

Service Manual

Stereo Integrated Amplifier

Amplifier

SU-V460

Color

(S)...Silver Type
(K)...Black Type



Area

Country Code	Area	Color
(E), (E5)	Continental Europe	(K) (S)
(EB)	Great Britain	(K) (S)
(EG)	F.R. Germany & Italy	(K) (S)
(G)	Third Region	(K)
(GC)	Saudi Arabia	(K)
(GN)	Oceania	(K)

SPECIFICATIONS

(DIN 45 500)

■ AMPLIFIER SECTION

20 Hz~20 kHz continuous power output
both channels driven $2 \times 45 \text{ W (8 } \Omega\text{)}$

1 kHz continuous power output
both channels driven (THD: 1%) $2 \times 60 \text{ W (8 } \Omega\text{)}$
 $2 \times 85 \text{ W (4 } \Omega\text{)}$

63 Hz~12.5 kHz continuous power output
both channels driven (0.7%) $2 \times 55 \text{ W (8 } \Omega\text{)}$
 $2 \times 75 \text{ W (4 } \Omega\text{)}$

Total harmonic distortion (Power Amp Direct input)
rated power at 20 Hz~20 kHz 0.005 % (8 Ω)
rated power at 1 kHz 0.0009 % (8 Ω)
0.002 % (4 Ω)

half power at 20 Hz~20 kHz 0.005 % (8 Ω)
half power at 1 kHz 0.0009 % (8 Ω)
0.002 % (4 Ω)

Intermodulation distortion
rated power at 50 Hz: 7 kHz = 4:1, SMPTE, 8 Ω 0.007 %

Residual hum and noise 0.2 mV

Damping factor 60 (8 Ω), 30 (4 Ω)

Headphones output level and impedance 540 mV/330 Ω

Load impedance

A or B 4 Ω ~16 Ω

A and B 8 Ω ~16 Ω

Input sensitivity and impedance

PHONO MM 2.5 mV/47 k Ω

TUNER, CD, AUX, TAPE 1, TAPE 2/DAT 150 mV/22 k Ω

POWER AMP DIRECT 1 V/18 k Ω

Phono maximum input voltage (IHF '66, 1 kHz, RMS)
MM 150 mV

S/N

rated power (4 Ω)

PHONO MM 76 dB (IHF '66: 81 dB)

TUNER, CD, AUX, TAPE 1, TAPE 2/DAT

97 dB (IHF '66: 100 dB)

POWER AMP DIRECT 106 dB (IHF '66: 115 dB)

-26 dB power (4 Ω)

PHONO MM 75 dB

TUNER, CD, AUX, TAPE 1, TAPE 2/DAT 84 dB

50 mW power (4 Ω)

PHONO MM 75 dB

TUNER, CD, AUX, TAPE 1, TAPE 2/DAT 78 dB

Frequency response
PHONO RIAA standard curve

$\pm 0.8 \text{ dB (30 Hz} \sim 15 \text{ kHz)}$

TUNER, CD, AUX, TAPE 1, TAPE 2/DAT

3 Hz~100 kHz (-3 dB)

+0 dB, -0.2 dB (20 Hz~20 kHz)

POWER AMP DIRECT 2 Hz~120 kHz (-3 dB)

+0 dB, -0.2 dB (20 Hz~20 kHz)

Tone controls

BASS 50 Hz, +10 dB, -10 dB

TREBLE 20 kHz, +10 dB, -10 dB

Loudness control (volume at -30 dB) 50 Hz, +9 dB

Output voltage

TAPE 1, TAPE 2/DAT REC OUT 150 mV

Channel balance, AUX 250 Hz~6,300 Hz $\pm 1 \text{ dB}$

Channel separation, AUX 1 kHz 50 dB

■ GENERAL

Power consumption 450 W

Power Supply

For Great Britain and Oceania AC 50 Hz/50 Hz, 240 V

For Continental Europe AC 50 Hz/50 Hz, 220 V

For others AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V

Dimensions (W $\times$ H $\times$ D) 430 $\times$ 125 $\times$ 320 mm

(16-15/16" $\times$ 4-15/16" $\times$ 12-5/8")

Weight 8.0 kg (17.6 lb.)

Notes:

- Specifications are subject to change without notice.
Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

Technics

Matsushita Electric Industrial Co., Ltd.

Central P.O. Box 288, Osaka 530-91, Japan

■ CONTENTS

	Page		Page
BEFORE REPAIR AND ADJUSTMENT	2	PRINTED CIRCUIT BOARDS	11
PROTECTION CIRCUITRY	2	TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES	15
ACCESSORIES	2	BLOCK DIAGRAM	15
LOCATION OF CONTROLS	3	MEASUREMENTS AND ADJUSTMENTS	17
DISASSEMBLY INSTRUCTIONS	4	REPLACEMENT PARTS LIST	18
SCHEMATIC DIAGRAM	7	EXPLODED VIEW	22
WIRING CONNECTION DIAGRAM	10		

■ BEFORE REPAIR AND ADJUSTMENT

- (1) Turn off the power supply. Using a 10Ω, 10W resistor, shortcircuit both ends of power supply capacitors (C705,C706) in order to discharge the voltage.
- (2) Before turning on the power switch of the unit.
 - A. Connect the voltage controller to the primary side.
 - B. Connect the AC ampere meter to the primary side or connect the DC voltage meter to the "±B" circuit of the secondary side.
 - C. Turn the VR of ICQ (VR451 and VR452) to minimum (counterclockwise).
 - D. After setting the output to zero of the voltage controller, turn on the power switch of the unit.
And increase the output of voltage controller gradually.
Then, check carefully whether the current value of primary side become more than following value or whether the DC voltage of secondary side is increasing slowly.
 - E. If the value of current is increasing unusually or the DC voltage is not increasing, lower the output level of voltage controller immediately.
- The current value of the primary side at no signal. (Confirm the power supply voltage of each area and provided voltage of the unit.)

Power supply voltage		AC 110 V	AC 120 V	AC 220 V	AC 240 V
Consumed current	50 Hz	120~480 mA	110~441 mA	60~240 mA	55~220 mA
	60 Hz	114~456 mA	104~417 mA	56~227 mA	52~208 mA

■ PROTECTION CIRCUITRY

The protection circuitry of the amplifier may have operated if either of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlined below.

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.

Note:

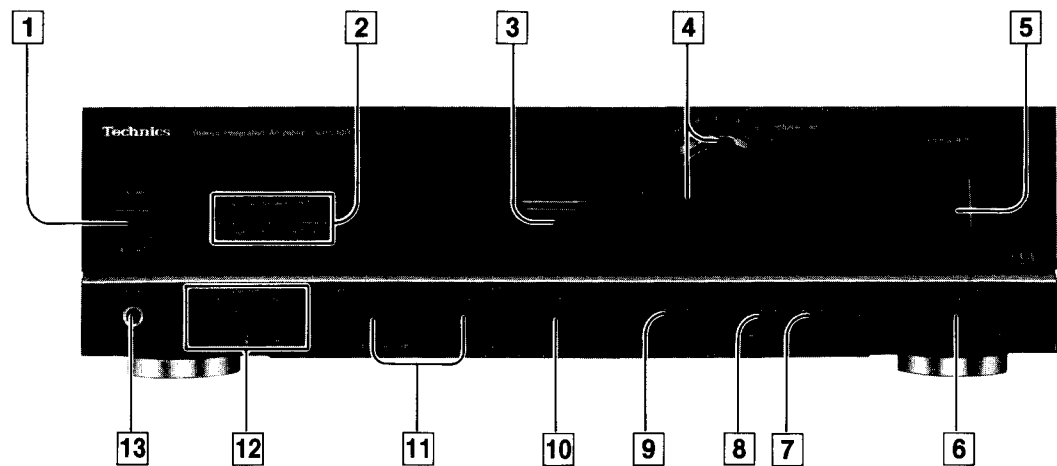
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

■ ACCESSORIES

- **AC power supply cord** 1
 (SFDAC05E03) For (E), (E5) and (EG) areas.
 (SJA193) For (EB) area only.
 (RJA0004) For (GC) area only.
 (SJA173) For (GN) area only.
- **AC plug adaptor** 1
 (SJP9215) For (GC) area only.

■ LOCATION OF CONTROLS

●Front Panel



- 1 Power switch (power)

2 Operation indicators (amplifier operation monitor)

3 Power amplifier direct switch (power amp direct)

4 Volume control/indicator (volume)

5 Input selector (input selector)

6 Recording output selector (rec selector)
- 7 Mode selector (mode)

8 Loudness switch (loudness)

9 Tone control switch (tone control)

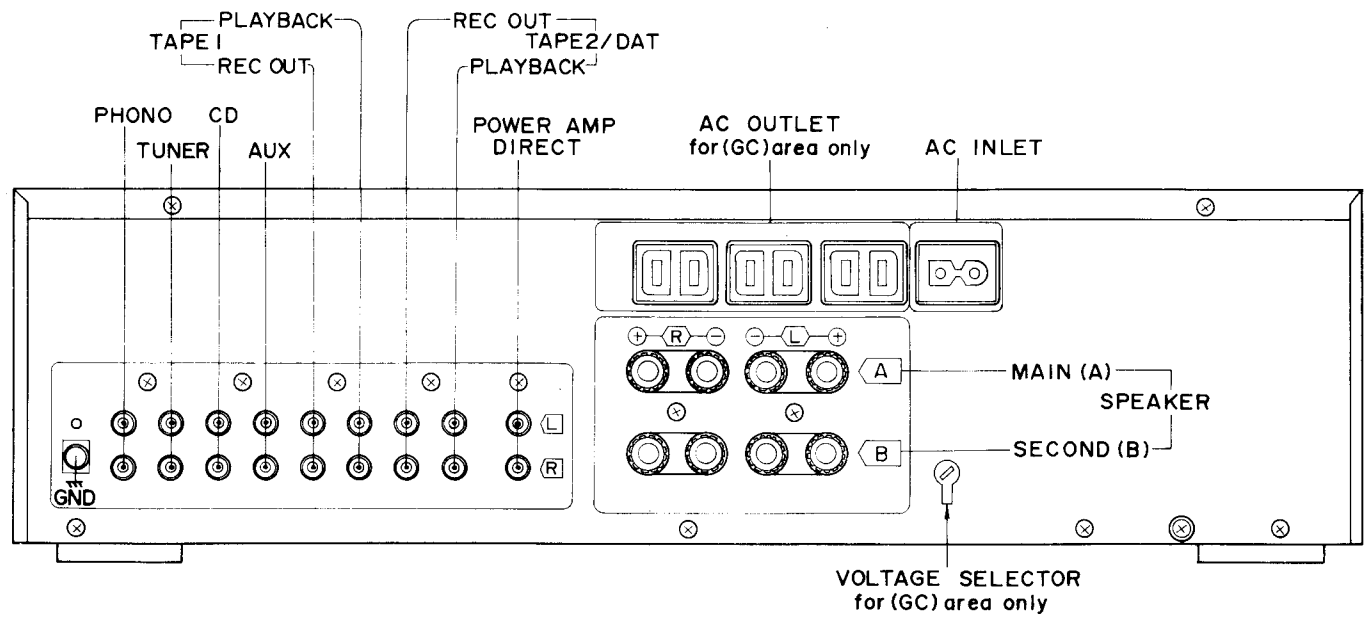
10 Balance control (balance)

