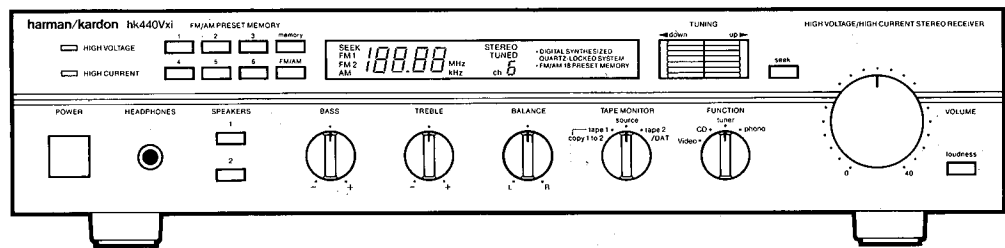


The Harman Kardon Model hk440 Vxi

Manual 122A

HIGH VOLTAGE/HIGH CURRENT STEREO RECEIVER

Technical Manual



The following marks found in the parts list of this manual identify the models as follows.

- Ⓧ**JA** : North America area model
- Ⓧ**GB** : General model

hk440 Vxi

harman/kardon

240 Crossways Park West, Woodbury, N.Y. 11797
1112-3152122A6 P-088801 1500 Printed in Japan

SPECIFICATIONS

	Nominal	Limit		Nominal	Limit
● FM SECTION			Channel Separation at 10kHz		
Tuning Range	87.5	~ 108.0 MHz	Video/CD	59dB	≥ 45dB
50dB Quieting Sensitivity			Phono	57dB	≥ 45dB
Mono	15.7dBf	≤ 19dBf	IM Distortion Ratio	0.05%	≤ 0.1%
Stereo	38dBf	≤ 41dBf	RMS Output Power	34W	≥ 30W
Usable Sensitivity	11.7dBf	≤ 15dBf	8Ω, 1kHz, THD 0.1%		
Image Ratio	45dB	≤ 40dB	Damping Factor at 1kHz	63	≥ 50
IF Rejection	105dB	≤ 75dB	Tone Control Characteristics		
Spurious Response Rejection	96dB	≤ 60dB	Bass at 50Hz		
Capture Ratio	1.5dB	≤ 2dB	Boost	10dB	± 2dB
Alternate Channel Selectivity	75dB	≤ 60dB	Cut	- 10dB	± 2dB
AM Rejection	60dB	≤ 45dB	Treble at 10kHz		
Signal to Noise Ratio			Boost	10dB	± 2dB
Mono	78dB	≥ 73dB	Cut	- 10dB	± 2dB
Stereo	72dB	≥ 67dB	Loudness Control		
Total Harmonic Distortion			at 10kHz	3dB	± 1dB
Mono	0.09%	≤ 0.3%	at 50Hz	10dB	± 2dB
Stereo	0.07%	≤ 0.4%	DC Output Voltage		
Stereo Separation at 1kHz	55dB	≥ 45dB	L channel	0mV	± 60mV
● AM SECTION			R channel	0mV	± 60mV
Tuning Range	520	~ 1,710kHz	RIAA Equalization at		
Usable Sensitivity			Tape Out		
External Antenna	20μV	≤ 40μV	(20Hz/20kHz)	± 1dB	
Loop Antenna	400μV/m		● DIMENSIONS		
Selectivity	26dB	≥ 20dB	(W × H × D)	17-3/8"	× 4 × 14-1/2"
Signal to Noise Ratio	52dB	≥ 47dB		(443 × 103 × 368 mm)	
Image Rejection	40dB	≥ 30dB	● WEIGHT		
IF Rejection	66dB	≥ 50dB		13.9 lbs.	(6.3 kg)
● AUDIO SECTION			● POWER SUPPLY		
Usable Sensitivity			North America area model	AC 120V,	60Hz
Video/CD	135mV	± 25mV	General model	AC 220/240V,	50/60Hz
Phono	2.2mV	± 0.2mV	● POWER CONSUMPTION		
Signal to Noise Ratio			North America area model	180W	
Video/CD	83dB	≥ 77dB	General model	140W	
Phono	81dB	≥ 73dB			

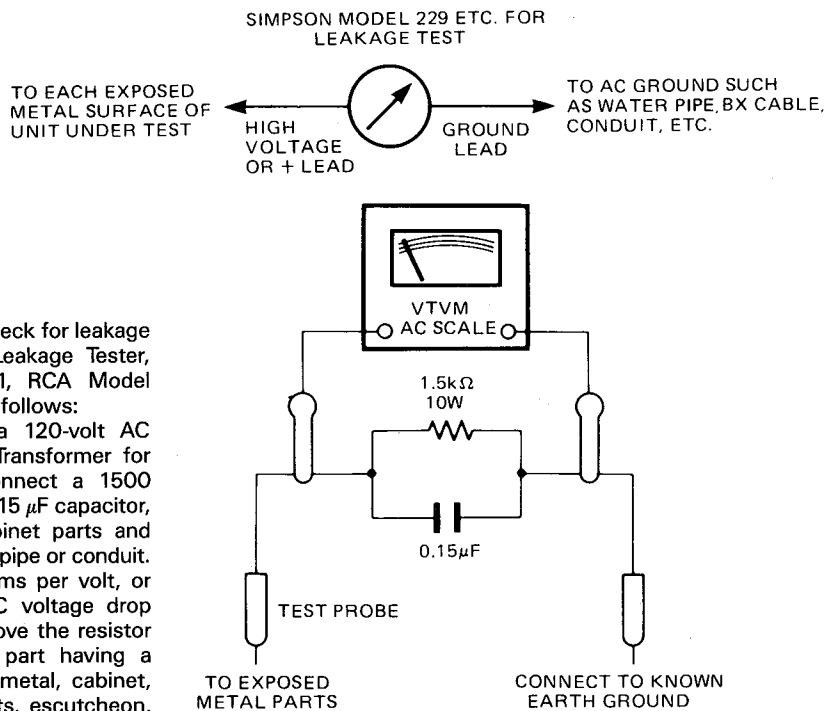
These specifications are service target specs.

Specifications and components subject to change without notice. Overall performance will be maintained or improved.

LEAKAGE TEST (FOR SERVICE ENGINEERS IN THE U.S.A.)

Before returning the unit to the user, perform the following safety checks:

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the unit.
2. Be sure that any protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc. which were removed for servicing are properly reinstalled.
3. Be sure that no shock hazard exists; check for leakage current using Simpson Model 229 Leakage Tester, standard equipment item No. 21641, RCA Model WT540A or use alternate method as follows: Plug the power cord directly into a 120-volt AC receptacle (do not use an Isolation Transformer for this test). Using two clip leads, connect a 1500 Ohm, 10-watt resistor paralleled by a 0.15 μF capacitor, in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit. Use a VTVM or VOM with 1000 Ohms per volt, or higher sensitivity to measure the AC voltage drop across the resistor. (See Diagram.) Move the resistor connection to each exposed metal part having a return path to the chassis (antenna, metal, cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor. (This test should be performed with the power switch in both the On and Off positions.) A reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the unit to the owner.



hk440 Vxi

DISASSEMBLY PROCEDURES (REFER TO PAGES 7 THROUGH 10 AND 18)

1 CABINET TOP REMOVAL

Remove 6 screws (A) and then remove the Cabinet Top (131).

2 FRONT PANEL ASS'Y REMOVAL

1. Remove the Cabinet Top (131), referring to the previous step 1.
2. Remove 6 screws (B) and then remove the Front Panel Ass'y (AA).

3 TUNER P. C. BOARD (PCB-13) REMOVAL

1. Remove the Front Panel Ass'y (AA), referring to the previous step 2.
2. Open the lid of connector (CN1) on the Power Switch P. C. Board (PCB-17) and then disconnect the lead wire (JL4).
3. Open the lid of connector (CN2) on the Tuner P. C. Board (PCB-13) and then disconnect the lead wire (JL14).
4. Remove 4 screws (C) and then remove the Tuner P. C. Board (PCB-13) with Lamp P. C. Board (PCB-18).
If necessary, unsolder the lead wires.

4 POWER AMP. P. C. BOARD (PCB-1) REMOVAL

1. Remove the Tuner P. C. Board (PCB-13), referring to the previous step 3.
2. Pull out the Power Push Button (146).
3. Remove 6 screws (D) and then remove the Front Chassis (161) with the Tone Control, Loudness Switch, Volume, Headphone Jack, Indicators, Speaker Switch, Function and Tape Mon. Switch, Preset Memory Switches and Tuning Switch P. C. Boards (PCB-2, PCB-4, PCB-5, PCB-6, PCB-7, PCB-9, PCB-12, PCB-14 and PCB-15).
4. Remove 6 screws (E) and then remove the Power Amp. P. C. Board (PCB-1) with Heat Sink (170) and Brackets (163, 164 and 165).
If necessary, unsolder the lead wires.
Removal of P. C. Boards attached to the Front Chassis (161)
5. Straighten the catches fixing the Preset Memory Switches P. C. Board (PCB-14) and then remove it.
6. Straighten the catches fixing the Tuning Switch P. C. Board (PCB-15) and then remove it.

7. Straighten the catches fixing the Indicators P. C. Board (PCB-7) and then remove it.
8. Remove the metal fixture (F) fixing the Headphone Jack P. C. Board (PCB-6) and then remove it.
9. Pull out the Speakers Push Buttons (151).
10. Remove 2 screws (G) and then remove the Speaker Switch P. C. Board (PCB-9).
11. Pull out the Knob (153).
12. Remove a hexagon-nut (H) and then remove the Volume P. C. Board (PCB-5).
13. Pull out the Loudness Push Button (151).
14. Remove 2 screws (I) and then remove the Loudness Switch P. C. Board (PCB-4).
15. Pull out the Function and Tape Mon. Switch Knobs (155).
16. Remove 2 hexagon-nuts (J) and then remove the Function and Tape Mon. Switch P. C. Board (PCB-12).
17. Pull out the Bass, Treble and Balance Knobs (155).
18. Remove 2 hexagon-nuts (K) and then remove the Tone Control P. C. Board (PCB-2).

5 PIN JACK P. C. BOARD (PCB-11) REMOVAL

1. Remove the Power Amp. P. C. Board (PCB-1), referring to the previous step 4.
2. Remove 4 screws (L) and then remove the Pin Jack P. C. Board (PCB-11).
If necessary, unsolder the lead wires.

6 SPEAKER TERMINAL P. C. BOARD (PCB-10) REMOVAL

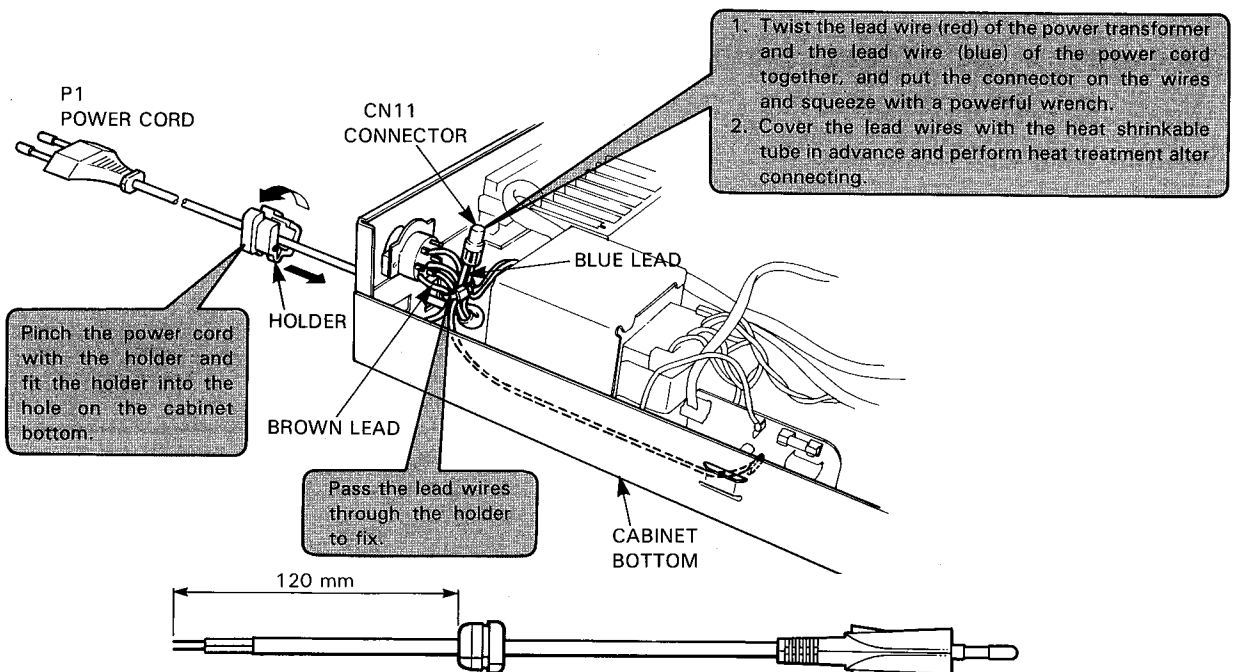
1. Remove the Cabinet Top (131), referring to the previous step 1.
2. Remove 2 screws (M) and then remove the Speaker Terminal P. C. Board (PCB-10).
If necessary, unsolder the lead wires.

7 ANTENNA TERMINAL P. C. BOARD (PCB-16) REMOVAL

1. Remove the Cabinet Top (131), referring to the previous step 1.
2. Remove 2 screws (N) and then remove the Antenna Terminal P. C. Board (PCB-16).
If necessary, unsolder the lead wires.

POWER CORD REPLACEMENT (FOR SERVICE ENGINEERS OTHER THAN NORTH AMERICA)

In order to prevent fire or shock hazard when replacing the power cord, follow the procedure below to replace the part with the standard supply parts.



CIRCUIT DESCRIPTION

■ FM TUNER SECTION

The FM signal which has entered through the antenna is high-frequency amplified in the front end unit FE101, mixed with the output of the local oscillator and converted into the 10.7MHz intermediate-frequency.

The 10.7MHz signal is amplified in the intermediate-frequency amplifying section which consists of CF201, Q201, CF202, Q202 and CF203 and fed to 1 pin of IC201. In IC201, the signal is transmitted through the IF amplifier in two steps, and after being detected in the quadrature, it is transmitted through the post amplifier to 12 pin and then input to 2 pin of IC301. In IC301, the pilot signal is detected out of the signal which has been fed and 38kHz signal is produced. Then by this signal, stereo signal is demodulated, output from 4 pin for the left channel and from 7 pin for the right channel be fed to the amplifier.

■ AM TUNER SECTION

The AM signal which has entered through the antenna is transmitted through the tuning circuit consisting of T251 and TC251 to IC201. In IC201 it undergoes high-frequency amplification, intermediate-frequency amplification local oscillation, intermediate-frequency amplification and detection, and then output from 15 pin. This signal is turned ON and OFF at Q703 and Q704 according to the signal from the input selector and fed to 2 pin of IC301.

■ MUTING CIRCUIT

If FM is received out of tuning or in a very weak field intensity, 41 pin of IC701 becomes high level. This is fed to the base of Q705, whose collector then becomes low level and the collector of Q709 high level. As a result, Q301 (L ch) and Q302 (R ch) are conducted to mute the output.

■ AUDIO AMPLIFIER SECTION

The signal which has entered from each input terminal is selected by the function selector, passes through the balance circuit, volume and loudness circuit and is fed into the pre-amplifier.

Then it is fed into the power amplifier through the tone control circuit, power amplified and transmitted to the speaker terminal.

The power amplifier has an over-output protective circuit. If current exceeding the specification flows to Q431, Q433 (L ch), Q432, Q434 (R ch), it is detected at Q3 (L ch) and Q4 (R ch) and the protective circuit consisting of Q1, Q2, Q5, Q6 and Q7 draws in the base of Q413 (L ch) and Q414 (R ch), and thus the input signal is cut to protect the circuit.

■ SYNTHESIZER SECTION

● FM

The local oscillation output at the front end is fed to 47 pin of IC701 and after being frequency divided into 30 or 32, the standard frequency is oscillated by the crystal oscillator, compared with the divided local oscillation output signal and output to 45 pin. This voltage is level converted at Q707 and Q708, and fed to the varicap diode at the front end.

● AM

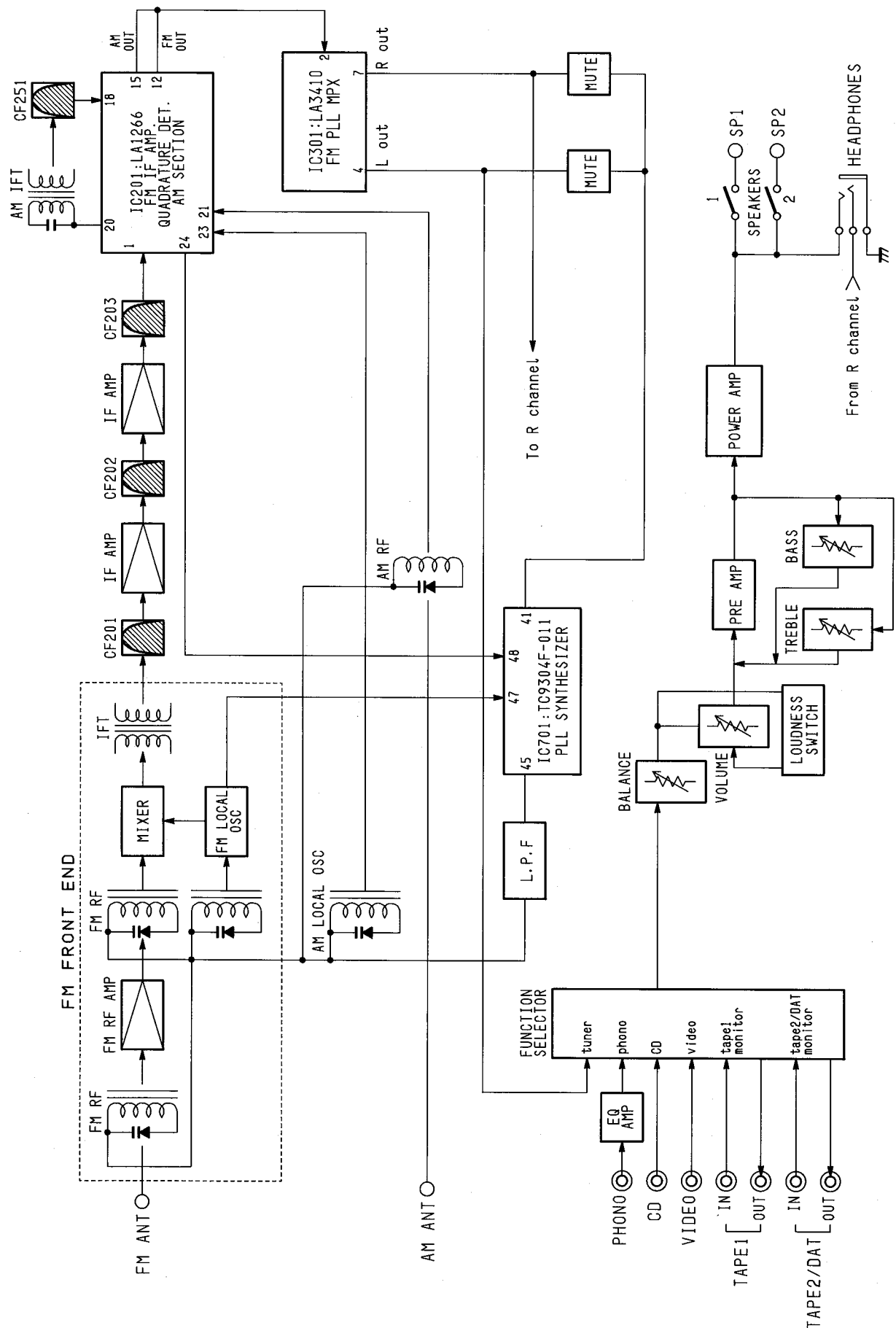
The local oscillation output is fed from 24 pin of IC201 to 48 pin of IC701. In IC701, the standard frequency is oscillated by the crystal oscillator, compared with the local oscillation output and output to 45 pin.

■ INDICATOR SECTION

● Frequency display

The serial data sent out of 1 to 22 and 56 to 60 pins of IC702, where the data is decoded to provide a signal which turns ON the indicator.

BLOCK DIAGRAM



ALIGNMENT PROCEDURES (REFER TO PAGES 14, 16, 25 AND 26)

- Conditions:**
- Set the Volume control to minimum.
 - Set the Speaker switches to on (button in) position.
 - Set the Speaker Operating Mode switch to "8Ω" position.
 - Set the Function switch to tuner position.
 - Make the adjustment at a room temperature of 77°F (25°C).
 - After the Power switch is pushed on, wait for 30 minutes before measuring to be sure of the most stable operation.

■ IDLING CURRENT ADJUSTMENT

Step	Connection Equipments	Adjustment	For
1	Connect the Digital Volt Meter to TP1 and TP2.	VR401 (L ch)	40mV ± 2mV
2	Connect the Digital Volt Meter to TP3 and TP4.	VR402 (R ch)	40mV ± 2mV

■ AM ADJUSTMENT

- Conditions :**
- Set the AM mode by pressing the "FM/AM" button.
 - Standard modulation of the AM signal Generator is 400Hz at 30%.
 - Set the Seek switch to off (put out seek indicator) position.

Step	Alignment	Connection Equipments	Measurement Frequency	Station Display	Adjustment	For
1	IF Tracking	<ul style="list-style-type: none"> • Connect the AM Test Loop Antenna cable into the output jack of AM Signal Generator. Place AM Test Loop Antenna close enough to couple signal into the AM Loop Antenna. • Connect the VTVM and oscilloscope to the OUTPUT jacks. 	1400kHz	1400kHz	T252	Maximum output level and symmetrical curve on scope.
2			1400kHz	1400kHz	TC251	Maximum output.
3			600kHz	600kHz	T251	Maximum output.
4			Repeat steps 2 and 3 for optimum sensitivity.			

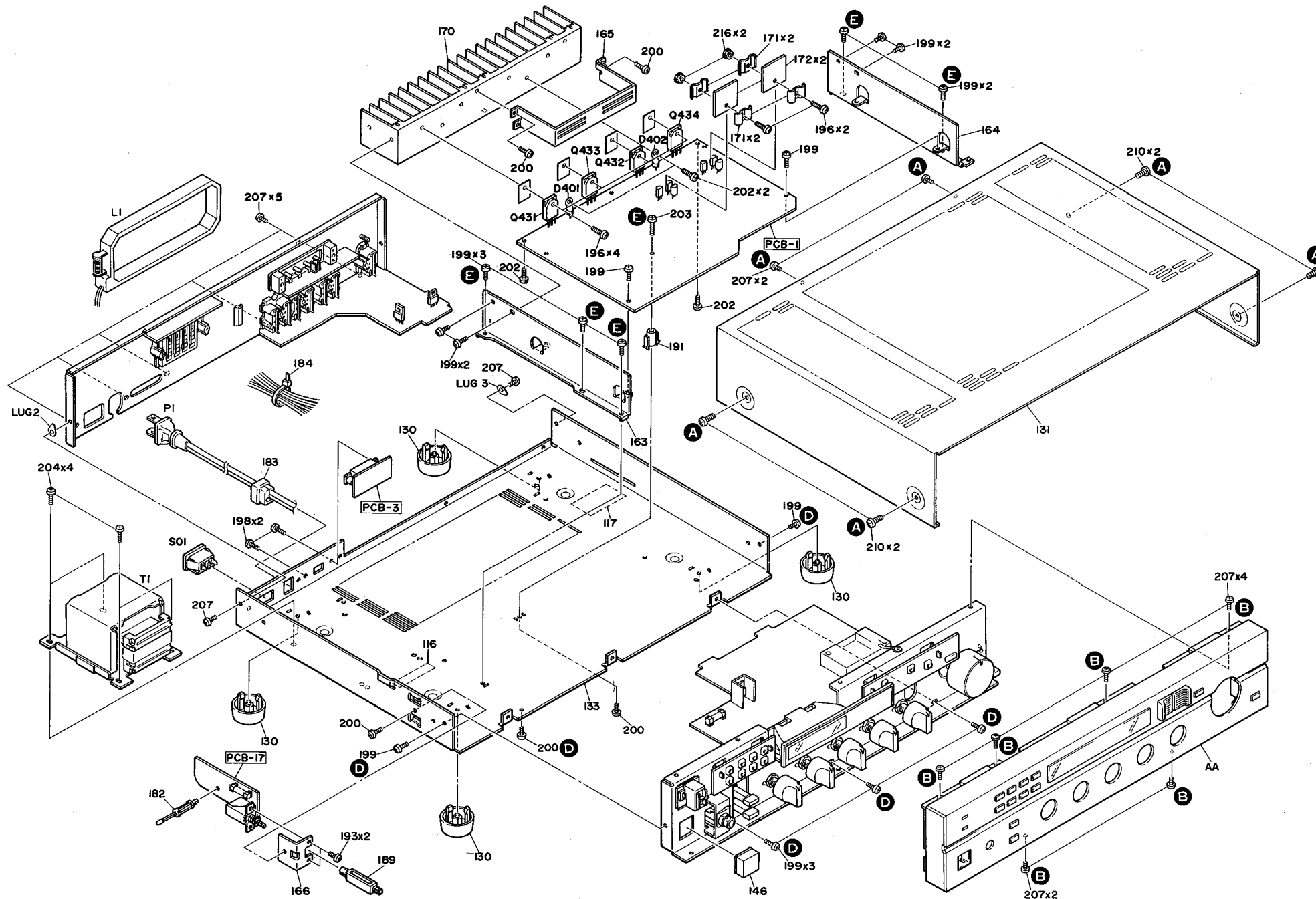
■ FM ADJUSTMENT

- Conditions :**
- Set the FM mode by pressing the "FM/AM" button.
 - Set the Seek switch to off (put out seek indicator) position.

	U.S.A. model	General model
FM Signal Generator	1kHz, 100% modulation	1kHz, 45% modulation
Stereo Modulator	L + R = 45.5%, L - R = 45.5%, 19kHz = 9%	L + R = 22.5%, L - R = 22.5%, 19kHz = 8%

Step	Alignment	Connection Equipments	Measurement Frequency	Station Display	Adjustment	For
1	Discriminator	<ul style="list-style-type: none"> • Connect the FM Signal Generator to FM 300Ω BAL Antenna terminals through the 300Ω balanced dummy. [1mV(65dBf) input signal] • Connect the Oscilloscope and Distortion meter to the TAPE 1 OUT jacks. • Set the Seek switch to on (seek indicator lights) position. 	97.9MHz	97.9MHz	T201(A)	Adjust so that the TUNED indicator lights in the same range on both plus (+) and minus (-) sides of 97.9MHz.
2			97.9MHz	97.9MHz	T201(B)	Minimum distortion.
3			Repeat steps 1 and 2 for optimum sensitivity.			
4	Muting level		97.9MHz	97.9MHz	VR251	Adjust VR251 so that the waveform is disappear at 30 dBf input.
5	Separation	<ul style="list-style-type: none"> • Connect the Stereo Modulator to FM Signal Generator. Connect the FM Signal Generator to FM 300Ω BAL Antenna terminal through the 300Ω balanced dummy. (65 dBf input) • Connect the VTVM and Oscilloscope to the TAPE 1 OUT jacks. 			VR301	Adjust so that the left channel output becomes minimum when only the right channel of the Stereo Modulator is ulated.
			97.9MHz	97.9MHz	VR301	Adjust so that the right channel output becomes minimum when only the left channel of the Stereo Modulator is modulated.

