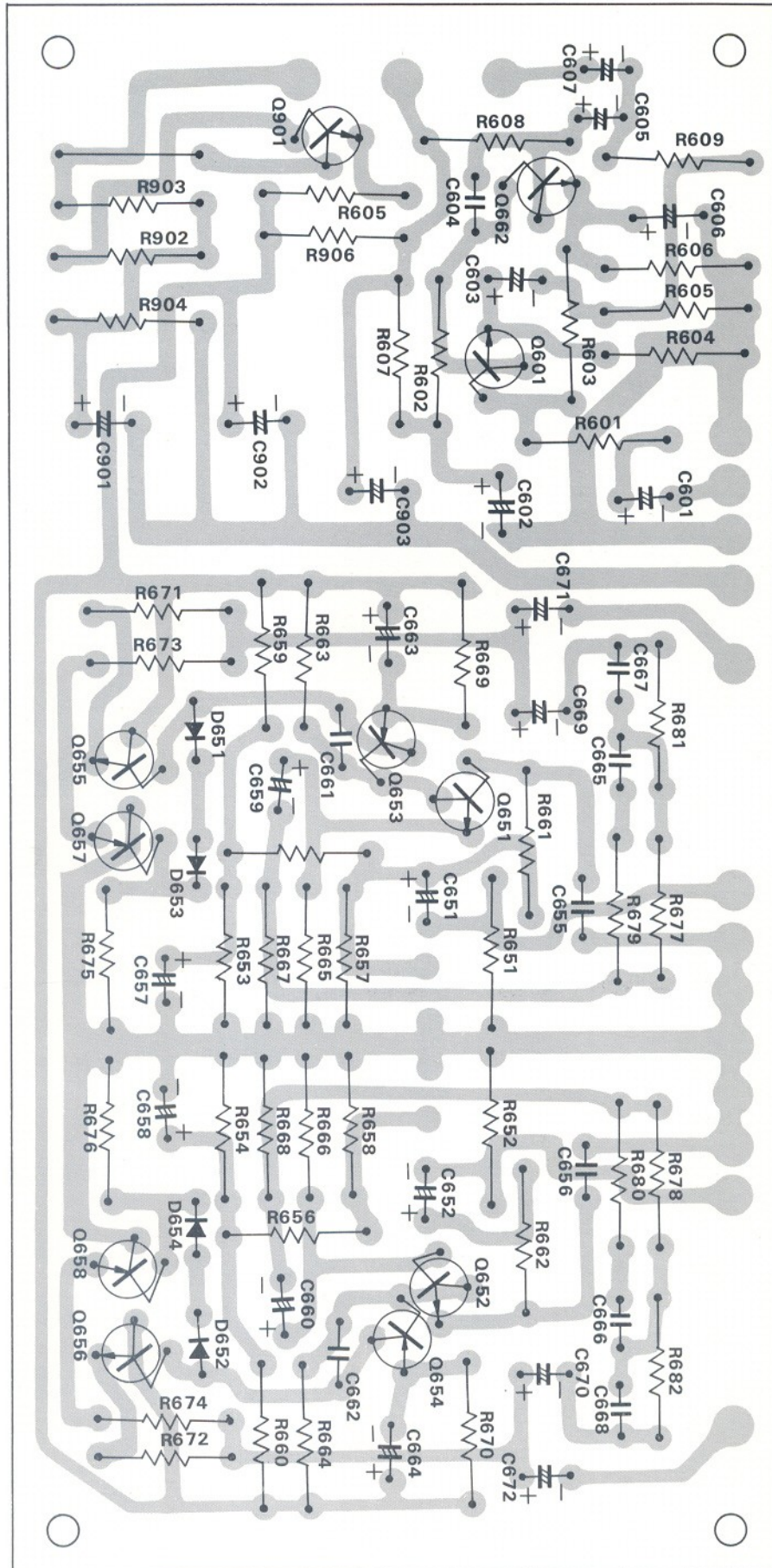
PROTECT REG. PCB ASSEMBLY



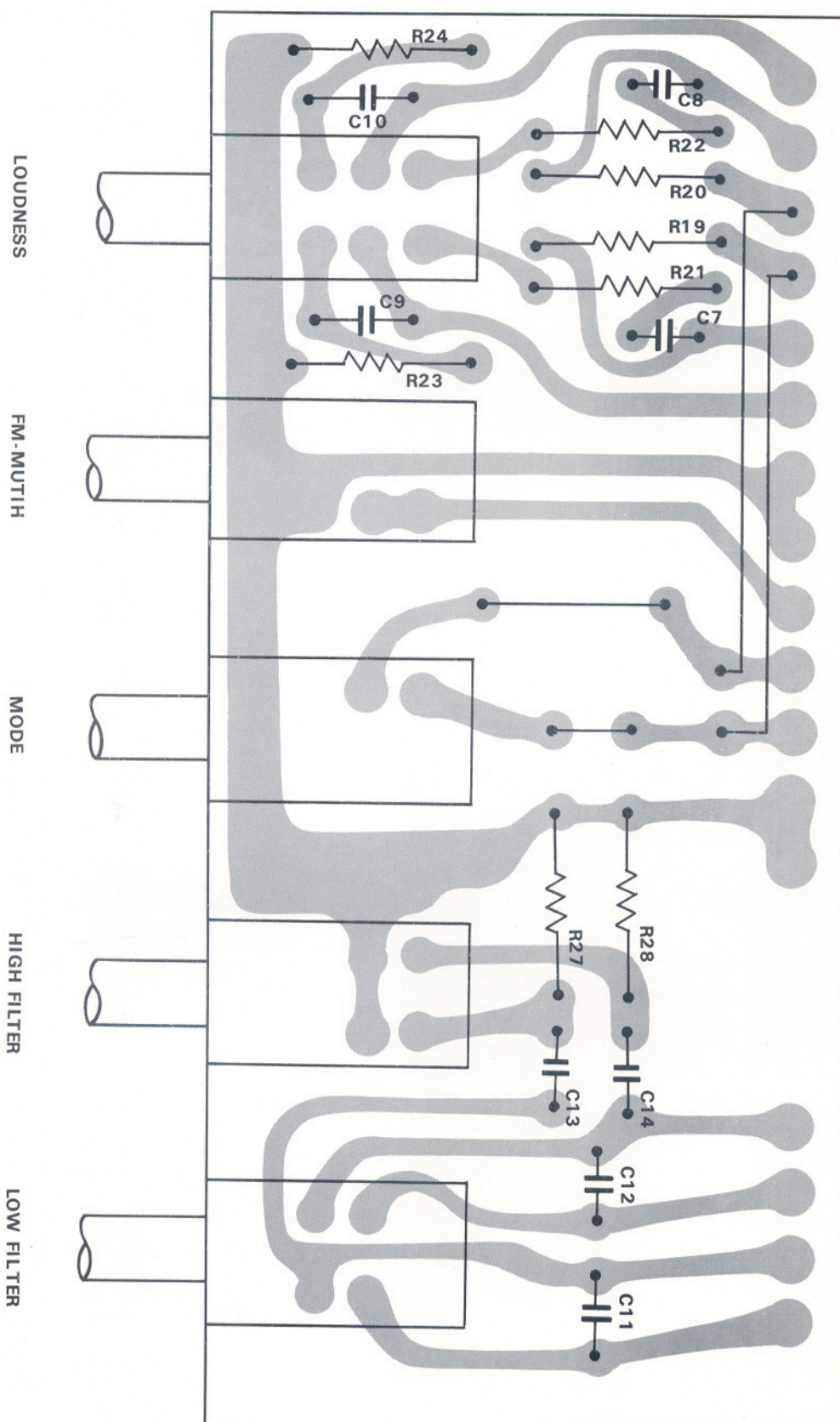
TONE AMP PCB ASSEMBLY



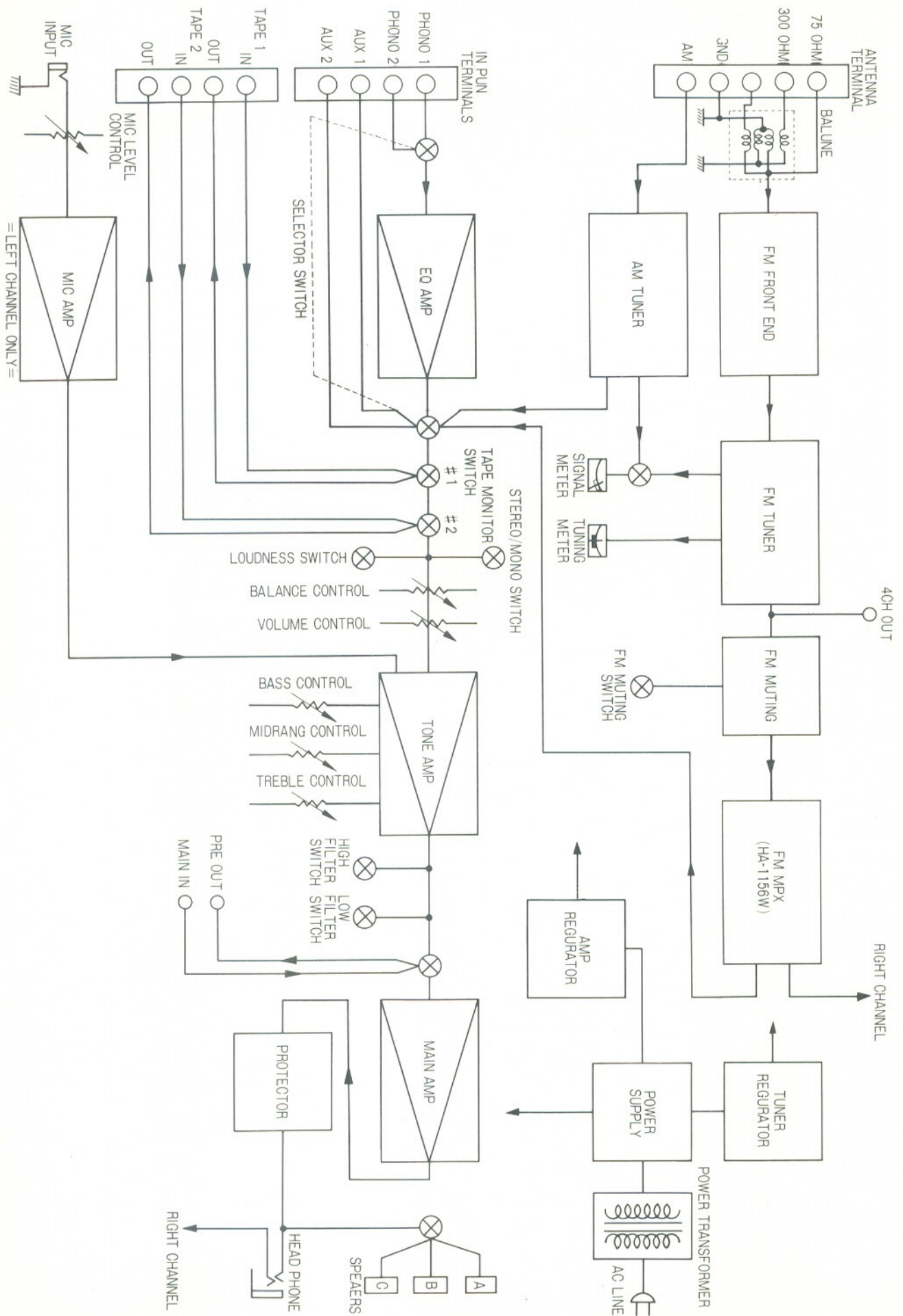
EQ AMP PCB ASSEMBLY



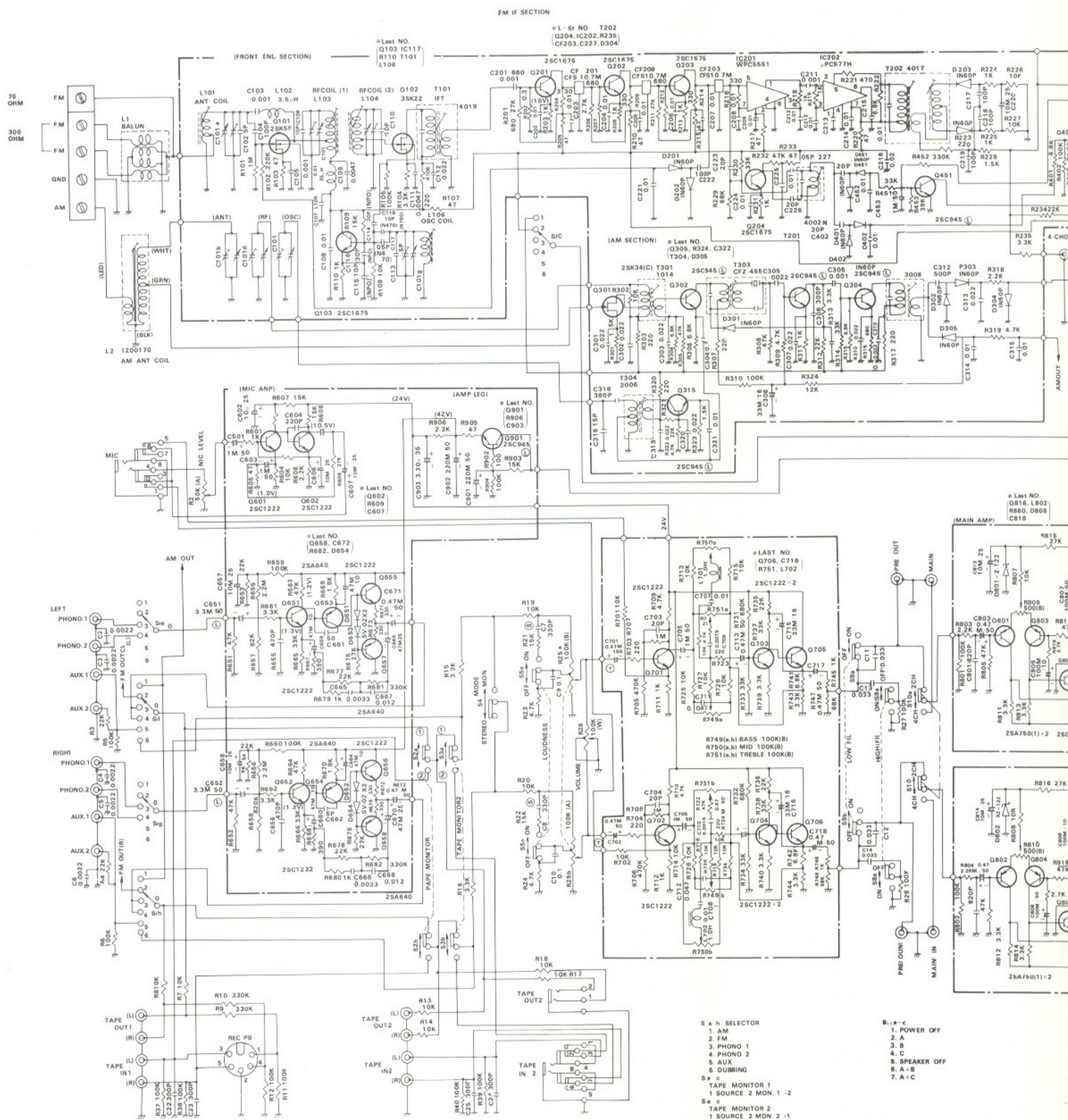
PUSH SW PCB ASSEMBLY



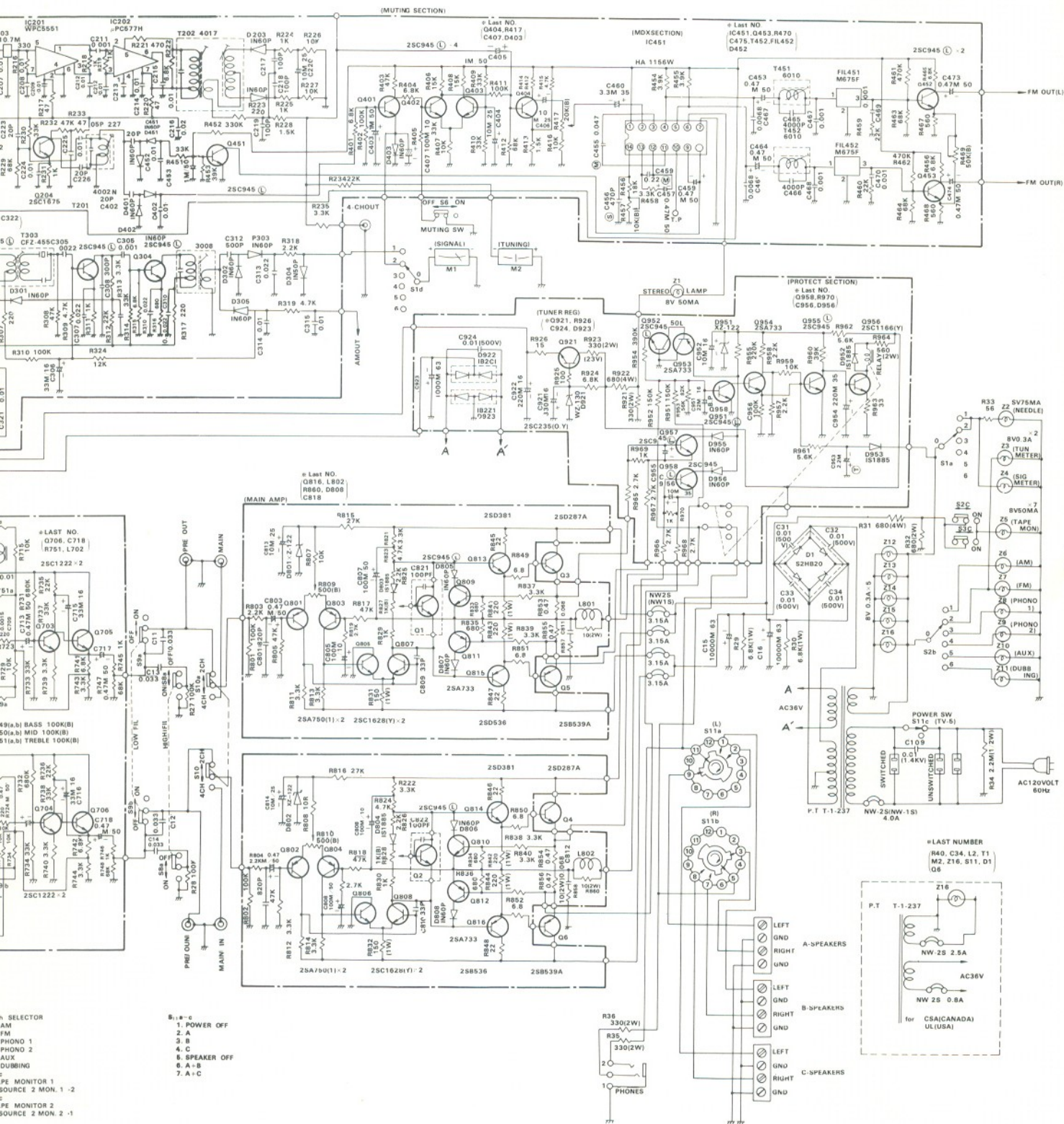
BLOCK DIAGRAM



OVERALL DIAGRAM

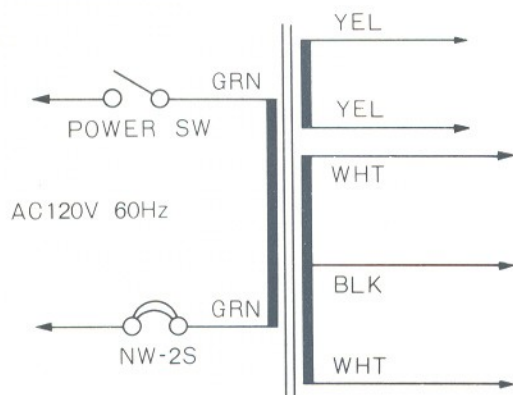


OVERALL DIAGRAM MODEL 9095

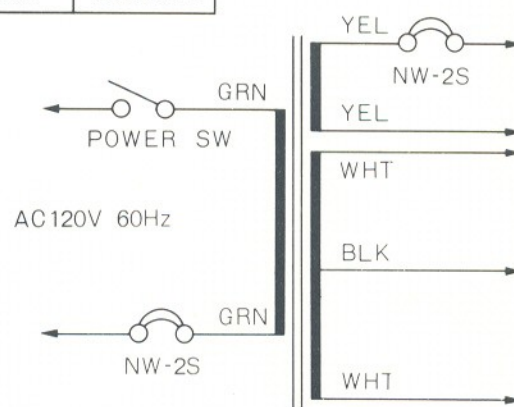


PARTIAL CHANGES MADE ACCORDING DESTINATION

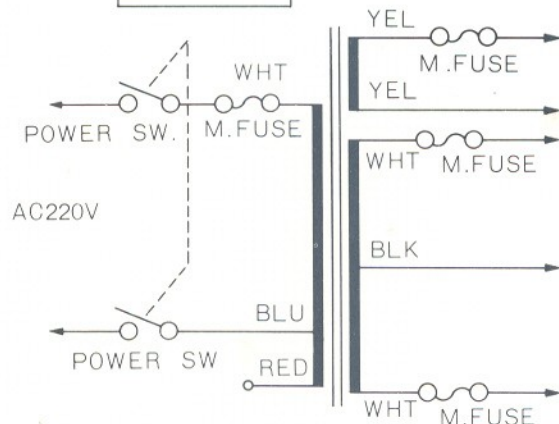
120V U.S.A



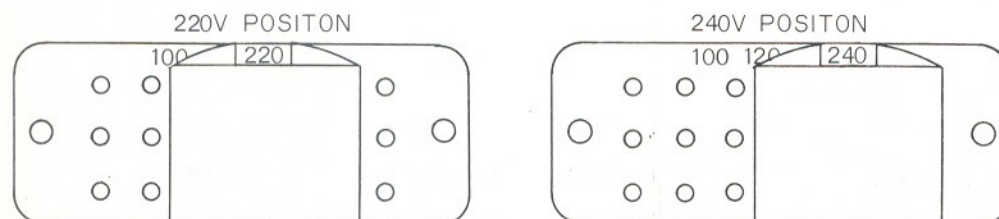
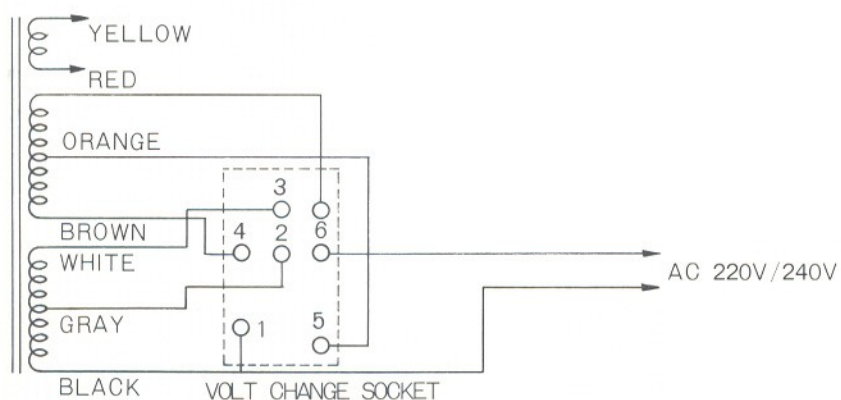
120V CANADA



220V SWEDEN WEST-GERMANY
DENMARK



220V/240V EUROPE



VOLT CHANGE PLUG/SOCKET

PARTS LIST

Parts No.	Description	Symbol	Parts No.	Description	Symbol
FINAL ASSEMBLY			405075 O	ROTARY SW (1-2-7-25KC)	S11a~S11C
982490 O	CORRUGATED BOX		239103 P	C-CAP 0.01MF 1.4KV	C19
982491 O	CARTON BOX		324103 J	RES RD 1/4 S 10 KOHM	R17, R18
984059 O	STYROL PAD (LEFT)		432044 O	VARIABLE RESISTOR B100 KX2	R25a, R25b
984060 O	STYROL PAP (RIGHT)		405070 O	ROTARY SW (5-10-6 25KC)	S1a~S1h
960158 E	OWNERS MANUAL		211130 Q	E-CAP 10R100 CE04W	C407
961122 E	DIAGRAM		BACK PLATE ASSEMBLY		