11 Tone controls (bass/treble)

12 Speaker selectors (speakers)

13 Headphones jack (phones)

●Rear Panel

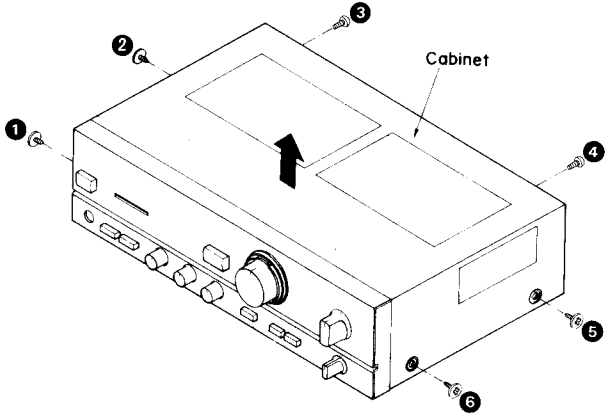
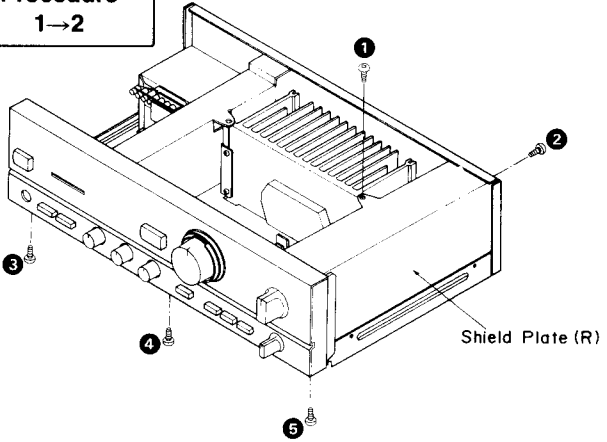
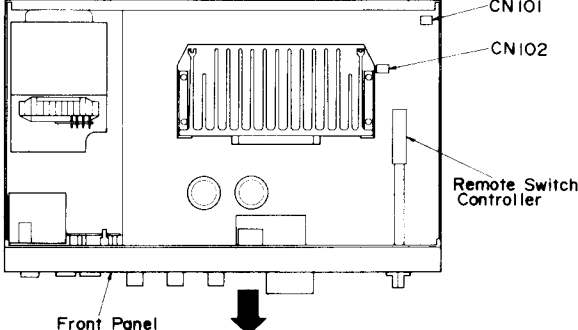
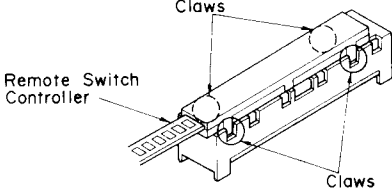
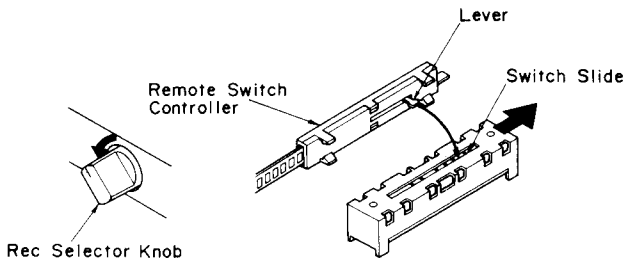
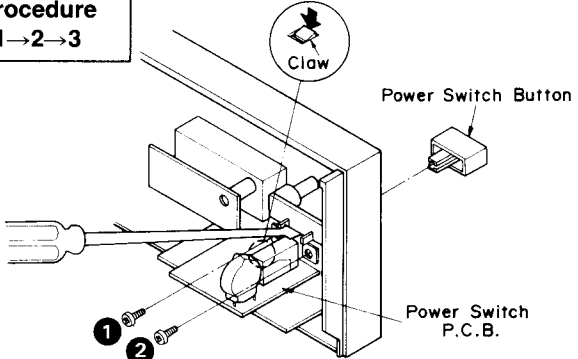
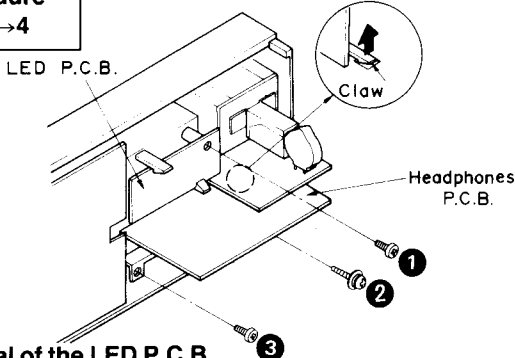


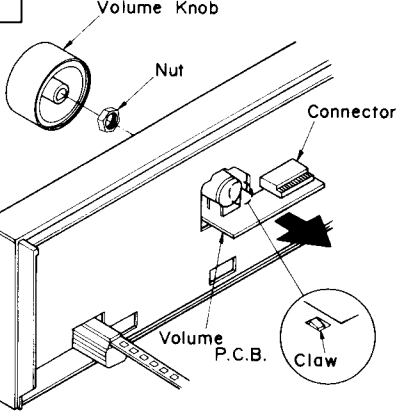
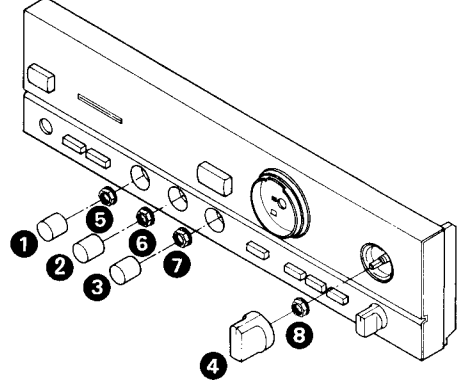
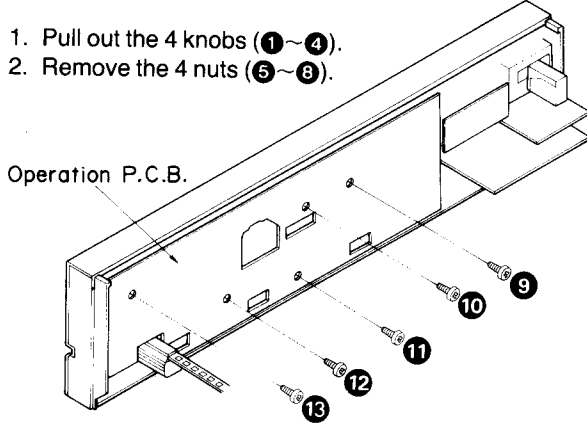
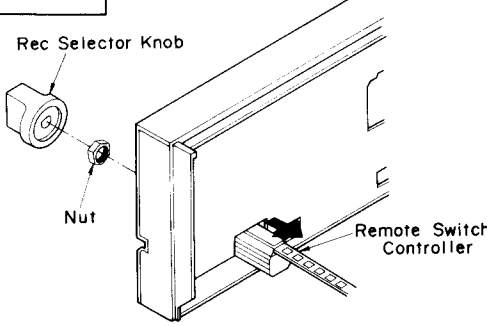
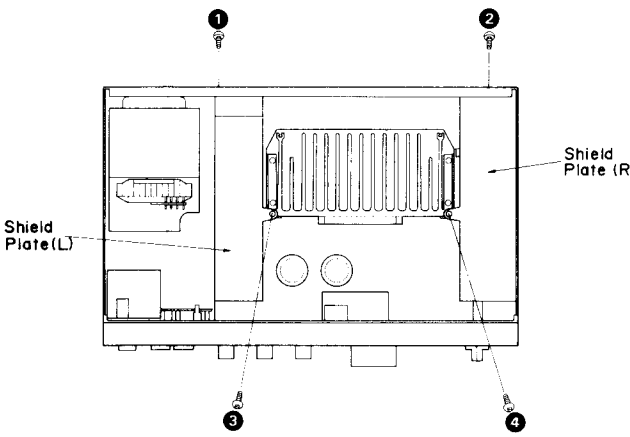
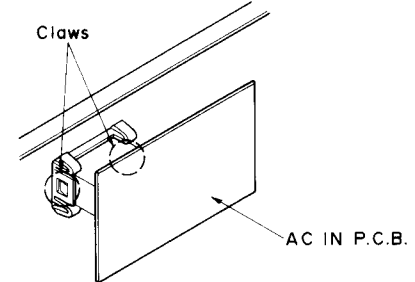
*Phono input capacitance is about 270 pF for EG area (about 100 pF for other areas).

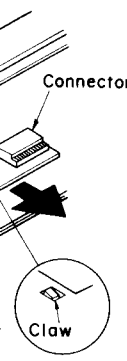
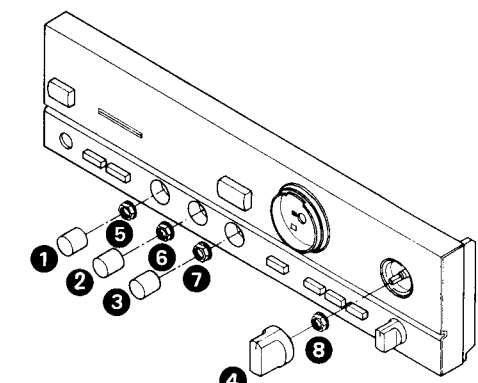
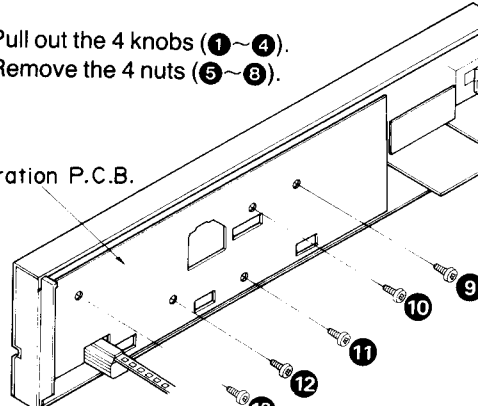
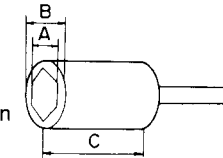
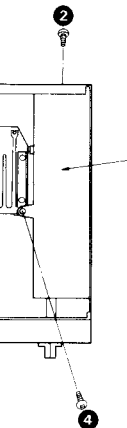
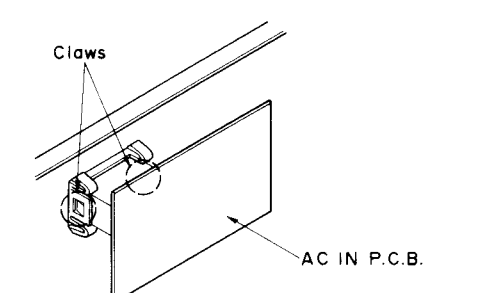
■ DISASSEMBLY INSTRUCTIONS

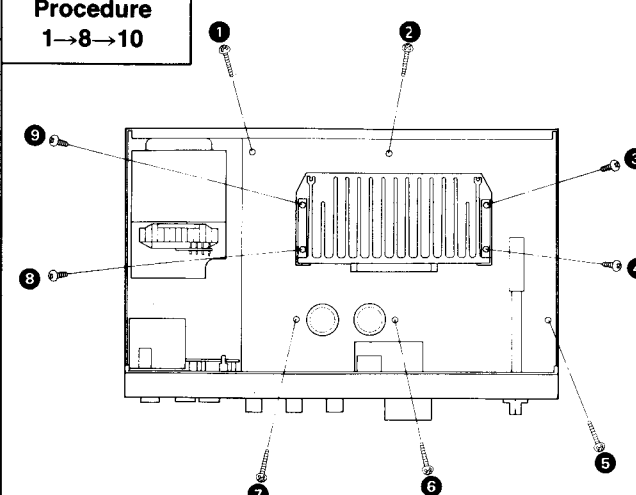
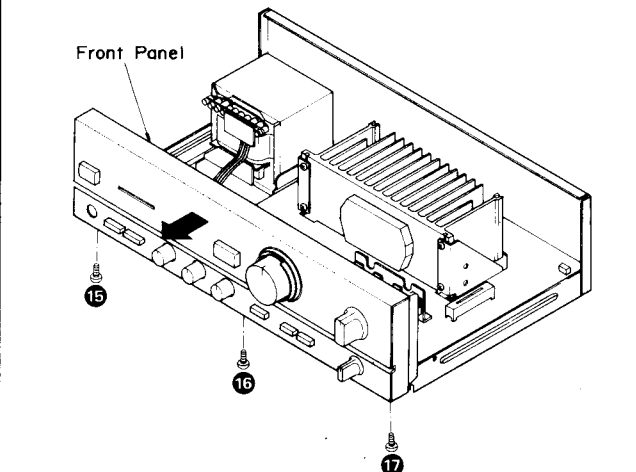
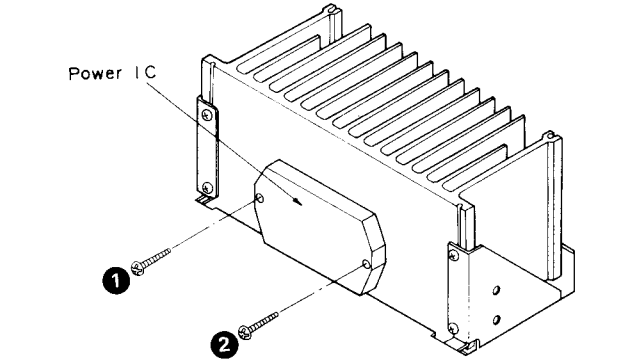
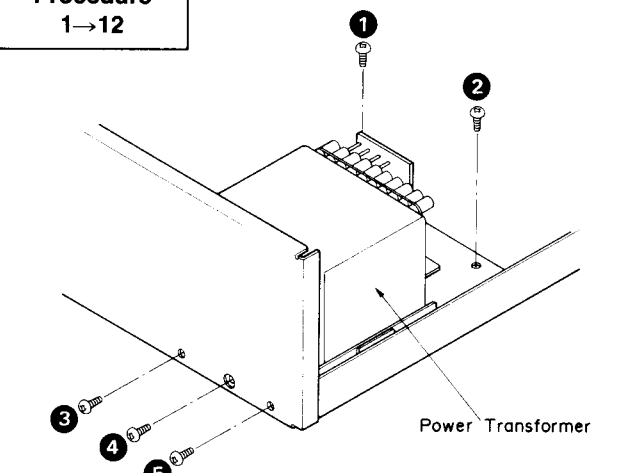
Ref. No. 1	Removal of the cabinet	Ref. No. 2	Removal of the front panel
Procedure 1	●Remove the 6 screws (1~6).	Procedure 1→2	1. Remove the 2 screws (1, 2). 2. Remove the shield plate (R). 3. Remove the 3 screws (3~5).
Ref. No. 3	Removal of the power switch P.C.B.		
Procedure 1→2→3	1. Remove the power switch button by pushing it from behind the front panel. 2. Remove the 2 screws (1, 2). 3. Release the 1 claw.		4. Remove the 2 connectors (CN101, CN102). 5. Remove the remote switch controller. 6. Remove the front panel in the direction of the arrow.
Ref. No. 4	Removal of the LED P.C.B. and headphones P.C.B.		
Procedure 1→2→4	Removal of the LED P.C.B. 1. Remove the 1 screw (1). 2. Release the 2 claws. Removal of the headphones P.C.B. 1. Remove the 2 screws (2, 3). 2. Release the 1 claw.		■ Removal of the remote switch controller ●Remove the 4 claws. ■ Replacing of the remote switch controller 1. Fully rotate the Recording Selector Control counterclockwise. 2. Push the Switch Slide in the direction of the arrow. Rec Selector Knob