**GENERAL UNIT
EXPLODED VIEW**

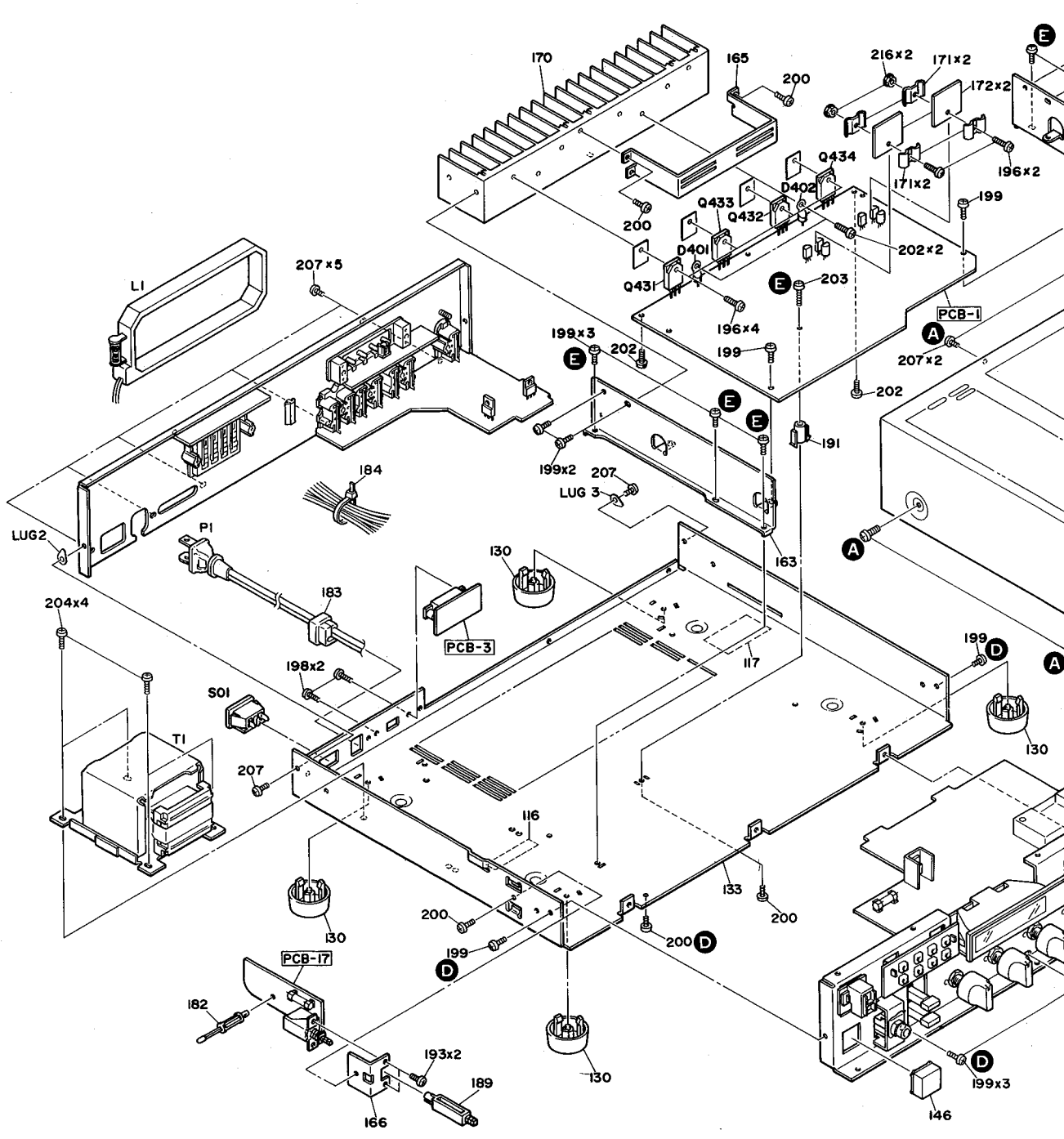


PARTS LIST

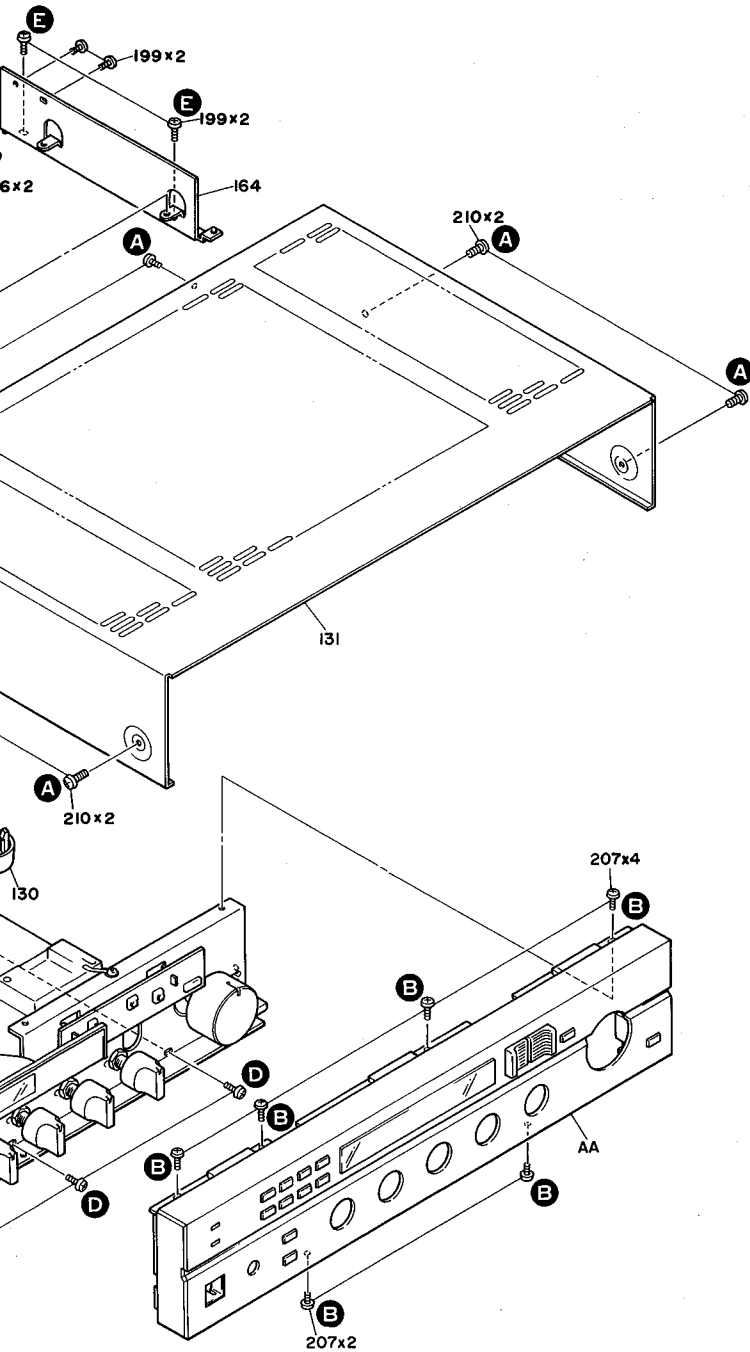
Ref. No.	Part No.	Description
AA	A443-HK440A	FRONT PANEL ASS'Y
116	1756-05910	LABEL UJA
117	1756-CSA	LABEL, CSA UJA
130	1319-0139	LEG
131	1414-11501	CABINET
133	1424-24001	CABINET BOTTOM
146	1660-00403	PUSH BUTTON, POWER
163	2219-8194	METAL FITTG, L
164	2219-8195	METAL FITTG, R
165	2219-8214	METAL FITTG, TUNER PCB
166	2219-8197	METAL FITTG, POWER SW
170	2222-7235	HEAT SINK, MAIN
171	2222-7106	HEAT SINK, DRIVER
172	2222-7231	HEAT SINK, DRIVER
182	2240-7236	HOLDER, POWER SW PCB
183	2240-364	HOLDER, POWER CORD
184	2240-7120	HOLDER
189	2672-7018	LEVER, POWER SW
191	2360-7015	SPECIAL BOSS, POWER AMP PCB
193	2327-R0130062	SCREW
196	2557-301029	SCREW
198	2347-R0126104	SCREW
199	2347-R0130062	SCREW
200	2347-R0130062	SCREW
202	2347-R0130062	SCREW
203	2347-R0130102	SCREW
204	2592-400826	SCREW
207	2347-R0130064	SCREW
210	2347-R0140064	SCREW
216	2440-7016	SPECIAL NUT
ΔPI	4161-71151	POWER CORD UJA
ΔPI	4161-7256	POWER CORD GB
ΔPI	4161-04100	POWER CORD (Australia model)
ΔSO1	4474-164	SOCKET UJA
ΔTI	5584-51402	XFORMER, POWER UJA
ΔTI	5584-S1403	XFORMER, POWER GB
LUG2	4211-4	LUG UJA
LUG3	4211-4	LUG
Q431	5613-3181(O)	XISTOR, NPN R
Q432	5613-3181(O)	XISTOR, NPN R
Q433	5611-1264(O)	XISTOR, PNP R
Q434	5611-1264(O)	XISTOR, PNP R
D401	5641-MV12YM	VARISTOR
D402	5641-MV12YM	VARISTOR
LI	5911-235	AM LOOP ANTENNA

GENERAL UNIT
EXPLODED VIEW

1
2
3
4
5
6
7



F G H I J

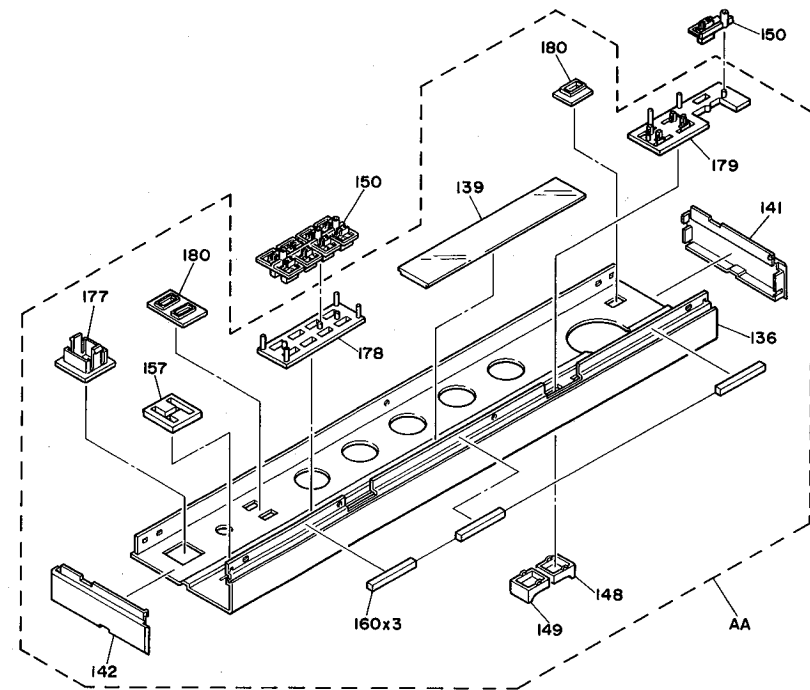


PARTS LIST

Ref. No.	Part No.	Description
AA	A443-HK440A	FRONT PANEL ASS'Y
116	1756-05910	LABEL UA
117	1756-CSA	LABEL, CSA UA
130	1319-0139	LEG
131	1414-11501	CABINET
133	1424-24001	CABINET BOTTOM
146	1660-00403	PUSH BUTTON, POWER
163	2219-8194	METAL FITTG, L
164	2219-8195	METAL FITTG, R
165	2219-8214	METAL FITTG, TUNER PCB
166	2219-8197	METAL FITTG, POWER SW
170	2222-7235	HEAT SINK, MAIN
171	2222-7106	HEAT SINK, DRIVER
172	2222-7231	HEAT SINK, DRIVER
182	2240-7236	HOLDER, POWER SW PCB
183	2240-364	HOLDER, POWER CORD
184	2240-7120	HOLDER
189	2672-7018	LEVER, POWER SW
191	2360-7015	SPECIAL BOSS, POWER AMP PCB
193	2327-R0130062	SCREW
196	2557-301029	SCREW
198	2347-R0126104	SCREW
199	2347-R0130062	SCREW
200	2347-R0130062	SCREW
202	2347-R0130062	SCREW
203	2347-R0130102	SCREW
204	2592-400826	SCREW
207	2347-R0130064	SCREW
210	2347-R0140064	SCREW
216	2440-7016	SPECIAL NUT
ΔPI	4161-71151	POWER CORD UA
ΔPI	4161-7256	POWER CORD GB
ΔPI	4161-04100	POWER CORD (Australia model)
ΔS01	4474-164	SOCKET UA
ΔTI	5584-S1402	XFORMER, POWER UA
ΔTI	5584-S1403	XFORMER, POWER GB
LUG2	4211-4	LUG UA
LUG3	4211-4	LUG
Q431	5613-3181(O)	XISTOR, NPN R
Q432	5613-3181(O)	XISTOR, NPN R
Q433	5611-1264(O)	XISTOR, PNP R
Q434	5611-1264(O)	XISTOR, PNP R
D401	5641-MV12YM	VARISTOR
D402	5641-MV12YM	VARISTOR
LI	5911-235	AM LOOP ANTENNA

GENERAL UNIT

EXPLODED VIEW (FRONT PANEL ASS'Y)

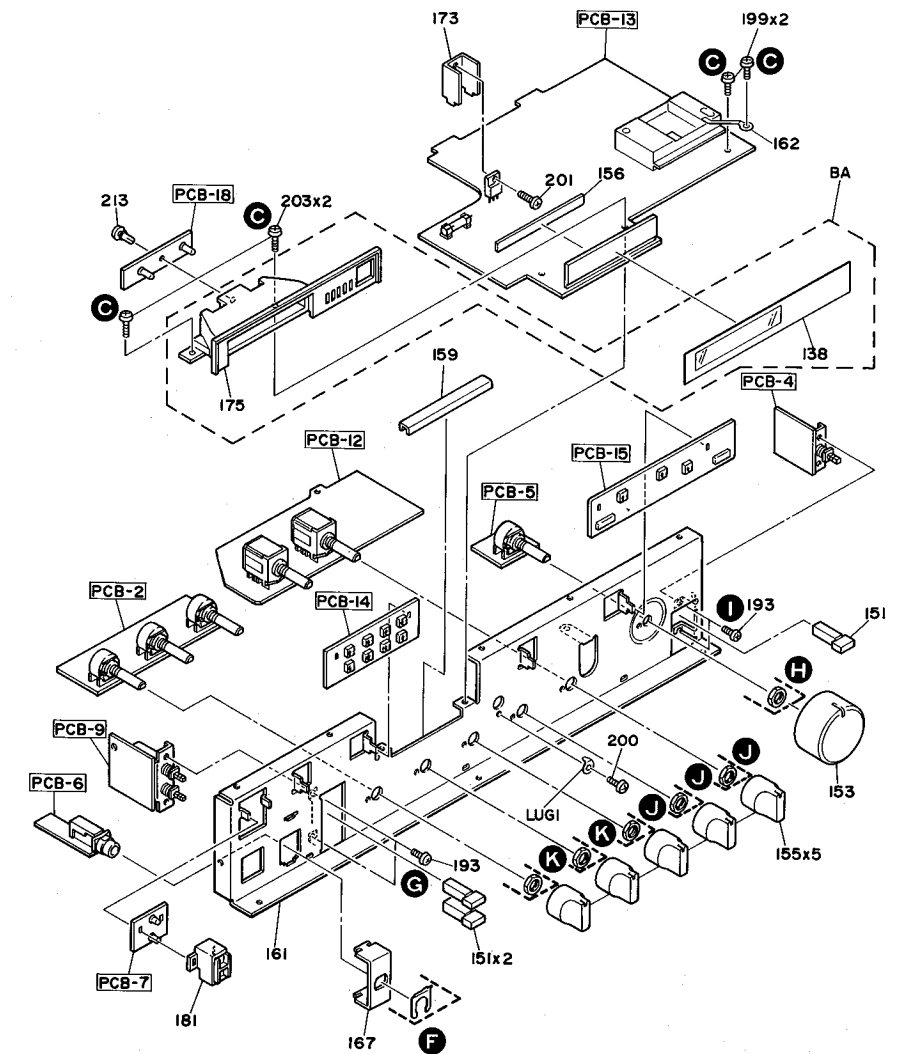


PARTS LIST

Ref. No.	Part No.	Description
AA	A443-HK440A	FRONT PANEL ASS'Y
136	1443-11801	FRONT PANEL
139	1531-12001	FRONT WINDOW
141	1562-06202	FRAME, R
142	1562-06302	FRAME, L
148	1662-35702	PUSH BUTTON, TUNING UP
149	1662-35802	PUSH BUTTON, TUNING DOWN
150	1662-37202	PUSH BUTTON, PRESET MEMORY, SEEK
157	1732-04201	INDICATOR
160	2112-11762	SPONGE, PANEL TOP
177	2240-7209	HOLDER, POWER
178	2240-7333	HOLDER, PRESET
179	2240-7332	HOLDER
180	2240-7337	HOLDER

GENERAL UNIT

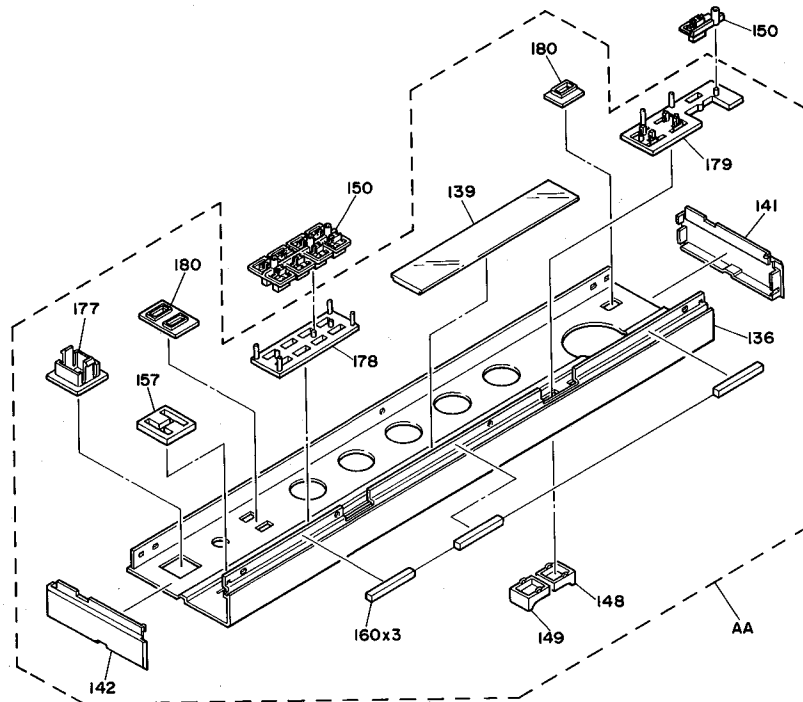
EXPLODED VIEW (FRONT CHASSIS)



PARTS LIST

Ref. No.	Part No.	Description
BA	B223-HK440A	REFLECTOR ASS'Y
138	1511-14301	PLATE, REFLECTOR
151	1662-36002	PUSH BUTTON, LOUDNESS
153	1630-02603	ROTARY KNOB, VOLUME
155	1632-17101	ROTARY KNOB
156	1731-00601	INDICATOR, LCD REAR
159	2111-11768	FELT, LCD UNDER
161	2211-7297	CHASSIS, FRONT
162	2218-7001	BRACKET FIX
167	2219-8206	METAL FITTG, HEADPHONES
173	2222-7239	HEAT SINK, TUNER PCB
175	2223-7058	REFLECTOR
181	2240-7325	HOLDER
193	2327-R0130062	SCREW
199	2347-R0130062	SCREW
200	2347-R0130062	SCREW
201	2347-R0130102	SCREW
203	2347-R0130102	SCREW
213	2459-3006511	PLASTIC RIVET, LAMP PCB
LUG1	4211-4	LUG

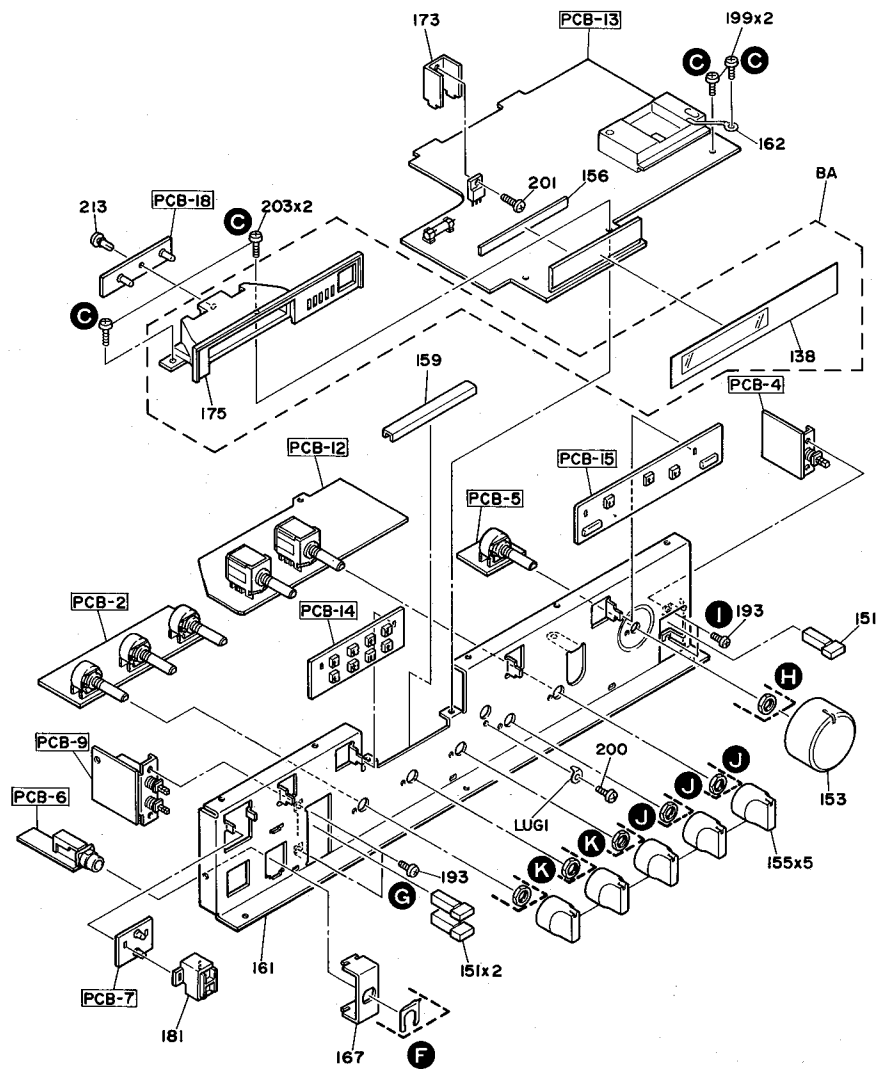
GENERAL UNIT
EXPLODED VIEW (FRONT PANEL ASS'Y)



PARTS LIST

Ref. No.	Part No.	Description
AA	A443-HK440A	FRONT PANEL ASS'Y
136	1443-11801	FRONT PANEL
139	1531-12001	FRONT WINDOW
141	1562-06202	FRAME, R
142	1562-06302	FRAME, L
148	1662-35702	PUSH BUTTON, TUNING UP
149	1662-35802	PUSH BUTTON, TUNING DOWN
150	1662-37202	PUSH BUTTON, PRESET MEMORY, SEEK
157	1732-04201	INDICATOR
160	2112-11762	SPONGE, PANEL TOP
177	2240-7209	HOLDER, POWER
178	2240-7333	HOLDER, PRESET
179	2240-7332	HOLDER
180	2240-7337	HOLDER

GENERAL UNIT
EXPLODED VIEW (FRONT CHASSIS)



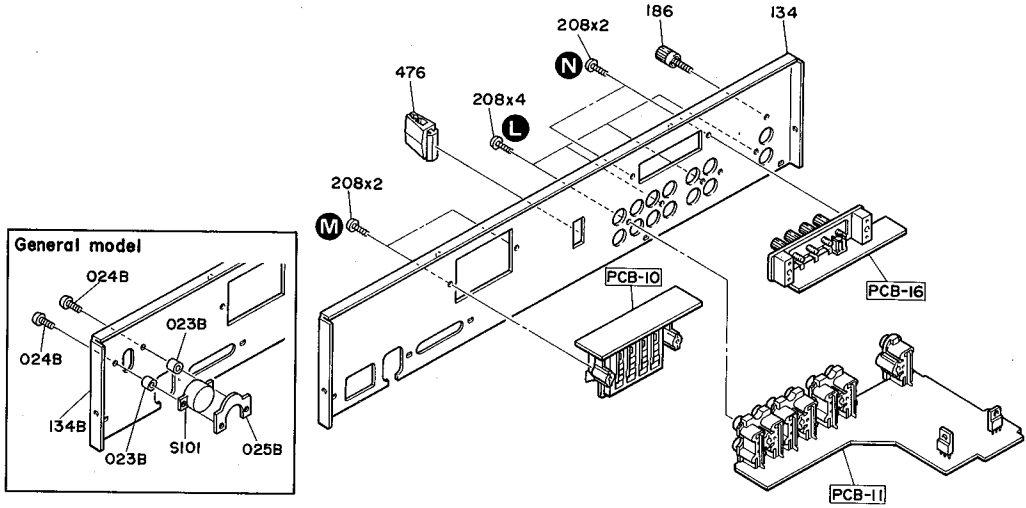
PARTS LIST

Ref. No.	Part No.	Description
BA	B223-HK440A	REFLECTOR ASS'Y
138	1511-14301	PLATE, REFLECTOR
151	1662-36002	PUSH BUTTON, LOUDNESS
153	1630-02603	ROTARY KNOB, VOLUME
155	1632-17101	ROTARY KNOB
156	1731-00601	INDICATOR, LCD REAR
159	2111-11768	FELT, LCD UNDER
161	2211-7297	CHASSIS, FRONT
162	2218-7001	BRACKET FIX
167	2219-8206	METAL FITTG, HEADPHONES
173	2222-7239	HEAT SINK, TUNER PCB
175	2223-7058	REFLECTOR
181	2240-7325	HOLDER
193	2327-R0130062	SCREW
199	2347-R0130062	SCREW
200	2347-R0130062	SCREW
201	2347-R0130102	SCREW
203	2347-R0130102	SCREW
213	2459-3006511	PLASTIC RIVET, LAMP PCB
LUG1	4211-4	LUG

A B C D E

GENERAL UNIT
EXPLODED VIEW (CABINET BACK)

1
2
3
4
5
6
7

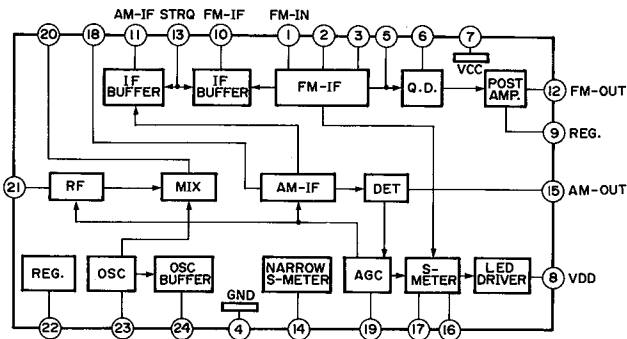


PARTS LIST

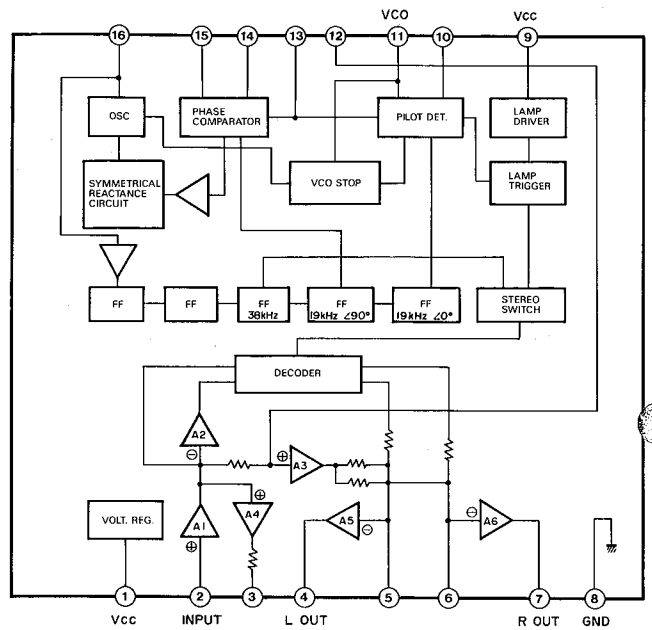
Ref. No.	Part No.	Description
023B	2132-7116	SPACER (CB)
024B	2327-R0130124	SCREW (CB)
025B	2440-7017	SPECIAL NUT (CB)
134	1424-24301	CABINET BACK (UA)
134B	1424-24401	CABINET BACK (CB)
186	4214-168	TERMINAL
208	2347-R0130104	SCREW
476	2240-7208	HOLDER
△S101	4411-102729	ROTARY SWITCH (CB)