967003 A	WARRANTY CARD		606002 J	PLUG CORD KP-2 GRY	
969004 O	POLI CLOTH		740062 O	CORD STOPER SR-3P-4	
458136 O	Q-MATCH ANTENNA		490070 O	NW-2S 4.0A (ℓ=12)	
740071 O	POLY FOOT		490069 O	NW-2S 3.15A (ℓ=12)	
783086 O	WOOD COVER		446044 O	PUSH TERMINAL 4P	SPEAKERS
887416 W	TFT 4×16	WOOD COVER	444053 O	US PIN TER 5P	PRI OUT/MAIN
784095 O	KNOB 9GL-18D	TONE	402044 O	SLIDE SW SL-13	PRI/MAIN SW
784096 O	KNOB 9GL-22D	SPEAKER GAIN SELECTOR	444081 O	US PIN TER 4P×2	
784105 O	KNOB 9GL-32	TUNING	453022 O	DIN CONNECTOR	
785059 O	KNOB PC-16	MIC BALANCE	445052 O	ANTENNA TERMINAL	
785062 O	BUTTON M12GL-3.3SQ	OTHERS	121042 O	BALUN	L1
788319 O	PANEL SUB ASSEMBLY		715205 O	GND TERMINAL SHAFT MK-3	
787017 O	DIAL ESCUTCHEON		715206 O	GND TERMINAL NUT MK-2	
780199 O	PANEL SMOKE		120030 O	AMANTENNA COIL	L2
703011 O	ESCUCHEON STOPPER		324224 J	RES RD 1/4 S 220 KOHM 1/4W	R51
CHASS ASSEMBLY			231222 Z	C-CAP 0.0022MF (+80% -20%)	C2~C6
490063 O	NW-2S 0.8A (ℓ=12)		324103 J	RES RD 1/4 S 10 KOHM	R7, R8, R13, R14
490068 O	NW-2S 2.5A (ℓ=12)		324104 J	RES RD 1/4 S 100 KOHM	R5, R6, R11, R12
110237 O	POWER TRANSFORMER		231331 K	C-CAP 330PF (±10%)	R37, R38
720050 O	DIAL DRUM 37φ		324334 J	RES RD 1/4 S 330 KOHM	R34, R40