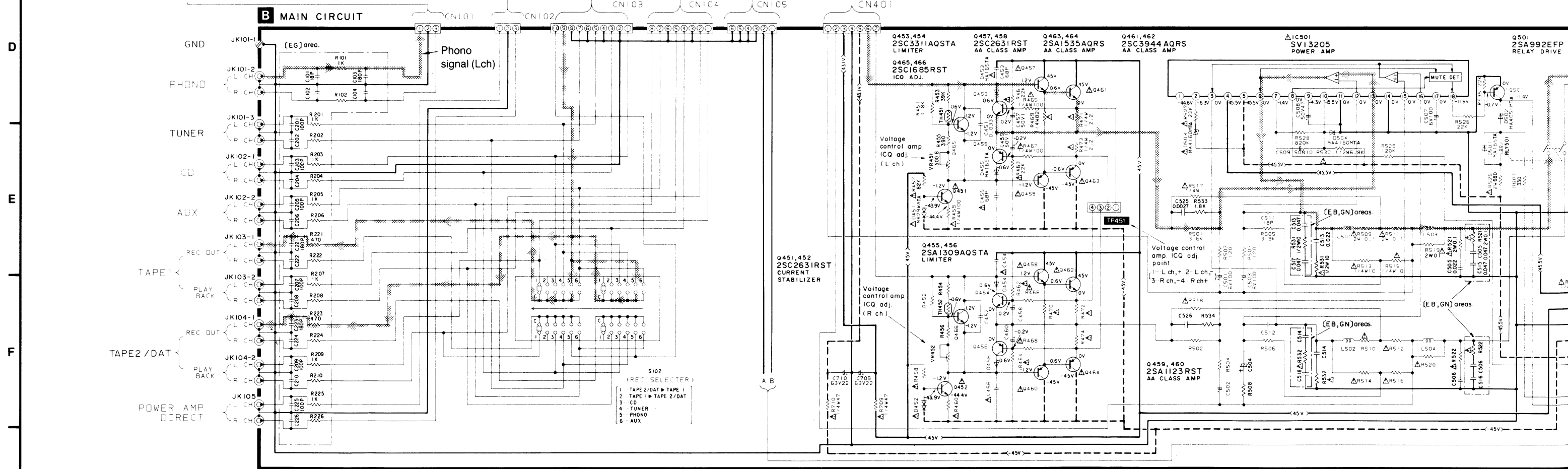
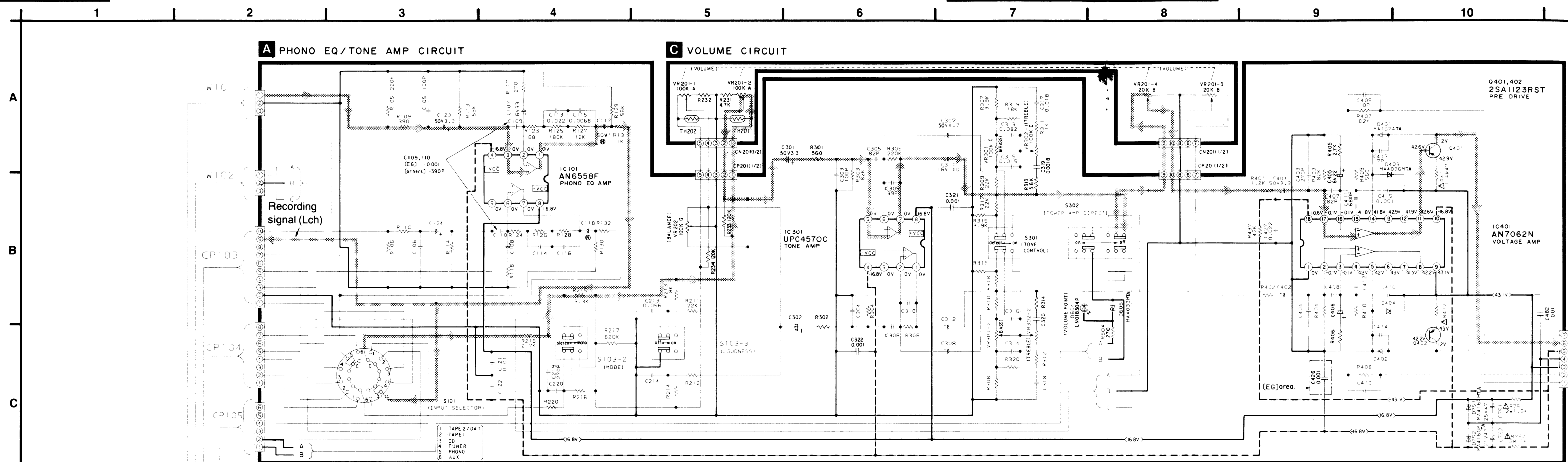
■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	Removal of the cabinet	Ref. No. 2	Removal of the front panel
Procedure 1	 ●Remove the 6 screws (1~6).	Procedure 1→2	 1. Remove the 2 screws (1, 2). 2. Remove the shield plate (R). 3. Remove the 3 screws (3~5).
Ref. No. 3	Removal of the power switch P.C.B.	 4. Remove the 2 connectors (CN101, CN102). 5. Remove the remote switch controller. 6. Remove the front panel in the direction of the arrow. ■ Removal of the remote switch controller ●Remove the 4 claws.  ■ Replacing of the remote switch controller 1. Fully rotate the Recording Selector Control counterclockwise. 2. Push the Switch Slide in the direction of the arrow.  Rec Selector Knob	
Procedure 1→2→3	 1. Remove the power switch button by pushing it from behind the front panel. 2. Remove the 2 screws (1, 2). 3. Release the 1 claw.		
Ref. No. 4	Removal of the LED P.C.B. and headphones P.C.B.		
Procedure 1→2→4	 Removal of the LED P.C.B. 1. Remove the 1 screw (1). 2. Release the 2 claws. Removal of the headphones P.C.B. 1. Remove the 2 screws (2, 3). 2. Release the 1 claw.		

Ref. No. 5	Removal of the volume P.C.B.	Ref. No. 6	Removal of the operation P.C.B.
Procedure 1→2→5	 1. Pull out the volume knob. 2. Remove the nut. 3. Release the 1 claw.	Procedure 1→2→5→6	 1. Pull out the 4 knobs (1~4). 2. Remove the 4 nuts (5~8).
Ref. No. 7	Removal of the remote switch controller	 3. Remove the 5 screws (9~13). ●Use a wrench of the dimensions shown in the illustration above to remove nuts. A: 11 mm B: 16 mm C: longer than 22 mm	
Procedure 1→2→7	 1. Pull out the rec selector knob. 2. Remove the nut. 3. Remove the remote switch controller in the direction of the arrow.		
Ref. No. 8	Removal of the shield plate (L) and shield plate (R)	Ref. No. 9	Removal of the AC IN P.C.B.
Procedure 1→8	 ●Remove the 4 screws (1~4).	Procedure 1→9	 ●Release the 2 claws.

Volume P.C.B.	Ref. No. 6	Removal of the operation P.C.B.
	Procedure 1→2→5→6	 1. Pull out the 4 knobs (1~4). 2. Remove the 4 nuts (5~8).  3. Remove the 5 screws (9~13). •Use a wrench of the dimensions shown in the illustration above to remove nuts. A: 11 mm B: 16 mm C: longer than 22 mm 
Remote switch		
Remote Switch Controller		
in the direction of the		
Shield plate (L) and	Ref. No. 9	Removal of the AC IN P.C.B.
	Procedure 1→9	 •Release the 2 claws.

Ref. No. 10	Checking of the main P.C.B.
Procedure 1→8→10	 1. Remove the 9 screws (1~9).  3. Remove the 3 screws (15~17). 4. Remove the front panel.
Ref. No. 11	Removal of the power IC
Procedure 1→8→10→11	1. Unsolder the power IC. 2. Remove the 2 screws (1, 2).  •When mounting the power IC, apply silicon thermal compound (SZZ0L15 or equivalent) to the rear of the power IC.
Ref. No. 12	Removal of the power transformer
Procedure 1→12	 •Remove the 5 screws (1~5).



- 9 -

SCHEMATIC DIAGRAM

(Parts list on page 18~21)

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- S1 : Power switch in "on" position.
- S2 : Voltage selector switch in "220 V" position. for (GC) area only.
- S101 : Input selector switch in "phono" position.
- S102 : Recording output selector switch in "tape 2/ DAT▶1" position.
- S103-2 : Mode selector switch in "stereo" position.
- S103-3 : Loudness switch in "off" position.
- S301 : Tone control switch in "defeat" position.
- S302 : Power amplifier direct switch in "off" position.
- S501-1 : Speaker (A) selector switch in "on" position.
- S501-2 : Speaker (B) selector switch in "off" position.

—○— : Positive voltage lines.

---○--- : Negative voltage lines.

⋯⋯ : Phono Signal (Lch)

⋯⋯ : Recording Signal

●Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

Important safety notice:

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

●Caution!

IC and LSI are sensitive to static electricity.

