

# Service Manual

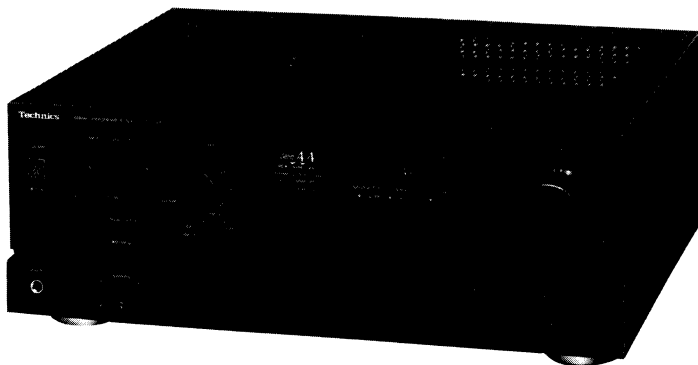
Stereo Integrated Amplifier

Amplifier

## SU-V650

Color

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



## Area

Color	Area
(S)(K)	(E) .....Continental Europe.
(S)(K)	(Ei) .....Italy.
(S)(K)	(EG) .....F.R.Germany.
(S)(K)	(EB) .....Belgium.
(S)(K)	(EK) .....United Kingdom.
(S)(K)	(EF) .....France.
(S)(K)	(EH) .....Holland.
(S)(K)	(XL) .....Australia.
(S)(K)	(XA) .....Asia, Latin America, Middle Near East, Africa and Oceania.
(S)(K)	(PA) .....Far East PX.
(S)(K)	(PE) .....European Military.

## SPECIFICATIONS

(DIN 45 500)

### ■ AMPLIFIER SECTION

20 Hz ~ 20 kHz continuous power output  
both channels driven 2 x 90 W (8Ω)

1 kHz continuous power output  
both channels driven 2 x 140 W (4Ω)  
2 x 100 W (8Ω)

Total harmonic distortion  
rated power at 20 Hz ~ 20 kHz 0.002% (8Ω)  
rated power at 1 kHz 0.005% (4Ω)  
0.0009% (8Ω)  
half power at 20 Hz ~ 20 kHz 0.002% (8Ω)  
half power at 1 kHz 0.002% (4Ω)  
0.0008% (8Ω)

Intermodulation distortion  
rated power at 50 Hz:7 kHz = 4:1, SMPTE, 8Ω 0.005%

Power bandwidth  
both channels driven, -3dB 5 Hz ~ 50 kHz (8Ω, 0.03%)

Residual hum and noise 0.8 mV

Damping factor 40 (4Ω), 80 (8Ω)

Input sensitivity and impedance  
PHONO MM 2.5mV/47 kΩ  
MC 170 μV/220 Ω

TUNER, CD, AUX, TAPE 1/DAT  
TAPE 2/EXT 150mV/22 kΩ

PHONO maximum input voltage (IHF'66 1 kHz, RMS)  
MM 160 mV  
MC 12 mV

S/N  
rated power (4Ω)  
PHONO MM 78 dB (IHF'66 : 86 dB)  
MC 65 dB (IHF'66 : 68 dB)

TUNER, CD, AUX,  
TAPE 1/DAT, TAPE 2/EXT 92 dB (IHF'66 : 100 dB)

-26 dB power (4Ω)  
PHONO MM 69 dB  
MC 65 dB

TUNER, CD, AUX,  
TAPE 1/DAT, TAPE 2/EXT 70 dB

50 mW power (4Ω)  
PHONO MM 62 dB  
MC 61 dB

TUNER, CD, AUX,  
TAPE 1/DAT, TAPE 2/EXT 63 dB  
Frequency response  
PHONO RIAA standard curve  
± 0.8dB (30 Hz ~ 15 kHz)

TUNER, CD, AUX,  
TAPE 1/DAT, TAPE 2/EXT 3 Hz ~ 100 kHz (-3 dB)  
+0, -0.2 dB (20 Hz ~ 20 kHz)

Tone controls  
BASS 50 Hz, +10 dB ~ -10 dB  
TREBLE 20 kHz, +10 dB ~ -10 dB  
Subsonic filter 20 Hz, -6 dB/oct.  
Loudness control (volume at -30 dB) 50 Hz, +9 dB