IC BLOCK DIAGRAM

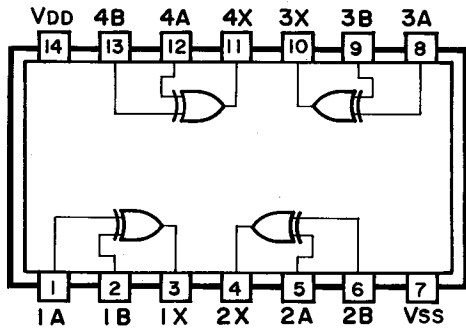
LA1266 : IC201 FM/AM IF



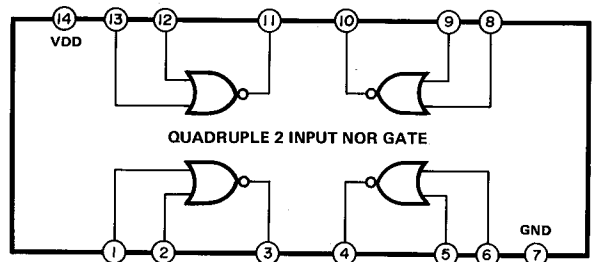
LA3410 : IC301 PLL MPX



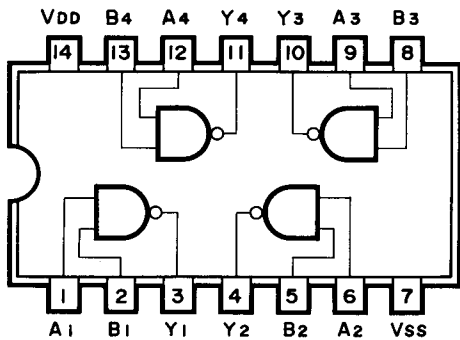
TC4030BP : IC702 QUAD EXCLUSIVE-OR GATE



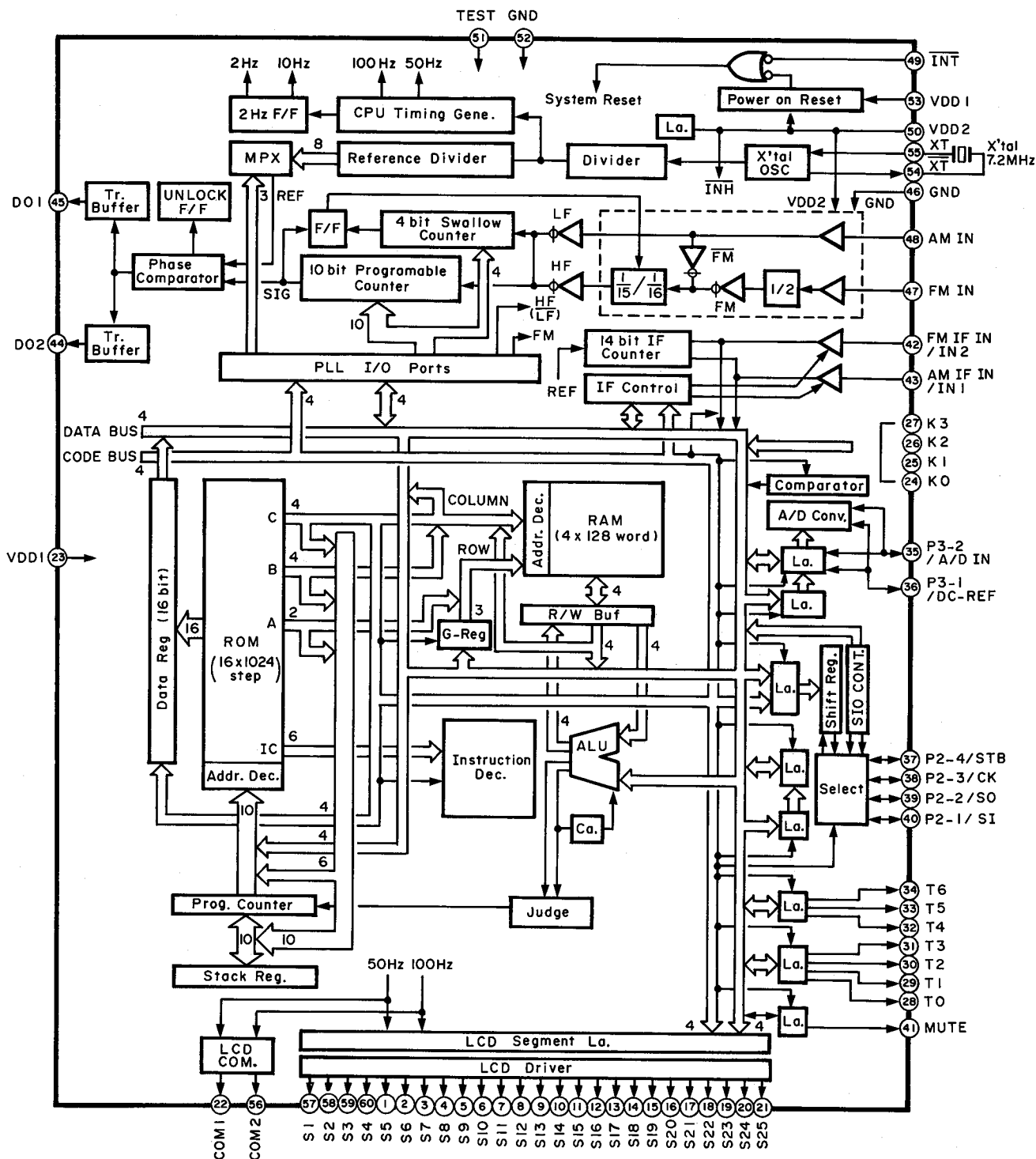
TC4001BP : IC752 QUAD 2 INPUT NOR GATE



TC4011BP : IC751 QUAD 2 INPUT NAND GATE



TC9304F-011 : IC701 LSI MICRO PROCESSOR



A

B

C

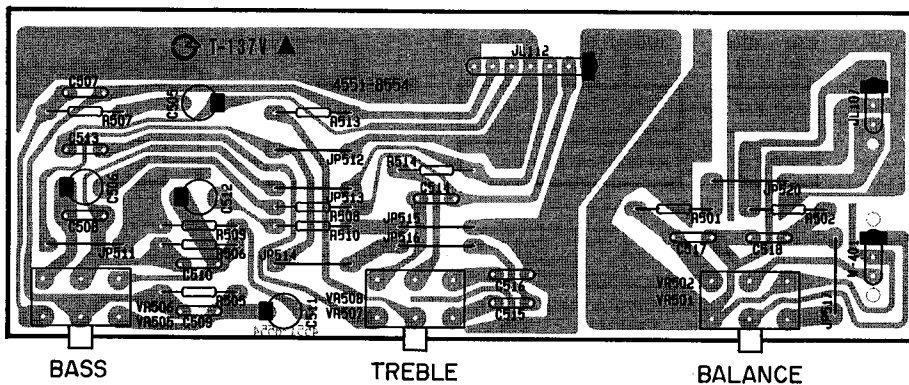
D

E

P. C. BOARDS

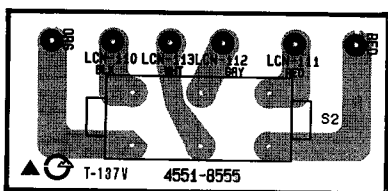
1

PCB-2 Tone Control P. C. Board



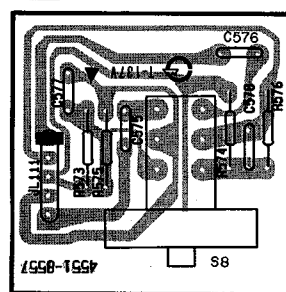
2

PCB-3 Speaker Mode Selector P. C. Board



▲ ▲
4Ω 8Ω
**SPEAKER
OPERATING
MODE**

PCB-4 Loudness Switch P. C. Board

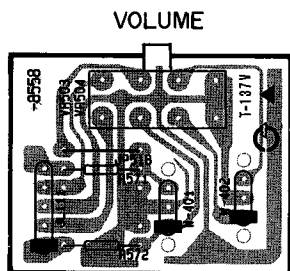


Loudness

3

4

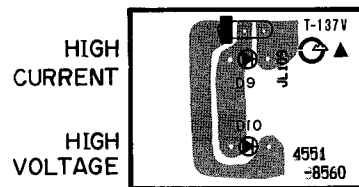
PCB-5 Volume P. C. Board



VOLUME

5

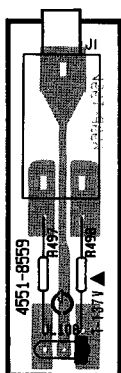
PCB-7 Indicators P. C. Board



6

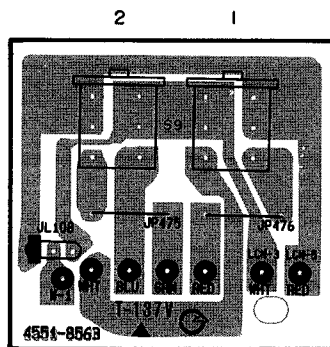
PCB-6 Headphone Jack P. C. Board

HEADPHONES



PCB-9 Speaker Switch P. C. Board

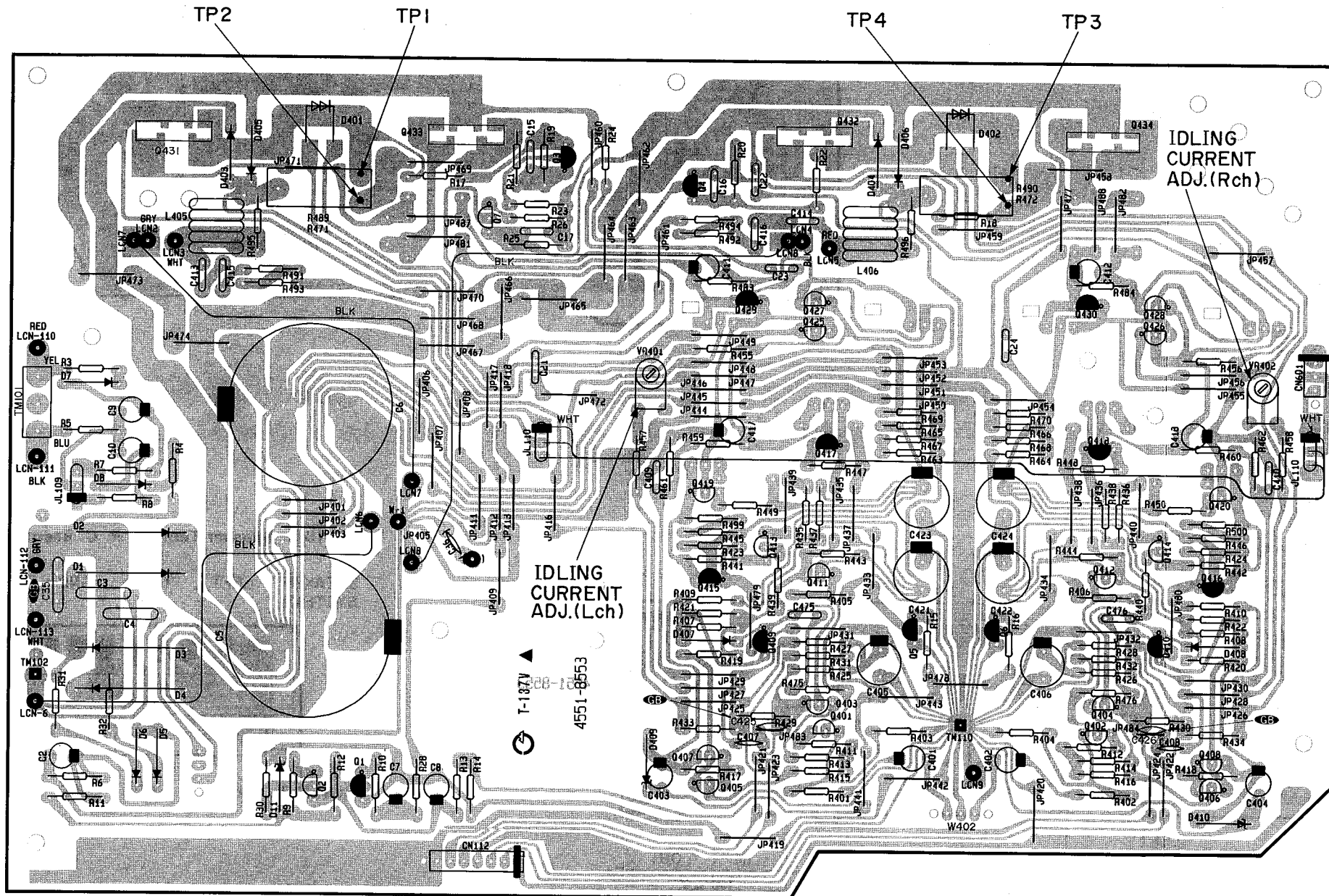
SPEAKERS



7

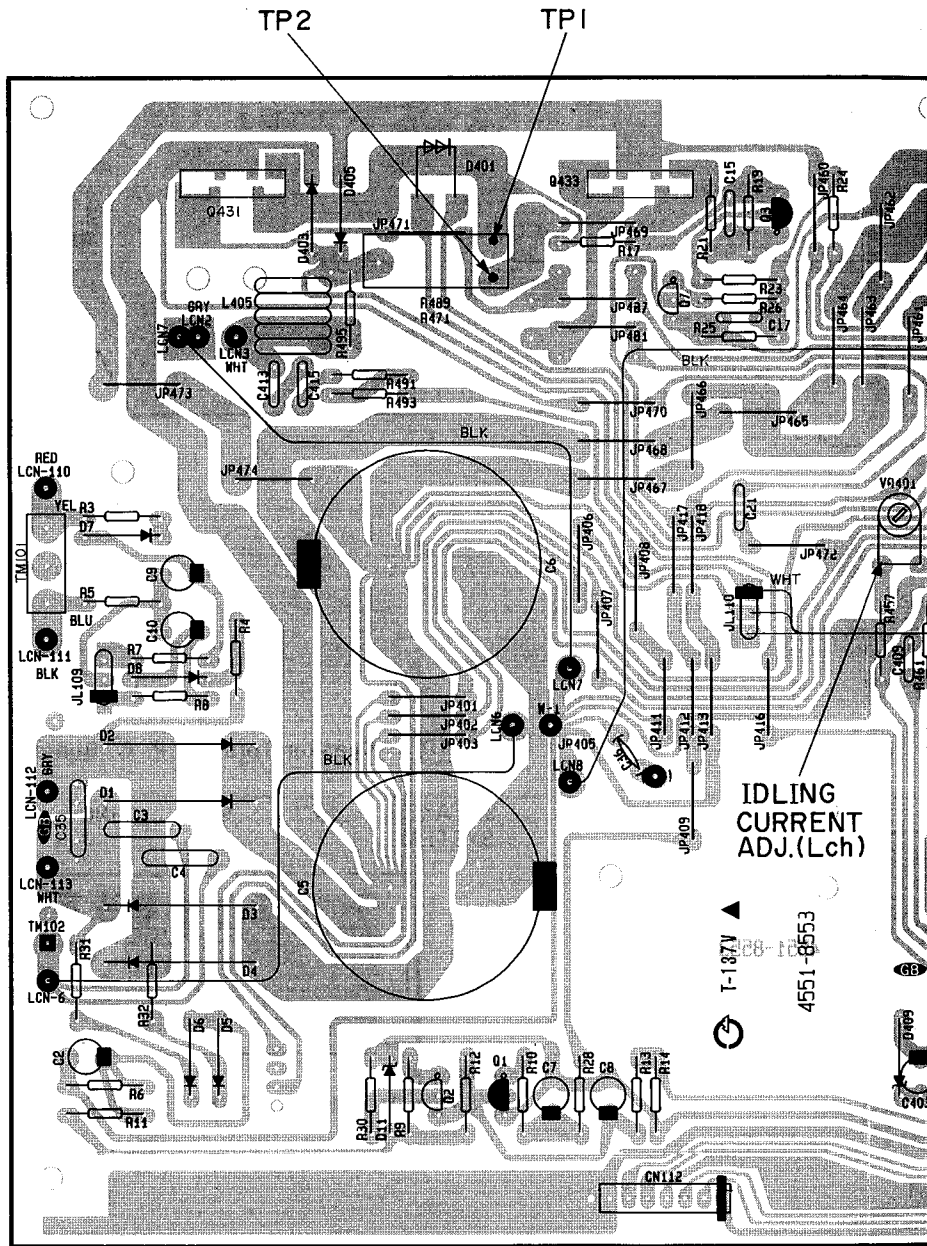
P. C. BOARDS

PCB-1 Power Amp. P. C. Board



P. C. BOARDS

PCB-1 Power Amp. P. C. Board



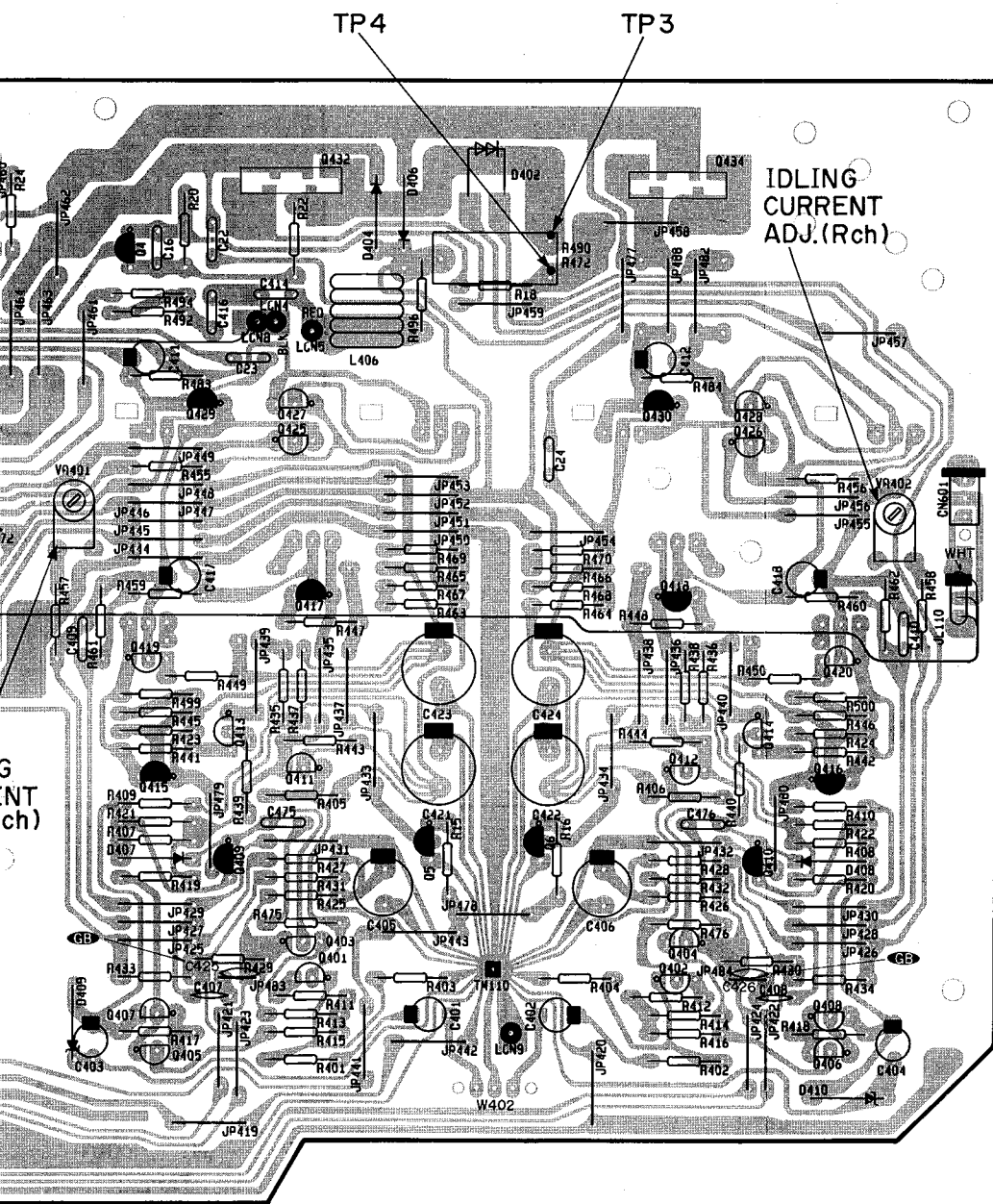
F

G

H

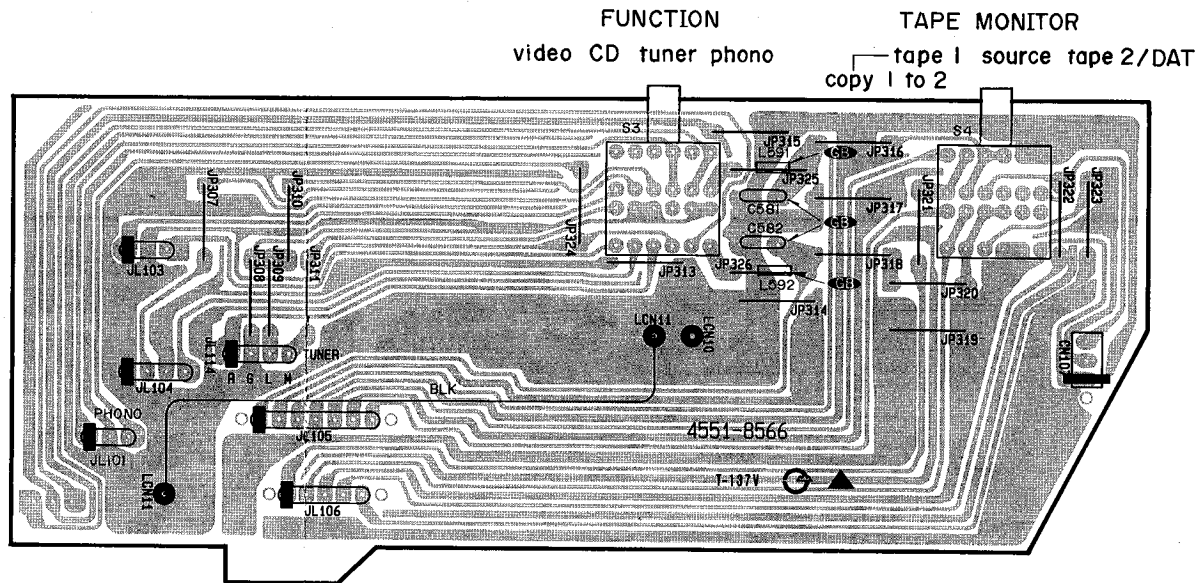
I

J

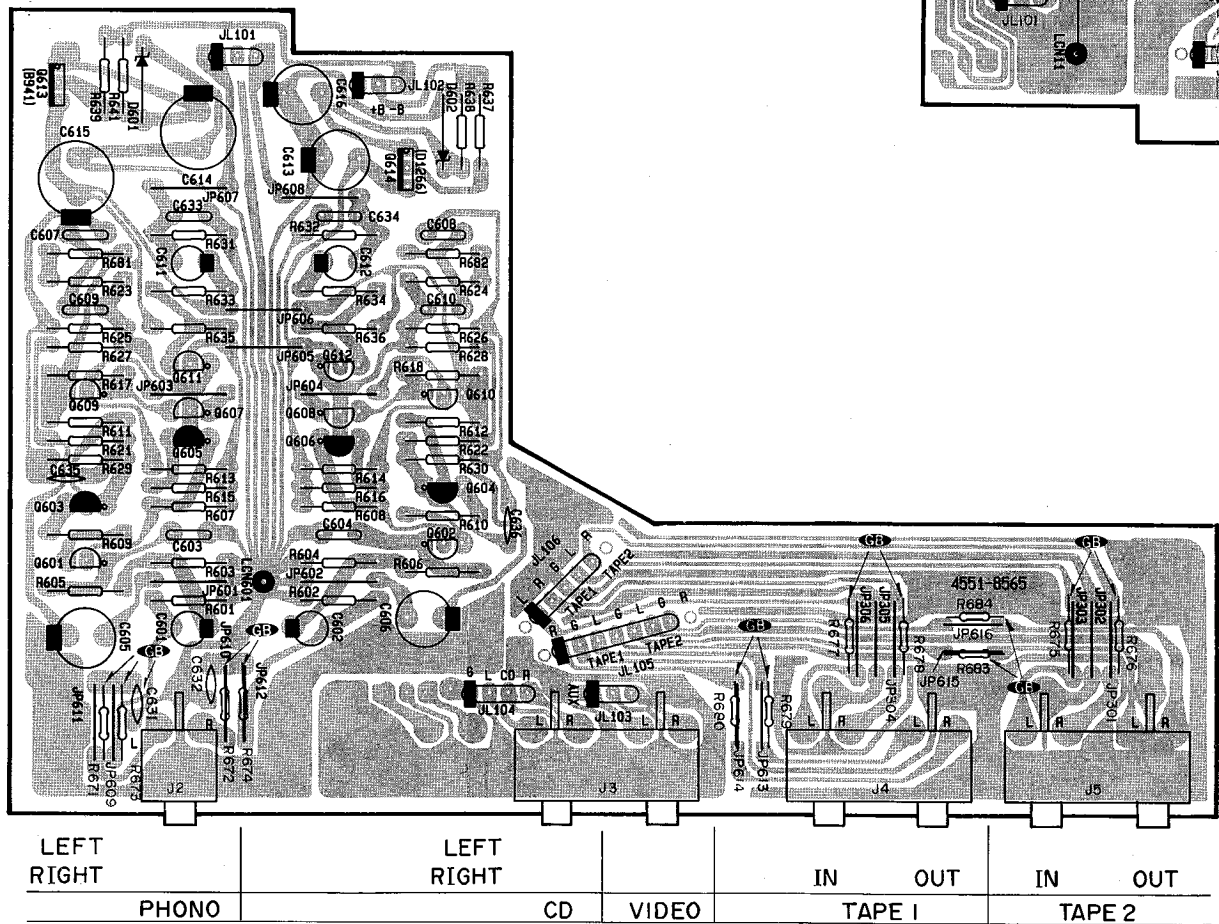


P. C. BOARDS

PCB-12 Function and Tape Mon. Switch P. C. Board

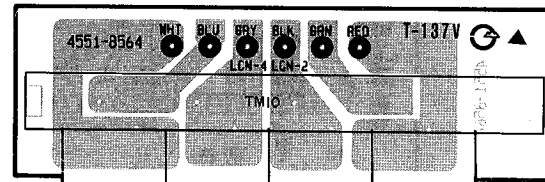


PCB-11 Pin Jack P. C. Board



PCB-10 Speaker Terminal P. C. Board

SPEAKER SYSTEM 1 LEFT GND GND RIGHT

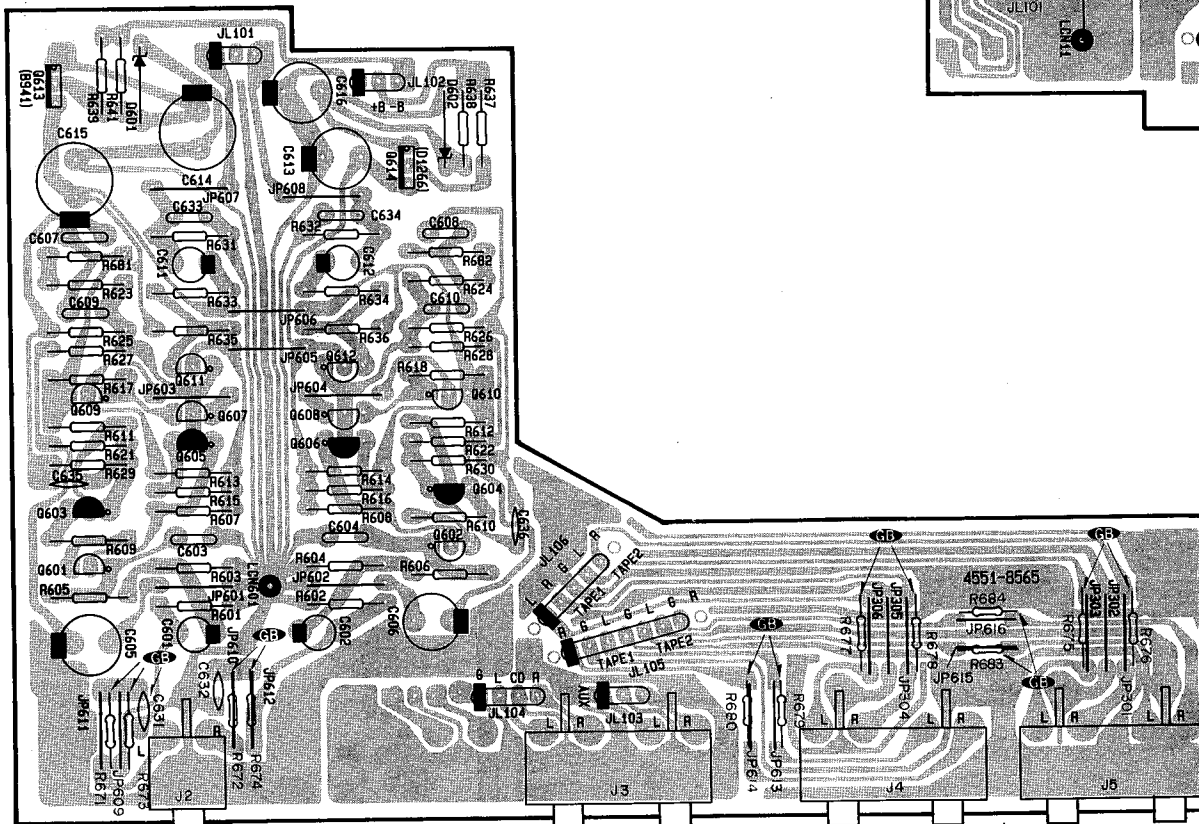


SPEAKER SYSTEM 2 LEFT GND GND RIGHT

P. C. BOARDS

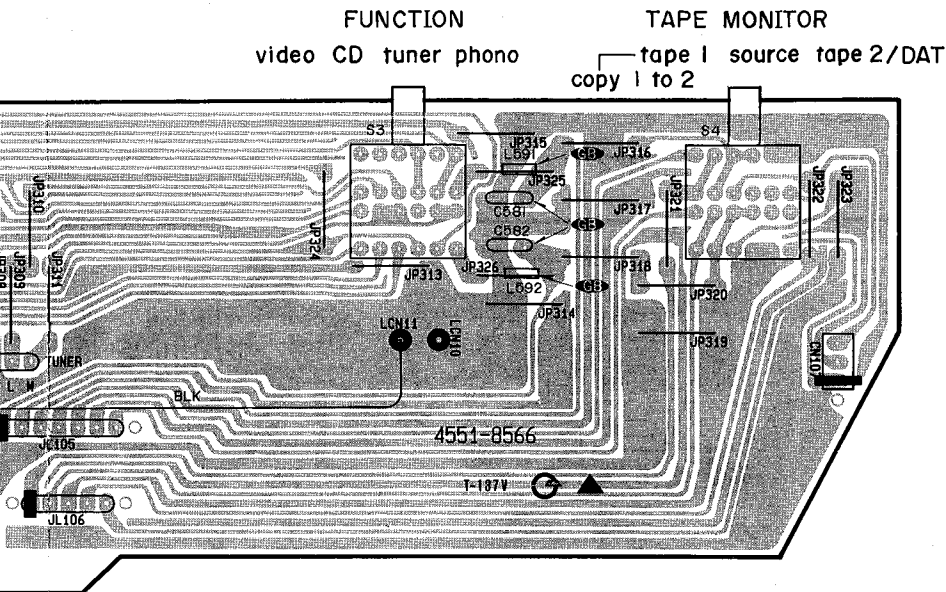
PCB-12 Function an

PCB-11 Pin Jack P. C. Board



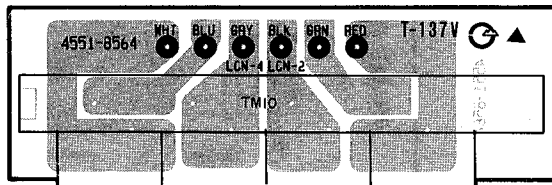
LEFT RIGHT	LEFT RIGHT	IN	OUT	IN	OUT