744029 O	SPRING (J)		324223 J	RES RD 1/4 S 22 KOHM	C22~C25
786046 O	NEEDLE SUB ASSEMBLY				.R9, R10
580507 O	PL-5 5V50mA WIRE FR-1	Z2	TUNER PCB ASSEMBLY		
560027 S	DIODE S2HB20	D1	FRONT END SECTION		
238103 P	C-CAP 0.01MF 500V	C31~C34	423702 O	VC C774J112	C101
212650 Q	E-CAP 63L 10000	C15, C16	424104 O	TRM CV-07-10P	FM OSC
361682 S	MO-RES RSIS 6.8 KOHM	R29, R30	515082 S	TR 2SC1675	Q103
315225 K	RES RC 1/2 GF 2.2 MOHM	R34	516015 S	FET 3SK22 GR	Q101 Q102
364681 B	MO-RES RS4B 680 OHM4W	R31	124019 O	FM IFT	T101
362681 B	MO-RES RS2B 680 OHM 2W	R32	121024 O	PEAKING COIL 3.5μH	L102, L105
FRONT PLATE ASSEMBLY			125006 O	FM ANT COIL	L101
580806 O	PL-8 8V0.3A	Z3, Z4, Z12~Z17	121034 O	FM RF(1) COIL	L103
580810 O	PL-8 8V50MA WIRE FR-1	Z1, Z5~Z11	121035 O	FM RF(2) COIL	L104
324560 J	RES RD 1/4 S 56 OHM	R33	121053 O	FM OSC COIL	L106
458162 O	METER (TUNING)	M2	324470 J	RES RD 1/4 S 47 OHM 1/4W	R103, 107
458161 O	METER (SIGNAL)	M1	324221 J	RES RD 1/4 S 220 OHM 1/4W	R106
780193 O	DIAL SCALE		324102 J	RES RD 1/4 S 1 KOHM 1/4W	R110
740085 O	PANEL SPACER				
455011 O	EAR JACK	MIC, TAPE IN			
455010 O	EAR JACK (US)	PHONES, TAPE OUT			
362331 S	MO-RES RS2S 330 OHM 2W	R35, R36			
411005 O	SLIDE VR 100 KOHM-W	R26			
411004 O	SLIDE VR 50 KOHM-A	R2			