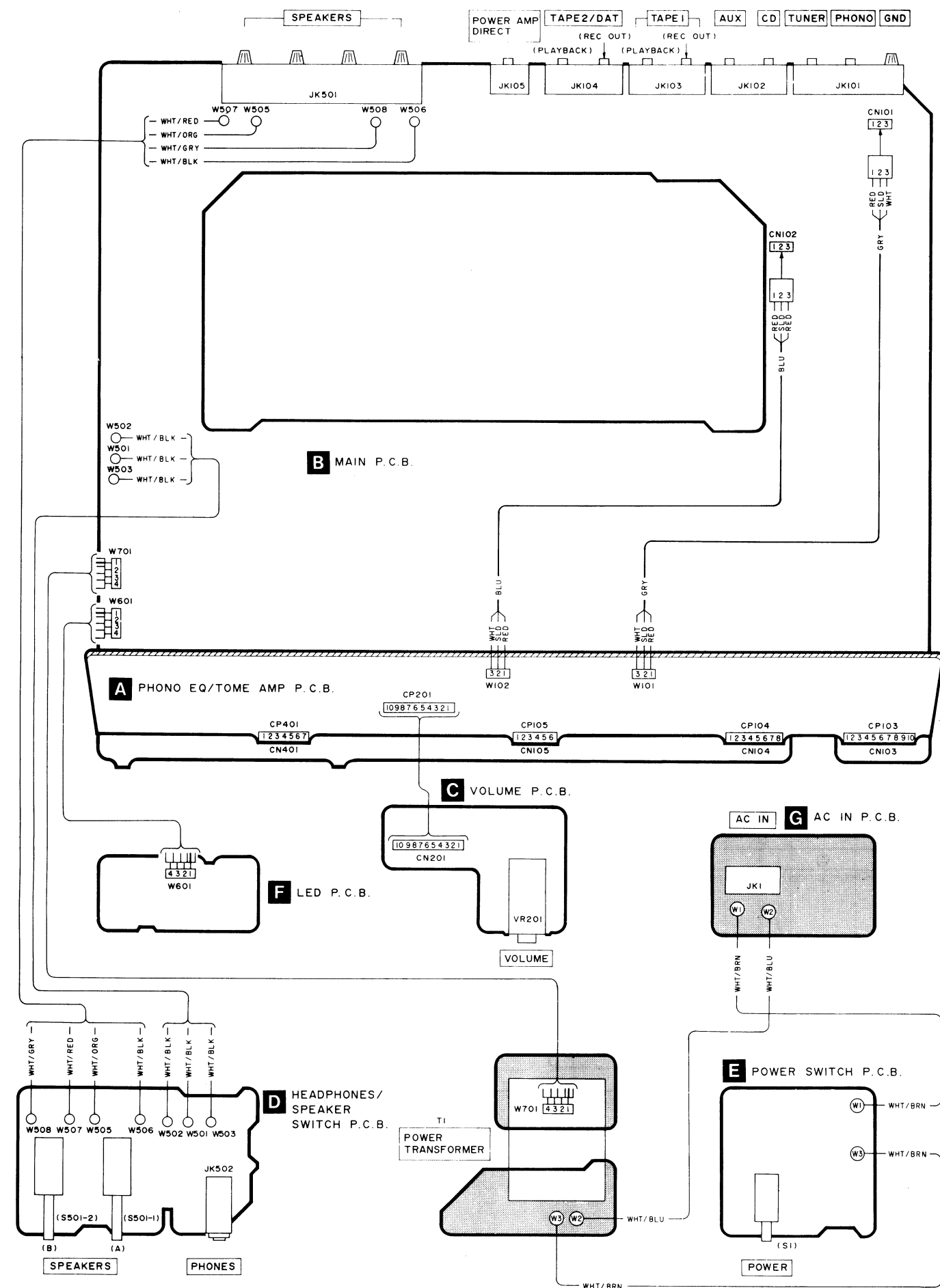
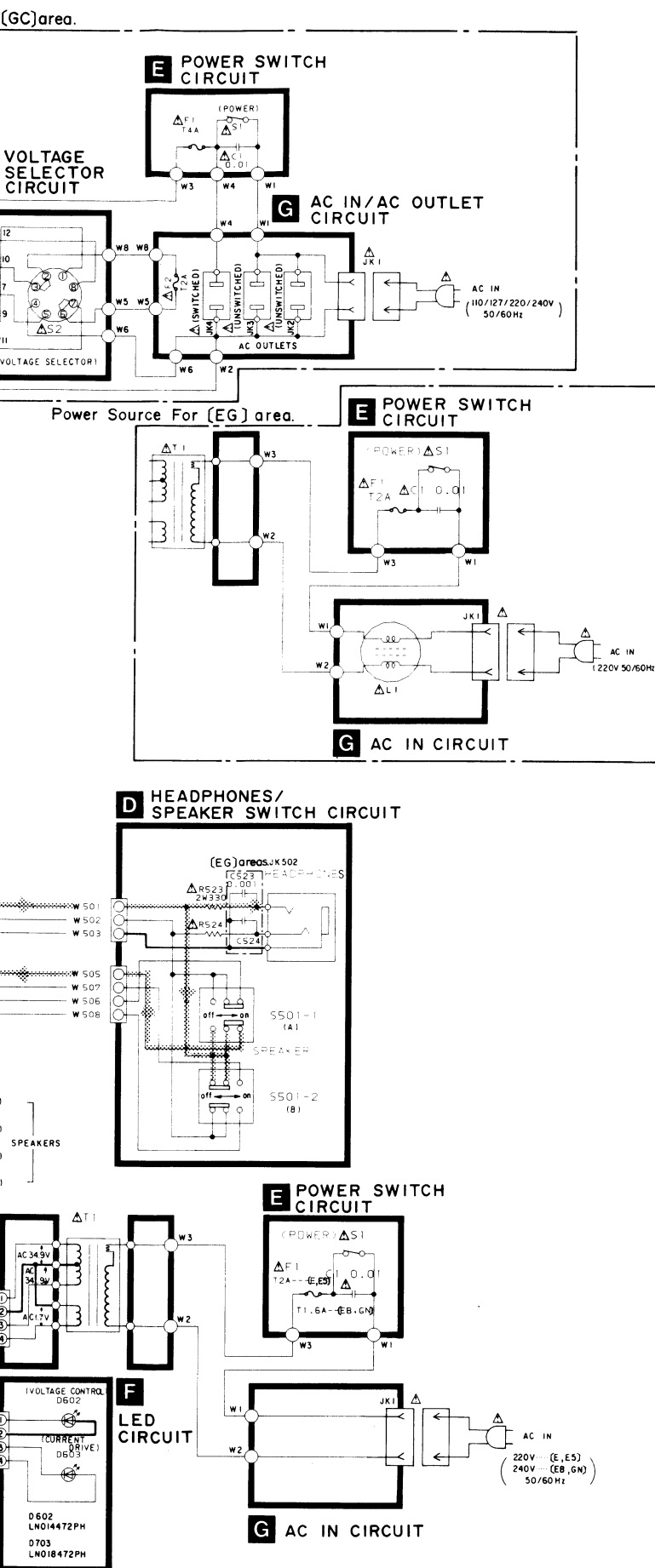
Secondary trouble can be prevented by taking care during repair.

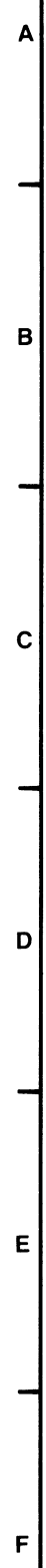
●Cover the parts boxes made of plastics with aluminum foil.

●Ground the soldering iron.

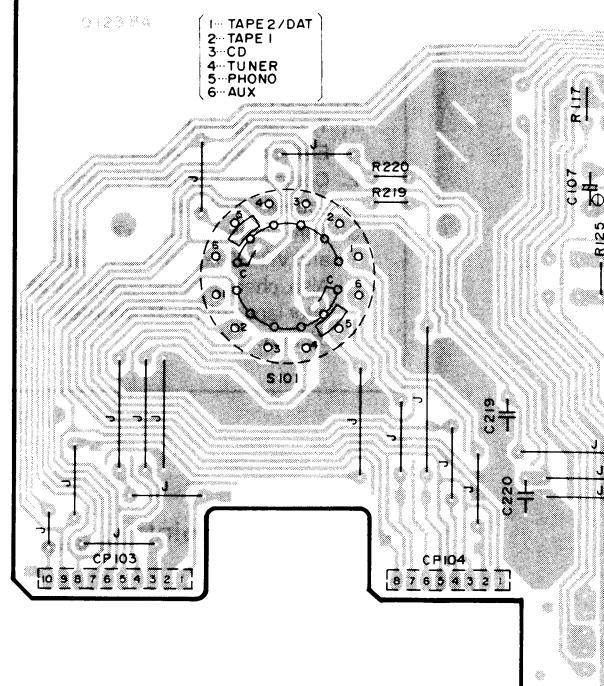
●Put a conductive mat on the work table.

●Do not touch the legs of IC or LSI with the fingers directly.

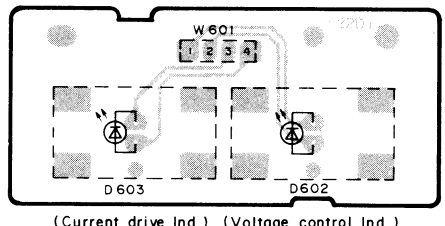




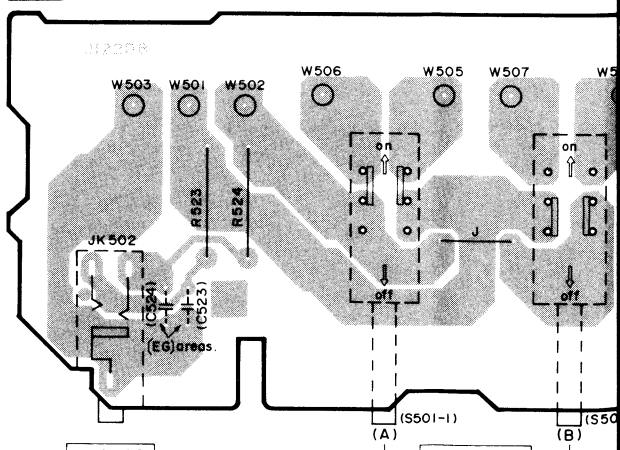
A PHONO EQ/TONE AMP P.C.B.

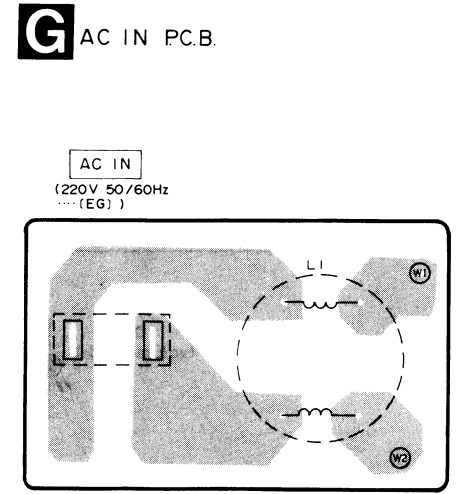
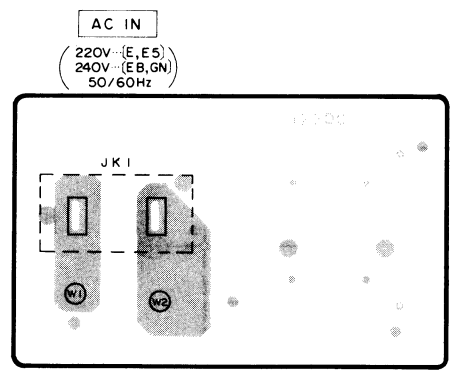
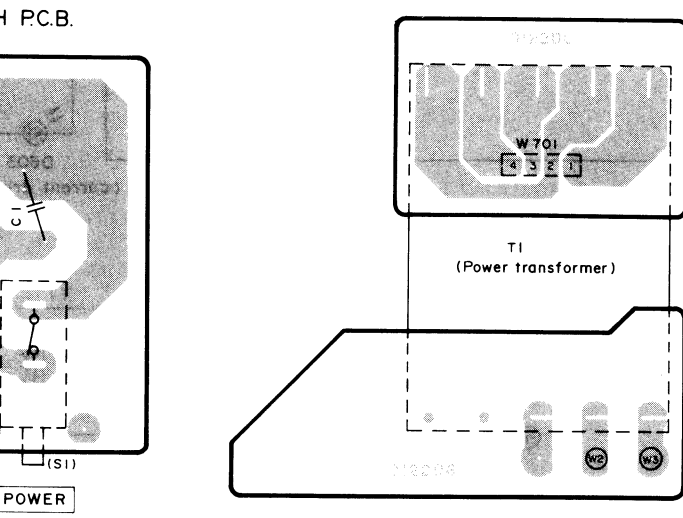
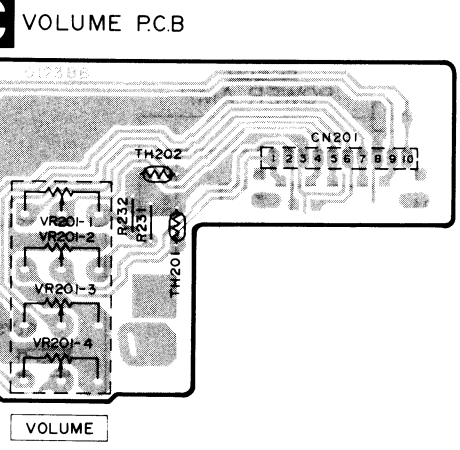
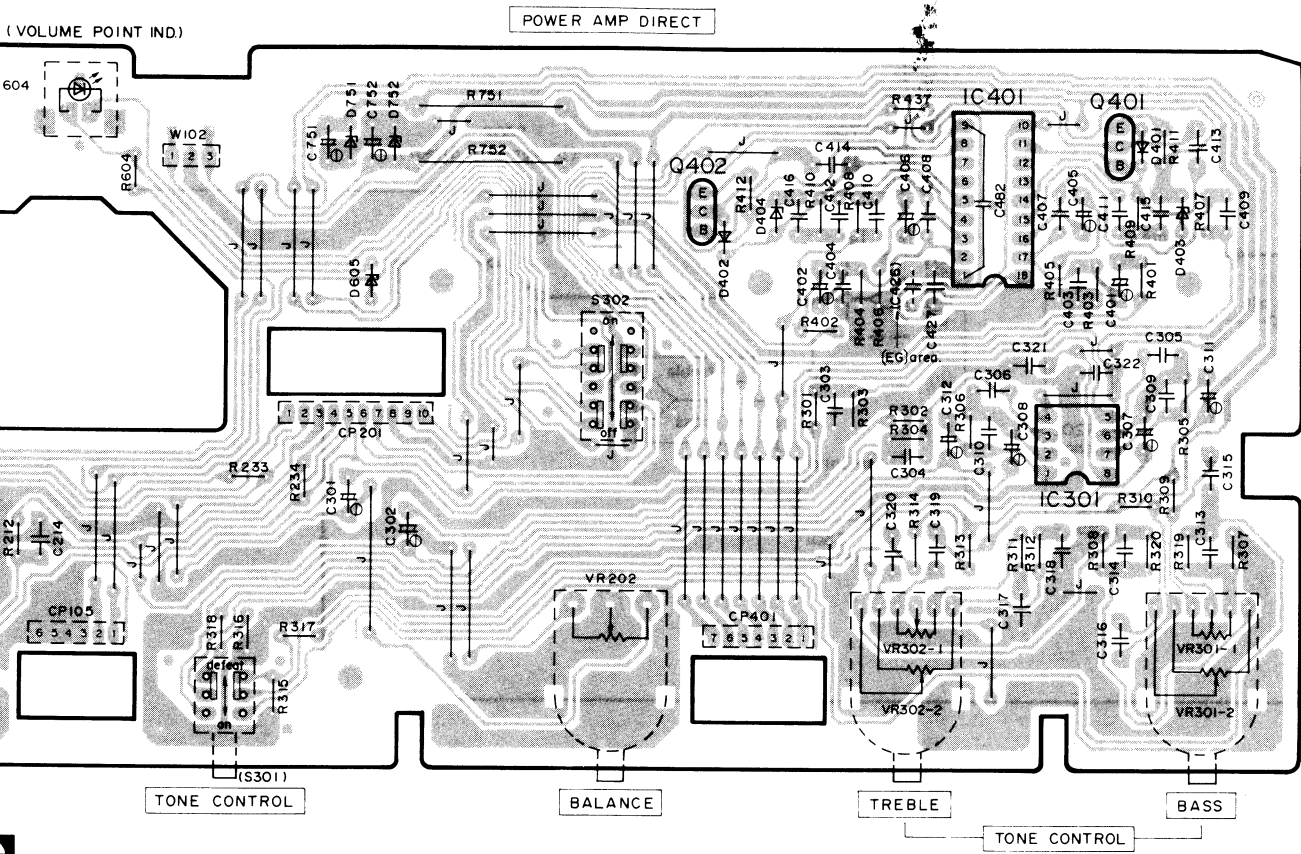