PHONO	CD	VIDEO	TAPE 1	TAPE 2	

and Tape Mon. Switch P. C. Board



PCB-10 Speaker Terminal P. C. Board

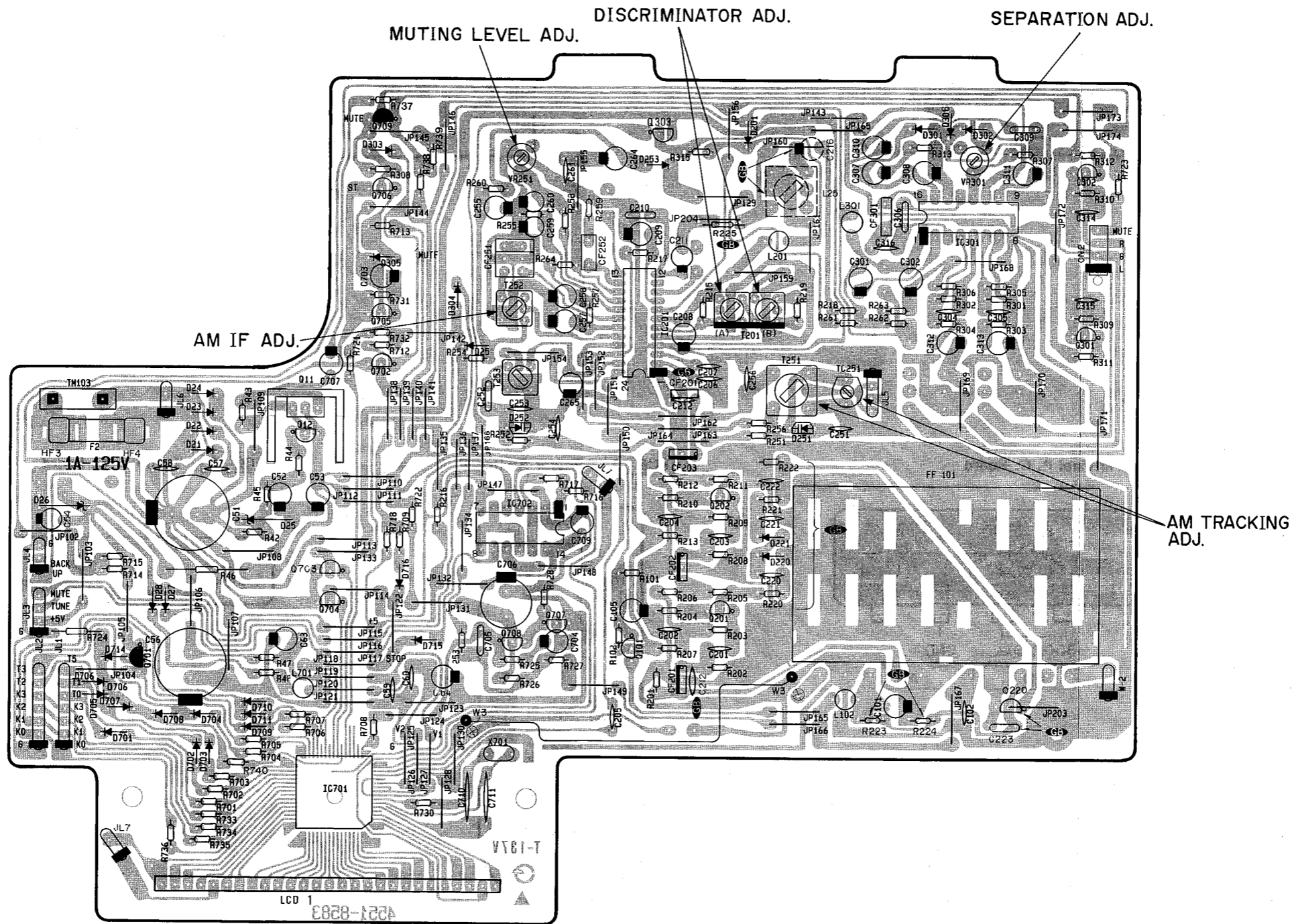
SPEAKER SYSTEM 1 LEFT GND GND RIGHT



SPEAKER SYSTEM 2 LEFT GND GND RIGHT

P. C. BOARDS

PCB-13 Tuner P. C. Board

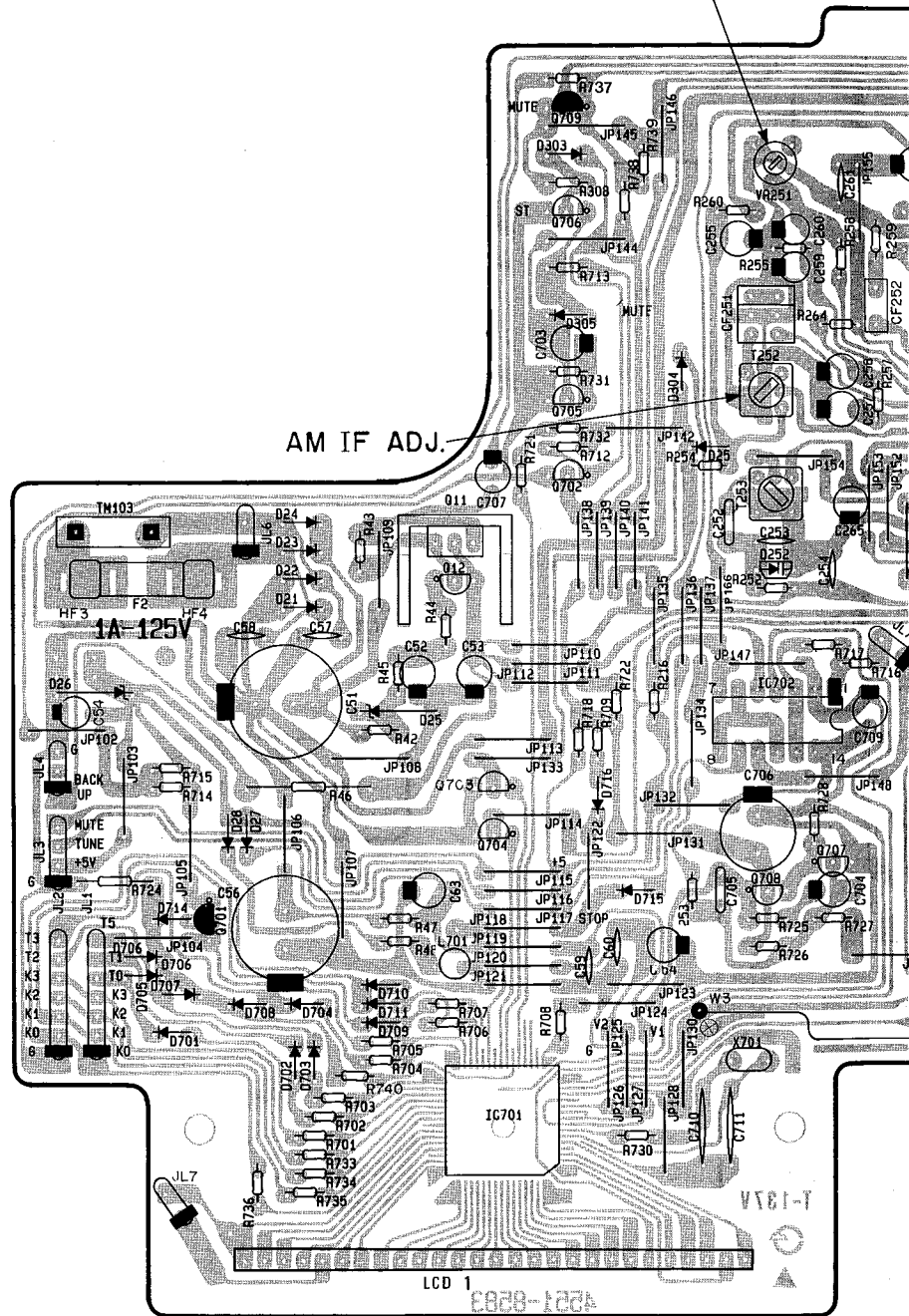


P. C. BOARDS

PCB-13 Tuner P. C. Board

MUTING LEVEL ADJ.

AM IF ADJ.



1
2
3
4
5
6
7

F

G

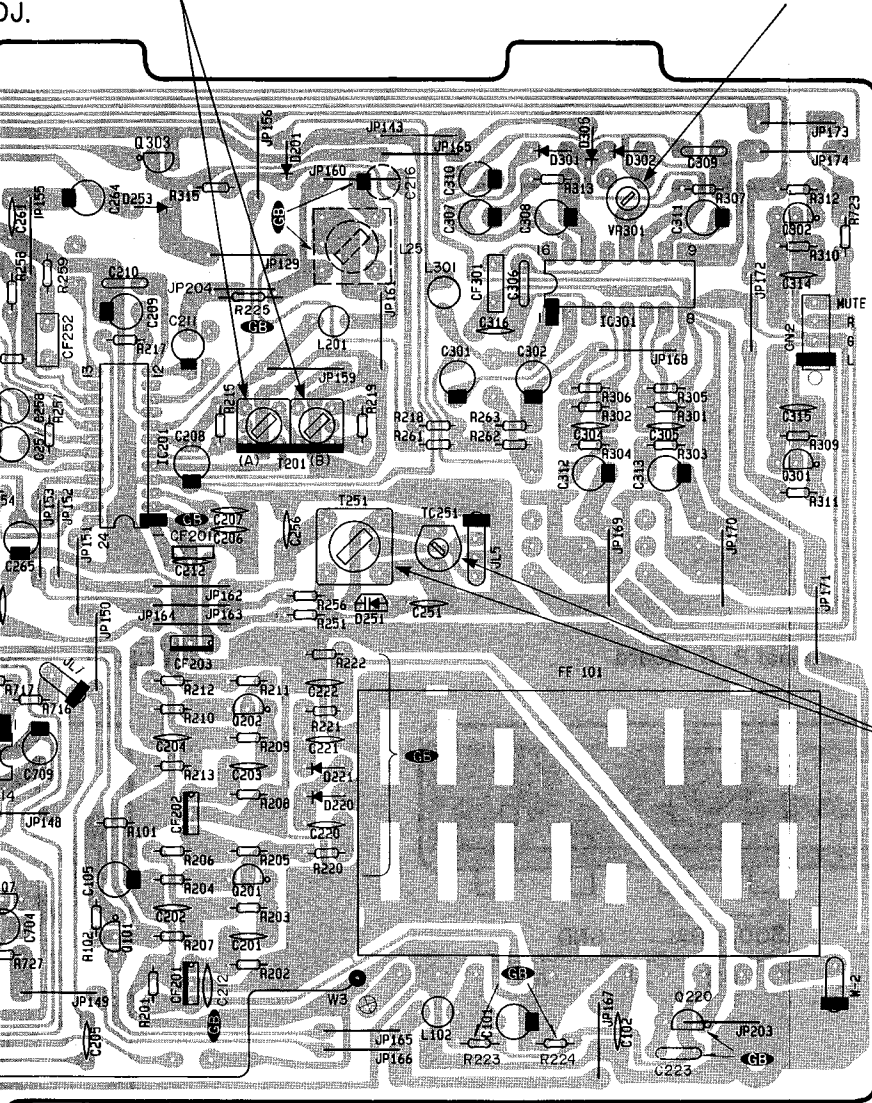
H

I

J

DISCRIMINATOR ADJ.

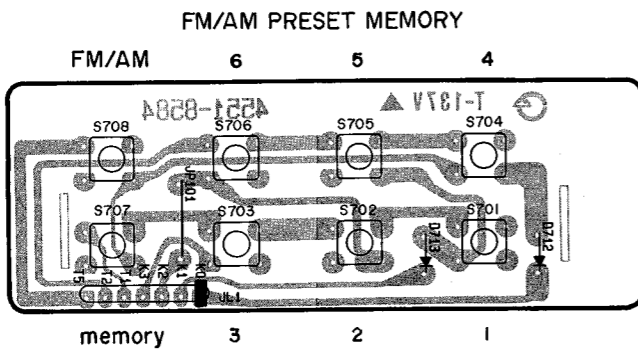
SEPARATION ADJ.



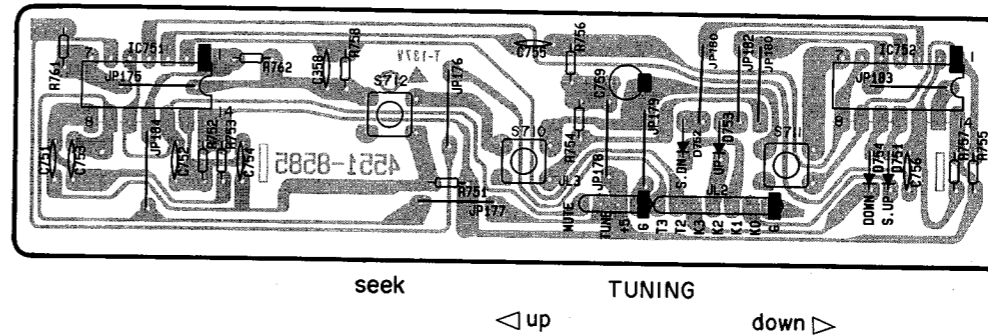
AM TRACKING ADJ.

P. C. BOARDS

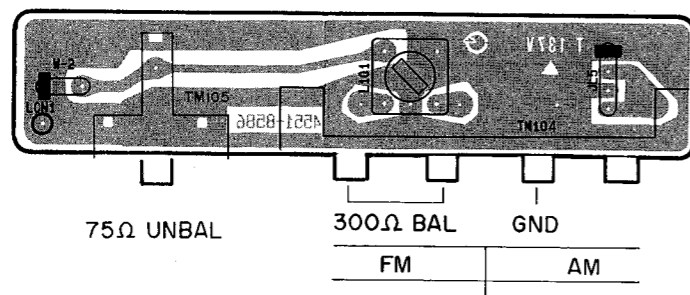
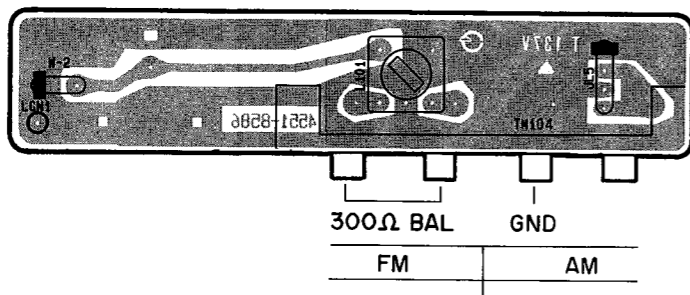
PCB-14 Preset Memory Switches P. C. Board



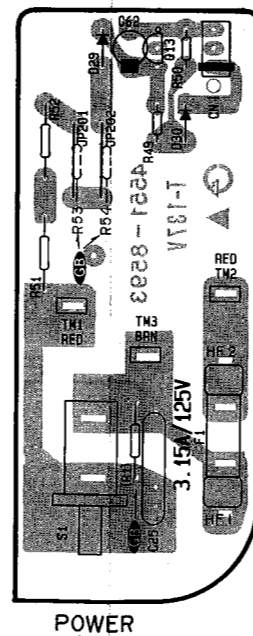
PCB-15 Tuning Switch P. C. Board



PCB-16 Antenna Terminal P. C. Board



PCB-17 Power Switch P. C. Board



A

B

C

D

E

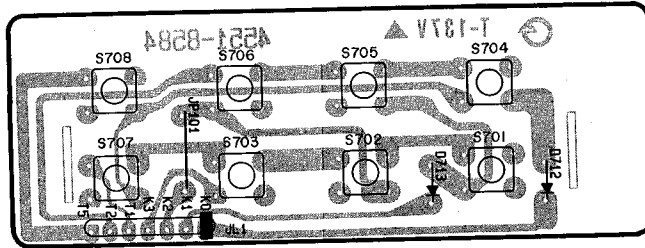
P. C. BOARDS

1

PCB-14 Preset Memory Switches P. C. Board

FM/AM PRESET MEMORY

FM/AM 6 5 4



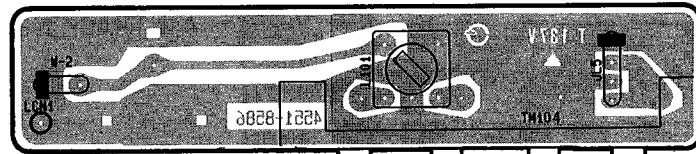
memory 3 2 1

2

3

4

PCB-16 Antenna Terminal P. C. Board



300Ω BAL

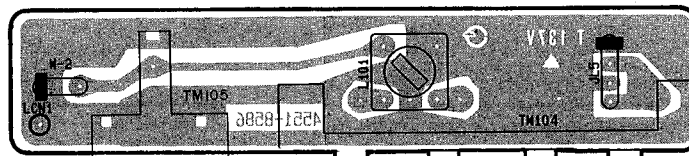
GND

FM

AM

5

6



75Ω UNBAL

300Ω BAL

GND

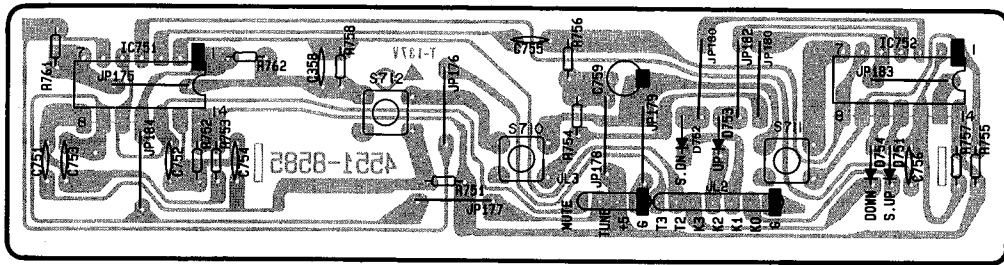
FM

AM

7

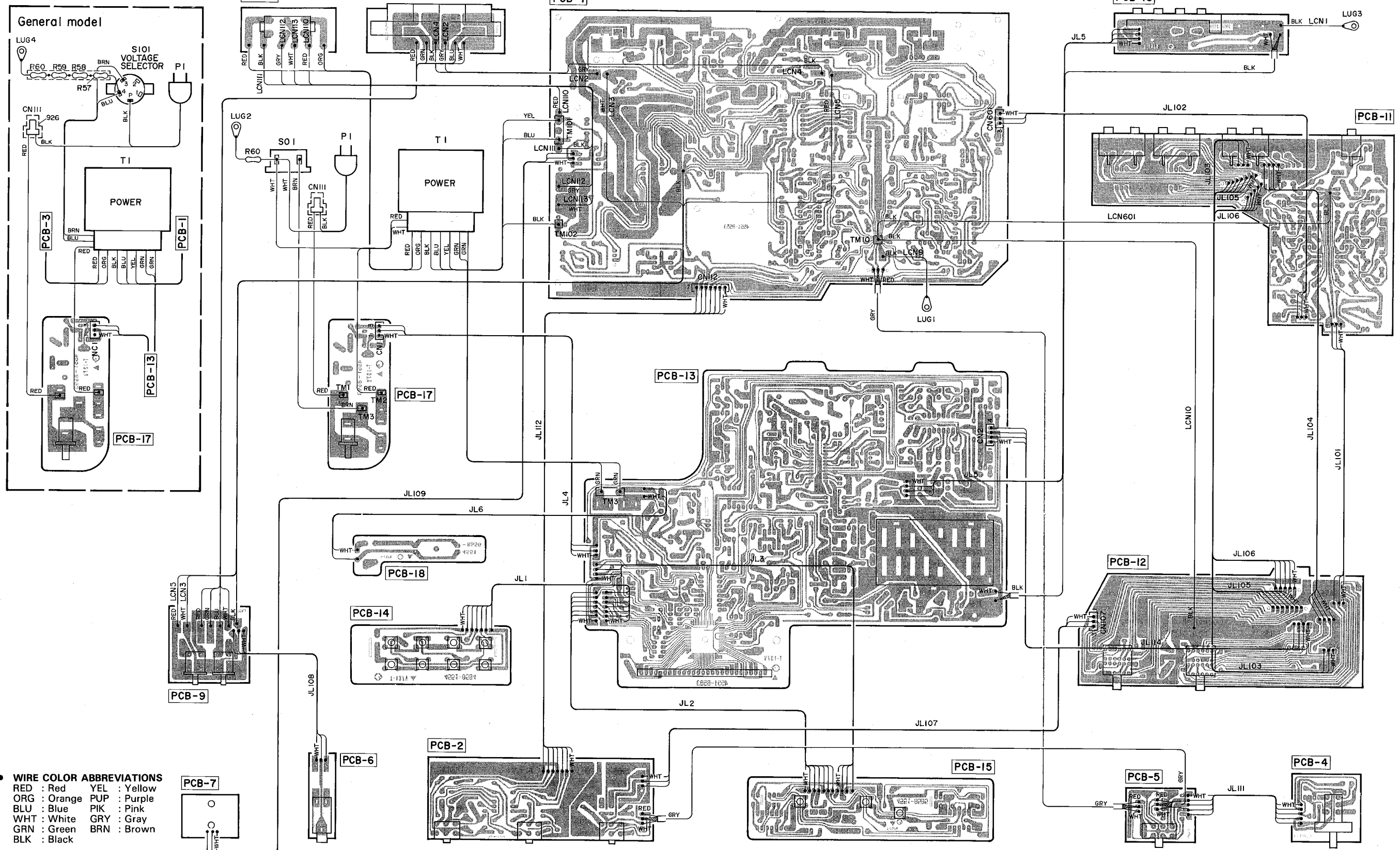
PCB-17

PCB-15 Tuning Switch P. C. Board



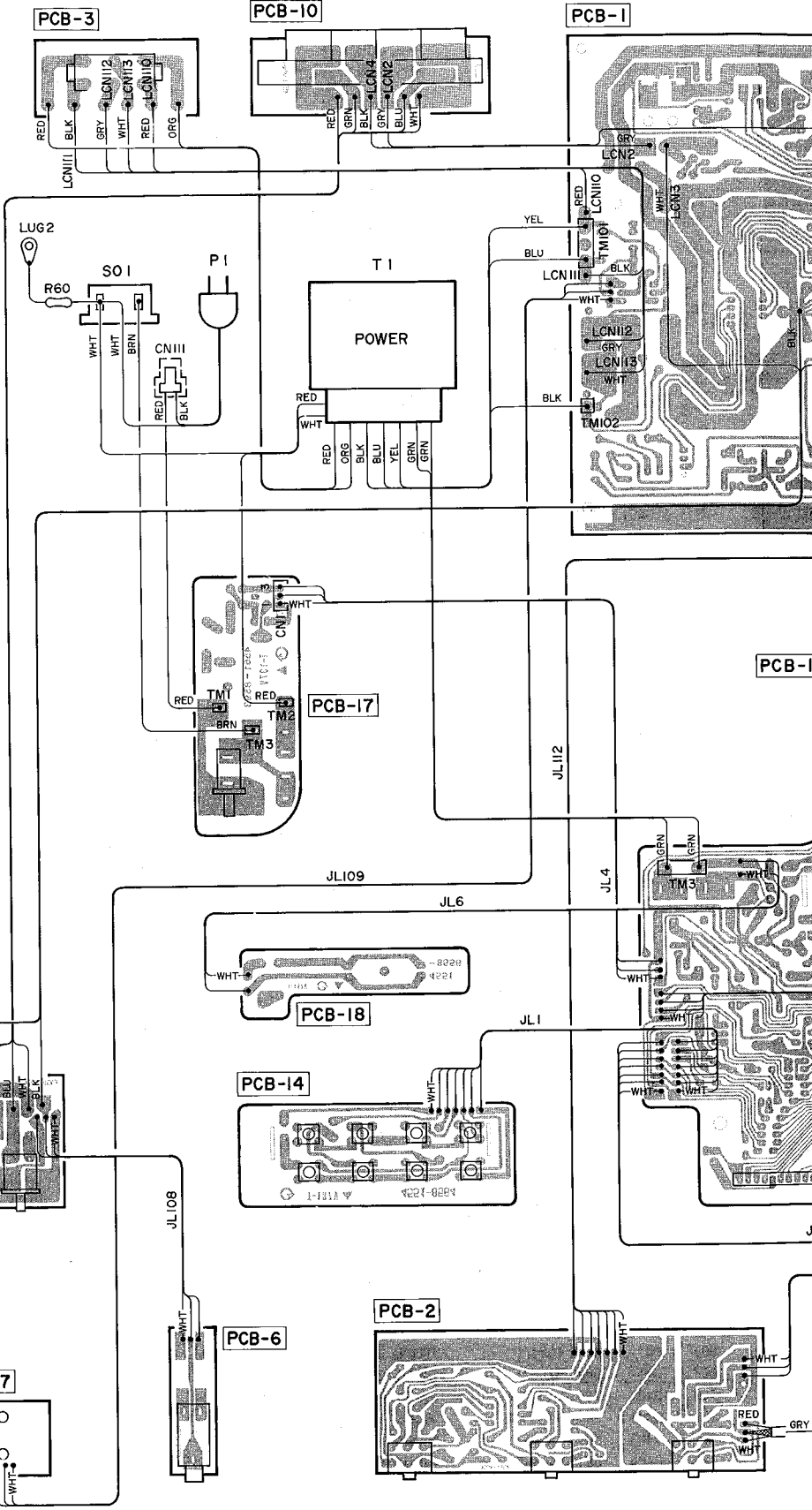
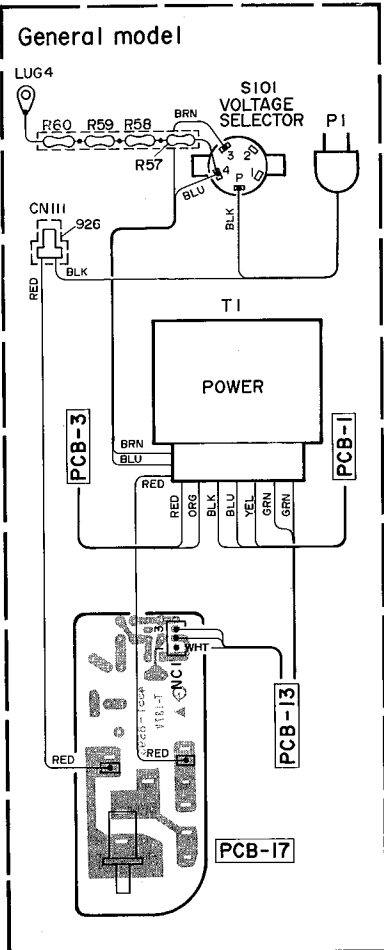
WIRING DIAGRAM

General model



- WIRE COLOR ABBREVIATIONS
- RED : Red YEL : Yellow
- ORG : Orange PUP : Purple
- BLU : Blue PIK : Pink
- WHT : White GRY : Gray
- GRN : Green BRN : Brown
- BLK : Black

WIRING DIAGRAM



- WIRE COLOR ABBREVIATIONS
- RED : Red YEL : Yellow
- ORG : Orange PUP : Purple
- BLU : Blue PIK : Pink
- WHT : White GRN : Gray
- GRN : Green BRN : Brown
- BLK : Black