Parts No.	Description	Symbol	Parts No.	Description	Symbol
324332 J	RES RD 1/4 S 3.3 KOHM 1/4W	R104	324223 J	RES RD 1/4 S 22 KOHM 1/4W	R234
324103 J	RES RD 1/4 S 10 KOHM 1/4W	R108, 111	324333 J	RES RD 1/4 S 33 KOHM 1/4W	R230
324153 J	RES RD 1/4 S 15 KOHM 1/4W	R109	232059 D	C-CAP 0.5PF (± 0.25 PF) SL	C227
324104 J	RES RD 1/4 S 100 KOHM 1/4W	R105	232200 J	C-CAP 20PF (± 5 %) SL	C226
324224 J	RES RD 1/4 S 200 KOHM 1/4W	R102	232101 K	C-CAP 100PF (± 10 %) SL	C217~219, C222
324105 J	RES RD 1/4 S 1 MOHM 1/4W	R101	232470 K	C-CAP 47PF (± 10 %) SL	C223
232509 D	C-CAP 5PF ± 0.5 PF SL	C102	231102 Z	C-CAP 0.001MF ($+80\%$ -20%) CK45 YG	C201, 211 C202~C210
232100 D	C-CAP 10PF ± 0.5 PF SL	C106, 110	231103 Z	C-CAP 0.01MF ($+80\%$ -20%) CK45 YG	C212~C215 C221, 224, 225
232101 K	C-CAP 100PF ± 10 % SL	C104	231223 Z	C-CAP 0.022MF ($+80\%$ -20%) CK45 YG	C216
231102 Z	C-CAP 0.00MF ($+80\%$ -20%) CK45 YG	C103, 105	211420 Q	E-CAP 35R10 CE04W	C220
231472 Z	C-CAP 0.0047 ($+80\%$ -20%) CK45 YG	C109, 111	FM MUTING SECTION		
231103 Z	C-CAP 0.01MF ($+80\%$ -20%) CK45 YG	C107, 108	515077 S	TR 2SC945 (L)	Q401~404
231223 Z	C-CAP 0.022MF ($+80\%$ -20%) CK45 YG	C112	500001 G	DIODE 1N60P	D401~403
232100 C	C-CAP 10PF ± 0.5 PF NPO	C115	324152 J	RES RD 1/4 S 1.5 KOHM 1/4W	R413
232200 C	C-CAP 20PF ± 0.5 PF NPO	C117	324472 J	RES RD 1/4 S 4.7 KOHM 1/4W	R414, 415
232300 C	C-CAP 30PF ± 5 % NPO	C116	324682 J	RES RD 1/4 S 6.8 KOHM 1/4W	R401, 404
232509 U	C-CAP 5PF ± 5 % N750	C113	324103 J	RES RD 1/4 S 10 KOHM 1/4W	R407, 416
232100 U	C-CAP 10PF ± 10 % N750	C114	324153 J	RES RD 1/4 S 15 KOHM 1/4W	R406, 408
232509 T	C-CAP 5PF ± 5 % N470	C118	324333 J	RES RD 1/4 S 33 KOHM 1/4W	R405, 409, 410
FM IF SECTION			324473 J	RES RD 1/4 S 47 KOHM 1/4W	R403
515082 S	TR 2SC1675	Q201~204	324683 J	RES RD 1/4 S 68 KOHM 1/4W	R412
518028 S	IC μ PC577H	IC202	324104 J	RES RD 1/4 S 100 KOHM 1/4W	R402, 411
518029 S	IC μ PC555H	IC201	232200 J	C-CAP 20PF (± 5 %) SL	C401
128014 A	FIL CFS10.7M RED	F201~203	231103 Z	C-CAP 0.01MF ($+80\%$ -20%) CK45 YG	C402
500001 G	DIODE 1N60P	D201~204	211510 Q	E-CAP 50R1 CE04W	C403, 405
124020 O	FM IFT (BLK)	T201	211420 Q	E-CAP 35R10 CE04W	C404, 406
124017 O	FM DET	T202	MPX SECTION		
324470 J	RES RD 1/4 S 47 OHM 1/4W	R205, 210, 215, 217, 220, 233	518036 S	IC HA1156W	IC 451
324221 J	RES RD 1/4 S 220 OHM 1/4W	R223	128018 O	FIL M675F	FIL 451, 452
324331 J	RES RD 1/4 S 330 OHM 1/4W	R204, 209, 214 216	126010 O	19 KHZ FILTER	T451, 452
324471 J	RES RD 1/4 S 470 OHM 1/4W	R221	515077 S	TR 2SC945 (L)	Q451
324681 J	RES RD 1/4 S 680 OHM 1/4W	R202, 207, 212	500001 G	DIODE 1N60P	D451, 452
324102 J	RES RD 1/4 S 1 KOHM 1/4W	R203, 208, 213, 218 219, 224, 225, 231	430047 O	HVR KVSF10-5BM B20K	R417
324152 J	RES RD 1/4 S 1.5 KOHM 1/4W	R228	430032 O	HVR KVSF10-7ANF B10K	R457
324272 J	RES RD 1/4 S 2.7 KOHM 1/4W	R201, 206, 211	324332 J	RES RD 1/4 S 3.3 KOHM 1/4W	R458
324332 J	RES RD 1/4 S 3.3 KOHM 1/4W	R235	344392 J	RES RD 1/4 S 3.9 KOHM 1/4W	R454, 455
324472 J	RES RD 1/4 S 4.7 KOHM 1/4W	R232	324153 J	RES RD 1/4 S 15 KOHM 1/4W	R456
324682 J	RES RD 1/4 S 6.8 KOHM 1/4W	R222, 229	324333 J	RES RD 1/4 S 33 KOHM 1/4W	R451
324103 J	RES RD 1/4 S 10 KOHM 1/4W	R226, 227	324393 J	RES RD 1/4 S 39 KOHM 1/4W	R453