F LED P.C.B

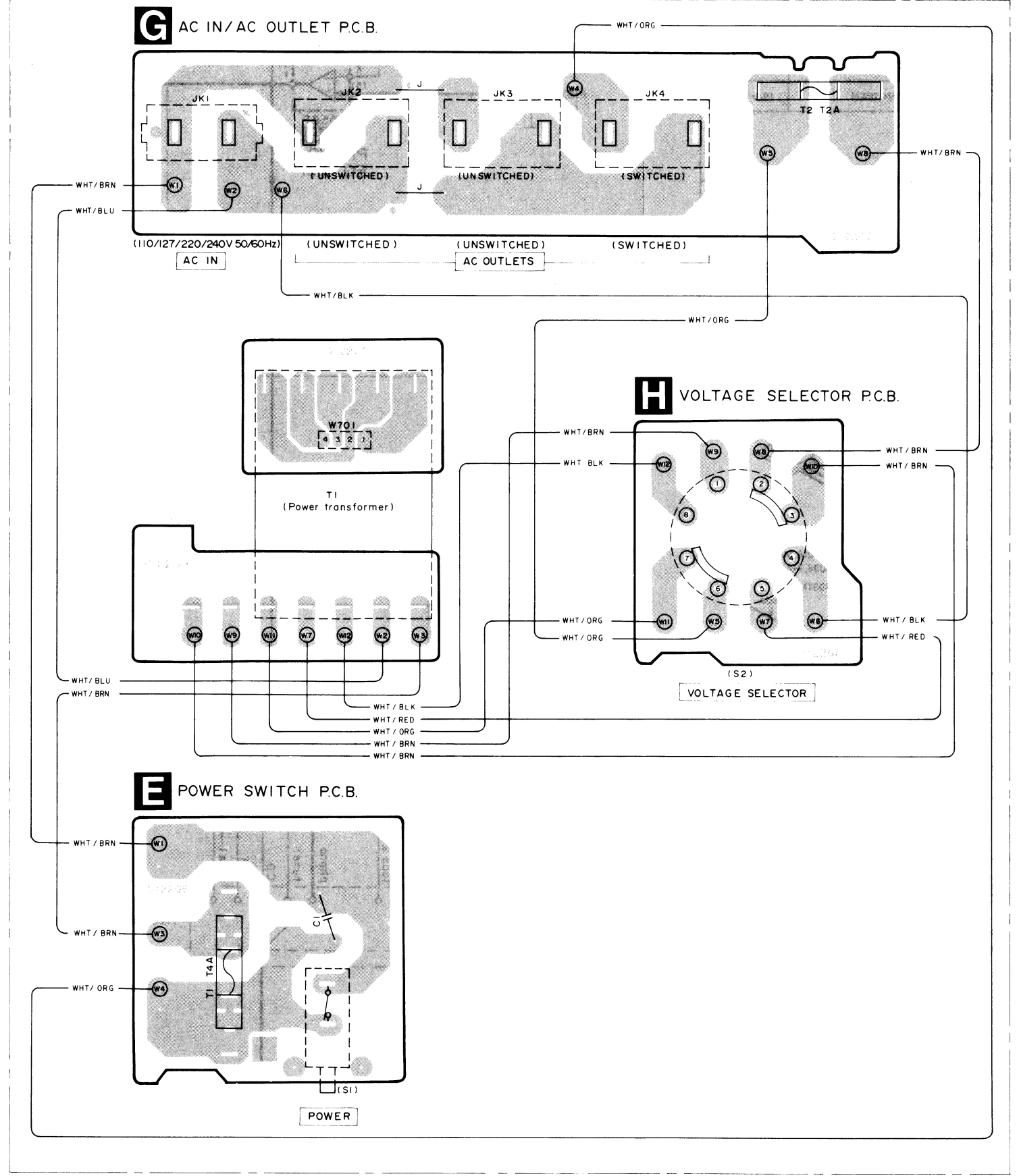


D HEADPHONES/SPEAKER SWITCH P.C.B.

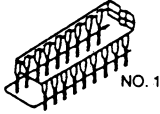




Power Source For (GC) area.

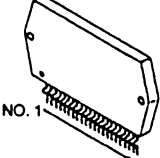


■ TERMINAL GUIDE OF IC'S,
TRANSISTORS AND DIODES

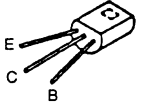


NO. 1

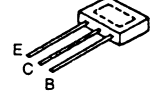
AN6558F	8 pin
UPC4570C	8 pin
AN7062N	18 pin



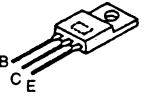
NO. 1



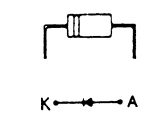
E
C
B



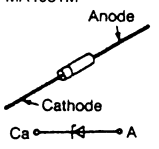
E
C
B



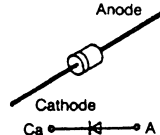
B
C
E



K → A



Anode
Cathode
Ca → A

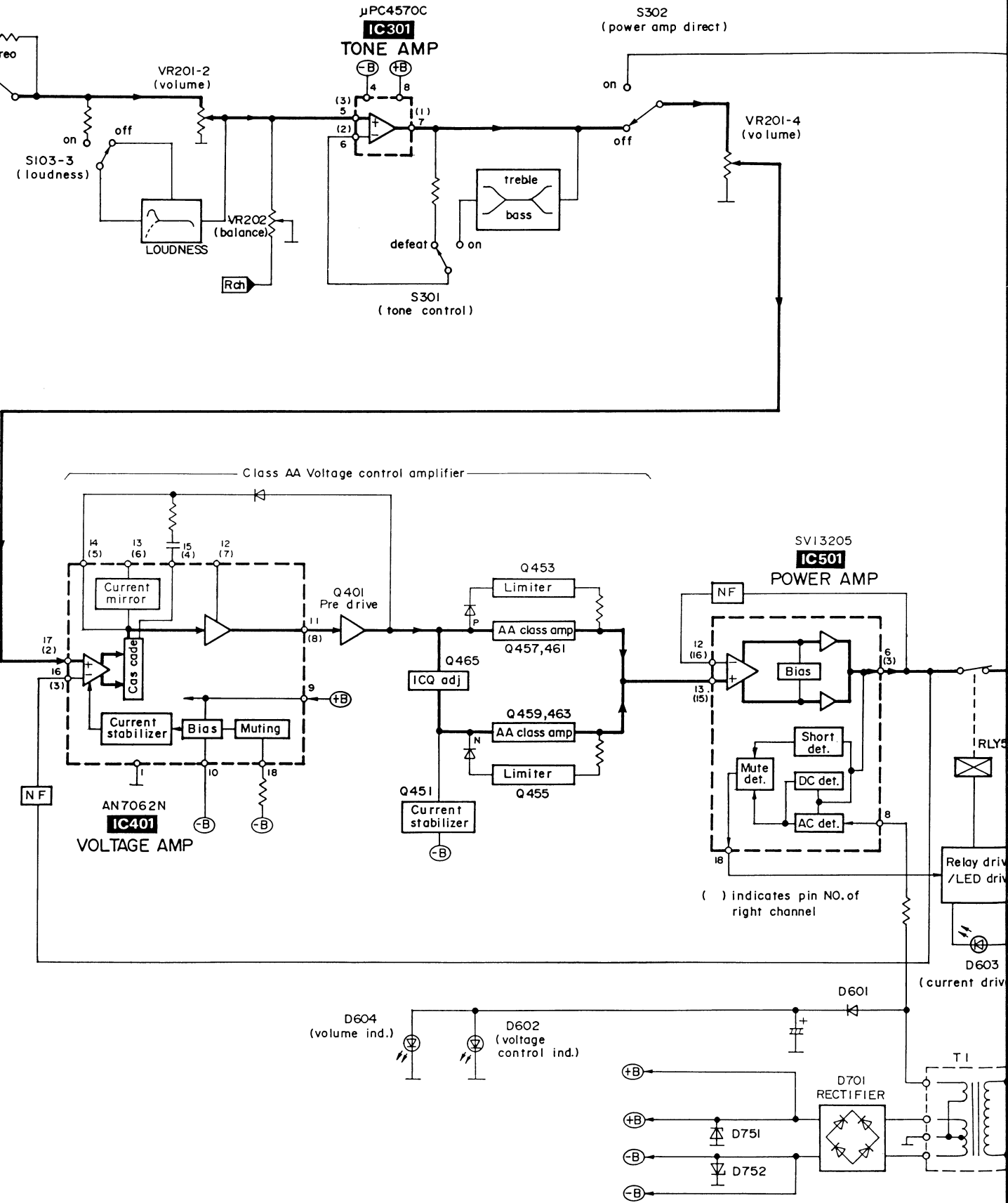
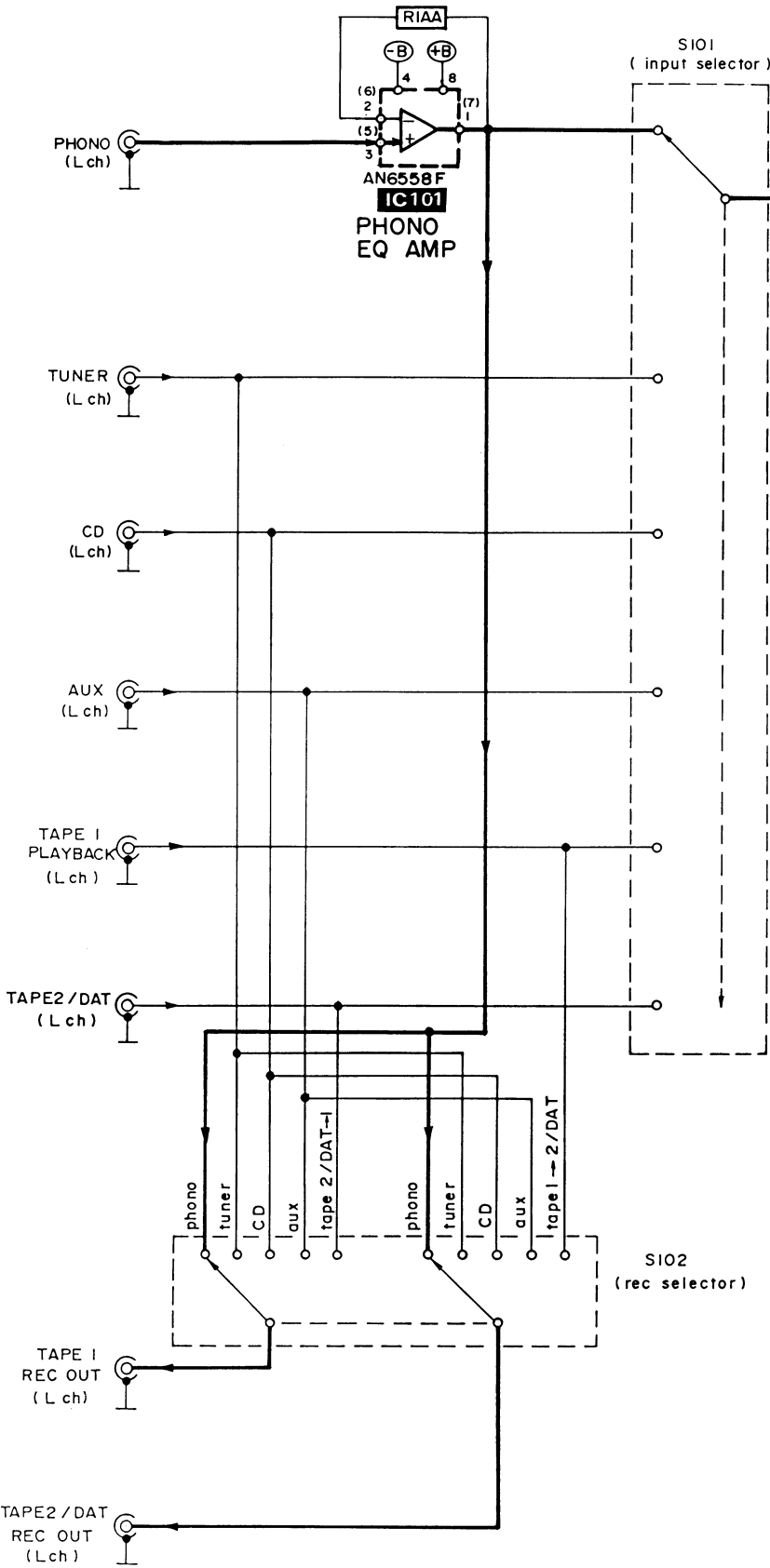