Output voltage  
TAPE 1/DAT, TAPE 2/EXT REC OUT 150 mV  
Channel balance, AUX 250 Hz ~ 6,300 Hz ±1 dB  
Channel separation, AUX 1 kHz 50dB  
Headphones output level  
and impedance 635 mV/330 Ω

Load impedance  
MAIN or REMOTE 4 Ω ~ 16 Ω  
MAIN and REMOTE 8 Ω ~ 16 Ω

### ■ GENERAL

Power consumption 670 W

Power supply  
For United Kingdom and Australia AC 50 Hz/60 Hz,  
240 V

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

Dimensions (W x H x D) 430 x 159 x 363 mm  
(16-15/16" x 6-1/4" x 14-1/4")  
Weight 10.1 kg (22.2 lb.)

### Notes:

- Specifications are subject to change without notice. Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

# Technics

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# ■ 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(VR401 and VR402)to minimum(counterclockwise).
  - D. After setting the output to zero of the voltage contoller,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 contoller immediatly.
- 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	AC110V	AC127V	AC220V	AC240V
Consumed current 50/60Hz	280 ~ 560mA	260 ~ 520mA	140 ~ 280mA	130 ~ 260mA

# ■ 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:

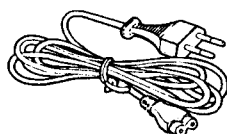
1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.

**Note:**

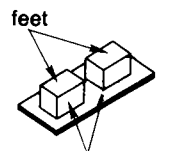
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

# ■ ACCESSORIES

- AC power supply cord ..... 1  
 (SJA168) ..... For (XA), (PA) and (PE) areas.  
 (SJA173) ..... For (XL) area only.  
 (SJA193) ..... For (EK) area only.  
 (SFDAC05E03) ..... For others.



- Feet ..... 2  
 (SKL 312)



Double faced adhesive tape

**LOCATION OF CONTROLS**

● **Subsonic filter switch (subsonic filter)**

**off (⏏):** Set to this position for ordinary use.  
**20 Hz (⏏):** Set to this position to eliminate ultra-low-frequency noise such as motor "rumble" and unusual vibration of the woofer cone caused by a warped disc, etc.

● **Operation indicators (amplifier operation monitor)**

This indicator illuminates to indicate the operating condition of this unit.  
**voltage control:**  
 When the power is switched ON, this indicator illuminates when the unit is in the operation condition.  
**current drive:**  
 When the power is switched ON, this indicator illuminates after about 4 seconds when the unit is in the operation condition. If an abnormal condition in the circuitry is detected, such as DC voltage appearing in the output, or a short-circuit of the positive (+) and negative (-) wires from the speaker terminals, the protection circuit functions and this indicator does not illuminate. If this occurs, switch the power OFF, find the cause of the trouble and correct it, and then switch the power ON once again.

● **Balance control (balance)**

This control is used to adjust left/right volume balance.

● **Tone controls (bass/treble)**

The bass control is for the low-frequency sound range, and the treble control is for the high-frequency sound range.

● **Power switch (power)**

● **Tone control switch (tone control)**

This switch is used to switch the tone control circuit (bass, treble) ON or OFF.  
**defeat (⏏):**  
 Set to this position to turn the bass/treble tone control circuit off. Regardless of the positions of the bass/treble tone controls, the characteristics will remain flat.  
**on (⏏):**  
 Set to this position to adjust the tone quality by using the tone controls.

● **Headphones jack (phones)**

● **Speaker selectors (speakers)**

These selectors are used to switch the speaker systems ON and OFF.  
**main on (⏏):**  
 Sound can be heard from the speakers connected to the "MAIN" terminals.  
**remote on (⏏):**  
 Sound can be heard from the speakers connected to the "REMOTE" terminals.

● **Loudness switch (loudness)**

Set to the "on" position when listening to music at a low volume. Auditory perception of sound in the low frequency range falls off at low volume, but when the switch is in this position, this deficiency is compensated for, so that the full impact of the musical performance can be enjoyed.

● **Phono cartridge selector (phono selector)**

This selector should be set to the position which corresponds to the type of cartridge used on the turntable.  
**MM (⏏):**  
 Set to this position when using a moving-magnet type cartridge or high-output moving-coil cartridge (1 mV or more).  
**MC (⏏):**  
 Set to this position when using a moving-coil type cartridge (less than 1 mV).