Parts No.	Description	Symbol	Parts No.	Description	Symbol
324223 J	RES RD 1/4 S 22 KOHM 1/4W	R459, 460	324223 J	RES RD 1/4 S 22 KOHM 1/4W	R321
324334 J	RES RD 1/4 S 330 KOHM 1/4W	R452	324333 J	RES RD 1/4 S 33 KOHM 1/4W	R314
223471 J	S-CAP 470PF (±5%) CQ09S	C456	324473 J	RES RD 1/4 S 47 KOHM 1/4W	R305
223392 J	S-CAP 3900PF (±5%) CQ09S	C465, 466	324104 J	RES RD 1/4 S 100 KOHM 1/4W	R310
223331 J	S-CAP 330PF (±5%) CQ09S	(C461, 462) 50 μ SEC	223331 J	S-CAP 330PF (±5%) CQ09S	C318
222102 K	M-CAP 0.001MF (±10%) CQ92M	C467-470	232150 K	C-CAP 15PF (±10%) SL	C316
222682 K	M-CAP 0.0068MF (±10%) CQ92M	(C461, 462) 75 μ SEC	232470 K	C-CAP 47PF (±10%) SL	C331
222473 M	M-CAP 0.047MF (±20%) CQ92M	C455	232301 K	C-CAP 300PF (±10%) SL	C308
222224 M	M-CAP 0.22MF (±20%) CQ92M	C458	232471 K	C-CAP 470PF (±10%) SL	C312
232200 J	C-CAP 20PF (±5%) SL	C451	231223 Z	C-CAP 0.022MF (+80% -20%) CK45 YG	C301~303, 307 C309~311 C319, 320
231103 Z	C-CAP 0.01MF (+80% -20%) CK45 YG	C452	222102 M	M-CAP 0.001MF (±20%) CQ92M	C322
211505 Q	E-CAP 50R0.47 CE04W	C457, 459 C463, 464	222103 M	M-CAP 0.01MF (±20%) CQ92M	C314, 315, 321
211510 Q	E-CAP 50R1 CE04W	C453	222223 M	M-CAP 0.02MF (±20%) CQ92M	C305
211513 Q	E-CAP 50R3.3 CE04W	C460	222104 M	M-CAP 0.1MF (±20%) CQ92M	C304
MPX CHANCEL AMP SECTION			211223 Q	E-CAP 16R33 CE04W	C306
324561 J	RES RD 1/4 S 560 OHM 1/4W	R467, 468	122006 O	AM OSC COIL (RED)	T304
324682 J	RES RD 1/4 S 6.8 KOHM 1/4W	R465, 466	121014 O	AM RF COIL (BLW)	T301
324683 J	RES RD 1/4 S 68 KOHM 1/4W	R463, 464	123008 O	AM IFT COIL (BLK)	T303
324474 J	RES RD 1/4 S 470 KOHM 1/4W	R461, R462	EQ AMP PCB ASSEMBLT		
211505 Q	E-CAP 50R0.47 CE04W	C473, 474	463028 O	EQ AMP PCB	
515077 S	TR 2SC945 (L)	Q452, 453	EQ AMP SECTION		
AM SECTION			515068 S	TR 2SC1222	Q651, 652 Q655, 656
515077 S	TR 2SC945 (L)	Q302~305	514069 S	TR 2SA640	Q653, 654 Q657, 658
516010 S	FET 2SK34 (C)	Q301	505013 S	DIODE SV-02	D651~654
500001 G	D10DE IN60P	D301~305	324331 J	RES RD 1/4 S 330 OHM 1/4W	R671~674
128009 O	C-FILTER CFZ-455C	T302	324391 J	RES RD 1/4 S 390 OHM 1/4W	R667, 668
324221 J	RES RD 1/4 S 220 OHM 1/4W	R303, 307 R317, R320	324102 J	RES RD 1/4 S 1 KOHM 1/4W	R679, 680
324681 J	RES RD 1/4 S 680 OHM 1/4W	R316	324182 J	RES RD 1/4 S 1.8 KOHM 1/4W	R669, 670
324102 J	RES RD 1/4 S 1 KOHM 1/4W	R311	324332 J	RES RD 1/4 S 3.3 KOHM 1/4W	R661, 662
324152 J	RES RD 1/4 S 1.5 KOHM 1/4W	R301, 306, 323	324223 J	RES RD 1/4 S 22 KOHM 1/4W	R653, 654 R677, 678
324222 J	RES RD 1/4 S 2.2 KOHM 1/4W	R312, 318	324333 J	RES RD 1/4 S 33 KOHM 1/4W	R665, 666
324332 J	RES RD 1/4 S 3.3 KOHM 1/4W	R313	324473 J	RES RD 1/4 S 47 KOHM 1/4W	R651, 652 R663, 664
324472 J	RES RD 1/4 S 4.7 KOHM 1/4W	R308, 309, 319 R322	324273 J	RES RD 1/4 S 27 KOHM 1/4W	R675, 676
324682 J	RES RD 1/4 S 6.8 KOHM 1/4W	R304, 315	324104 J	RES RD 1/4 S 100 KOHM 1/4W	R659, 660
324103 J	RES RD 1/4 S 10 KOHM 1/4W	R302	324334 J	RES RD 1/4 S 330 KOHM 1/4W	R681, 682
324123 J	RES RD 1/4 S 12 KOHM 1/4W	R324	324824 J	RES RD 1/4 S 820 KOHM 1/4W	R657, 658

Parts No.	Description	Symbol	Parts No.	Description	Symbol
324225 J	RES RD1/4S 2.2 MOHM 1/4W	R655, 656	514088 S	TR 2SA750 (I)-E	Q801, Q803 (Q802, 804)
222332 J	M-CAP 0.0033MF ($\pm 5\%$) CQ92M	C665, 666	515078 S	TR 2SC1628 (Y)	Q805, 807 (Q806, 808)
222123 J	M-CAP 0.012MF ($\pm 5\%$) CQ92M	C667, C668	510039 S	TR 2SB536	Q815, (Q816)
232509 D	C-CAP 5PF (± 0.5 PF) SL	C661, 662	510038 S	TR 2SD381	Q813, (Q814)
223471 J	S-CAP 470PF ($\pm 5\%$) CQ09S	C655, 656	514074 S	TR 2SA733	Q809, (Q810)
211505 Q	E-CAP 50R0.47 CE04W	C671, 672	515077 S	TR 2SC945 (L)	Q811, (Q812)
211513 L	E-CAP 50R3.3 CE04W-LC	C651, 652	502020 S	ZD XZ-122	D801, (D802)
211420 Q	E-CAP 35R10 CE04W	C657, 658	560032 S	D IS1885	D803, (D804)
211325 Q	E-CAP 25R47 CE04W	C669, 670	500001 G	D IN60P	D805, 807 (D806, 808)
211125 Q	E-CAP 10R47	C659, 660 C663, 664	430044 O	HVR KVSF10-5BM B500	R809, (R810)
MIC AMP SECTION			430045 O	HVR KVSF10-5BM BIK	R827, (R828)
515068 S	TR 2SC1222	C601, 602	121069 O	CH COIL SUB ASSEMBLY	L801, (L802) R859, (R860)
324470 J	RES RP 1/4S 47 OHM 1/4W	R605	362100 S	MO-RES RS2S 100HM 2W	R857, (R858)
324102 J	RES RP 1/4S 1 KOHM 1/4W	R601	384479 K	CEM-RES RGB5L 0.47OHM 5W	R853, 855 (R854, 856)
324222 J	RES RP 1/4S 2.2 KOHM 1/4W	R606	222683 K	M-CAP 0.068MF ($\pm 10\%$) CO92M	C811, (C812)
324103 J	RES RP 1/4S 10 KOHM 1/4W	R604	232330 K	C-CAP 33PF ($\pm 10\%$) SL	C809, (C810)
324153 J	RES RP 1/4S 15 KOHM 1/4W	R608	232821 K	C-CAP 820PF ($\pm 10\%$) CK45 YP	C801, (C802)
324273 J	RES RP 1/4S 27 KOHM 1/4W	R609	211505 L	E-CAP 50R0.47 CE04W-LC	C803, (C804)
324473 J	RES RP 1/4S 47 KOHM 1/4W	R602	211530 Q	E-CAP 50R100 CE04W	C807, (C808)
324154 J	RES RP 1/4S 150 KOHM 1/4W	R607	211420 Q	E-CAP 35R10 CE04W	C813, (C814)
324474 J	RES RP 1/4S 470 KOHM 1/4W	R603	211130 Q	E-CAP 10R100 CE04W	C805, (C806)
232221 K	C-CAP 220PF ($\pm 10\%$)	C604	324688 J	RES RD 1/4S 6.8OHM 1/4W	R849, 851 (R850, 852)
211510 Q	E-CAP 50R1 CE04W	C601, 603	324220 J	RES RD 1/4S 22 OHM 1/4W	R845, 847 (R846, 848)
211513 Q	E-CAP 50R3.3 CE04W	C605	324681 J	RES RD 1/4S 680 OHM 1/4W	R833, 835 (R834, 836)
211420 Q	E-CAP 35R10 CE04W	C602, 606, 607	324102 J	RES RD 1/4S 1KOHM 1/4W	R829, (R830)
AMP REG SECTION			324222 J	RES RD 1/4S 2.2 KOHM 1/4W	R830, 825 (R804, 826)
515077 S	TR 2SC945 (L)	Q901	324272 J	RES RD1/4S 2.7 KOHM 1/4W	R819, (R820)
324470 J	RES RD1/4S 47 OHM 1/4W	R905	324332 J	RES RD1/4S 3.3 KOHM 1/4W	R811, 813, 821 R837, 839
324101 J	RES RD1/4S 100 OHM 1/4W	R902			(R812, 814, 822) (R838, 840)
324222 J	RES RD1/4S 2.2KOHM 1/4W	R906	324472 J	RES RD1/4S 4.7 KOHM 1/4W	R823, (R824)
324153 J	RES RD1/4S 15 KOHM 1/4W	R903	324103 J	RES RD1/4S 10 KOHM 1/4W	R807, (R808)
324104 J	RES RD1/4S 100 KOHM 1/4W	R904	324273 J	RES RD1/4S 27 KOHM 1/4W	R815, (R816)
211532 J	E-CAP 50R220 CE04W	C901, 902	324104 J	RES RD1/4S 100 KOHM 1/4W	R881, (R802)
211432 J	E-CAP 35R220 CE04W	C903	324473 J	RES RD1/4S 47 KOHM 1/4W	R805, R817 (R806, R816)
MAIN AMP PCB ASSEMBLY			361151 S	MO-RES RSIS 150 OHM 1W	R831, (R832)
513047 S	TR 2SB539A	Q5, (Q6)	361221 S	MO-RES RSIS 220 OHM 1W	R841, R843 (R842, R844)
513043 S	TR 2SD287A	Q3, (Q4)	PROTECT-REG PCB ASSEMBLY		
515077 S	TR 2SC945 (L)	Q1, (Q2)	PROTECT SECTION		
232101 K	C-CAP 100PF ($\pm 10\%$) SL	C821, (C822)			