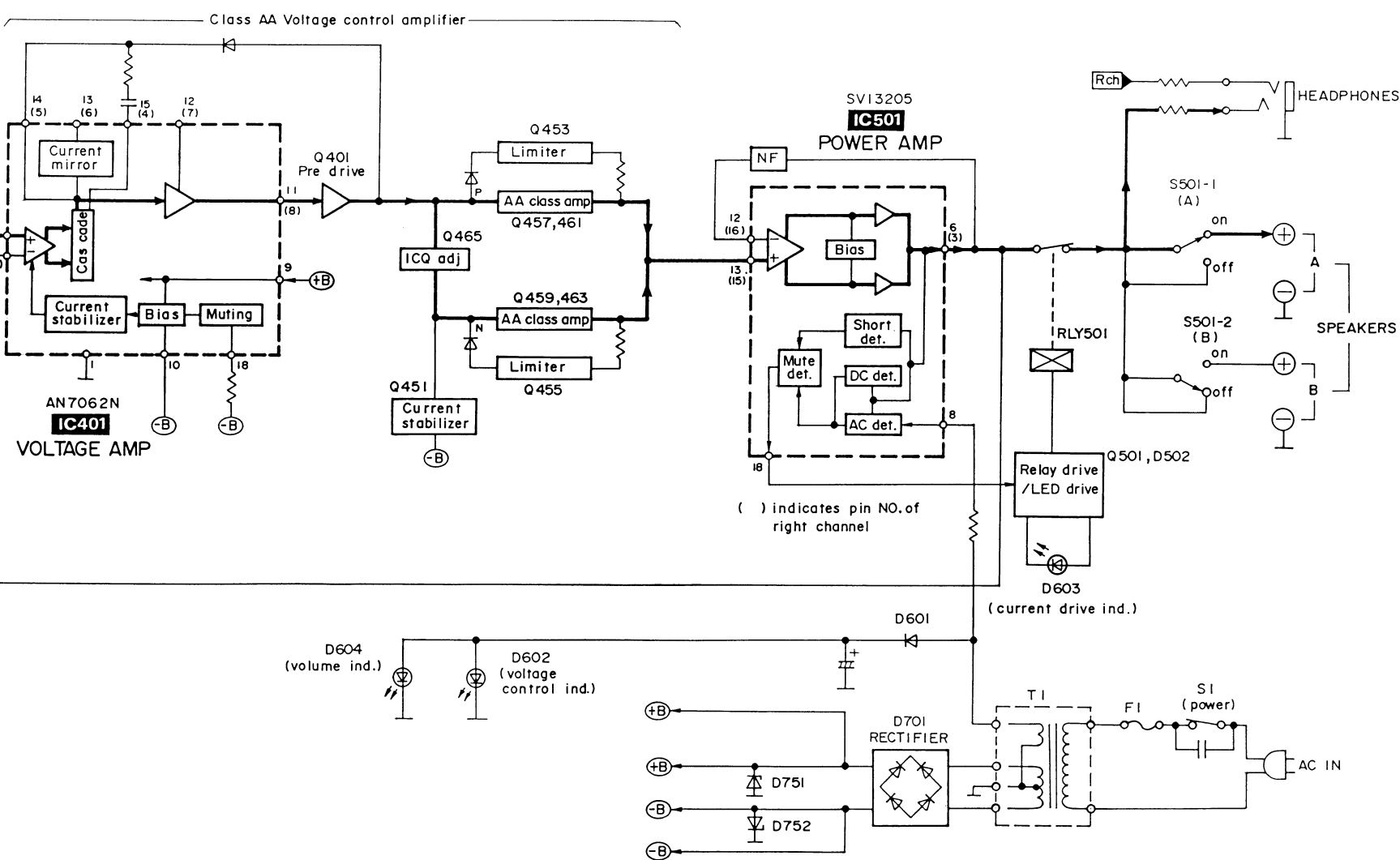
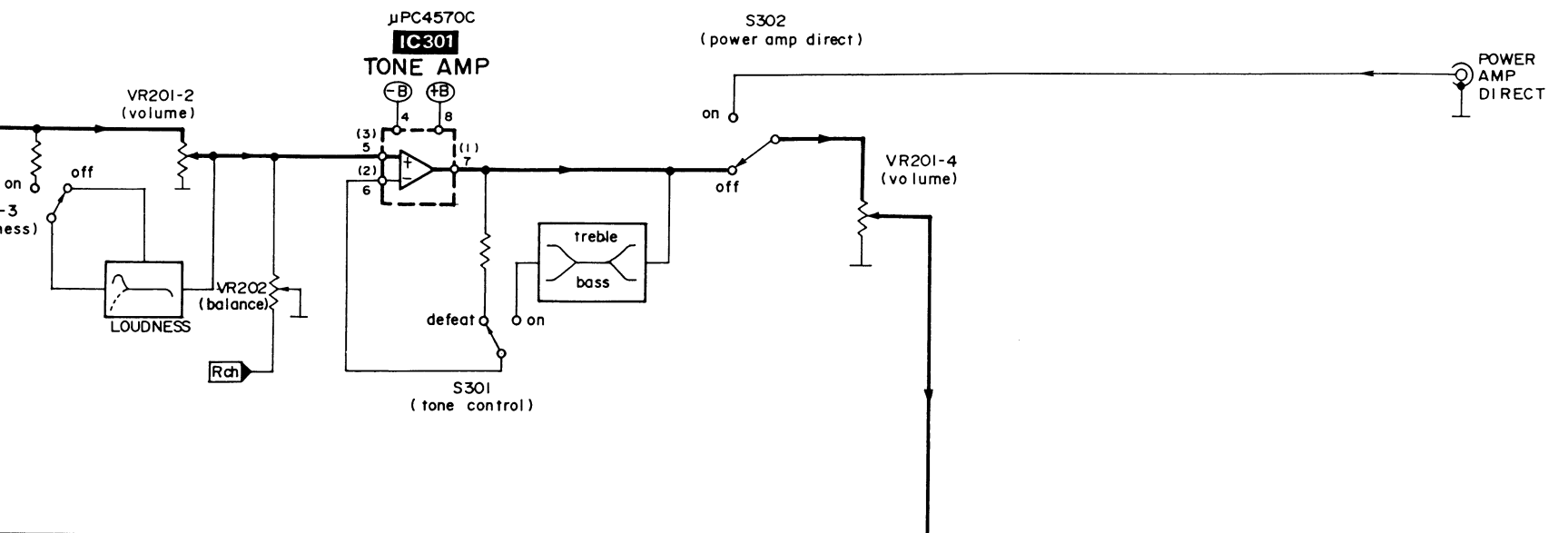
Cathode
Ca → A

MA167, MA165
MA29WA
1SR35200TB

Anode

■ BLOCK DIAGRAM





MEASUREMENTS AND ADJUSTMENTS

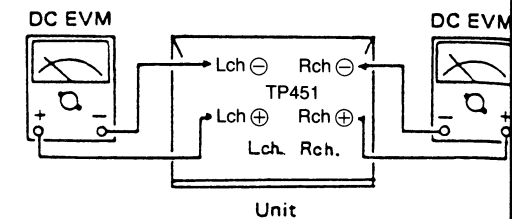
Control positions and equipment used.

- Volume knob ∞ (Minimum)
- Main speaker selector off

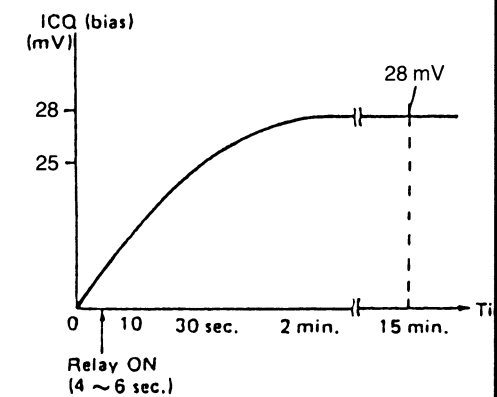
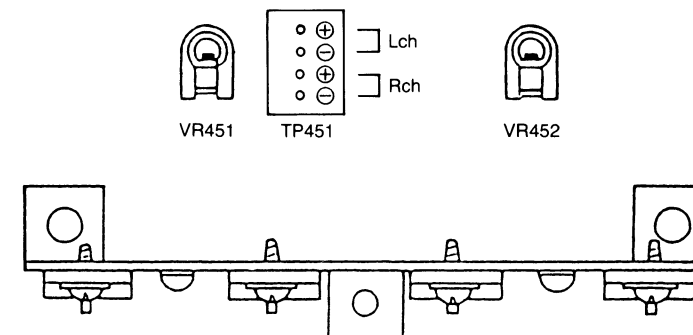
- Balance knob 0
- DC electronic voltmeter (EVM)

VOLTAGE CONTROL (V) AMP. IDLING (ICQ) ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM on both channels.)
 2. Completely turn the (V) amp. adjusting volumes (VR451, VR452) counter-clockwise.
 3. Turn ON the set when it is cold, and 15 sec. later, adjust VR451 and VR452 so that the voltage is 25 mV.
- Also, check that the voltage is 25~30 mV (standard: 28 mV) after lapse of 10~15 minutes. (Below 30 mV after lapse of 60 min.)



- Adjustment points Voltage control Amp.



MEASUREMENTS AND ADJUSTMENTS

Control positions and equipment used.