● **Compact disc direct-through switch (CD direct)**

Even better tone quality of the very high quality signals from a compact disc can be obtained by routing these signals directly to the volume level adjustment, without passing them through an input selector. When this switch is set to the "on" position, the sound source selected by the input selectors cannot be heard.

● **Volume control (volume)**

This control is used to adjust the volume level. Be absolutely sure to set this control to a low position before switching the power ON. After the power is switched ON, please wait several seconds before increasing the volume level.

● **Recording output selector (rec selector)**

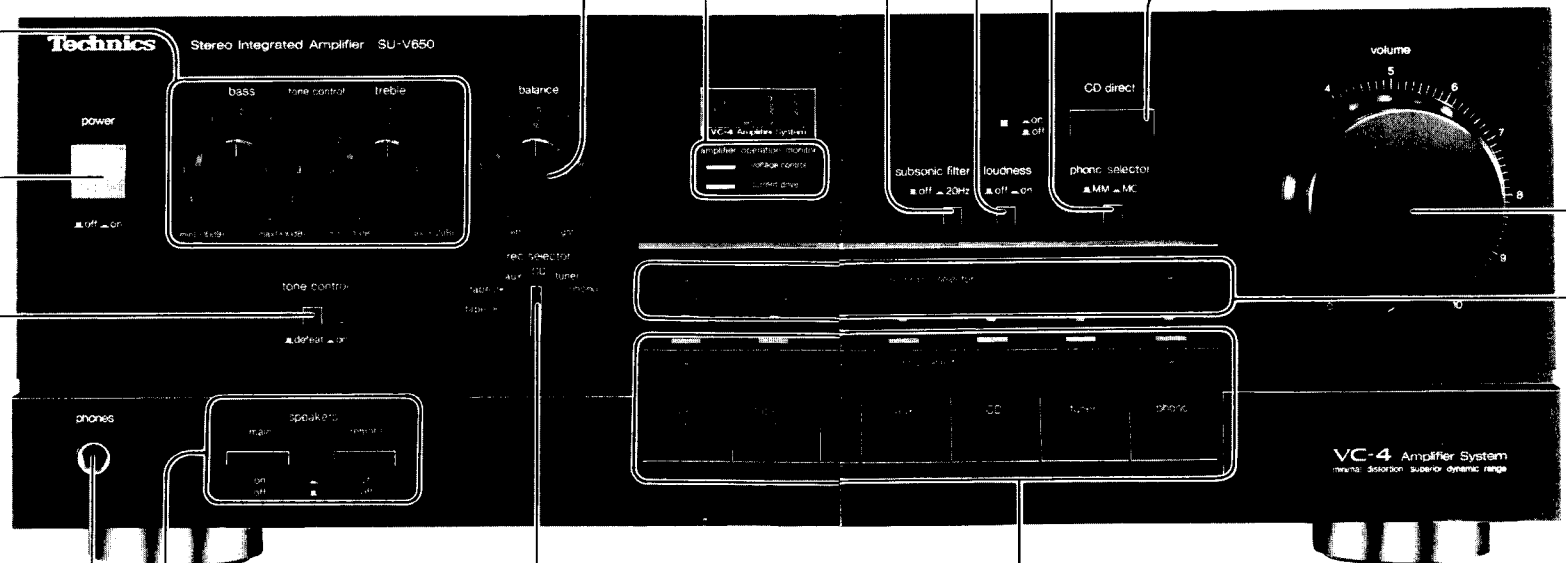
This selector is used to select the signal to be recorded by the connected tape deck.  
**tape 1▶2:**  
 Set to this position to record from tape deck 1 to tape deck 2.  
**tape 2▶1:**  
 Set to this position to record from tape deck 2 to tape deck 1.  
**aux:**  
 Set to this position to record the signals from equipment connected to the "AUX" terminals.  
**CD:**  
 Set to this position to record from a compact disc.  
**tuner:**  
 Set to this position to record from radio broadcasts.  
**phono:**  
 Set to this position to record from phono discs.