Parts No.	Description	Symbol	Parts No.	Description	Symbol
515077 S	TR 2SC945 (L)	Q951, 952 Q955, 957, 958	TONE AMP PCB ASSEMBLY		
514074 S	TR 2SA733	Q953, 954	432041 O	VR GJ60E-100KB×2	R749, 750, 751
515076 S	TR 2SC1166 (Y)	Q956	515068 S	TR 2SC1222	Q701~760
502020 S	ZD XZ-122	D951	324221 J	RES RD1/4S 220 OHMM 1/4W	R703, 704 R723, 724
560032 S	D IS1885	D952, 953	324102 J	RES RD1/4S 1 KOHM 1/4W	R711, 712 R745, 746
500001 G	D IN60P	D954, 955	324332 J	RES RD1/4S 3.3 KOHM 1/4W	R739, 740 R743, 744
170010 O	RELAY MY2-0-US 24UL		324472 J	RES RD1/4S 4.7 KOHM 1/4W	R709, 710 R721, 722
362561 S	MO-RES RS2S 560 OHM2W	R964	324682 J	RES RD1/4S 6.8 KOHM 1/4W	R741, 742
361562 S	MO-RES RSIS 5.6 KOHM 1W	R962	324103 J	RES RD1/4S 10 KOHM 1/4W	R701, 702 R713~718
324330 J	RES RD1/4S 33 OHM 1/4W	R963	324223 J	RES RD1/4S 22 KOHM 1/4W	R735, 736 R725~R730
324102 J	RES RD1/4S 1 KOHM 1/4W	R969, 970	324333 J	RES RD1/4S 33 KOHM 1/4W	R733, 734 R737, 738
324102 J	RES RD1/4S 2.2 KOHM 1/4W	R957, 958	324683 J	RES RD1/4S 68 KOHM 1/4W	R747, 748
324562 J	RES RD1/4S 5.6 KOHM 1/4W	R961	324474 J	RES RD1/4S 470 KOHM 1/4W	R705, 706
324272 J	RES RD1/4S 2.7 KOHM 1/4W	R965~968	324684 J	RES RD1/4S 680 KOHM 1/4W	R731, 732
324103 J	RES RD1/4S 10 KOHM 1/4W	R959	324105 J	RES RD1/4S 1 MOHM 1/4W	R707, 708
324393 J	RES RD1/4S 39 KOHM 1/4W	R960	232200 K	C-CAP 20PF (±10%) SL	C703, 704
324823 J	RES RD1/4S 82 KOHM 1/4W	R953	222152 K	M-CAP 0.0015MF (±10%) CQ92M	C709, 710
324104 J	RES RD1/4S 100 KOHM 1/4W	R956	222473 K	M-CAP 0.047MF(±10%) CQ92M	C711, 712
324154 J	RES RD1/4S 150 KOHM 1/4W	R951, 952	222103 K	M-CAP 0.01MF (±10%) CQ92M	C707, 708
324224 J	RES RD1/4S 220 KOHM 1/4W	R955	211505 Q	E-CAP 50R0.47 CE04W	C713, 714 C717, 718
324394 J	RES RD1/4S 390 KOHM 1/4W		211510 Q	E-CAP 50R1 CE04W	C705, 706
252412 M	T-CAP 35D2.2 (±20%) CS15E	C953	211223 Q	E-CAP 16R33 CE04W	C715, 716
211220 Q	E-CAP 16R10 CE04W	C952	252405 M	T-CAP 35D0.47 CS15E	C701, 702
211420 Q	E-CAP 35R10 CE04W	C955, C956	121056 O	INDUCTOR 1.0 H	L701, 702
211432 Q	E-CAP 35R220 CE04W	C954	PUSH SW PCB ASSEMBLY		
215222 N	BP-CAP 16R22 CE04D	C951	404041 O	PENTA PUSHSW (ESB-7716)	S2a~S2c
AMP REG SECTION			324472 J	RES RD1/4S 4.7 KOHM 1/4W	R23, 24
560028 S	DIODE 1B2C1	D922	324103 J	PES RD1/4S 10 KOHM 1/4W	R19, 20
560029 S	D10DE 1B2Z1	D923	324153 J	PES RD1/4S 15 KOHM 1/4W	R21, 22
238103 P	C-CAP 0.01 MF (+100% - 0)	C923	324104 J	PES RD1/4S 100 KOHM 1/4W	R27, 28
TUNER REG SECTION			222333 K	M-CAP 0.033MF (±10%) CQ92M	C11~C14
513056 S	TR 2SD235	Q921	222104 K	M-CAP 0.1MF (±10%) CQ92M	C9, 10
502022 S	ZD WZ-130	D921	223331 J	S-CAP 330PF (±5%) CQ09S	C7, 8
324150 J	RES RD1/4S 15 OHM 1/4W	R926			
324101 J	RES RD1/4S 100 OHM 1/4W	R925			
324682 J	RES RD1/4S 6.8 KOHM 1/4W	R923			
362331 S	MO-RES RS2S 330 OHM 2W	R921, R923			
364681 B	MO-RES RS4B 680 OHM 4W	R922			
211232 Q	E-CAP 16R220 CE04W	C922			
211233 Q	E-CAP 16R330 CE04W	C921			

SEMICONDUCTOR SPECIFICATION

TRANSISTOR COMPLEMENT.

Type	Description ★ Note	Class of Service	Maximum Ratings (T _A 25°C) (Absolute Value)						Electrical Characteristics (Typical Value T _A 25°C)												Manufacture
			Collector to Base Voltage V _{CB0} (V)	Emitter to Base Voltage V _{EB0} (V)	Collector Current I _C (mA)	Emitter Current I _E (mA)	Collector Dissipation P _C (mW)	Junction Temperature T _J (°C)	Condition of Measurement		h _{FE} (hFE)	NF (dB)	f _{αB} (fT) (MHz)	Cob (pF)	hie (Ω)	Collector Cut-off Current		Emitter Cut-off Current			
									(V)	(mA)						I _{CB0} (max) (μA)	V _{CB} (V)	I _{EB0} (max) (μA)	V _{EB} (V)		
2SC1675	NPN Si-EP	RE 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	AF AMP	50	5	100		250	125	6.0	1.0	150	4.0	300	4.5		0.1	40	0.1	3	NEC	
2SC1166	NPN Si-E	DRIVE STAGE AMP	60	5	200		600	150	2.0	50	100		120	9.0		0.1	20	0.1	5	TOSHIBA	
2SA733	PNP Si-E	AF AMP	50	5	100		250	125	6.0	1.0	200	6.0	180	8.0		0.1	40	0.1	5	NEC	
2SC1222	NPN Si-E	AF AMP	50	5	30		250	125	3.0	0.1	320	1.5	100			0.05	25	0.1	3	NEC	
2SA640	PNP Si-E	AF AMP	50	5	30		250	125	3.0	0.1	300	1.5	100	8.0		0.1	40	0.1	3	NEC	
2SC1628	NPN Si-T-D	DRIVE STAGE AMP	180	5	50		1.0W	150	5.0	10	120		120	5.0		1.0	100	1.0	5	TOSHIBA	
2SD381	NPN Si-E	Power Output	130	5	1.5A		20W	150	5.0	0.3A	110					1.0	120	1.0	3	NEC	
2SB536	PNP Si-E	Power Output	130	5	1.5A		20W	150	5.0	0.3A	110					1.0	120	1.0	3	NEC	
2SD235	NPN Si-D-J	Power Output	50	10	3.0A		1.5W	150	5.0	500	80		1.0			100	20	100	5	TOSHIBA	
2SA750	PNP Si-E	AF LOW NOISE AMP	80	5	50		250	125	3.0	0.1	350-700		100	6.5		0.05	50	0.05	5	NEC	
2SB539A	PNP Si-T-D	Power Output	130	6.0	10A		100W	150	5.0	2A	60-120					100	120	100	5	NEC	
2SD287A	NPN Si-T-D	Power Output	200	7.0	10A		100W	150	5.0	2A	60-120					100	100	100	5	NEC	