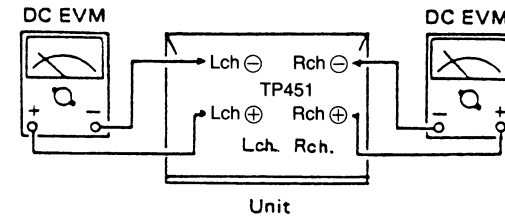
- Volume knob ∞ (Minimum)
- Main speaker selector off

- Balance knob 0
- DC electronic voltmeter (EVM)

VOLTAGE CONTROL (V) AMP. IDLING (ICQ)

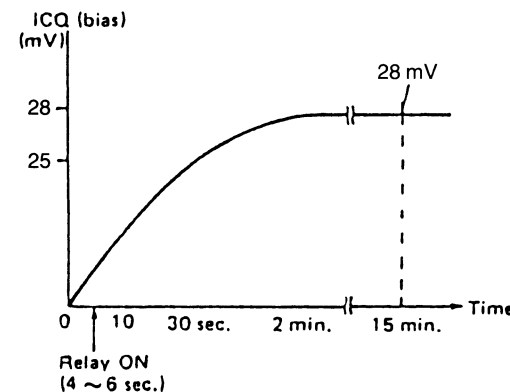
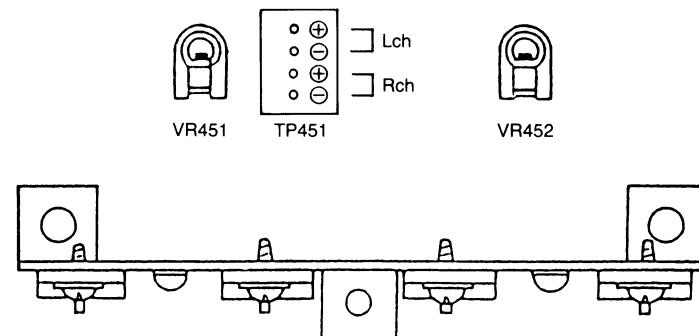
ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM on both channels.)
 2. Completely turn the (V) amp. adjusting volumes (VR451, VR452) counter-clockwise.
 3. Turn ON the set when it is cold, and 15 sec. later, adjust VR451 and VR452 so that the voltage is 25 mV.
- Also, check that the voltage is 25~30 mV (standard: 28 mV) after lapse of 10~15 minutes. (Below 30 mV after lapse of 60 min.)



• Adjustment points

Voltage control Amp.



REPLACEMENT PARTS LIST

Notes: *Important safety notice:

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

*The parenthesized indications in the Remarks columns specify the areas. (Refer to the first page for area.)

Parts without these indications can be used for all areas.

""K"" mark parts are used for black type only.

""S"" mark parts are used for silver type only.

Parts other than ""K"" and ""S"" marked are used for all color types.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS					
R101, 102	ERDS2TJ471T	C. RESISTOR 1/4W 1K	(EG)	R461~464	ERDS2TJ223T	C. RESISTOR 1/4W 22K	Δ
R105, 106	ERDS2TJ224T	C. RESISTOR 1/4W 220K		R465~468	ERD25FVJ101T	C. RESISTOR 1/4W 100	Δ
R109, 110	ERDS2TJ391T	C. RESISTOR 1/4W 390		R469, 470	ERD25FVJ821T	C. RESISTOR 1/4W 820	Δ
R113, 114	ERDS2TJ563T	C. RESISTOR 1/4W 56K		R471~474	ERD25FVJ2R2T	C. RESISTOR 1/4W 2.2	Δ
R117, 118	ERDS2TJ271T	C. RESISTOR 1/4W 270		R501, 502	ERDS2TJ362T	C. RESISTOR 1/4W 3.6K	
R123, 124	ERDS2TJ680T	C. RESISTOR 1/4W 68		R503, 504	ERDS2TJ121T	C. RESISTOR 1/4W 120	
R125, 126	ERDS2TJ184T	C. RESISTOR 1/4W 180K		R505, 506	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R127, 128	ERDS2TJ123T	C. RESISTOR 1/4W 12K		R507, 508	ERDS2TJ121T	C. RESISTOR 1/4W 120	
R129, 130	ERDS2TJ563T	C. RESISTOR 1/4W 56K		R509~512	RREEMKR10SC	C. RESISTOR 2W 0.1	Δ
R131, 132	ERDS2TJ102T	C. RESISTOR 1/4W 1K	(EG)	R513~516	ERD25FVJ100T	C. RESISTOR 1/4W 10	Δ
R201~210	ERDS2TJ102T	C. RESISTOR 1/4W 1K	(EG)	R517, 518	ERD25FVJ1R0T	C. RESISTOR 1/4W 1.0	Δ
R211, 212	ERDAS3G223T	C. RESISTOR 1/4W 1K		R519, 520	RREEMKR10SC	C. RESISTOR 2W 0.1	Δ
R213, 214	ERDS2TJ183T	C. RESISTOR 1/4W 18K		R521, 522	RREEMKR10SC	C. RESISTOR 2W 0.1	Δ
R215, 216	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K		R523, 524	ERG2SJ331H	M. RESISTOR 2W 330	Δ
R217	ERDS2TJ824T	C. RESISTOR 1/4W 820K		R525	ERG2SJ681H	M. RESISTOR 2W 680	Δ
R219, 220	ERDAS3G272T	C. RESISTOR 1/4W 2.7K		R526	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R221~224	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)	R527	ERDS2TJ223T	C. RESISTOR 1/4W 22K	Δ
R225, 226	ERDS2TJ102T	C. RESISTOR 1/4W 1K	(EG)	R528	ERDS2TJ824T	C. RESISTOR 1/4W 820K	
R231, 232	ERDAS3G472T	C. RESISTOR 1/4W 4.7K		R529	ERDS2TJ124T	C. RESISTOR 1/4W 120K	
R233, 234	ERDAS3G124T	C. RESISTOR 1/4W 120K		R530	ERDS1FVJ682T	C. RESISTOR 1/2W 6.8K	Δ
R301, 302	ERDAS3G561T	C. RESISTOR 1/4W 560		R531, 532	ERDS1FVJ100T	C. RESISTOR 1/2W 10	Δ
R303, 304	ERDS2TJ823T	C. RESISTOR 1/4W 82K		R533, 534	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R305, 306	ERDS2TJ224T	C. RESISTOR 1/4W 220K		R535	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R307, 308	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K		R601	ERDS1FVJ120T	C. RESISTOR 1/2W 12	Δ
R309, 310	ERDS2TJ223T	C. RESISTOR 1/4W 22K		R602	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R311, 312	ERDS2TJ102T	C. RESISTOR 1/4W 1K		R603	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R313, 314	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K		R604	ERDS2TJ271T	C. RESISTOR 1/4W 270	
R315, 316	ERDAS3G392T	C. RESISTOR 1/4W 3.9K		R707, 708	ERD25FVJ6R8T	C. RESISTOR 1/4W 6.8	Δ
R317, 318	ERDAS3G223T	C. RESISTOR 1/4W 22K		R709, 710	ERD25FVJ470T	C. RESISTOR 1/4W 47	Δ
R319, 320	ERDS2TJ183T	C. RESISTOR 1/4W 18K		R751, 752	ERG2ANJP152S	M. RESISTOR 2W 1.5K	Δ
R401, 402	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K				CAPACITORS	
R403, 404	ERDS2TJ823T	C. RESISTOR 1/4W 82K		C1	ECKWNS103ZVS	C. CAPACITOR 250V 0.01U	Δ
R405, 406	ERDAS3G272T	C. RESISTOR 1/4W 2.7K		C101, 102	RCBS1H180JLY	C. CAPACITOR 50V 18P	(EG)
R407, 408	ERDAS3G823T	C. RESISTOR 1/4W 82K		C103, 104	RCBS1H181KBY	C. CAPACITOR 50V 180P	(EG)
R409, 410	ERDS2TJ561T	C. RESISTOR 1/4W 560		C105, 106	RCBS1H101KBY	C. CAPACITOR 50V 100P	
R411, 412	ERD25FVJ470T	C. RESISTOR 1/4W 47	Δ	C107, 108	ECEADJK330B	E. CAPACITOR 6.3V 33U	
R437	ERDS2TJ473T	C. RESISTOR 1/4W 47K		C109, 110	RCBS1H391KBY	C. CAPACITOR 50V 390P	(E, E5, EB, GN, GC)
R451, 452	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K		C109, 110	ECBT1H102KBS	C. CAPACITOR 50V 0.001U	(EG)
R453, 454	ERDS2TJ393T	C. RESISTOR 1/4W 39K		C113, 114	ECQM1H223KV3	P. CAPACITOR 50V 0.022U	
R455, 456	ERDS2TJ391T	C. RESISTOR 1/4W 390		C115, 116	ECQM1H682KV3	P. CAPACITOR 50V 6800P	
R457, 458	ERDS2TJ823T	C. RESISTOR 1/4W 82K	Δ	C117, 118	UES1H010M1TA	E. CAPACITOR 50V 1U	
R459, 460	ERD25FVJ101T	C. RESISTOR 1/4W 100	Δ	C121, 122	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
				C123, 124	ECEA1HPX3R3B	E. CAPACITOR 50V 3.3U	

[illegible]

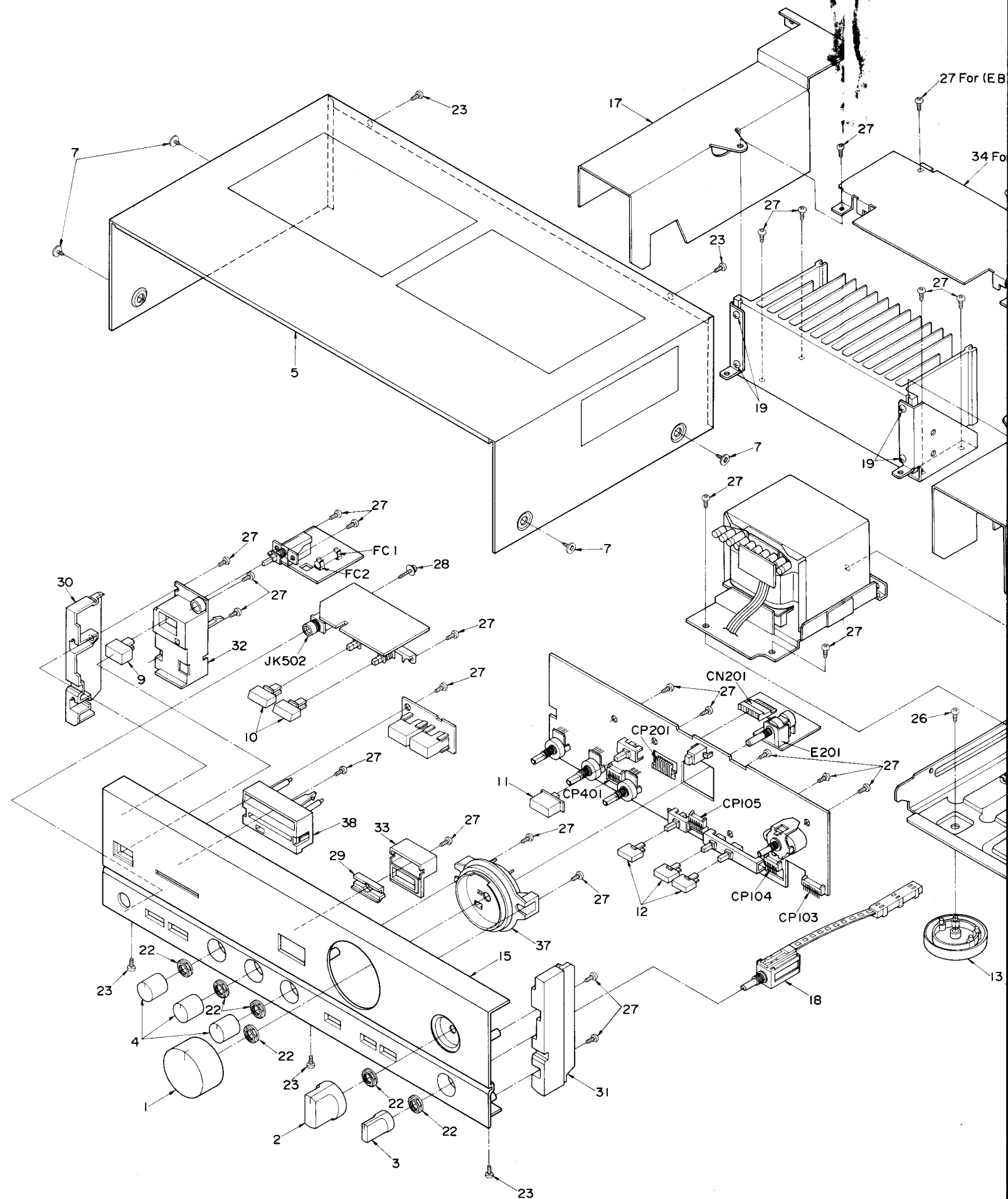
Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS				COILS	
IC101	AN6558F	IC, PHONO EQ AMP.		L1	SLQZ650MH49	COIL	△ (EG)
IC301	UPC4570C	IC, TONE AMP.		L501~504	SLQY18G-10	COIL	
IC401	AN7062N	IC, V AMP.				TRANSFORMERS	
IC501	SV13205	IC, POWER AMP.	△				
		TRANSISTORS		T1	RTP1N5E001-W	POWER TRANSFORMER	△ (E, E5, EG)
				T1	RTP1N5B002-W	POWER TRANSFORMER	△ (EB, GN, GC)
Q401, 402	2SA1123RST	TRANSISTOR				FUSES	
Q451, 452	2SC2631RST	TRANSISTOR	△				
Q453, 454	2SC3311AQSTA	TRANSISTOR					
Q455, 456	2SA1309AQSTA	TRANSISTOR		F1	XBA2C20TB0	FUSE 250V T2.0A	△ (E, E5, EG)
Q457, 458	2SC2631RST	TRANSISTOR	△	F1	XBA2C16TB0	FUSE 250V T1.6A	△ (EB, GN)
Q459, 460	2SA1123RST	TRANSISTOR	△	F1	XBA2C40TB0	FUSE 250V T4.0A	△ (GC)
Q461, 462	2SC3944AQRS	TRANSISTOR	△	F2	XBA2C20TB0	FUSE 250V T2.0A	△ (GC)
Q463, 464	2SA1535AQRS	TRANSISTOR	△			SWITCHES	
Q465, 466	2SC1685RST	TRANSISTOR					
Q501	2SA992EFP	TRANSISTOR		S1	ESB8249V	POWER	△
		DIODES		S2	ESE37263	VOLTAGE SELECTOR	△ (GC)
				S101	RSR6B001	INPUT SELECTOR	
D401, 402	MA167ATA	DIODE		S102	RSS6D001	REC SELECTOR	
D403, 404	MA4036MTA	DIODE		S103	ESB68108	MODE/LOUDNESS	
D451, 452	MA29WATA	DIODE	△	S301	ESB68107	TONE CONTROL	
D453~456	MA165TA	DIODE		S302	ESB68109	POWER AMP DIRECT	
D501	MA165TA	DIODE		S501	RSP2002	SPEAKER SELECTOR	
D502	MA4051MTA	DIODE				JACKS	
D503	MA4160MTA	DIODE	△				
D504	MA4160MTA	DIODE		CN101, 102	SJT3319	CONNECTOR (3P)	
D601	1SR35200TB	DIODE	△	CN103	SJS51080WL	SOCKET (10P)	
D602	LN014472PH	DIODE		CN104	SJS50880WL	SOCKET (8P)	
D603	LN018472PH	DIODE		CN105	SJS50680WL	SOCKET (6P)	
D604	LN018304P	DIODE		CN201	SJS51080WL	SOCKET (10P)	
D605	MA4033MTA	DIODE		CN401	SJS50780WL	SOCKET (7P)	
D701~704	P300DLF	DIODE	△	CP103	SJT31047WL	CONNECTOR (10P)	
D751, 752	MA4160MTA	DIODE		CP104	SJT30847WL	CONNECTOR (8P)	
		VARIABLE RESISTORS		CP105	SJT30647WL	CONNECTOR (6P)	
				CP201	SJT31047WL	CONNECTOR (10P)	
VR201	RRV16J01A	V. R, VOLUME CONTROL		CP401	SJT30747WL	CONNECTOR (7P)	
VR202	EWHFDA014G15	V. R, BALANCE		JK1	SJS9231-1B	AC INLET	△ (E, E5, EG, EB, GC)
VR301	EW2XA000C15	V. R, BASS		JK1	SJS9234B	AC INLET	△ (GN)
VR302	EW2XA000C15	V. R, TREBLE		JK2~4	SJS9233B	AC OUTLET	△ (GC)
VR451	EVNDXAA00B52	V. R, ICQ ADJ. (Lch)		JK101	SJF3067NJ	TERMINAL, PHONO/TUNER	
VR452	EVNDXAA00B52	V. R, ICQ ADJ. (Rch)		JK102~104	SJF3069N	TERMINAL, CD/AUX/TAPE1/TAPE2	
		THERMISTOR		JK105	SJF3068NJ	TERMINAL, POWER AMP DIRECT	
				JK501	SJF4819	TERMINAL, SPEAKER	
TH201, 202	ERTD22HL104T	THERMISTOR		JK502	SJJD19	HEADPHONES JACK	
TH451, 452	ERTD22HL104T	THERMISTOR					