● **Input selectors/indicators (input selector)**

Press to select the sound source to be listened. The corresponding indicator illuminates during operation to indicate the selected sound source.  
**tape 1/DAT:**  
 Press this button to playback or monitor the sound of a tape deck or other equipment connected to the "TAPE 1/DAT" terminals on the rear panel.  
**tape 2/ext:**  
 Press this button to play back or monitor the sound from a tape deck connected to the "TAPE 2/EXT" terminals on the rear panel.  
**aux:**  
 Press this button to listen to sound from a video disc player or other equipment connected to the "AUX" terminals on the rear panel.  
**CD:**  
 Press this button to listen to a compact disc.  
**tuner:**  
 Press this button to listen to radio broadcasts.  
**phono:**  
 Press this button to listen to phono discs.

● **Recording output indicators (recording selector)**

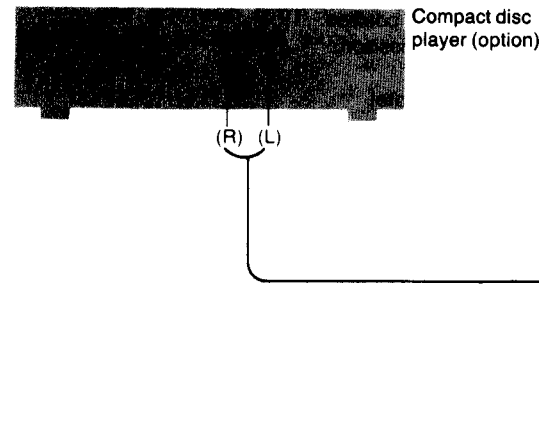
These indicators indicate the program source which can be recorded. Each indicator lights up corresponding with the selected position of the recording output selector.



# CONNECTIONS

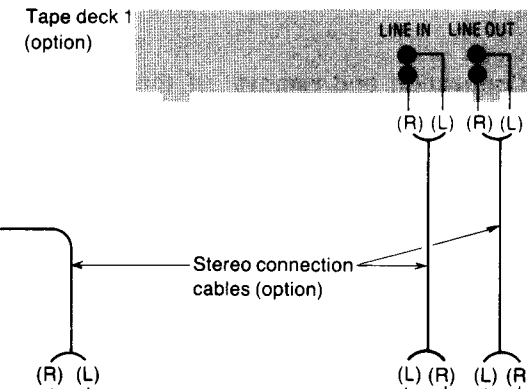
## "CD" terminals

Connect a compact disc player.



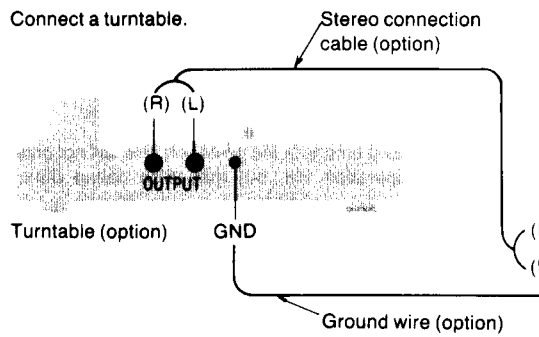
## "TAPE 1/DAT" terminals

In addition to a tape deck, the analog terminals of a digital audio tape deck (DAT) can be connected here. If the digital audio tape deck is connected, connect the tape deck to the "TAPE 2/EXT" terminals.



## "PHONO" terminals

Connect a turntable.



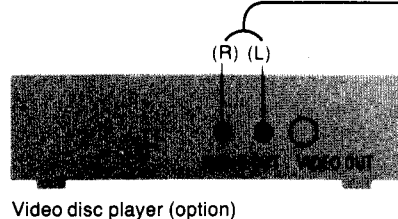
## "TUNER" terminals

Connect a tuner.