★ Note
Si-P Silicon Planar Transistor
Si-EP Silicon Epitaxial Planar Transistor
Si-D-J Silicon Diffused Junction Transistor
Si-E Silicon Epitaxial 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 _{GDO}	I _D	P _T	T _{stg}	T _{ch}	I _{GSS}		I _{DSS}		V _{GS}		Y _{fS}	Y _{OS}		C _{rss}		P _G		N _f		
			(V)	(V)	(mA)	(mW)	(°C)	(°C)	Condition	(nA)	Condition	(mA)	Condition	(V)	Condition	(mS)	Condition	(mS)	Condition	(pF)		Condition	(dB)	Condition
2SK34	Si N-CH J-FET	AF AMP		30	20	150	-55 +125	125	V _{DS} 0V V _{GS} 10V	MAX. 10	V _{DS} 10V V _{GS} 0V	0.3 6	V _{DS} 10V V _{GS} 12V I _D 10μA	0.3 12	V _{DS} 10V V _{GS} 0V 1KHz	3	V _{DS} 10V V _{GS} 0V 1MHz	8				V _{DS} 10V I _D 0.1mA 100MHz	3	MITSUBISHI
3SK22	Si N-CH J-FET	RF AMP		18	10	200	-65 +150	150	V _{DS} 0V V _{GS} 10V	MAX. 100	V _{DS} 10V V _{GS} 0V	6 14	V _{DS} 10V V _{GS} 12V V _{DS} 10V I _D 1μA V _{GS} 10V MAX	V _{p1} 1.2V MIN V _{p2} 20V MAX				V _{G1D} 10V 1MHz				V _{DD} 10V V _{GS} 0V 100MHz	MAX. 3.5	TOSHIBA

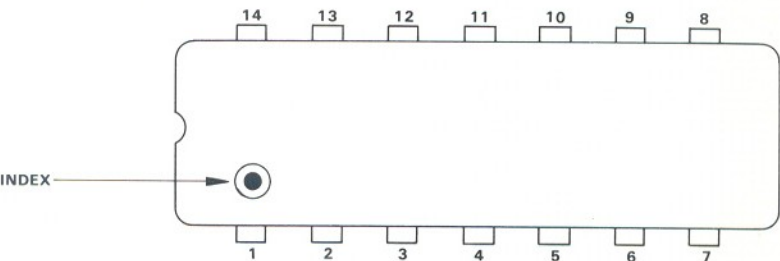
RECTIFIER, DIODE, ZENER-DIODE COMPLEMENT.

Type	Description	Maximum Ratings (T _A = 25 °C)						Electrical Characteristics (Typical Value) T _A = 25 °C						Manufacture
		Peak Inverse Voltage (V)	Dissipation (mW)	Output Current (mA)	Inverse Current (mA)	Surge Current (A)	Junction Temperature (°C)							
								Condi- tion		Condi- tion		Condi- tion		
1N60P	Ge DIODE POINT CONTACT	35		50mA	75μA (V _R = 10)	0.5	70	40MHz	r = 50%	V _R = 1V	C = 0.8pF		HITACHI	
1S1885	Si RECTIFIER	100		1.0 (T _A = 65 °C)	0.4 (V _R = 100)	60	150						TOSHIBA	
S2HB20	Si RECTIFIER UNITE	200		8.0	20μA	80	150	I _F = 4A	V _F = 1.2V (MAX)				SHINDENGEN	
XZ-122	Si ZENER DIODE		500		V _R = 10V 1μA		175	I _Z = 5mA	V _Z = 11.9V - 12.6V	I _Z = 5mA	R _D = 15 (MAX)		JRC	
WZ-130	Si ZENER DIODE		500		V _R = 10V 1μA		175	I _Z = 5mA	V _Z = 12.4V - 13.6V	I _Z = 5mA	R _D = 15 (MAX)		JRC	
1B2C1	Si RECTIFIER UNITE	100		+ 2.0	V _R = 100V 0.4	60	150	I _F = 2A	V _F = 1.2V (MAX)				TOSHIBA	
1B2Z1	Si RECTIFIER NNITE	100		- 2.0	V _R = 100V 0.4	60	150	I _F = 2A	V _F = 1.2V (MAX)				TOSHIBA	
SV02	Si DIODE	100		200mA	V _R = 100V 10μA	30	70	I _F = 1mA I _F = 70mA	V _F = 1.2V V _F = 1.5V				SANKEN	

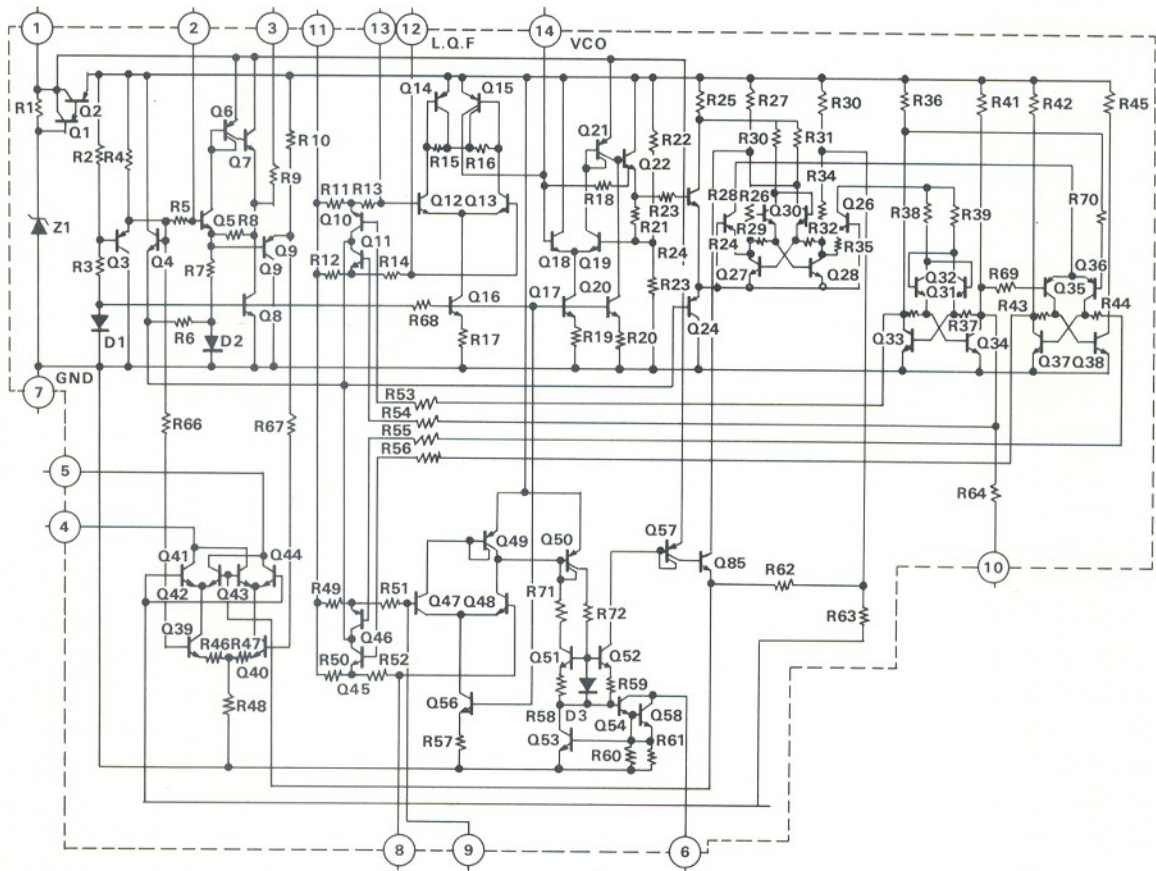
INTEGRATED CIRCUIT COMPLEMENT

Type	Class of Service	Maximum Rating $T_A=25^{\circ}\text{C}$						Electrical Characteristics (Typical Value) $T_A=25^{\circ}\text{C}$							Manufacture
		Power Supply V_{CC} (V)	Power Dissipation P_d (mw)	Lamp Driver I_L (mA)	Input Voltage V_{IN} (V)	Operating Temp. Range T_{opt} ($^{\circ}\text{C}$)	Storage Temp. Range T_{stg} ($^{\circ}\text{C}$)	Input Impedance Z_{in} (K Ω)	Stereo Separation Sep (dB)	Channel Balance (dB)	Distortion (Stereo) (%)	SCA Rejection (dB)	Lamp Level (mV)	Output Voltage V_{out} (mV)	
HA1156W	FM STEREO DEMODULATOR	16	400	75	1.3	-20 ~ +85	-55 ~ +125	50	40 (at 1 KHZ)	0.5	0.15 (at 1 KHZ)	75	16	300	HITACHI

CONNECTION DIAGRAM(TOP VIEW)



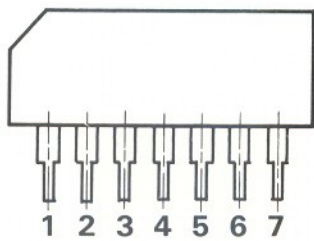
SCHEMATIC DIAGRAM



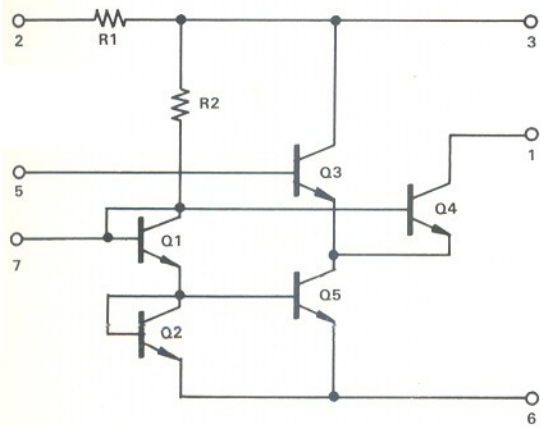
INTEGRATED CIRCUIT COMPLEMENT.