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS				COILS	
IC101	AN6558F	IC, PHONO EQ AMP.		L1	SLQZ650MH49	COIL	△ (EG)
IC301	UPC4570C	IC, TONE AMP.		L501~504	SLQY18G-10	COIL	
IC401	AN7062N	IC, V AMP.				TRANSFORMERS	
IC501	SVI3205	IC, POWER AMP.	△				
		TRANSISTORS		T1	RTP1N5E001-W	POWER TRANSFORMER	△ (E, E5, EG)
				T1	RTP1N5B002-W	POWER TRANSFORMER	△ (EB, GN, GC)
Q401, 402	2SA1123RST	TRANSISTOR				FUSES	
Q451, 452	2SC2631RST	TRANSISTOR	△				
Q453, 454	2SC3311AQSTA	TRANSISTOR		F1	XBA2C20TB0	FUSE 250V T2. 0A	△ (E, E5, EG)
Q455, 456	2SA1309AQSTA	TRANSISTOR		F1	XBA2C16TB0	FUSE 250V T1. 6A	△ (EB, GN)
Q457, 458	2SC2631RST	TRANSISTOR	△	F1	XBA2C40TB0	FUSE 250V T4. 0A	△ (GC)
Q459, 460	2SA1123RST	TRANSISTOR	△	F2	XBA2C20TB0	FUSE 250V T2. 0A	△ (GC)
Q461, 462	2SC3944AQRS	TRANSISTOR	△			SWITCHES	
Q463, 464	2SA1535AQRS	TRANSISTOR	△				
Q465, 466	2SC1685RST	TRANSISTOR		S1	ESB8249V	POWER	△
Q501	2SA992EFP	TRANSISTOR		S2	ESE37263	VOLTAGE SELECTOR	△ (GC)
		DIODES		S101	RSR6B001	INPUT SELECTOR	
D401, 402	MA167ATA	DIODE		S102	RSS6D001	REC SELECTOR	
D403, 404	MA4036MTA	DIODE		S103	ESB68108	MODE/LOUDNESS	
D451, 452	MA29WATA	DIODE	△	S301	ESB68107	TONE CONTROL	
D453~456	MA165TA	DIODE		S302	ESB68109	POWER AMP DIRECT	
D501	MA165TA	DIODE		S501	RSP2002	SPEAKER SELECTOR	
D502	MA4051MTA	DIODE				JACKS	
D503	MA4160MTA	DIODE	△	CN101, 102	SJT3319	CONNECTOR (3P)	
D504	MA4160MTA	DIODE		CN103	SJS51080WL	SOCKET (10P)	
D601	1SR35200TB	DIODE	△	CN104	SJS50880WL	SOCKET (8P)	
D602	LN014472PH	DIODE		CN105	SJS50680WL	SOCKET (6P)	
D603	LN018472PH	DIODE		CN201	SJS51080WL	SOCKET (10P)	
D604	LN018304P	DIODE		CN401	SJS50780WL	SOCKET (7P)	
D605	MA4033MTA	DIODE		CP103	SJT31047WL	CONNECTOR (10P)	
D701~704	P300DLF	DIODE	△	CP104	SJT30847WL	CONNECTOR (8P)	
D751, 752	MA4160MTA	DIODE		CP105	SJT30647WL	CONNECTOR (6P)	
		VARIABLE RESISTORS		CP201	SJT31047WL	CONNECTOR (10P)	
VR201	RRV16J01A	V. R, VOLUME CONTROL		CP401	SJT30747WL	CONNECTOR (7P)	
VR202	EWHFDA014G15	V. R, BALANCE		JK1	SJS9231-1B	AC INLET	△ (E, E5, EG, EB, GC)
VR301	EW2XA000C15	V. R, BASS		JK1	SJS9234B	AC INLET	△ (GN)
VR302	EW2XA000C15	V. R, TREBLE		JK2~4	SJS9233B	AC OUTLET	△ (GC)
VR451	EVNDXAA00B52	V. R, ICQ ADJ. (Lch)		JK101	SJF3067NJ	TERMINAL, PHONO/TUNER	
VR452	EVNDXAA00B52	V. R, ICQ ADJ. (Rch)		JK102~104	SJF3069N	TERMINAL, CD/AUX/TAPE1/TAPE2	
		THERMISTOR		JK105	SJF3068NJ	TERMINAL, POWER AMP DIRECT	
TH201, 202	ERTD22HL104T	THERMISTOR		JK501	SJF4819	TERMINAL, SPEAKER	
TH451, 452	ERTD22HL104T	THERMISTOR		JK502	SJJD19	HEADPHONES JACK	

[illegible]

■ EXPLODED VIEW

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS					
1	RGW0025-K	VOLUME KNOB	K	31	RGK0099-S	SIDE ORNAMENT (R)	S
1	RGW0025-S	VOLUME KNOB	S	32	RMR0136-K	HOLDER	K
2	RGW0026-K	INPUT SELECT KNOB	K	32	RMR0136-S	HOLDER	S
2	RGW0026-S	INPUT SELECT KNOB	S	33	RMR0137-K	HOLDER	K
3	RGW0027-K	REC SELECT KNOB	K	33	RMR0137-S	HOLDER	S
3	RGW0027-S	REC SELECT KNOB	S	34	RMQ0069	HEAT SINK COVER	(EB)
4	RGW0028-K	TONE KNOB	K	35	SHR415	LATCH	
4	RGW0028-S	TONE KNOB	S	36	XTW3+8T	SCREW	
5	RGK0036A-K	CABINET	K	37	RGK0154-K	VOLUME ORNAMENT	K
5	RGK0036A-S	CABINET	S	37	RGK0155-S	VOLUME ORNAMENT	S
6	SJPA11-1	SHORTING PIN		38	RGK0156-K	INDICATOR ORNAMENT	K
7	SNE2129-1	SCREW	K	38	RGK0157-S	INDICATOR ORNAMENT	S
7	SNE2129	SCREW	S	39	SJS9233A	AC OUTLET COVER	(GC)
8	RGR0019A-A	REAR PANEL	(E)	40	XYN3+C6FZ	SCREW	(GC)
8	RGR0050	REAR PANEL	(E5)	41	SHR301	CLAMPER	
8	RGR0019A-C	REAR PANEL	(EB)			PACKING MATERIAL	
8	RGR0019A-B	REAR PANEL	(EG)	P1	RPQ0168	CARTON BOX	K
8	RGR0019B-A	REAR PANEL	(GC)	P1	RPQ0166	CARTON BOX	S
8	RGR0019A-D	REAR PANEL	(GN)	P2	SPS5185	PAD	
9	RGU0030	POWER BUTTON	K	P3	SPS5255-1	PAD	
9	RGU0030-S	POWER BUTTON	S	P4	SPS5256-1	PAD	
10	RGU0118-K	SPEAKER BUTTON	K	P5	XZB60X60A01	PROTECTION COVER	
10	RGU0118-S	SPEAKER BUTTON	S			ACCESSORIES	
11	RGU0119-K	DIRECT BUTTON	K	A1	RQF0170	INSTRUCTIONS MANUAL	(E, E5)
11	RGU0119-S	DIRECT BUTTON	S	A1	RQF0172	INSTRUCTIONS MANUAL	(EB)
12	RGU0120-K	SIGNAL BUTTON	K	A1	RQF0171	INSTRUCTIONS MANUAL	(EG)
12	RGU0120-S	SIGNAL BUTTON	S	A1	RQF0173	INSTRUCTIONS MANUAL	(GC)
13	RKA0009-1	FOOT		A1	RQF0174	INSTRUCTIONS MANUAL	(GN)
14	RMK0035	CHASSIS		A2	SFDAC05E03	POWER CORD	△ (E, E5, EG)
15	RYP0104-K	FRONT PANEL	K	A2	SJA193	POWER CORD	△ (EB)
15	RYP0105-S	FRONT PANEL	S	A2	RJA0004	POWER CORD	△ (GC)
16	RSC0057	SHIELD PLATE (R)		A2	SJA173	POWER CORD	△ (GN)
17	RSC0058	SHIELD PLATE (L)		A3	SJP9215	AC PLUG ADAPTOR	△ (GC)
18	RSQ0004	REC SELECTOR					
19	XTB3+8J	SCREW					
20	SHE187-2	HOLDER					
21	SJS9231A	AC INLET COVER	(E, E5, EB, EG, GC, GW)				
21	SJS9234A	AC INLET COVER	(GN)				
22	SNE4021-1	NUT					
23	XTB3+8JFZ1	SCREW					
24	XTB3+16JFZ	SCREW					
25	XTB3+20J	SCREW					
26	XTB3+6J	SCREW					
27	XTB3+8JFZ	SCREW					
28	XTW3+8T	SCREW					
29	RGK0097	ORNAMENT (GOLD LINE)					
30	RGK0098-K	SIDE ORNAMENT (L)	K				
30	RGK0098-S	SIDE ORNAMENT (L)	S				
31	RGK0099-K	SIDE ORNAMENT (R)	K				



EXPLODED VIEW