## "AUX" terminals

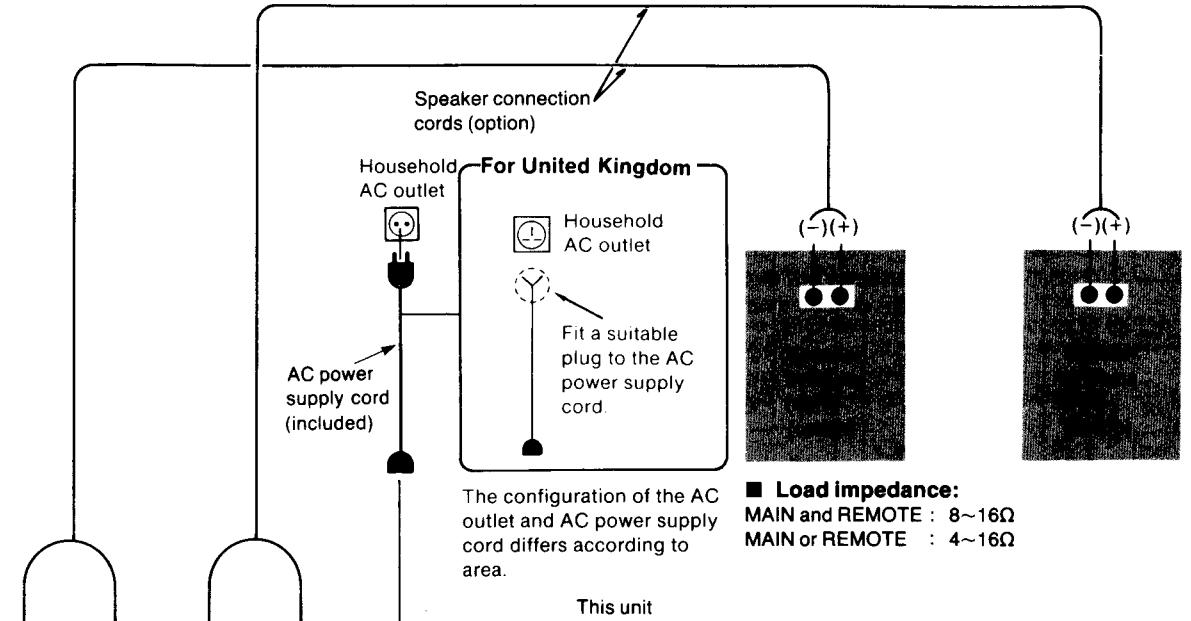
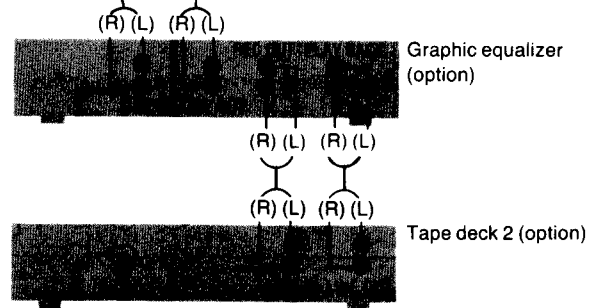
Connect a video disc player etc. These terminals are audio playback only.



\*Phono input capacitance is about 100 pF.

## "TAPE 2/EXT" terminals

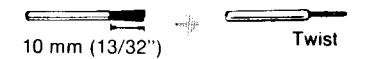
Connect a graphic equalizer or a second tape deck, etc.



## "SPEAKERS" terminals

### ■ Connection of speaker wires

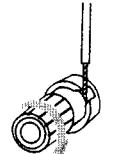
1. Strip off the outer covering, and twist the center conductor.



2. Turn 5 or 6 times.

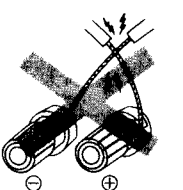


3. Insert wire and tighten screw completely. Pull the wire to assure a proper connection.



### Notes:

1. To prevent damage to circuitry, never short plus (+) and minus (-) speaker terminals.



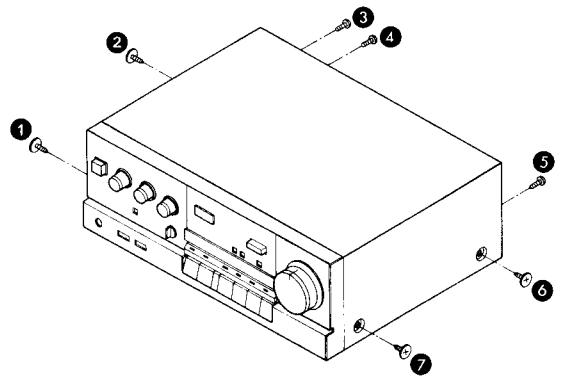
2. Be sure to only connect positive (+) cords to positive (+) terminals, and negative (-) cords to negative (-) terminals.