1
2
3
4
5
6
7

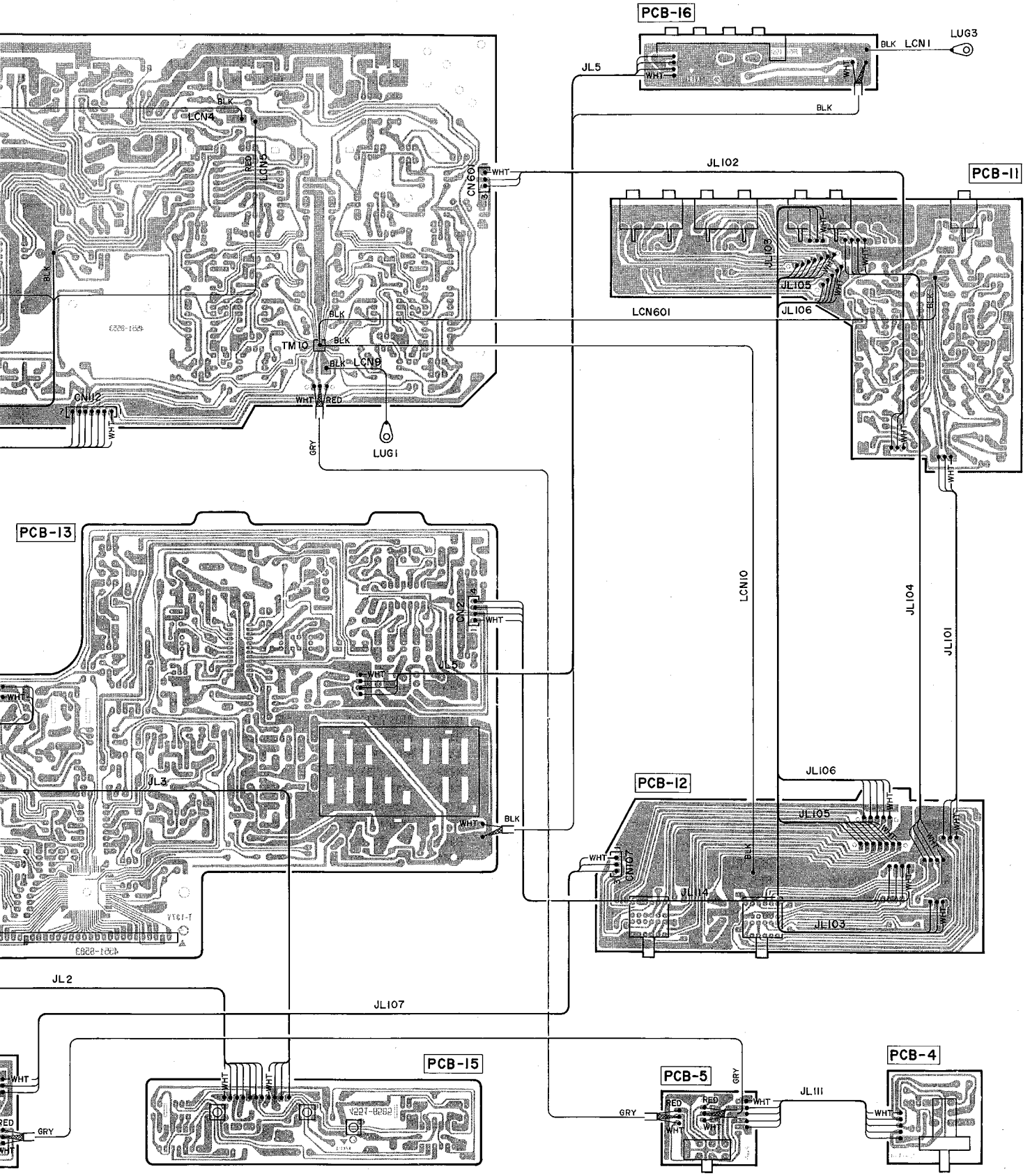
F

G

H

I

J



ELECTRICAL PARTS LIST

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
PCB-1 POWER AMP. P. C. BOARD							
CAPACITORS							
812	C2	5345-106F041	CAP, MINI ELE 10 μ /50V	820	R24	5135-472522	RES, CBN 1/2P 4.7K
839	C3	5362-103048	CAP, CER .01 μ	821	R25	5135-473522	RES, CBN 1/2P 47K
839	C4	5362-103048	CAP, CER .01 μ	822	R26	5135-223522	RES, CBN 1/2P 22K
837	C5	5341-S08FM688	CAP, ELE 6800 μ /50V	821	R28	5135-473522	RES, CBN 1/2P 47K
837	C6	5341-S08FM688	CAP, ELE 6800 μ /50V	816	R30	5135-562522	RES, CBN 1/2P 5.6K
810	C7	5345-105F041	CAP, MINI ELE 1 μ /50V	816	R31	5135-562522	RES, CBN 1/2P 5.6K
811	C8	5345-107B041	CAP, MINI ELE 100 μ /10V	816	R32	5135-562522	RES, CBN 1/2P 5.6K
811	C9	5345-107B041	CAP, MINI ELE 100 μ /10V	753	R401	5135-102522	RES, CBN 1/2P 1K
811	C10	5345-107B041	CAP, MINI ELE 100 μ /10V	753	R402	5135-102522	RES, CBN 1/2P 1K
813	C15	5354-683JIHM	CAP, MYL .068 μ	754	R403	5135-683522	RES, CBN 1/2P 68K
813	C16	5354-683JIHM	CAP, MYL .068 μ	754	R404	5135-683522	RES, CBN 1/2P 68K
814	C17	5354-473JIHM	CAP, MYL .047 μ	755	R405	5135-122522	RES, CBN 1/2P 1.2K
815	C21	5354-104593	CAP, MYL .1 μ	755	R406	5135-122522	RES, CBN 1/2P 1.2K
815	C22	5354-104593	CAP, MYL .1 μ	755	R407	5135-122522	RES, CBN 1/2P 1.2K
815	C23	5354-104593	CAP, MYL .1 μ	755	R408	5135-122522	RES, CBN 1/2P 1.2K
815	C24	5354-104593	CAP, MYL .1 μ	756	R409	5135-682522	RES, CBN 1/2P 6.8K
058B	C35	5352-1041957	CAP, MTL .1 μ GP	756	R410	5135-682522	RES, CBN 1/2P 6.8K
731	C401	5345-107B0951	CAP, MINI ELE 100 μ /10V	757	R411	5135-680522	RES, CBN 1/2P 68
731	C402	5345-107B0951	CAP, MINI ELE 100 μ /10V	757	R412	5135-680522	RES, CBN 1/2P 68
733	C403	5345-106C041	CAP, MINI ELE 10 μ /16V	757	R413	5135-680522	RES, CBN 1/2P 68
733	C404	5345-106C041	CAP, MINI ELE 10 μ /16V	757	R414	5135-680522	RES, CBN 1/2P 68
732	C405	5345-227A0951	CAP, MINI ELE 220 μ /6.3V	773	R415	5135-222522	RES, CBN 1/2P 2.2K
732	C406	5345-227A0951	CAP, MINI ELE 220 μ /6.3V	773	R416	5135-222522	RES, CBN 1/2P 2.2K
742	C407	5353-020934	CAP, MCA 2p UA	759	R417	5135-561522	RES, CBN 1/2P 560
742B	C407	5353-040934	CAP, MCA 4p GB	759	R418	5135-561522	RES, CBN 1/2P 560
742	C408	5353-020934	CAP, MCA 2p UA	754	R419	5135-683522	RES, CBN 1/2P 68K
742B	C408	5353-040934	CAP, MCA 4p GB	754	R420	5135-683522	RES, CBN 1/2P 68K
740	C409	5359-1015851	CAP, PPP 100p	788	Δ R421	5102-3315116	RES, FUSE 330
740	C410	5359-1015851	CAP, PPP 100p	788	Δ R422	5102-3315116	RES, FUSE 330
733	C411	5345-106C041	CAP, MINI ELE 10 μ /16V	788	Δ R423	5102-3315116	RES, FUSE 330
733	C412	5345-106C041	CAP, MINI ELE 10 μ /16V	788	Δ R424	5102-3315116	RES, FUSE 330
745	C413	5354-683JIHM	CAP, MYL .068 μ	760	R425	5135-473522	RES, CBN 1/2P 47K
745	C414	5354-683JIHM	CAP, MYL .068 μ	760	R426	5135-473522	RES, CBN 1/2P 47K
745	C415	5354-683JIHM	CAP, MYL .068 μ	760	R427	5135-473522	RES, CBN 1/2P 47K
745	C416	5354-683JIHM	CAP, MYL .068 μ	760	R428	5135-473522	RES, CBN 1/2P 47K
733	C417	5345-106C041	CAP, MINI ELE 10 μ /16V	761	R429	5135-224522	RES, CBN 1/2P 220K
733	C418	5345-106C041	CAP, MINI ELE 10 μ /16V	761	R430	5135-224522	RES, CBN 1/2P 220K
734	C421	5345-107F041	CAP, MINI ELE 100 μ /50V	782	R431	5174-131381	RES, MTL 1/4 130
734	C422	5345-107F041	CAP, MINI ELE 100 μ /50V	782	R432	5174-131381	RES, MTL 1/4 130
734	C423	5345-107F041	CAP, MINI ELE 100 μ /50V	762	R433	5135-272522	RES, CBN 1/2P 2.7K
734	C424	5345-107F041	CAP, MINI ELE 100 μ /50V	762	R434	5135-272522	RES, CBN 1/2P 2.7K
059B	C425	5353-040934	CAP, MCA 4p GB	763	R435	5135-223522	RES, CBN 1/2P 22K
059B	C426	5353-040934	CAP, MCA 4p GB	763	R436	5135-223522	RES, CBN 1/2P 22K
740	C475	5359-1015851	CAP, PPP 100p	763	R437	5135-223522	RES, CBN 1/2P 22K
740	C476	5359-1015851	CAP, PPP 100p	763	R438	5135-223522	RES, CBN 1/2P 22K
RESISTORS							
830	Δ R3	5102-1005116	RES, FUSE 10	774	R439	5135-153522	RES, CBN 1/2P 15K
830	Δ R4	5102-1005116	RES, FUSE 10	774	R440	5135-153522	RES, CBN 1/2P 15K
829	Δ R5	5102-5R65116	RES, FUSE 5.6	764	R441	5135-123522	RES, CBN 1/2P 12K
818	R6	5135-103522	RES, CBN 1/2P 10K	764	R442	5135-123522	RES, CBN 1/2P 12K
827	R7	5135-101522	RES, CBN 1/2P 100 UA	783	R443	5174-222381	RES, MTL 1/4 2.2K
827B	R7	5135-100522	RES, CBN 1/2P 10 GB	783	R444	5174-222381	RES, MTL 1/4 2.2K
827	R8	5135-101522	RES, CBN 1/2P 100 UA	783	R446	5174-222381	RES, MTL 1/4 2.2K
827B	R8	5135-100522	RES, CBN 1/2P 100 GB	786	Δ R447	5102-4705116	RES, FUSE 47
820	R9	5135-472522	RES, CBN 1/2P 4.7K	786	Δ R448	5102-4705116	RES, FUSE 47
820	R10	5135-472522	RES, CBN 1/2P 4.7K	786	Δ R449	5102-4705116	RES, FUSE 47
817	R11	5135-682522	RES, CBN 1/2P 6.8K	786	Δ R450	5102-4705116	RES, FUSE 47
819	R12	5135-104522	RES, CBN 1/2P 100K	765	R455	5135-821522	RES, CBN 1/2P 820
825	R13	5135-683522	RES, CBN 1/2P 68K	765	R456	5135-821522	RES, CBN 1/2P 820
826	R14	5135-333522	RES, CBN 1/2P 33K	765	R457	5135-821522	RES, CBN 1/2P 820
822	R15	5135-223522	RES, CBN 1/2P 22K	765	R458	5135-821522	RES, CBN 1/2P 820
822	R16	5135-223522	RES, CBN 1/2P 22K	775	R459	5135-183522	RES, CBN 1/2P 18K
824	R17	5135-332522	RES, CBN 1/2P 3.3K	775	R460	5135-183522	RES, CBN 1/2P 18K
824	R18	5135-332522	RES, CBN 1/2P 3.3K	775	R461	5135-183522	RES, CBN 1/2P 18K
823	R19	5135-821522	RES, CBN 1/2P 820	775	R462	5135-183522	RES, CBN 1/2P 18K
823	R20	5135-821522	RES, CBN 1/2P 820	767	R463	5135-100522	RES, CBN 1/2P 10
824	R21	5135-332522	RES, CBN 1/2P 3.3K	767	R464	5135-100522	RES, CBN 1/2P 10
824	R22	5135-332522	RES, CBN 1/2P 3.3K	767	R465	5135-100522	RES, CBN 1/2P 10
820	R23	5135-472522	RES, CBN 1/2P 4.7K	767	R466	5135-100522	RES, CBN 1/2P 10
				787	Δ R467	5102-1005116	RES, FUSE 10
				787	Δ R468	5102-1005116	RES, FUSE 10
				787	Δ R469	5102-1005116	RES, FUSE 10
				787	Δ R470	5102-1005116	RES, FUSE 10

Ser. No.	Ref. No.	Part No.	Description
789	R471	5273-R27672	RES, CEM 3P .27
789	R472	5273-R27672	RES, CEM 3P .27
755	R475	5135-122522	RES, CBN 1/2P 1.2K
755	R476	5135-122522	RES, CBN 1/2P 1.2K
766	R483	5135-820522	RES, CBN 1/2P 82
766	R484	5135-820522	RES, CBN 1/2P 82
789	R489	5273-R27672	RES, CEM 3P .27
789	R490	5273-R27672	RES, CEM 3P .27
776	R491	5135-4R7522	RES, CBN 1/2P 4.7
776	R492	5135-4R7522	RES, CBN 1/2P 4.7
776	R493	5135-4R7522	RES, CBN 1/2P 4.7
776	R494	5135-4R7522	RES, CBN 1/2P 4.7
767	R495	5135-100522	RES, CBN 1/2P 10
767	R496	5135-100522	RES, CBN 1/2P 10
757	R499	5135-680522	RES, CBN 1/2P 68
757	R500	5135-680522	RES, CBN 1/2P 68

TRANSISTORS

802	Q1	5611-1115(F)or(E)	XISTOR, PNP R
801	Q2	5613-2603(F)or(E)	XISTOR, NPN R
803	Q3	5611-970(BL)	XISTOR, PNP R
803	Q4	5611-970(BL)	XISTOR, PNP R
803	Q5	5611-970(BL)	XISTOR, PNP R
803	Q6	5611-970(BL)	XISTOR, PNP R
804	Q7	5613-2240(BL)	XISTOR, NPN R
711	Q401	5613-2240(BL)	XISTOR, NPN R
711	Q402	5613-2240(BL)	XISTOR, NPN R
711	Q403	5613-2240(BL)	XISTOR, NPN R
711	Q404	5613-2240(BL)	XISTOR, NPN R
712	Q405	5613-2603(F)or(E)	XISTOR, NPN R
712	Q406	5613-2603(F)or(E)	XISTOR, NPN R
712	Q407	5613-2603(F)or(E)	XISTOR, NPN R
712	Q408	5613-2603(F)or(E)	XISTOR, NPN R
713	Q409	5611-970(BL)	XISTOR, PNP R
713	Q410	5611-970(BL)	XISTOR, PNP R
723	Q411	5613-2240(BL)	XISTOR, NPN R
723	Q412	5613-2240(BL)	XISTOR, NPN R
723	Q413	5613-2240(BL)	XISTOR, NPN R
723	Q414	5613-2240(BL)	XISTOR, NPN R
713	Q415	5611-970(BL)	XISTOR, PNP R
713	Q416	5611-970(BL)	XISTOR, PNP R
714	Q417	5612-646A(C)	XISTOR, PNP A
714	Q418	5612-646A(C)	XISTOR, PNP A
715	Q419	5614-666A(C)	XISTOR, NPN A
715	Q420	5614-666A(C)	XISTOR, NPN A
716	Q425	5613-945(K)or(P)	XISTOR, NPN R
716	Q426	5613-945(K)or(P)	XISTOR, NPN R
717	Q427	5614-667A(C)	XISTOR, NPN A
717	Q428	5614-667A(C)	XISTOR, NPN A
718	Q429	5612-647A(C)	XISTOR, PNP A
718	Q430	5612-647A(C)	XISTOR, PNP A
719	Q431	5613-3181(O)	XISTOR, NPN R
719	Q432	5613-3181(O)	XISTOR, NPN R
721	Q433	5611-1264(O)	XISTOR, PNP R
721	Q434	5611-1264(O)	XISTOR, PNP R

DIODES

831	ΔD1	5632-ERC402FL	DIODE, RECT
831	ΔD2	5632-ERC402FL	DIODE, RECT
831	ΔD3	5632-ERC402FL	DIODE, RECT
831	ΔD4	5632-ERC402FL	DIODE, RECT
806	D5	5636-1S247I	DIODE, SWITCH
806	D6	5636-1S247I	DIODE, SWITCH
806	D7	5636-1S247I	DIODE, SWITCH
806	D8	5636-1S247I	DIODE, SWITCH
807	D11	5635-HZ6BIL	DIODE, ZENER
729	D401	5641-MV12YM	VARISTOR
729	D402	5641-MV12YM	VARISTOR
727	D403	5632-S5566B	DIODE, RECT
727	D404	5632-S5566B	DIODE, RECT
727	D405	5632-S5566B	DIODE, RECT
727	D406	5632-S5566B	DIODE, RECT
725	D407	5636-1S2473	DIODE, DET
725	D408	5636-1S2473	DIODE, DET
726	D409	5635-HZ12B2L	DIODE, ZENER

Ser. No.	Ref. No.	Part No.	Description
726	D410	5635-HZ12B2L	DIODE, ZENER
COILS			
794	L405	5991-7165	SPRING COIL
794	L406	5991-7165	SPRING COIL
CONTROLS			
791	VR401	5101-50171920	RES, SEMI FIX 500
791	VR402	5101-50171920	RES, SEMI FIX 500
MISCELLANEOUS			
799	CN112	4443-070185	CONNECTOR
849	CN601	4443-030185	CONNECTOR
913	JL109	4242-R010325I	JUMPER LEAD
912	JL110	4242-R010318I	JUMPER LEAD
844	TM101	4214-11023	TERMINAL
843	TM102	4214-11013	TERMINAL
796	TM110	4214-11013	TERMINAL
897	LCN2	4163-0140026	CONNECTOR W/W
898	LCN3	4163-0140027	CONNECTOR W/W
899	LCN4	4163-0140024	CONNECTOR W/W
900	LCN5	4163-0140025	CONNECTOR W/W
901	LCN6	4163-0110024	CONNECTOR W/W
901	LCN7	4163-0110024	CONNECTOR W/W
909	LCN8	4163-0112024	CONNECTOR W/W
903	LCN9	4163-0115020	CONNECTOR W/W
905	LCN110	4163-0130025	CONNECTOR W/W
906	LCN111	4163-0130024	CONNECTOR W/W
907	LCN112	4163-0130026	CONNECTOR W/W
908	LCN113	4163-0130027	CONNECTOR W/W

PCB-2 TONE CONTROL P. C. BOARD

CAPACITORS

735	C505	5345-225F095I	CAP, MINI ELE 2.2μ/50V
735	C506	5345-225F095I	CAP, MINI ELE 2.2μ/50V
746	C507	5354-273J1HM	CAP, MYL .027μ
746	C508	5354-273J1HM	CAP, MYL .027μ
749	C509	5354-154593	CAP, MYL .15μ
749	C510	5354-154593	CAP, MYL .15μ
736	C511	5345-106C095I	CAP, MINI ELE 10μ/16V
736	C512	5345-106C095I	CAP, MINI ELE 10μ/16V
747	C513	5354-682J1HM	CAP, MYL 6800p
747	C514	5354-682J1HM	CAP, MYL 6800p
748	C515	5354-393J1HM	CAP, MYL .039μ
748	C516	5354-393J1HM	CAP, MYL .039μ
741	C517	5359-271585I	CAP, PPP 270p
741	C518	5359-271585I	CAP, PPP 270p

RESISTORS

771	R501	5135-152522	RES, CBN 1/2P 1.5K
771	R502	5135-152522	RES, CBN 1/2P 1.5K
769	R505	5135-683522	RES, CBN 1/2P 68K
769	R506	5135-683522	RES, CBN 1/2P 68K
768	R507	5135-153522	RES, CBN 1/2P 15K
768	R508	5135-153522	RES, CBN 1/2P 15K
770	R509	5135-272522	RES, CBN 1/2P 2.7K
770	R510	5135-272522	RES, CBN 1/2P 2.7K
772	R513	5135-681522	RES, CBN 1/2P 680
772	R514	5135-681522	RES, CBN 1/2P 680

CONTROLS

870	VR501	5113-50346122	RES, V CBN 16 50K
870	VR502	5113-50346122	RES, V CBN 16 50K
864	VR505	5113-10447122	RES, V CBN 16 100K
864	VR506	5113-10447122	RES, V CBN 16 100K
867	VR507	5113-50348122	RES, V CBN 16 50K
867	VR508	5113-50348122	RES, V CBN 16 50K

MISCELLANEOUS

914	JL107	4242-R0203600	JUMPER LEAD
910	JL112	4242-R0207600	JUMPER LEAD

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
PCB-3 SPEAKER MODE SELECTOR P. C. BOARD				666	C614	5345-227D041	CAP, MINI ELE 220 μ /25V
884	S2	4421-0227143	SWITCH, SLIDE	666	C615	5345-227D041	CAP, MINI ELE 220 μ /25V
PCB-4 LOUDNESS SWITCH P. C. BOARD				667	C616	5345-107D041	CAP, MINI ELE 100 μ /25V
CAPACITORS				060B	C631	5353-820534	CAP, MCA 82p GB
739	C575	5359-1815851	CAP, PPP 180p	060B	C632	5353-820534	CAP, MCA 82p GB
739	C576	5359-1815851	CAP, PPP 180p	673	C633	5359-1825851	CAP, PPP 1800p
744	C577	5354-823JIHM	CAP, MYL .082 μ	673	C634	5359-1825851	CAP, PPP 1800p
744	C578	5354-823JIHM	CAP, MYL .082 μ	676	C635	5353-030934	CAP, MCA 3p
RESISTORS				676	C636	5353-030934	CAP, MCA 3p
779	R573	5135-472522	RES, CBN 1/2P 4.7K	RESISTORS			
779	R574	5135-472522	RES, CBN 1/2P 4.7K	681	R601	5135-823522	RES, CBN 1/2P 82K
780	R575	5135-273522	RES, CBN 1/2P 27K	681	R602	5135-823522	RES, CBN 1/2P 82K
780	R576	5135-273522	RES, CBN 1/2P 27K	682	R603	5135-124522	RES, CBN 1/2P 120K
MISCELLANEOUS				682	R604	5135-124522	RES, CBN 1/2P 120K
883	S8	4431-A027610	SWITCH, PUSH	683	R605	5135-221522	RES, CBN 1/2P 220
916	JL111	4242-R0105121	JUMPER LEAD	683	R606	5135-221522	RES, CBN 1/2P 220
PCB-5 VOLUME P. C. BOARD				684	R607	5135-122522	RES, CBN 1/2P 1.2K
RESISTORS				684	R608	5135-122522	RES, CBN 1/2P 1.2K
781	R571	5135-273522	RES, CBN 1/2P 27K	685	R609	5135-220522	RES, CBN 1/2P 22
781	R572	5135-273522	RES, CBN 1/2P 27K	685	R610	5135-220522	RES, CBN 1/2P 22
CONTROLS				684	R611	5135-122522	RES, CBN 1/2P 1.2K
861	VR503	5113-10419122	RES, V CBN 16 100K	684	R612	5135-122522	RES, CBN 1/2P 1.2K
861	VR504	5113-10419122	RES, V CBN 16 100K	686	R613	5135-223522	RES, CBN 1/2P 22K
PCB-6 HEADPHONE JACK P. C. BOARD				686	R614	5135-223522	RES, CBN 1/2P 22K
RESISTORS				687	R615	5135-820522	RES, CBN 1/2P 82
784	R497	5171-471571	RES, MTL I 470	687	R616	5135-820522	RES, CBN 1/2P 82
784	R498	5171-471571	RES, MTL I 470	688	R617	5135-121522	RES, CBN 1/2P 120
MISCELLANEOUS				688	R618	5135-121522	RES, CBN 1/2P 120
886	J1	4451-00159	JACK, IP	689	R621	5135-751522	RES, CBN 1/2P 750
915	JL108	4242-R0103121	JUMPER LEAD	689	R622	5135-751522	RES, CBN 1/2P 750
PCB-7 INDICATORS P. C. BOARD				690	R623	5135-393522	RES, CBN 1/2P 39K
891	D9	5637-GL5HD41	LED	690	R624	5135-393522	RES, CBN 1/2P 39K
891	D10	5637-GL5HD41	LED	691	R625	5135-564522	RES, CBN 1/2P 560K
PCB-9 SPEAKER SWITCH P. C. BOARD				691	R626	5135-564522	RES, CBN 1/2P 560K
879	S9	4431-S0303204	SWITCH, PUSH	692	R627	5135-334522	RES, CBN 1/2P 330K
PCB-10 SPEAKER TERMINAL P. C. BOARD				692	R628	5135-334522	RES, CBN 1/2P 330K
911	JL120	4242-043805	JUMPER LEAD	693	R629	5135-102522	RES, CBN 1/2P 1K
893	TM10	4214-165	TERMINAL	693	R630	5135-102522	RES, CBN 1/2P 1K
PCB-11 PIN JACK P. C. BOARD				694	R631	5135-104522	RES, CBN 1/2P 100K
CAPACITORS				694	R632	5135-104522	RES, CBN 1/2P 100K
665	C601	5345-106C0951	CAP, MINI ELE 10 μ /16V	693	R633	5135-102522	RES, CBN 1/2P 1K
665	C602	5345-106C0951	CAP, MINI ELE 10 μ /16V	693	R634	5135-102522	RES, CBN 1/2P 1K
670	C603	5359-1215851	CAP, PPP 120p	695	R635	5135-222522	RES, CBN 1/2P 2.2K
670	C604	5359-1215851	CAP, PPP 120p	695	R636	5135-222522	RES, CBN 1/2P 2.2K
664	C605	5345-227A0951	CAP, MINI ELE 220 μ /6.3V	701	Δ R637	5102-1215116	RES, FUSE 120
664	C606	5345-227A0951	CAP, MINI ELE 220 μ /6.3V	696	R638	5135-682522	RES, CBN 1/2P 6.8K
671	C607	5359-5625851	CAP, PPP 5600p	701	Δ R639	5102-1215116	RES, FUSE 120
671	C608	5359-5625851	CAP, PPP 5600p	696	R641	5135-682522	RES, CBN 1/2P 6.8K
672	C609	5359-2025851	CAP, PPP 2000p	065B	R671	5135-102522	RES, CBN 1/2P 1K GB
672	C610	5359-2025851	CAP, PPP 2000p	065B	R672	5135-102522	RES, CBN 1/2P 1K GB
665	C611	5345-106C0951	CAP, MINI ELE 10 μ /16V	065B	R673	5135-102522	RES, CBN 1/2P 1K GB
665	C612	5345-106C0951	CAP, MINI ELE 10 μ /16V	065B	R674	5135-102522	RES, CBN 1/2P 1K GB
667	C613	5345-107D041	CAP, MINI ELE 100 μ /25V	065B	R675	5135-102522	RES, CBN 1/2P 1K GB
TRANSISTORS				065B	R676	5135-102522	RES, CBN 1/2P 1K GB
651	Q601	5613-2320L(F)	XISTOR, NPN R	065B	R677	5135-102522	RES, CBN 1/2P 1K GB
651	Q602	5613-2320L(F)	XISTOR, NPN R	065B	R678	5135-102522	RES, CBN 1/2P 1K GB
653	Q603	5611-999L(F)	XISTOR, PNP R	065B	R679	5135-102522	RES, CBN 1/2P 1K GB
653	Q604	5611-999L(F)	XISTOR, PNP R	065B	R680	5135-102522	RES, CBN 1/2P 1K GB
654	Q605	5611-1115(F)or(E)	XISTOR, PNP R	695	R681	5135-222522	RES, CBN 1/2P 2.2K
654	Q606	5611-1115(F)or(E)	XISTOR, PNP R	695	R682	5135-222522	RES, CBN 1/2P 2.2K
652	Q607	5613-2603(F)or(E)	XISTOR, NPN R	065B	R683	5135-102522	RES, CBN 1/2P 1K GB
652	Q608	5613-2603(F)or(E)	XISTOR, NPN R	065B	R684	5135-102522	RES, CBN 1/2P 1K GB
652	Q609	5613-2603(F)or(E)	XISTOR, NPN R	TRANSISTORS			
652	Q610	5613-2603(F)or(E)	XISTOR, NPN R	561	Q601	5613-2320L(F)	XISTOR, NPN R
652	Q611	5613-2603(F)or(E)	XISTOR, NPN R	561	Q602	5613-2320L(F)	XISTOR, NPN R
				563	Q603	5611-999L(F)	XISTOR, PNP R
				563	Q604	5611-999L(F)	XISTOR, PNP R
				564	Q605	5611-1115(F)or(E)	XISTOR, PNP R
				564	Q606	5611-1115(F)or(E)	XISTOR, PNP R
				562	Q607	5613-2603(F)or(E)	XISTOR, NPN R
				562	Q608	5613-2603(F)or(E)	XISTOR, NPN R
				562	Q609	5613-2603(F)or(E)	XISTOR, NPN R
				562	Q610	5613-2603(F)or(E)	XISTOR, NPN R
				562	Q611	5613-2603(F)or(E)	XISTOR, NPN R

Ser. No.	Ref. No.	Part No.	Description
652	Q612	5613-2603(F)or(E)	XISTOR, NPN R
655	Q613	5612-941(Q)or(P)	XISTOR, PNP A
656	Q614	5614-1266(Q)or(P)	XISTOR, NPN A
DIODES			
659	D601	5635-HZ18-2L	DIODE, ZENER
659	D602	5635-HZ18-2L	DIODE, ZENER
MISCELLANEOUS			
887	J2	4482-0133	PIN JACK, 2P
888	J3	4484-46	PIN JACK, 4P
888	J4	4484-46	PIN JACK, 4P
888	J5	4484-46	PIN JACK, 4P
902	LCN601	4163-0135020	CONNECTOR W/W

PCB-12 FUNCTION AND TAPE MON. SWITCH P. C. BOARD

061B	C581	5359-1015851	CAP, PPP 100p GB
061B	C582	5359-1015851	CAP, PPP 100p GB
873	S3	4411-00206204	SWITCH, ROTARY
876	S4	4411-00208203	SWITCH, ROTARY
062B	L591	5597-45502	CORE, BEADS GB
062B	L592	5597-45502	CORE, BEADS GB
850	CN107	4443-030185	CONNECTOR
918	JL101	4242-R0103161	JUMPER LEAD
917	JL102	4242-R0203141	JUMPER LEAD
919	JL103	4242-R0103401	JUMPER LEAD
922	JL104	4242-R0104351	JUMPER LEAD
921	JL105	4242-R0307301	JUMPER LEAD
920	JL106	4242-R0305251	JUMPER LEAD
924	JL114	4242-R0204201	JUMPER LEAD
904	LCN10	4163-0118020	CONNECTOR W/W
896	LCN11	4163-0108024	CONNECTOR W/W