Type	Class of Service	Maximum Ratings T _A 25°C					Electrical Characteristics (Typical Value)				
		Power Supply V _{CC}	Power Dissipation P _d	Input Voltage V _{IN}	Operating Temp. Range T _{opt}	Storage Temp. Range T _{stg}	Input Impedance	Output Impedance	Gain	Power Consumption	Manufacture
μPC555H	RF-IF Amplifier	20V	300mW	-5V	20 -75 C	40 -125 C	0.3mΩ 6PF	0.015mΩ 2PF	31dB	V _{CC} 12V 9.2mA 1 (2.5mA 3)	NEC
μPC577H	FM-IF Amplifier	15V	300mW	-3V	20 -75 C	40 -125 C	10KΩ 5PF	30KΩ 3PF	66dB	V _{CC} 10V 12.5mA (1.6mA 5)	NEC

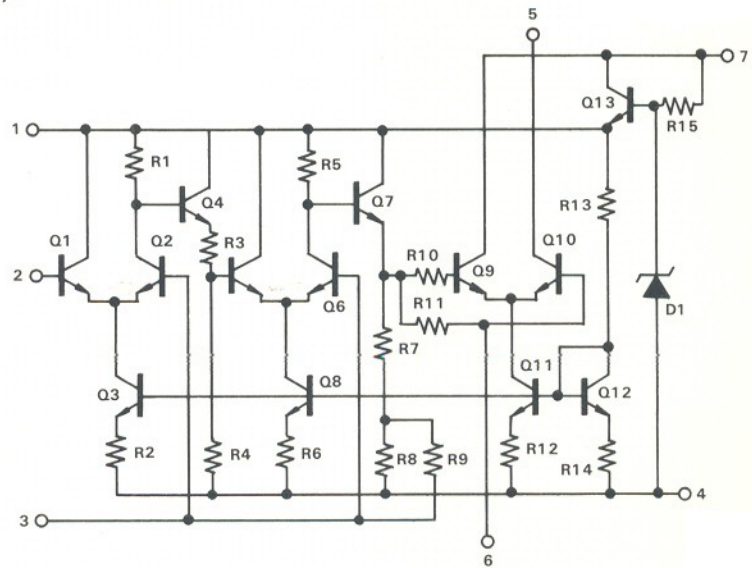
CONNECTION DIAGRAM



μPC555H SCHEMATIC DIAGRAM



μPC577H SCHEMATIC DIAGRAM



M E M O

CONTENTS

1.	SPECIFICATION	1-2
2.	EXTERNAL VIEW	3
3.	INTERNAL VIEW	4
4.	PARTIAL DISASSEMBLY	4-6
5.	DIAL MECHANISM	6
6.	MEASUREMENT AND ADJUSTMENT	7-8-9
7.	PRINTED CIRCUIT BOARD	
	TUNER PCB ASSEMBLY	10
	MAIN AMP PCB ASSEMBLY	11
	PROTECT REG. PCB ASSEMBLY	12
	TONE AMP PCB ASSEMBLY	13
	EQ AMP PCB ASSEMBLY	14
	PUSH SW PCB ASSEMBLY	15
8.	BLOCK DIAGRAM	16
9.	OVERALL DIAGRAM	17
10.	PARTIAL CHANGES MADE	
	ACCORDING DESTINATION	18
11.	PARTS LIST	19~23
12.	SEMICONDUCTOR SPECIFICATION	
	TRANSISTOR COMPLEMENT	24
	FIELD EFFECT TRANSISTOR COMPLEMENT	24
	RECTIFIER, DIODE, ZENER-DIODE COMPLEMENT	24
	INTEGRATED CIRCUITS COMPLEMENT	25-26

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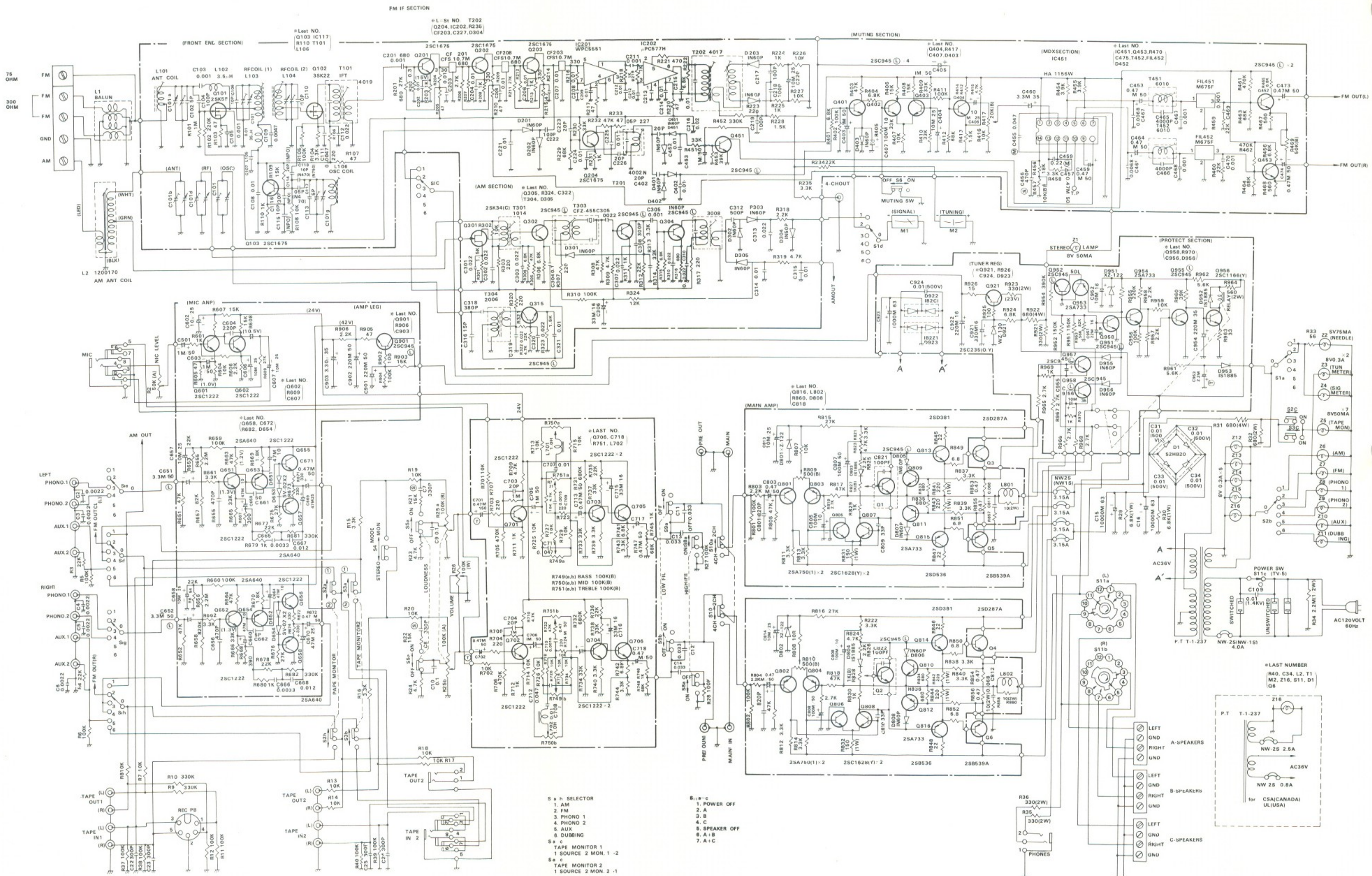
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OVERALL DIAGRAM MODEL 9095



PRINTED CIRCUIT BOARD

TUNER PCB ASSEMBLY