### ■ "REMOTE" terminals

Connection to second pair of speakers.

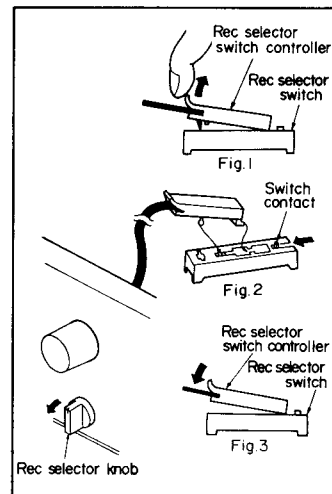
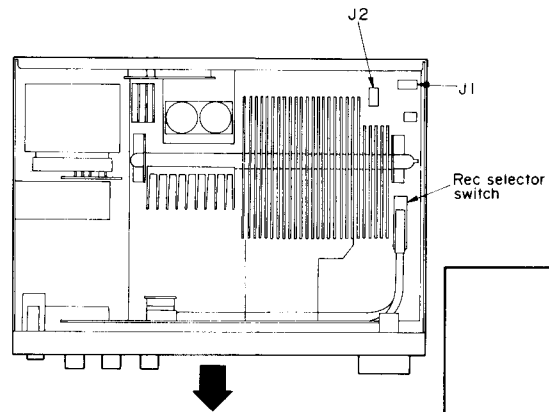
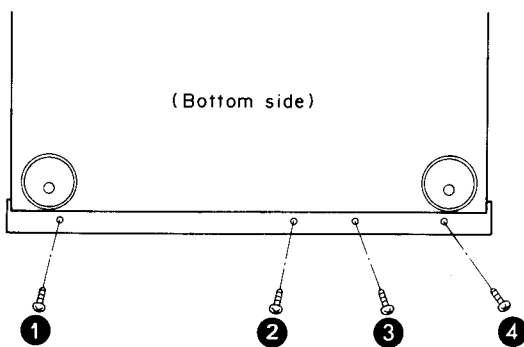
# ■ DISASSEMBLY INSTRUCTIONS

<b>Ref. No.</b> 1	<b>How to remove the cabinet</b>
<b>Procedure</b> 1	● Remove the 7 screws (①~⑦).



<b>Ref. No.</b> 2	<b>How to remove the front panel</b>
<b>Procedure</b> 1→2	

1. Remove the 2 connectors (J1, J2).
2. Remove the rec selector switch controller.
3. Remove the 4 screws (①~④).



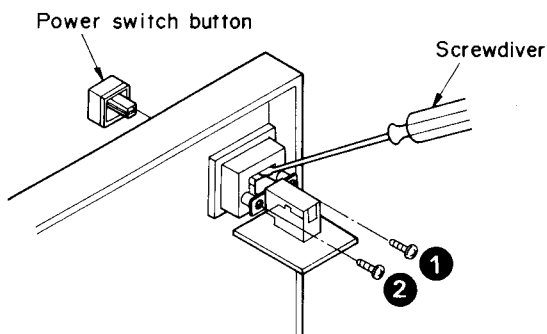
### How to remove the rec selector switch controller

- Pull up the rec selector switch controller in the direction of the arrow as shown in figure 1 and then remove it. (See Fig. 1)

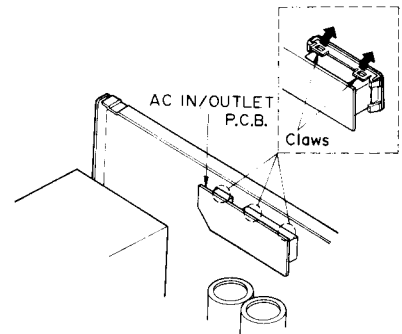
### How to replace the rec selector switch controller

1. Push the switch contact in the direction of the arrow. (See Fig. 2)
2. Rotate the rec selector knob counterclockwise. (See Fig. 2)
3. Install the rec selector switch controller in the rec selector switch. (See Fig. 3)