PCB-13 TUNER P. C. BOARD

CAPACITORS

607	C25	5352-S010M103	CAP, MTL .01μ
601	C51	5345-228D045	CAP, MINI ELE 2200μ/25V
602	C52	5345-476D041	CAP, MINI ELE 47μ/25V
602	C53	5345-476D041	CAP, MINI ELE 47μ/25V
603	C54	5345-107B041	CAP, MINI ELE 100μ/10V
604	C56	5345-228A041	CAP, MINI ELE 2200μ/6.3V
608	C57	5361-473ZF	CAP, CER .047μ
608	C58	5361-473ZF	CAP, CER .047μ
606	C59	5361-223ZF	CAP, CER .022μ
606	C60	5361-223ZF	CAP, CER .022μ
600	C62	5345-105F041	CAP, MINI ELE 1μ/50V
599	C63	5345-227A041	CAP, MINI ELE 220μ/6.3V
598	C64	5345-107A041	CAP, MINI ELE 100μ/6.3V
415	C101	5345-476C041	CAP, MINI ELE 47μ/16V
417	C102	5361-223ZF	CAP, CER .022μ
416	C105	5345-226C041	CAP, MINI ELE 22μ/16V
452	C201	5361-223ZF	CAP, CER .022μ
452	C202	5361-223ZF	CAP, CER .022μ
452	C203	5361-223ZF	CAP, CER .022μ
452	C204	5361-223ZF	CAP, CER .022μ
451	C205	5361-103ZF	CAP, CER .01μ
452	C206	5361-223ZF	CAP, CER .022μ
452	C207	5361-223ZF	CAP, CER .022μ
453	C208	5345-106C041	CAP, MINI ELE 10μ/16V
454	C209	5345-105F041	CAP, MINI ELE 1μ/50V
456	C210	5359-1015851	CAP, PPP 100p UA
456B	C210	5359-3315851	CAP, PPP 330p GB
455	C211	5345-226C0952	CAP, MINI ELE 22μ/16V
452	C212	5361-223ZF	CAP, CER .022μ
053B	C216	5345-226C0951	CAP, MINI ELE 22μ/16V GB
043B	C220	5361-050DSL	CAP, PPP 5P GB
044B	C221	5361-223ZF	CAP, CER .022μ GB
046B	C222	5345-106C041	CAP, MINI ELE 10μ/16V GB
045B	C223	5361-473ZF	CAP, CER .047μ GB
481	C251	5361-473ZF	CAP, CER .047μ
482	C252	5359-4315851	CAP, PPP 430p
483	C253	5361-220JPH	CAP, CER 22p

Ser. No.	Ref. No.	Part No.	Description
481	C254	5361-473ZF	CAP, CER .047μ
487	C255	5345-106C041	CAP, MINI ELE 10μ/16V
481	C256	5361-473ZF	CAP, CER .047μ
489	C257	5345-475D041	CAP, MINI ELE 4.7μ/25V
489	C258	5345-475D041	CAP, MINI ELE 4.7μ/25V
488	C259	5345-335F041	CAP, MINI ELE 3.3μ/50V
491	C260	5345-105F041	CAP, MINI ELE 1μ/50V
485	C261	5361-472KB	CAP, CER 4700p
490	C264	5345-224F041	CAP, MINI ELE .22μ/50V
487	C265	5345-106C041	CAP, MINI ELE 10μ/16V
509	C301	5345-226C0952	CAP, MINI ELE 22μ/16V
510	C302	5345-476C041	CAP, MINI ELE 47μ/16V
517	C304	5361-331KB	CAP, CER 330p UA
517B	C304	5361-221KB	CAP, CER 220p GB
517	C305	5361-331KB	CAP, CER 330p UA
517B	C305	5361-221KB	CAP, CER 220p GB
518	C306	5354-473K1HM	CAP, MYL .047μ
511	C307	5345-474F0952	CAP, MINI ELE .47μ/50V
512	C308	5345-224F0952	CAP, MINI ELE .22μ/50V
519	C309	5359-1015851	CAP, PPP 100p
513	C310	5345-106C041	CAP, MINI ELE 10μ/16V
514	C311	5345-225F0952	CAP, MINI ELE 2.2μ/50V
514	C312	5345-225F0952	CAP, MINI ELE 2.2μ/50V
514	C313	5345-225F0952	CAP, MINI ELE 2.2μ/50V
520	C314	5361-472KB	CAP, CER 4700p
520	C315	5361-472KB	CAP, CER 4700p
516	C316	5361-471KB	CAP, CER 470p
541	C703	5345-474F041	CAP, MINI ELE .47μ/50V
543	C704	5345-684F0951	CAP, MINI ELE .68μ/50V
544	C705	5354-473K1HM	CAP, MYL .047μ
545	C706	5345-227C041	CAP, MINI ELE 220μ/16V
542	C707	5345-106D041	CAP, MINI ELE 10μ/25V
542	C709	5345-106D041	CAP, MINI ELE 10μ/25V
559	C710	5361-360J930	CAP, CER 36p
559	C711	5361-360J930	CAP, CER 36p

RESISTORS

611	R42	5232-222J16P	RES, CBN 1/6P 2.2K
612	R43	5232-331J16P	RES, CBN 1/6P 330
613	R44	5232-101J16P	RES, CBN 1/6P 100
613	R45	5232-101J16P	RES, CBN 1/6P 100
609	R46	5171-221593	RES, MTL 1 220
614	R47	5232-471J16P	RES, CBN 1/6P 470
615	R48	5232-100J16P	RES, CBN 1/6P 10
616	R49	5232-334J16P	RES, CBN 1/6P 330K
617	R50	5232-105J16P	RES, CBN 1/6P 1M
618	R51	5135-155522	RES, CBN 1/2P 1.5M
618	R52	5135-155522	RES, CBN 1/2P 1.5M
427	R101	5232-183J16P	RES, CBN 1/6P 18K
428	R102	5232-272J16P	RES, CBN 1/6P 2.7K
459	R201	5232-391J16P	RES, CBN 1/6P 390 UA
460	R202	5232-331J16P	RES, CBN 1/6P 330
461	R203	5232-154J16P	RES, CBN 1/6P 150K
466	R204	5232-330J16P	RES, CBN 1/6P 33
462	R205	5232-101J16P	RES, CBN 1/6P 100
459	R206	5232-391J16P	RES, CBN 1/6P 390
463	R207	5232-102J16P	RES, CBN 1/6P 1K
460	R208	5232-331J16P	RES, CBN 1/6P 330
461	R209	5232-154J16P	RES, CBN 1/6P 150K
466	R210	5232-330J16P	RES, CBN 1/6P 33
462	R211	5232-101J16P	RES, CBN 1/6P 100
459	R212	5232-391J16P	RES, CBN 1/6P 390
463	R213	5232-102J16P	RES, CBN 1/6P 1K
465	R215	5232-103J16P	RES, CBN 1/6P 10K
463	R216	5232-102J16P	RES, CBN 1/6P 1K
467	R217	5232-123J16P	RES, CBN 1/6P 12K UA
467B	R217	5232-223J16P	RES, CBN 1/6P 22K GB
468	R218	5232-472J16P	RES, CBN 1/6P 4.7K UA
468B	R218	5232-222J16P	RES, CBN 1/6P 2.2K GB
469	R219	5232-332J16P	RES, CBN 1/6P 3.3K
047B	R220	5232-331J16P	RES, CBN 1/6P 330 GB
048B	R221	5232-332J16P	RES, CBN 1/6P 3.3K GB
049B	R222	5232-473J16P	RES, CBN 1/6P 47K GB
050B	R223	5232-104J16P	RES, CBN 1/6P 100K GB
049B	R224	5232-473J16P	RES, CBN 1/6P 47K GB

Ser. No.	Ref. No.	Part No.	Description	Ser. No.	Ref. No.	Part No.	Description
064B	R225	5232-222J16P	RES, CBN 1/6P 2.2K (GB)	TRANSISTORS			
493	R251	5232-104J16P	RES, CBN 1/6P 100K	591	Q11	5612-1375	XISTOR, PNP A
493	R252	5232-104J16P	RES, CBN 1/6P 100K	592	Q12	5613-2603(E)or(F)	XISTOR, NPN R
494	R253	5232-102J16P	RES, CBN 1/6P 1K	592	Q13	5613-2603(E)or(F)	XISTOR, NPN R
495	R254	5232-272J16P	RES, CBN 1/6P 2.7K	424	Q101	5613-2603(F)or(E)	XISTOR, NPN R
500	R255	5232-223J16P	RES, CBN 1/6P 22K	442	Q201	5613-2058(N)or(P)	XISTOR, NPN R
497	R256	5232-471J16P	RES, CBN 1/6P 47K	442	Q202	5613-2058(N)or(P)	XISTOR, NPN R
496	R257	5232-103J16P	RES, CBN 1/6P 10K	041B	Q220	5613-2603(E)or(F)	XISTOR, NPN R (GB)
496	R258	5232-103J16P	RES, CBN 1/6P 10K	502	Q301	5613-2878(B)	XISTOR, NPN R
498	R259	5232-820J16P	RES, CBN 1/6P 82	502	Q302	5613-2878(B)	XISTOR, NPN R
499	R260	5232-473J16P	RES, CBN 1/6P 47K	507	Q303	5613-RN1203	XISTOR, NPN R
492	R261	5232-153J16P	RES, CBN 1/6P 15K (UA)	532	Q701	5611-1115(E)or(F)	XISTOR, PNP R
492B	R261	5232-183J16P	RES, CBN 1/6P 18K (GB)	533	Q702	5613-RN1203	XISTOR, NPN R
493	R262	5232-104J16P	RES, CBN 1/6P 100K	533	Q703	5613-RN1203	XISTOR, NPN R
493	R263	5232-104J16P	RES, CBN 1/6P 100K	533	Q704	5613-RN1203	XISTOR, NPN R
496	R264	5232-103J16P	RES, CBN 1/6P 10K	535	Q705	5613-2603(E)or(F)	XISTOR, NPN R
521	R301	5232-154J16P	RES, CBN 1/6P 150K (UA)	533	Q706	5613-RN1203	XISTOR, NPN R
521B	R301	5232-184J16P	RES, CBN 1/6P 180K (GB)	535	Q707	5613-2603(E)or(F)	XISTOR, NPN R
521	R302	5232-154J16P	RES, CBN 1/6P 150K (UA)	534	Q708	5613-2240(BL)	XISTOR, NPN R
521B	R302	5232-184J16P	RES, CBN 1/6P 180K (GB)	532	Q709	5611-1115(E)or(F)	XISTOR, PNP R
522	R303	5232-332J16P	RES, CBN 1/6P 3.3K	DIODES			
522	R304	5232-332J16P	RES, CBN 1/6P 3.3K	594	ΔD21	5632-S5566B	DIODE, RECT
523	R305	5232-124J16P	RES, CBN 1/6P 120K (UA)	594	ΔD22	5632-S5566B	DIODE, RECT
523B	R305	5232-154J16P	RES, CBN 1/6P 150K (GB)	594	ΔD23	5632-S5566B	DIODE, RECT
523	R306	5232-124J16P	RES, CBN 1/6P 120K (UA)	594	ΔD24	5632-S5566B	DIODE, RECT
523B	R306	5232-154J16P	RES, CBN 1/6P 150K (GB)	596	D25	5635-HZ12C2L	DIODE, ZENER
524	R307	5232-103J16P	RES, CBN 1/6P 10K	597	D26	5635-HZ6B1L	DIODE, ZENER
526	R308	5232-473J16P	RES, CBN 1/6P 47K	595	D27	5631-SS133	DIODE, DET
524	R309	5232-103J16P	RES, CBN 1/6P 10K	595	D28	5631-SS133	DIODE, DET
524	R310	5232-103J16P	RES, CBN 1/6P 10K	595	D29	5631-SS133	DIODE, DET
524	R311	5232-103J16P	RES, CBN 1/6P 10K	595	D30	5631-SS133	DIODE, DET
524	R312	5232-103J16P	RES, CBN 1/6P 10K	448	D201	5631-SS133	DIODE, DET
525	R313	5232-472J16P	RES, CBN 1/6P 4.7K	042B	D220	5631-SS133	DIODE, DET (GB)
525	R315	5232-472J16P	RES, CBN 1/6P 4.7K	042B	D221	5631-SS133	DIODE, DET (GB)
547	R701	5232-103J16P	RES, CBN 1/6P 10K	471	D251	5633-1SV149	DIODE, CAP
547	R702	5232-103J16P	RES, CBN 1/6P 10K	471	D252	5633-1SV149	DIODE, CAP
547	R703	5232-103J16P	RES, CBN 1/6P 10K	472	D253	5631-SS133	DIODE, DET
547	R704	5232-103J16P	RES, CBN 1/6P 10K	472	D254	5631-SS133	DIODE, DET
547	R705	5232-103J16P	RES, CBN 1/6P 10K	503	D301	5631-SS133	DIODE, DET
547	R706	5232-103J16P	RES, CBN 1/6P 10K	503	D302	5631-SS133	DIODE, DET
547	R707	5232-103J16P	RES, CBN 1/6P 10K	503	D303	5631-SS133	DIODE, DET
547	R708	5232-103J16P	RES, CBN 1/6P 10K	503	D334	5631-SS133	DIODE, DET
548	R709	5232-100J16P	RES, CBN 1/6P 10	503	D305	5631-SS133	DIODE, DET
550	R712	5232-223J16P	RES, CBN 1/6P 22K	503	D306	5631-SS133	DIODE, DET
550	R713	5232-223J16P	RES, CBN 1/6P 22K	539	D701	5631-SS133	DIODE, DET
550	R714	5232-223J16P	RES, CBN 1/6P 22K	539	D702	5631-SS133	DIODE, DET
550	R715	5232-223J16P	RES, CBN 1/6P 22K	539	D703	5631-SS133	DIODE, DET
555	R716	5232-105J16P	RES, CBN 1/6P 1M	539	D704	5631-SS133	DIODE, DET
556	R717	5232-335J16P	RES, CBN 1/6P 3.3M	539	D705	5631-SS133	DIODE, DET
550	R718	5232-223J16P	RES, CBN 1/6P 22K	539	D706	5631-SS133	DIODE, DET
547	R721	5232-103J16P	RES, CBN 1/6P 10K	539	D707	5631-SS133	DIODE, DET
552	R722	5232-102J16P	RES, CBN 1/6P 1K	539	D708	5631-SS133	DIODE, DET
550	R723	5232-223J16P	RES, CBN 1/6P 22K	539	D709	5631-SS133	DIODE, DET
554	R724	5135-155522	RES, CBN 1/2P 1.5M	539	D710	5631-SS133	DIODE, DET
557	R725	5232-222J16P	RES, CBN 1/6P 2.2K	539	D711	5631-SS133	DIODE, DET (UA)
547	R726	5232-103J16P	RES, CBN 1/6P 10K	539	D714	5631-SS133	DIODE, DET
552	R727	5232-102J16P	RES, CBN 1/6P 1K	539	D715	5631-SS133	DIODE, DET
549	R728	5232-473J16P	RES, CBN 1/6P 47K	539	D716	5631-SS133	DIODE, DET
553	R730	5232-562J16P	RES, CBN 1/6P 5.6K	COILS			
550	R731	5232-223J16P	RES, CBN 1/6P 22K	413	L102	5995-2R2J107	COIL W/CORE
550	R732	5232-223J16P	RES, CBN 1/6P 22K	447	L201	5995-2R2J107	COIL W/CORE
547	R733	5232-103J16P	RES, CBN 1/6P 10K	054B	L251	5214-86	LC COMPOSITE (GB)
547	R734	5232-103J16P	RES, CBN 1/6P 10K	506	L301	5995-2R2J107	COIL W/CORE
547	R735	5232-103J16P	RES, CBN 1/6P 10K	537	L701	5995-2R2J107	COIL W/CORE
547	R736	5232-103J16P	RES, CBN 1/6P 10K	TRANSFORMERS			
558	R737	5232-104J16P	RES, CBN 1/6P 100K	446	T201	5572-10201	DISCRI 7
550	R738	5232-223J16P	RES, CBN 1/6P 22K	480	T251	5933-00101	COIL CASE, 10
549	R739	5232-473J16P	RES, CBN 1/6P 47K	475	T252	5552-70114	IFT, AM 7
547	R740	5232-103J16P	RES, CBN 1/6P 10K	474	T253	5922-00112	OSC COIL, 7
INTEGRATED CIRCUITS				CONTROLS			
441	IC201	5653-LA1266	IC, FM/AM IF	444	VR251	5101-5030193750K	RES, SEMI FIX
501	IC301	5653-LA3410	IC, PLL MPX	505	VR301	5101-10401937100K	RES, SEMI FIX
531	IC701	5654-T9304F11	IC, DIGITAL TUNING SYSTEM LSI				
538	IC702	5654-TC4030BP	IC, QUAD EXCLUSIVE-OR GATE				

Ser. No.	Ref. No.	Part No.	Description
MISCELLANEOUS			
634	ΔF2	5732-102031	FUSE UA
634B	ΔF2	5732-102030	FUSE GB
536	X701	5691-00720027	XTAL, OSC
445	CF201	5671-7120A	FILTER, CER S UA
445B	CF201	5671-7142A	FILTER, CER S GB
445	CF202	5671-7120A	FILTER, CER S UA
445B	CF202	5671-7142A	FILTER, CER S GB
449	CF203	5671-012A	FILTER, CER S UA
445B	CF203	5671-7142A	FILTER, CER S GB
478	CF251	5671-7137C	FILTER, CER S
477	CF252	5671-0159	FILTER, CER S
504	CF301	5693-CSB456F1	OSC, CER
626	CN2	4443-040185	CONNECTOR
411	FE101	6114-00101	FM TUNER UA
411B	FE101	6114-00201	FM TUNER GB
632	ΔHF3	4472-0131	HOLDER, FUSE
632	ΔHF4	4472-0131	HOLDER, FUSE
641	JL1	4242-R0107161	JUMPER LEAD
643	JL2	4242-10301351	JUMPER LEAD
644	JL3	4242-R0104351	JUMPER LEAD
642	JL4	4242-R0203201	JUMPER LEAD
645	JL5	4242-R0104451	JUMPER LEAD
647	JL6	4132-R0100201	CORD, 2C
648	JL7	4132-R0100141	CORD, 2C
479	TC251	5371-93	TRIMMER, 1P
637	TM103	4214-11023	TERMINAL
621	LCD1	5791-BP8A9041	LCD

PCB-14 PRESET MEMORY SWITCHES P. C. BOARD

DIODES			
540	D712	5631-ISS133	DIODE, DET
540	D713	5631-ISS133	DIODE, DET
SWITCHES			
629	S701	4431-A017169	SWITCH, PUSH
629	S702	4431-A017169	SWITCH, PUSH
629	S703	4431-A017169	SWITCH, PUSH
629	S704	4431-A017169	SWITCH, PUSH
629	S705	4431-A017169	SWITCH, PUSH
629	S706	4431-A017169	SWITCH, PUSH
629	S707	4431-A017169	SWITCH, PUSH
629	S708	4431-A017169	SWITCH, PUSH

PCB-15 TUNING SWITCH P. C. BOARD

CAPACITORS			
566	C751	5361-103ZF	CAP, CER .01μ
566	C752	5361-103ZF	CAP, CER .01μ
567	C753	5361-472KB	CAP, CER 4700p
567	C754	5361-472KB	CAP, CER 4700p
567	C755	5361-472KB	CAP, CER 4700p
567	C756	5361-472KB	CAP, CER 4700p
565	C758	5361-220KSL	CAP, CER 22p
568	C759	5345-106C041	CAP, MINI ELE 10μ/16V
RESISTORS			
569	R751	5232-105J16P	RES, CBN 1/6P 1M
569	R752	5232-105J16P	RES, CBN 1/6P 1M
569	R753	5232-105J16P	RES, CBN 1/6P 1M
570	R754	5232-104J16P	RES, CBN 1/6P 100K
570	R755	5232-104J16P	RES, CBN 1/6P 100K
570	R756	5232-104J16P	RES, CBN 1/6P 100K
570	R757	5232-104J16P	RES, CBN 1/6P 100K
569	R758	5232-105J16P	RES, CBN 1/6P 1M
570	R761	5232-104J16P	RES, CBN 1/6P 100K
570	R762	5232-104J16P	RES, CBN 1/6P 100K

INTEGRATED CIRCUITS

561	IC751	5654-TC4011BP	IC, QUAD 2 INPUT NAND GATE
562	IC752	5654-TC4001BP	IC, QUAD 2 INPUT NOR GATE

Ser. No.	Ref. No.	Part No.	Description
DIODES			
563	D751	5631-ISS133	DIODE, DET
563	D752	5631-ISS133	DIODE, DET
563	D753	5631-ISS133	DIODE, DET
563	D754	5631-ISS133	DIODE, DET
SWITCHES			
630	S710	4431-A017169	SWITCH, PUSH
630	S711	4431-A017169	SWITCH, PUSH
630	S712	4431-A017169	SWITCH, PUSH

PCB-16 ANTENNA TERMINAL P. C. BOARD

421	L101	5943-00136	COIL BBN, 10
636	TM104	4214-164	TERMINAL
052B	TM105	4214-167	TERMINAL GB
649	LCN1	4163-0110020	CONNECTR W/W UA

PCB-17 POWER SWITCH P. C. BOARD

057B	R1	5135-335522	RES, CBN 1/2P 3.3M GB
618B	R53	5135-155522	RES, CBN 1/2P 1.5M GB
618B	R54	5135-155522	RES, CBN 1/2P 1.5M GB
633	ΔF1	5732-252031	FUSE UA
633B	ΔF1	5732-122030	FUSE GB
628	ΔS1	4433-00103	SWITCH, POWER
625	CN1	4443-030185	CONNECTOR
631	ΔHF1	4472-0131	HOLDER, FUSE
631	ΔHF2	4472-0131	HOLDER, FUSE
635	TM1	4214-122	TERMINAL
635	TM2	4214-122	TERMINAL
635	TM3	4214-122	TERMINAL

PCB-18 LAMP P. C. BOARD





RESISTORS			
619	R55	5135-100522	RES, CBN 1/2P 10
620	ΔR56	5102-6R85116	RES, FUSE 6.8
LAMPS			
622	LPI	5731-00101140	LAMP
622	LP2	5731-00101140	LAMP

CHASSIS MISCELLANEOUS

895	ΔPI	4161-71151	POWER CORD UA
895B	ΔPI	4161-7256	POWER CORD GB
895C	ΔPI	4161-04100	POWER CORD (Australia model)
833	ΔTI	5584-S1402	XFORMER, POWER UA
833B	ΔTI	5584-S1403	XFORMER, POWER GB
894	ΔS01	4474-164	SOCKET UA
055B	ΔR57	5135-155522	RES, CBN 1/2P 1.5M GB
055B	ΔR58	5135-155522	RES, CBN 1/2P 1.5M GB
055B	ΔR59	5135-155522	RES, CBN 1/2P 1.5M GB
055B	ΔR60	5135-155522	RES, CBN 1/2P 1.5M GB
639	ΔR60	5135-335J50P	RES, CBN 1/2P 3.3M UA
063B	ΔS101	4411-102729	ROTARY SWITCH GB
624	LI	5911-235	AM LOOP ANTENNA
925	ΔCN111	4443-712	CONNECTOR
800	LUG1	4211-4	LUG
650	LUG2	4211-4	LUG UA
650	LUG3	4211-4	LUG
056B	LUG4	4211-4	LUG GB
623		1397-6	T FEEDER ANT
926		4150-8	SPECIAL TUBING

PACKAGE PARTS LIST

106		1111-J90195	OWNER GUIDE UA
107		1111-J30281	OWNER GUIDE UA

107B	1111-J30282	OWNER GUIDE 
108	1113-717004	OWNER CARD 
109	1119-047	ATTACH SHEET 
110	1119-0137	ATTACH SHEET 
121	1241-C12732	POLYETHYLENE BAG, OWNER GUIDE
122	1241-C1491	POLYETHYLENE BAG, SET
124	1221-21303	CARTON BOX
125	1222-7327	CUSHION, L
126	1222-7328	CUSHION, R
127	1223-11729	SOFT SHEET
624	LI 5911-235	AM LOOP ANTENNA

ABBREVIATIONS IN PARTS LIST**CAPACITORS**

CAP, MINI ELE : Electrolytic
 CAP, CER : Ceramic
 CAP, PPP : Polypropylene
 CAP, MYL : Mylar
 CAP, MCA : Mica
 CAP, MINI BP : Bipolar
 CAP, ELE BP : Electrolytic Bipolar
 CAP, STY : Polystyrene Film
 CAP, SPE : Special
 CAP, TAN : Tantalum
 470 μ : 470 μ F
 6800p : 6800pF
 .047 μ : 0.047 μ F

RESISTORS

RES, CBN 1/6P : Carbon 1/6W
 RES, FUSE : Fuse
 RES, CEM 5P : Cement 5W
 RES, MTL 1P : Metal 1W
 2.2K : 2.2k Ω
 220 : 220 Ω

TRANSISTORS

XISTOR : Transistor
 FET : Field Effect Transistor

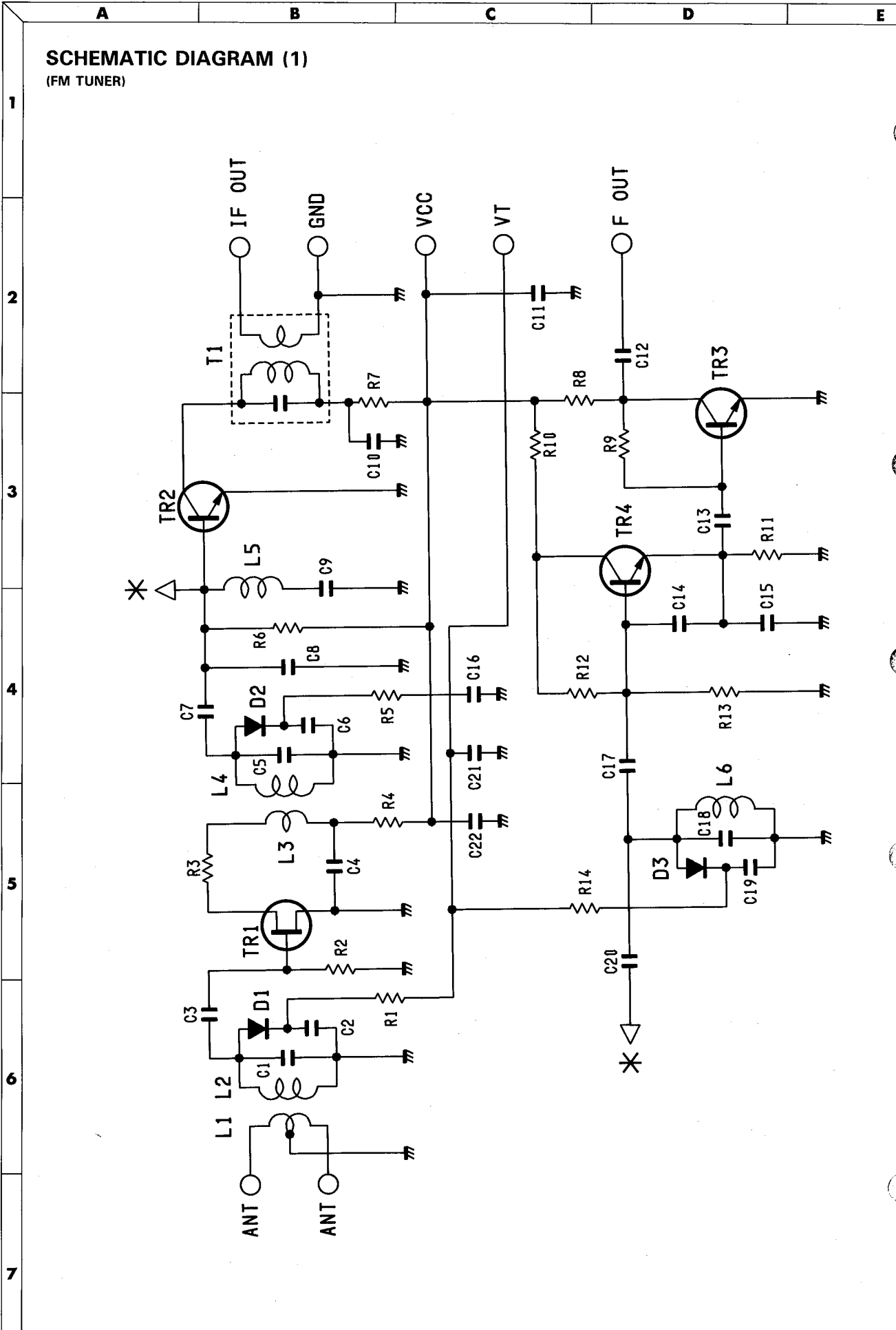
CONTROLS

RES, V CBN : Variable Carbon Resistor
 RES, SEMI FIX : Semi-fixed Resistor

NOTE

SAFETY RELATED COMPONENT. USE ONLY EXACT REPLACEMENT PART AS SPECIFIED.

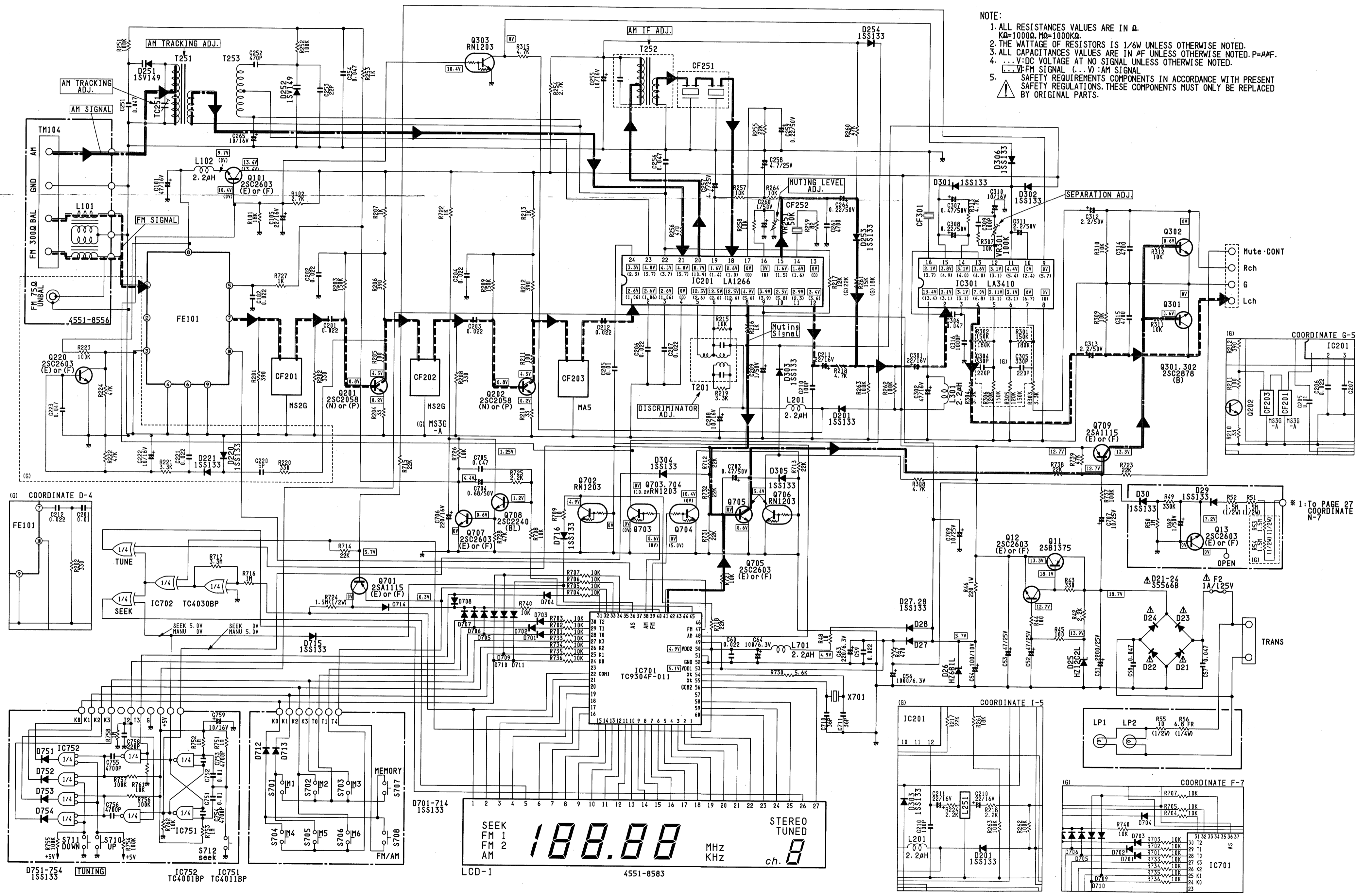
SCHEMATIC DIAGRAM (1) (FM TUNER)



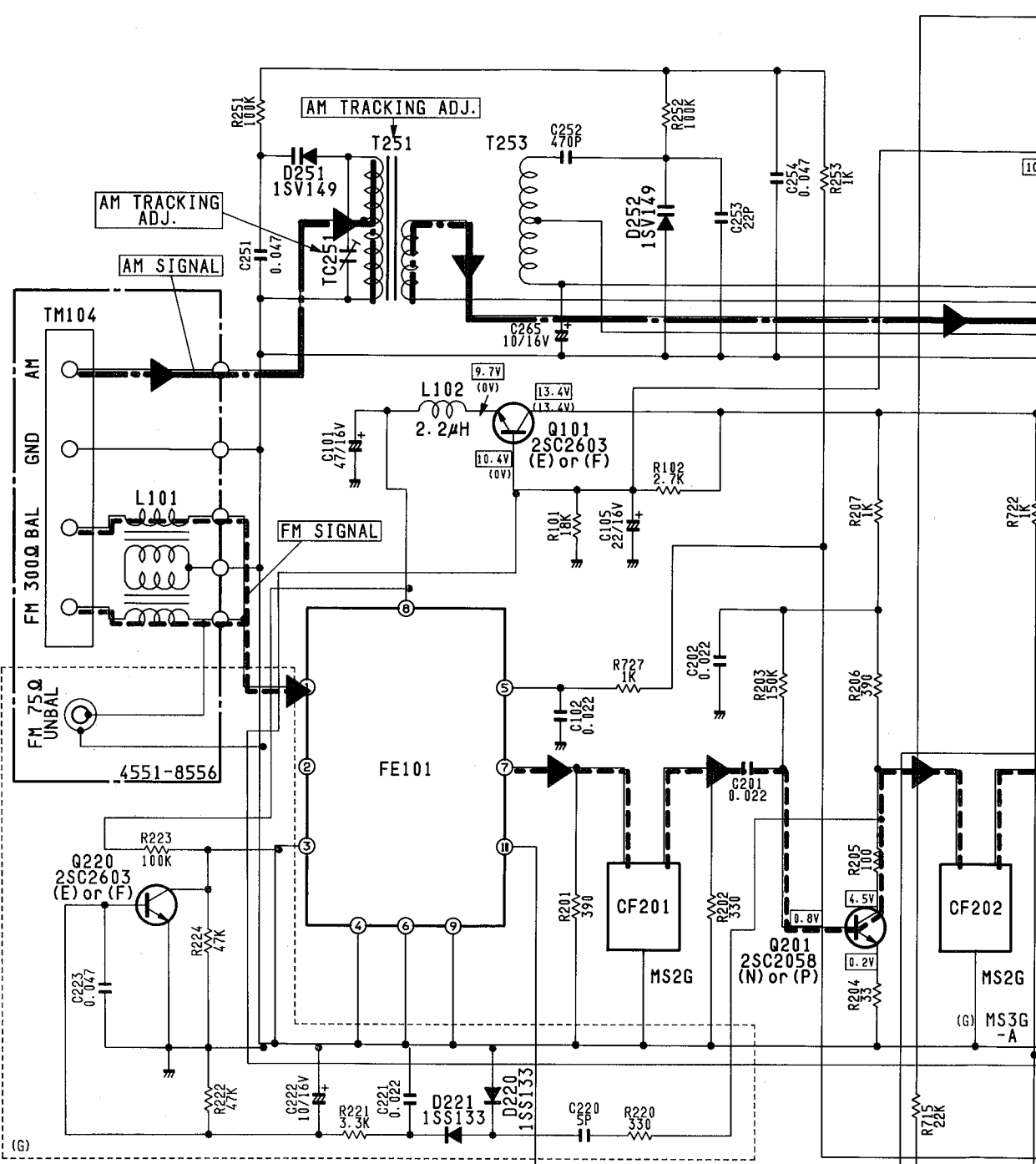
SCHEMATIC DIAGRAM (2)

(G): General model

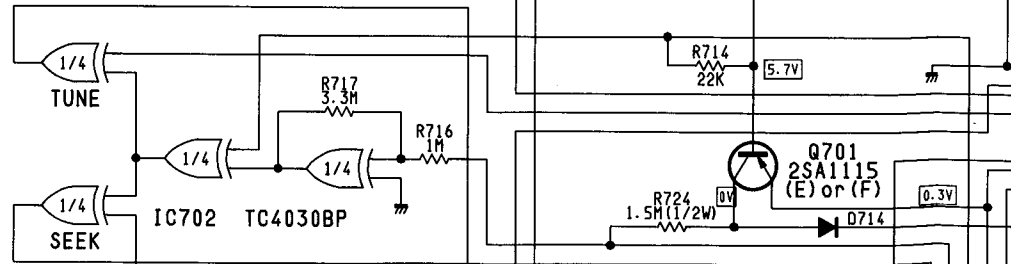
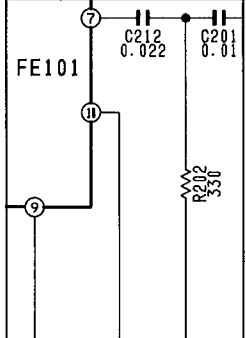
- NOTE:
1. ALL RESISTANCES VALUES ARE IN Ω .
K Ω =1000 Ω , M Ω =1000K Ω .
 2. THE WATTAGE OF RESISTORS IS 1/6W UNLESS OTHERWISE NOTED.
 3. ALL CAPACITANCES VALUES ARE IN μ F UNLESS OTHERWISE NOTED. P=##F.
 4. ... V:DC VOLTAGE AT NO SIGNAL UNLESS OTHERWISE NOTED.
 5. ... V:FM SIGNAL (... V):AM SIGNAL
- SAFETY REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS.THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.



SCHEMATIC DIAGRAM (2)



(G) COORDINATE D-4



J

K

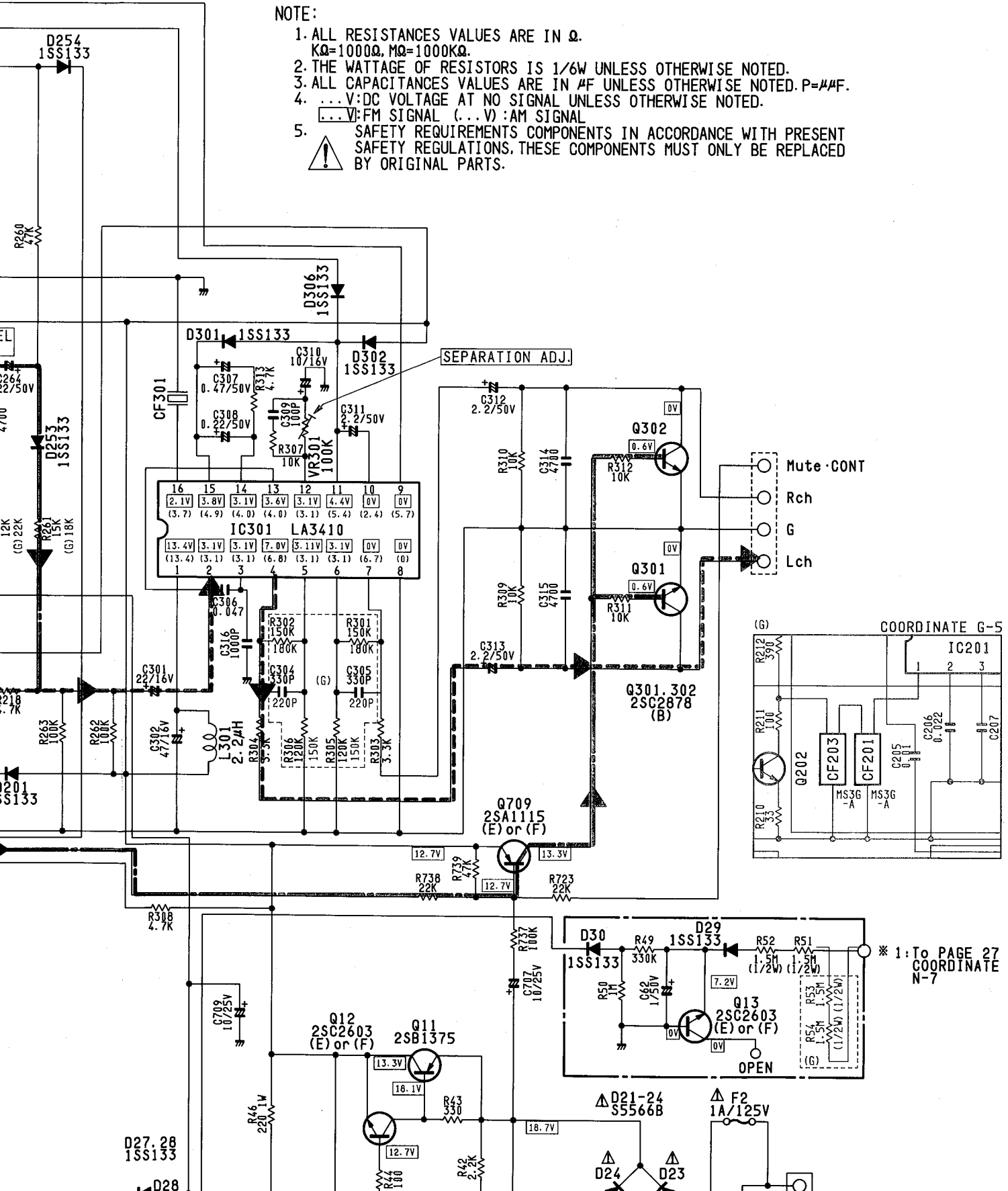
L

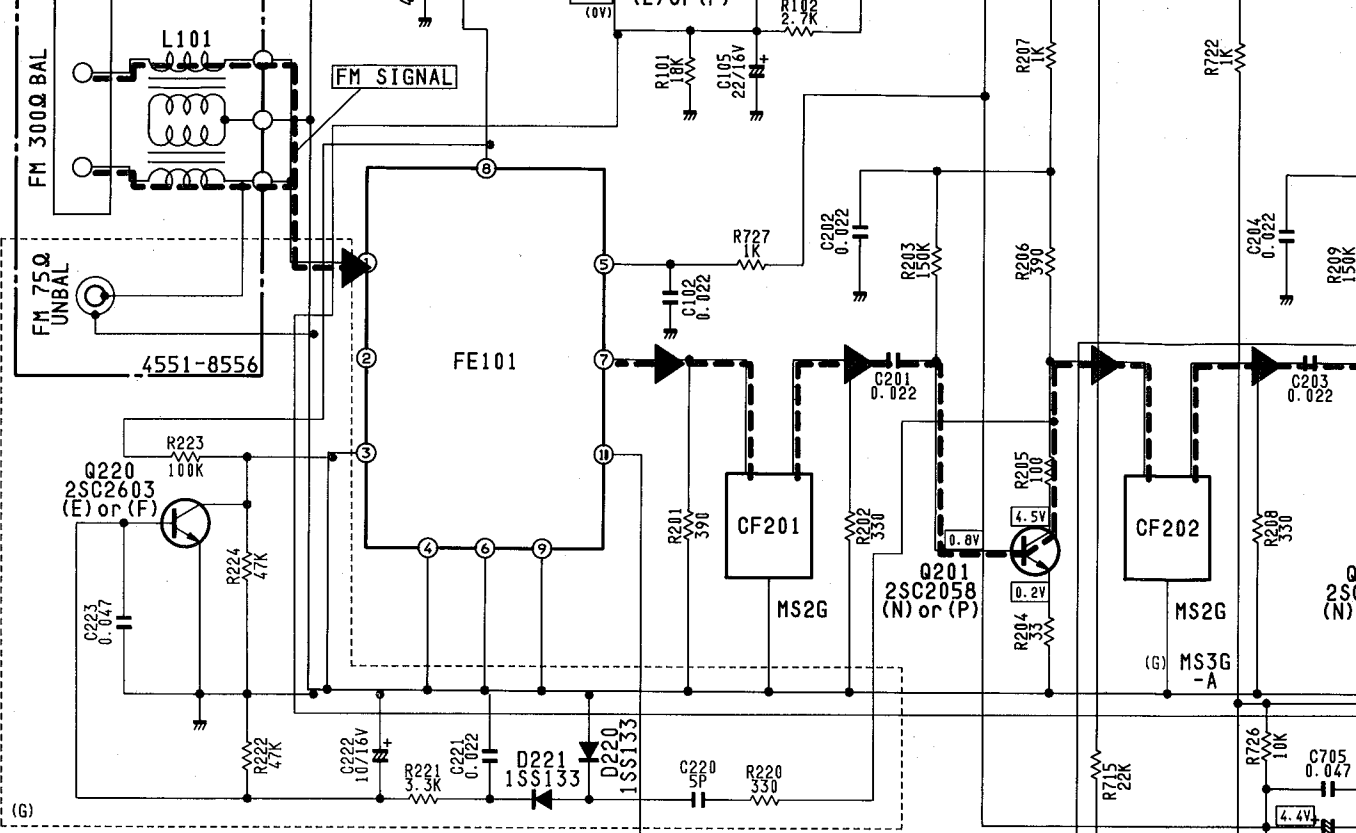
M

N

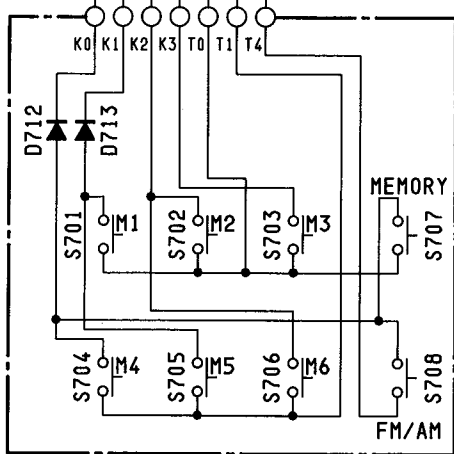
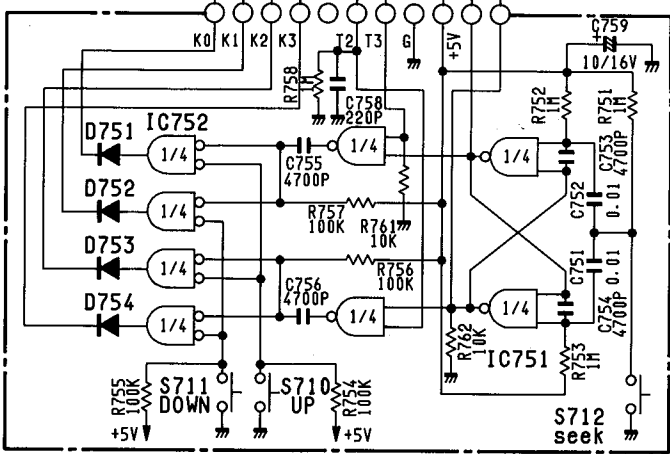
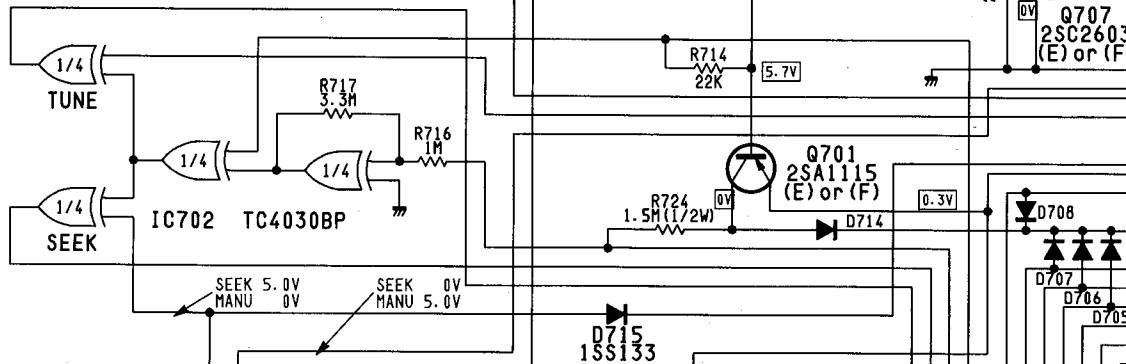
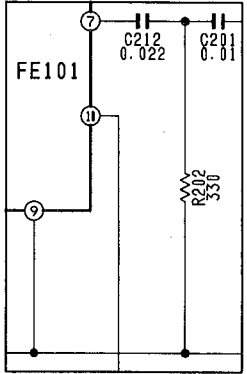
NOTE:

1. ALL RESISTANCES VALUES ARE IN Ω .
 $K\Omega=1000\Omega$, $M\Omega=1000K\Omega$.
 2. THE WATTAGE OF RESISTORS IS 1/6W UNLESS OTHERWISE NOTED.
 3. ALL CAPACITANCES VALUES ARE IN μF UNLESS OTHERWISE NOTED. P= μF .
 4. ...V:DC VOLTAGE AT NO SIGNAL UNLESS OTHERWISE NOTED.
 5. ...V:FM SIGNAL (...V):AM SIGNAL
- ⚠ SAFETY REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS, THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.





(G) COORDINATE D-4



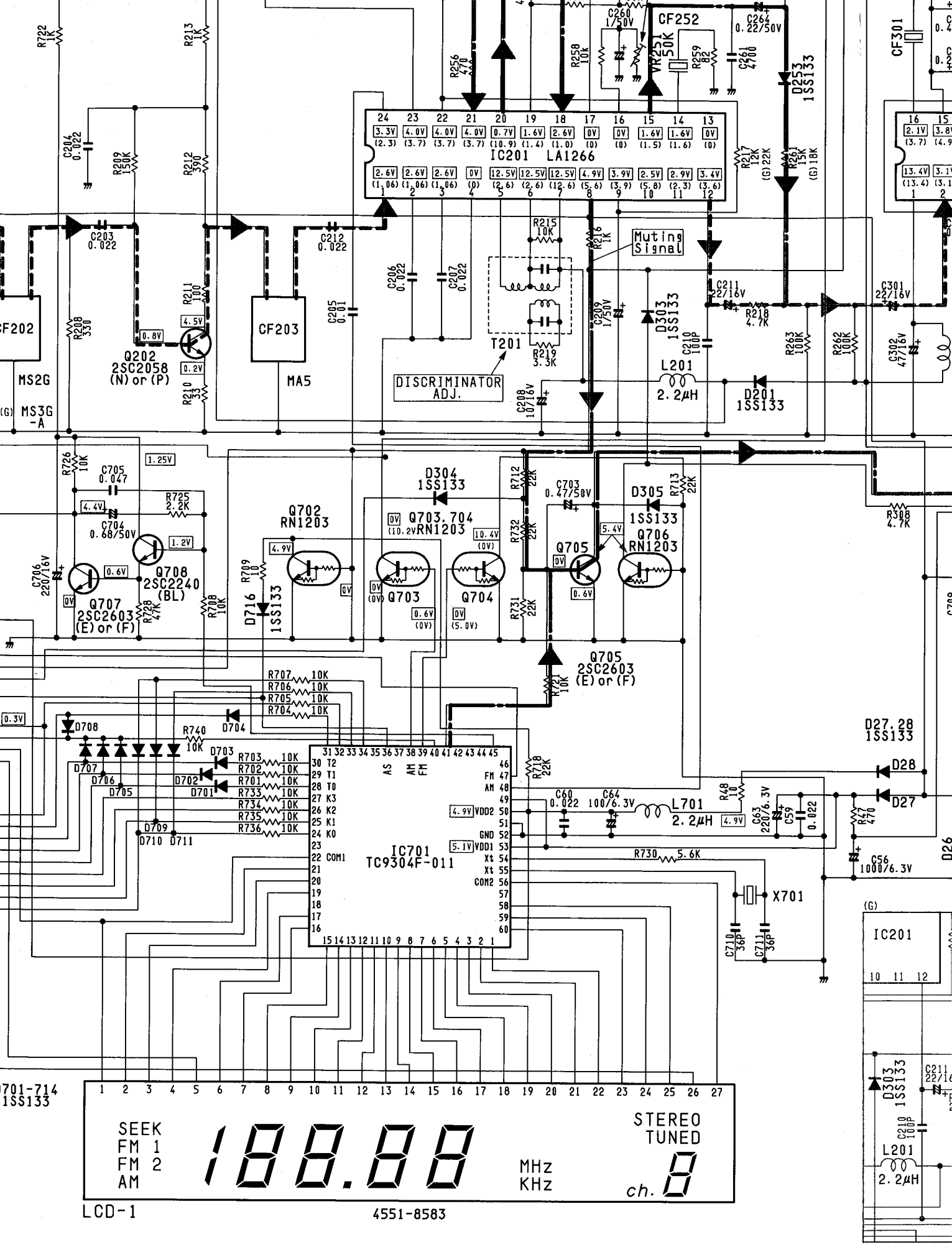
D751-754 1SS133

TUNING

IC752 TC4001BP IC751 TC4011BP

D701-714 1SS133

LCD-



IC201 LA1266

24	23	22	21	20	19	18	17	16	15	14	13
3.3V	4.0V	4.0V	4.0V	0.7V	1.6V	2.6V	0V	0V	1.6V	1.6V	0V
(2.3)	(3.7)	(3.7)	(3.7)	(10.9)	(1.4)	(1.0)	(0)	(0)	(1.5)	(1.6)	(0)
2.6V	2.6V	2.6V	0V	12.5V	12.5V	12.5V	4.9V	3.9V	2.5V	2.9V	3.4V
(1.06)	(1.06)	(1.06)	(0)	(2.6)	(2.6)	(12.6)	(5.6)	(3.9)	(5.8)	(2.3)	(3.6)
1	2	3	4	5	6	7	8	9	10	11	12

IC701 TC9304F-011

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
T2	T1	T0	K3	K2	K1	K0	COM1	Xt	Xt	COM2	56	57	58	59
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
AS	AM	FM	FM	AM	AM	FM	FM	AM	AM	FM	FM	AM	AM	FM
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

LCD-1

SEEK
FM 1
FM 2
AM

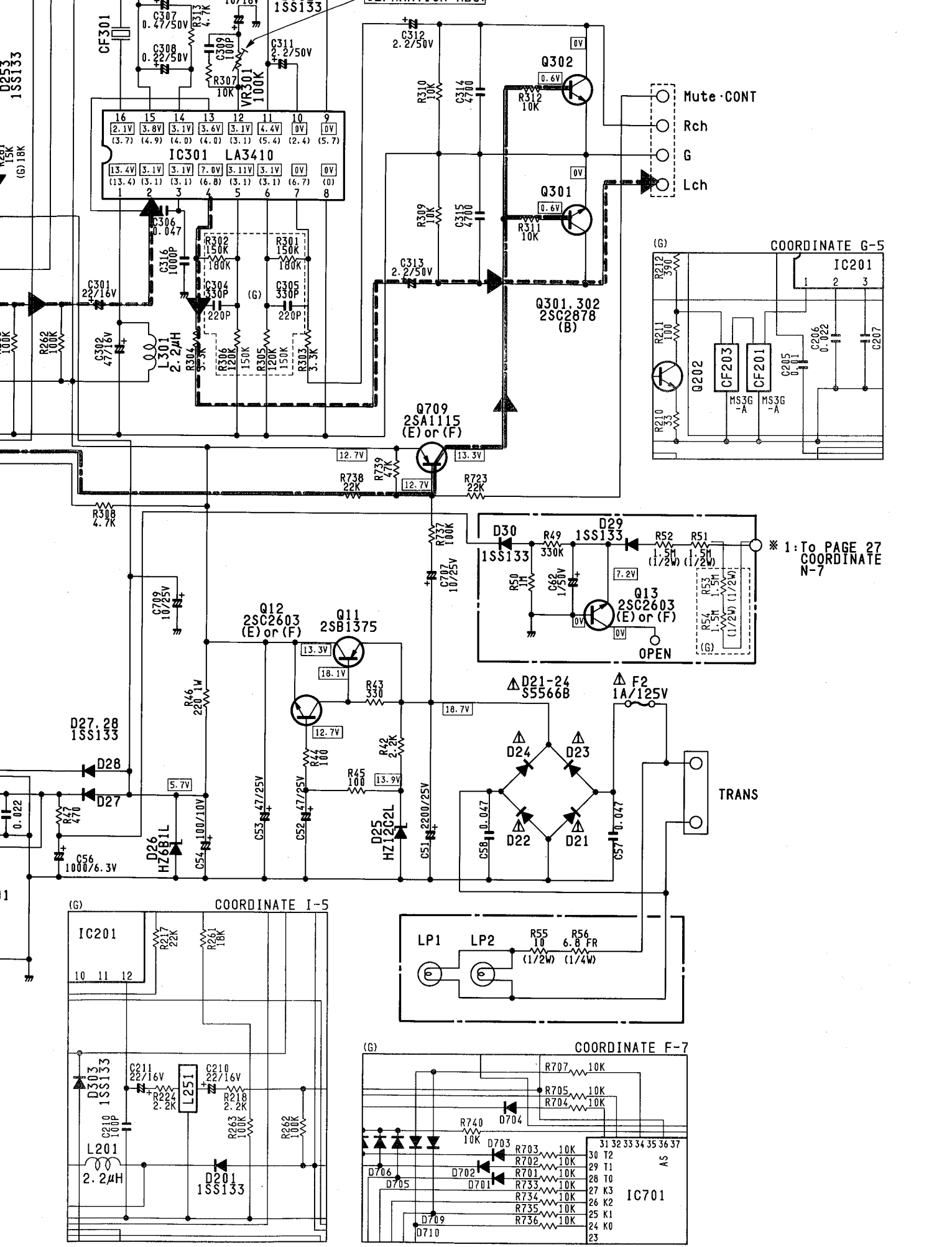
188.00

MHZ
KHZ

STEREO
TUNED

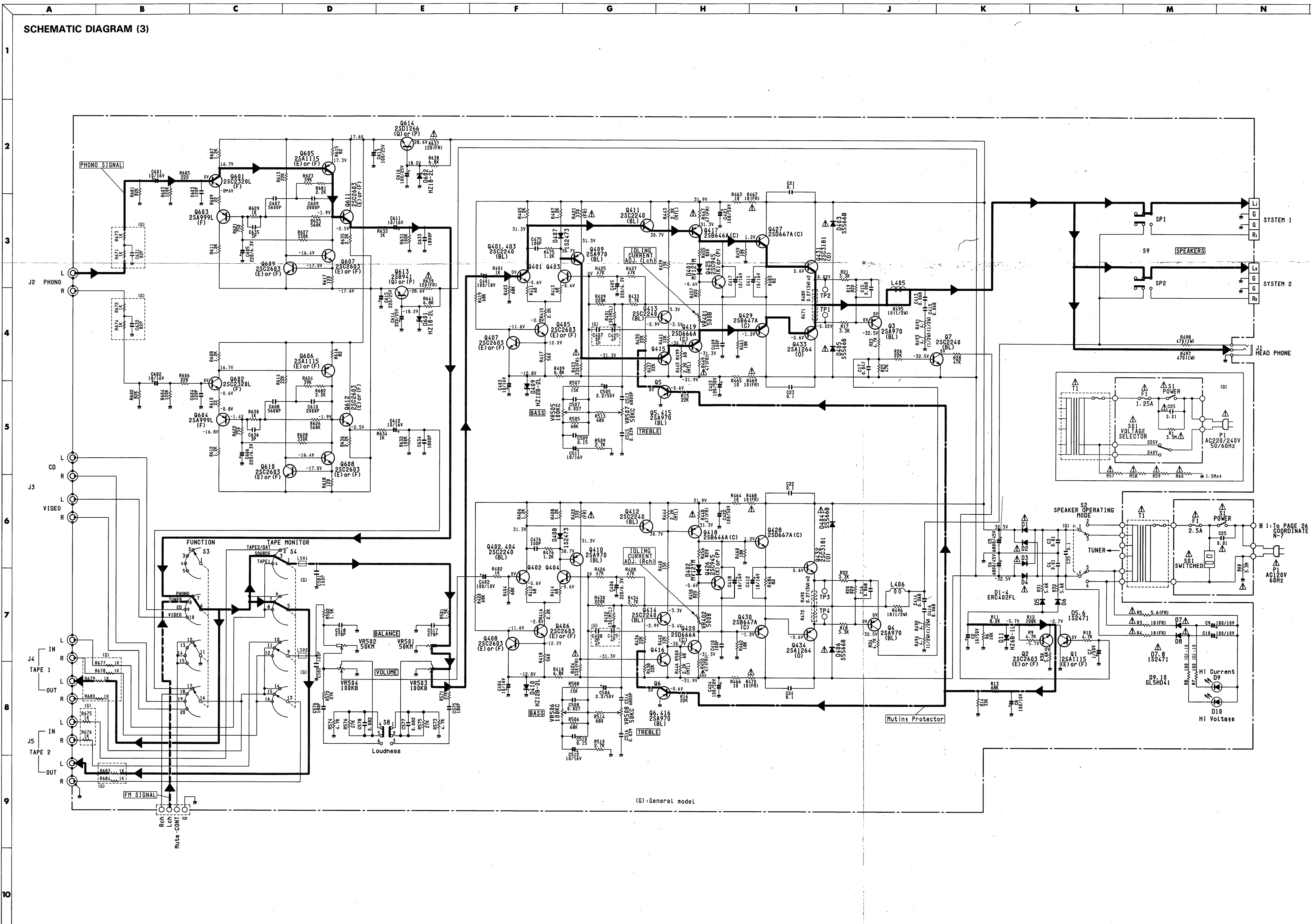
ch. 8

4551-8583



* 1: To PAGE 27
COORDINATE N-7

SCHEMATIC DIAGRAM (3)



(G): General model.

* 1: To PAGE 26 COORDINATE M-7

SCHEMATIC DIAGRAM (3)

1

2

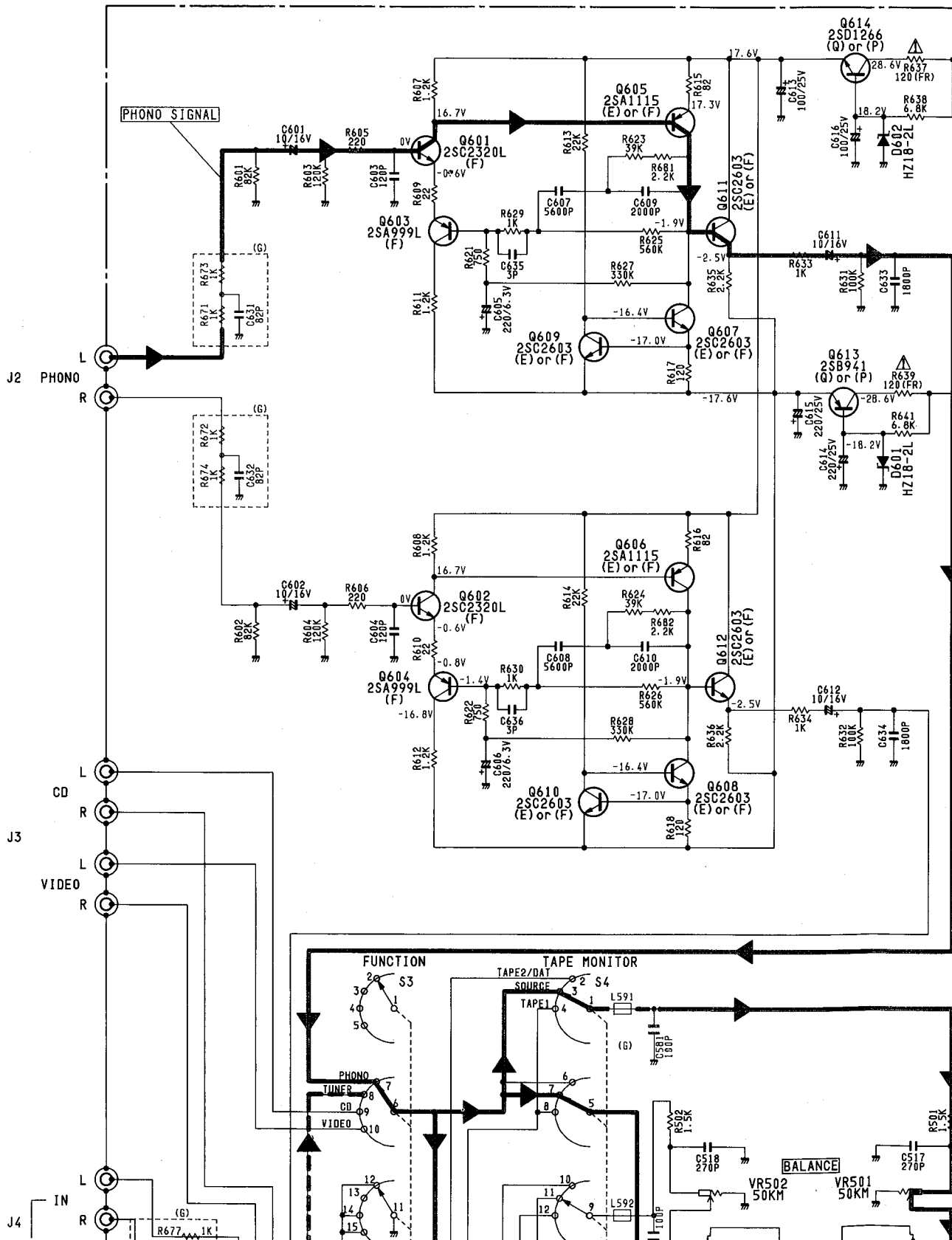
3

4

5

6

7



J2 PHONO

J3 CD

J3 VIDEO

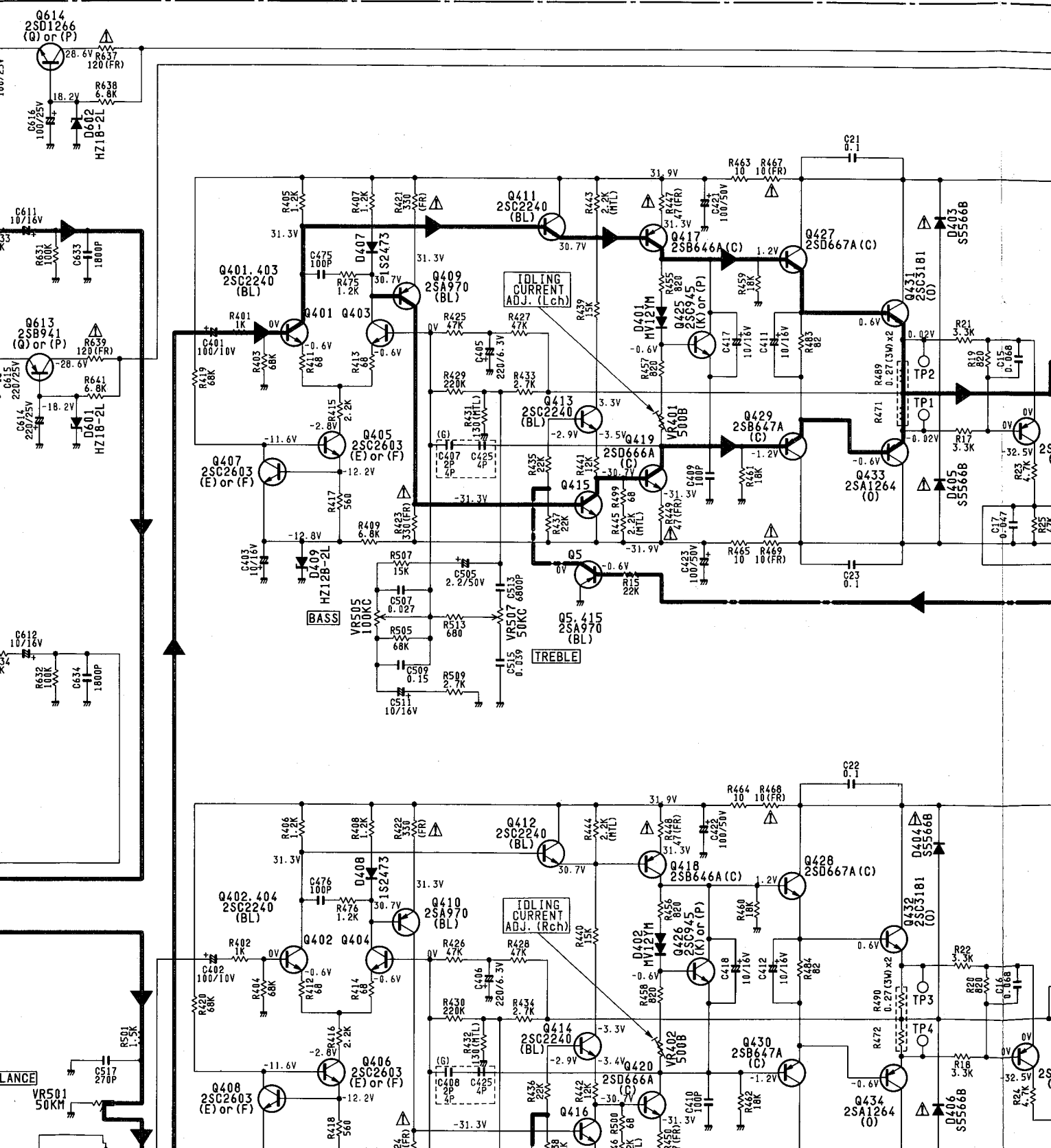
J4 IN

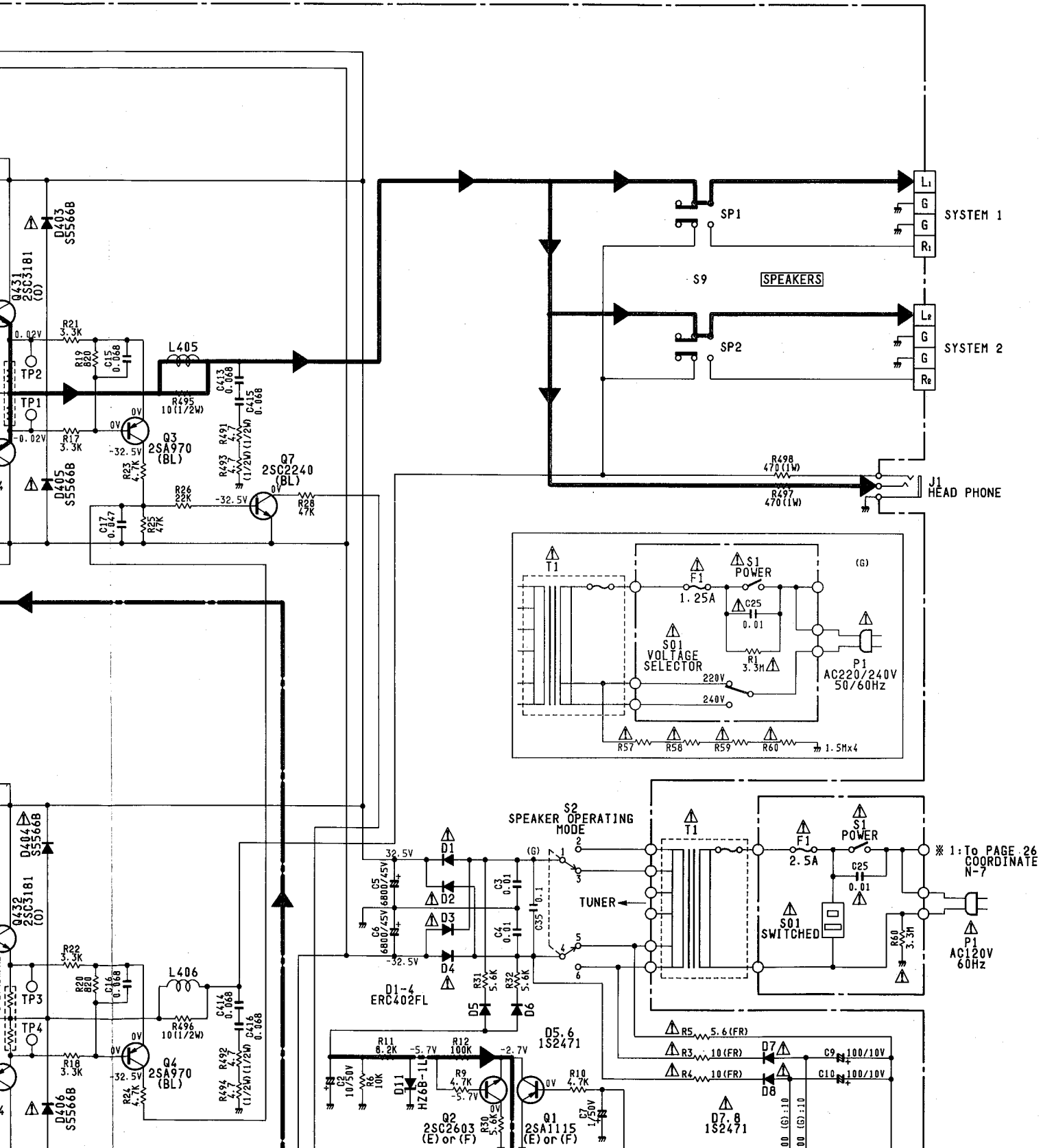
PHONO SIGNAL

FUNCTION

TAPE MONITOR

BALANCE

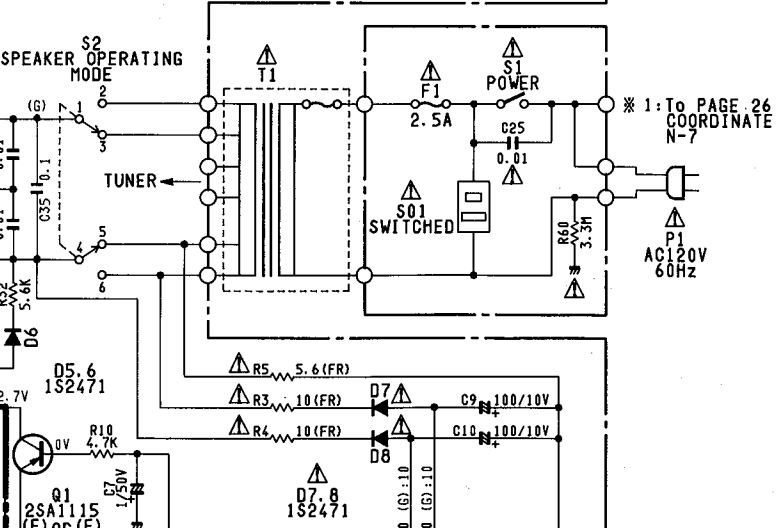
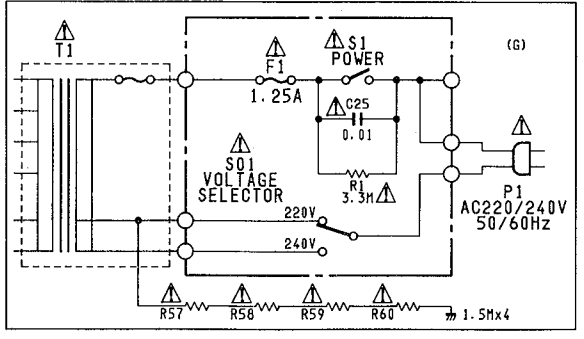




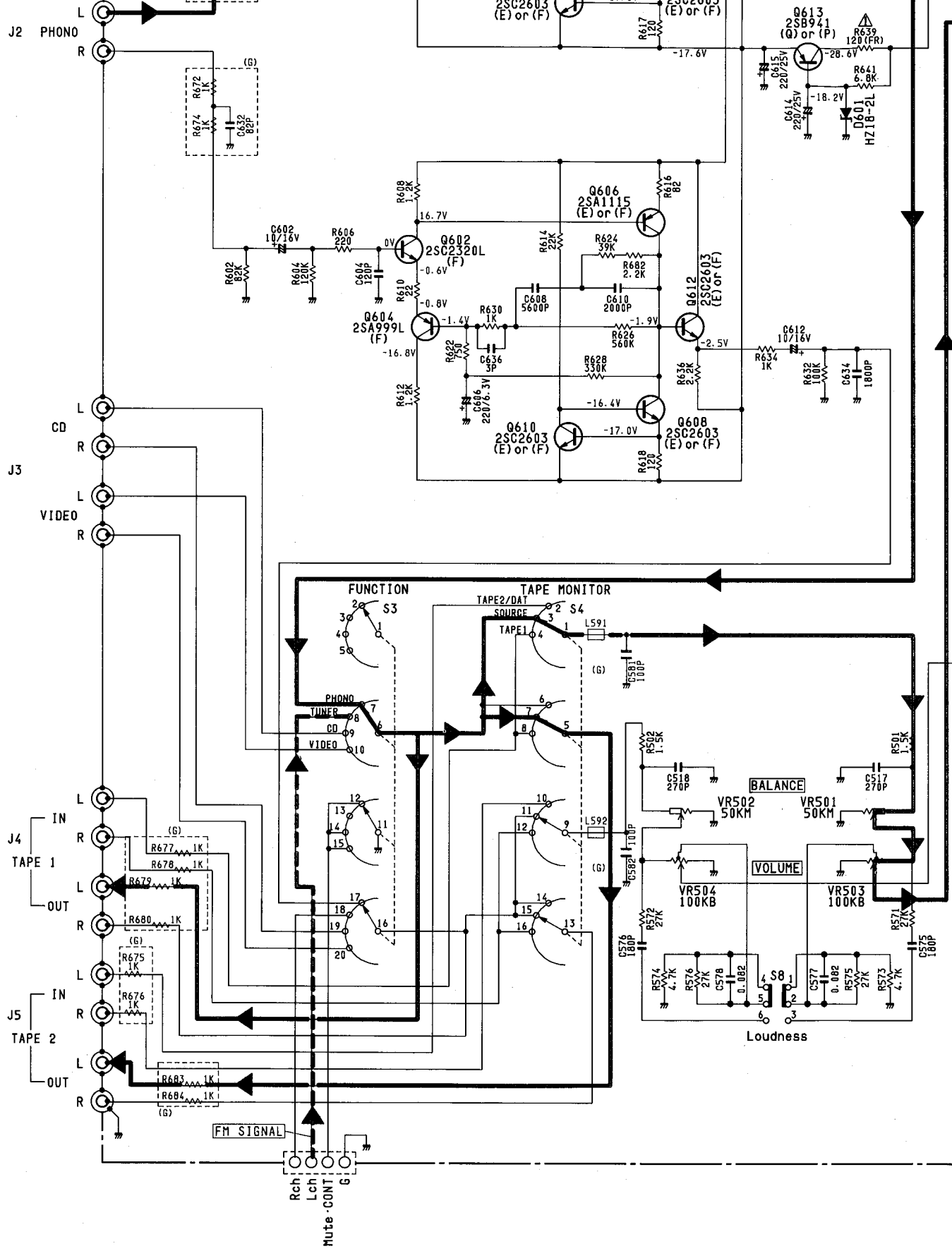
SYSTEM 1

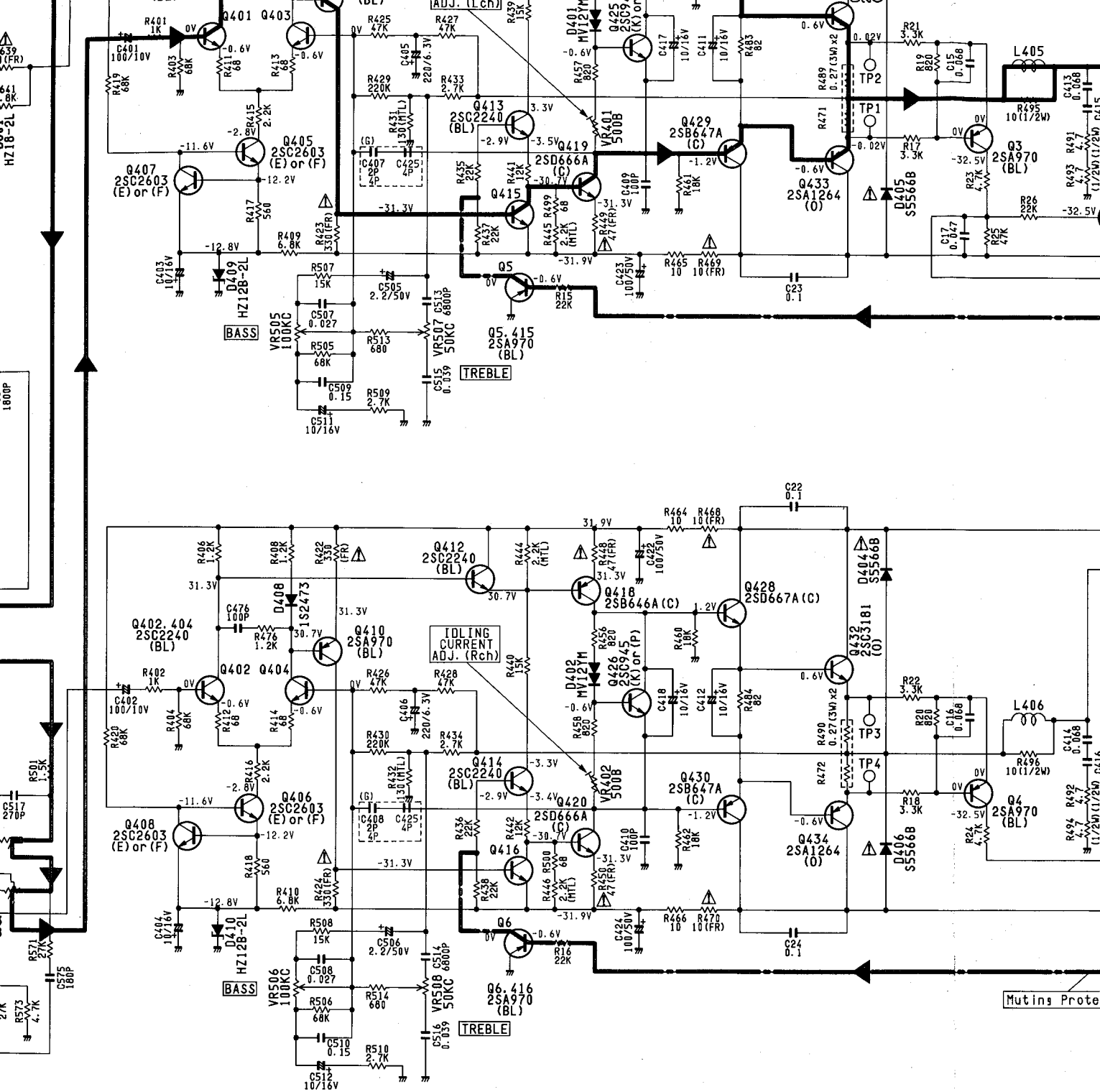
SYSTEM 2

J1 HEAD PHONE

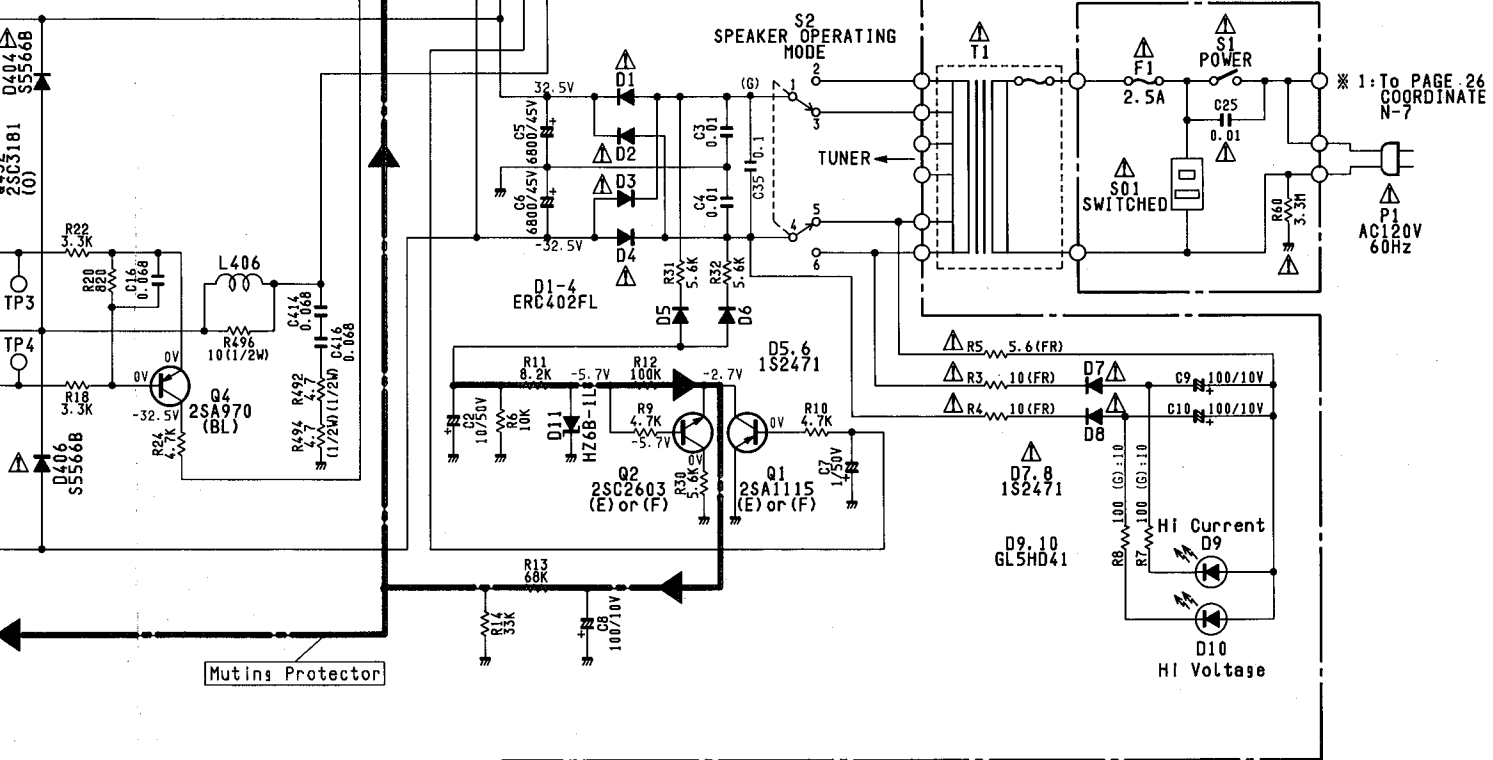
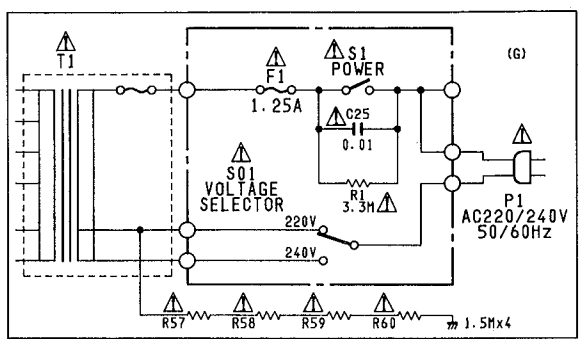
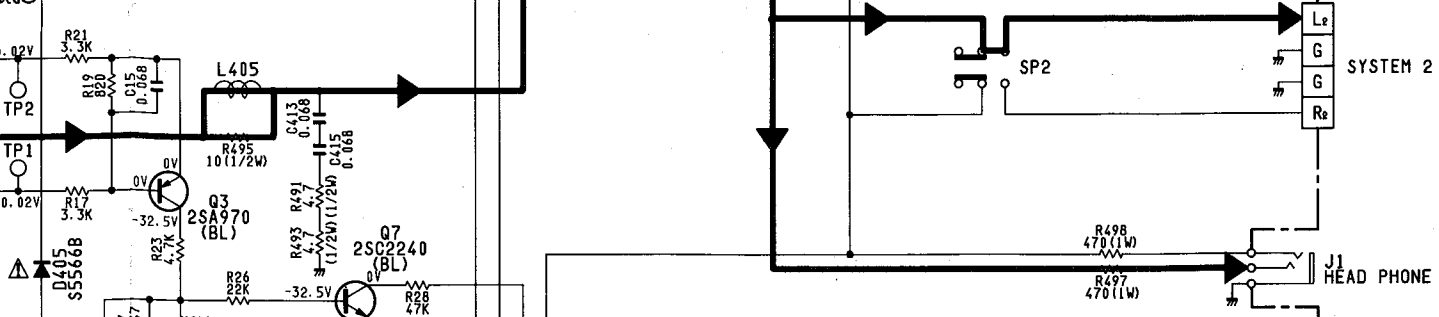


* 1: To PAGE 26 COORDINATE N-7





(G): General model



SYSTEM 2

J1 HEAD PHONE

* 1: To PAGE 26 COORDINATE N-7

Mutins Protector

Hi Current
D9
Hi Voltage
D10