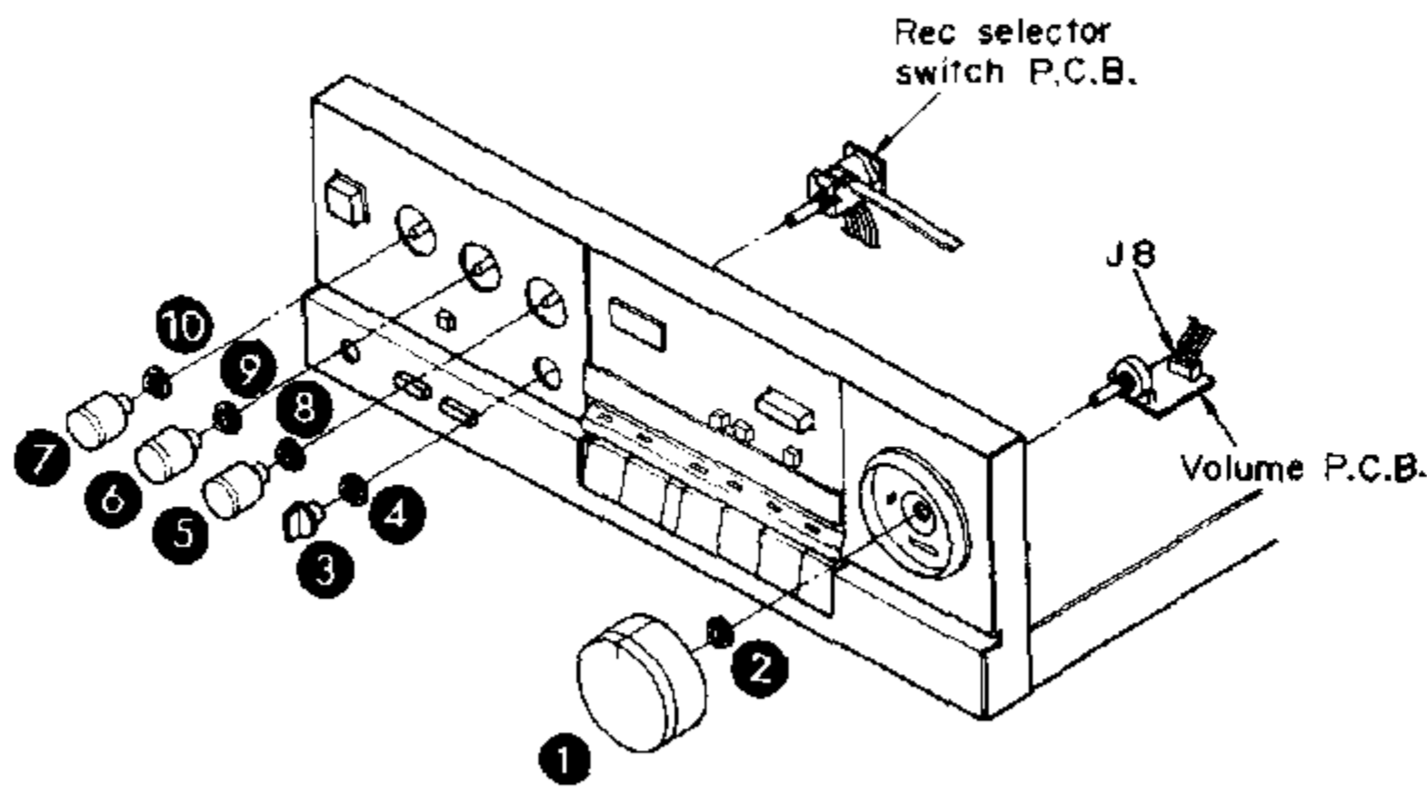
<b>Ref. No.</b> 3	<b>How to remove the power switch button</b>
<b>Procedure</b> 1→3	1. Remove the power switch button by pushing it from behind the front panel. 2. Remove the 2 screws (①, ②).



<b>Ref. No.</b> 4	<b>How to remove the AC IN/OUTLET P.C.B.</b>
<b>Procedure</b> 1→4	● Release the 3 claws.



<b>Ref. No.</b> 5	<b>How to remove the rec selector switch P.C.B., volume P.C.B., tone P.C.B. and speaker switch P.C.B.</b>
<b>Procedure</b> 1→2→5	



**How to remove the volume P.C.B.**

1. Remove the 1 knob (1) and 1 nut (2).
2. Remove the flat cable (J8).

**How to remove the rec selector switch P.C.B.**

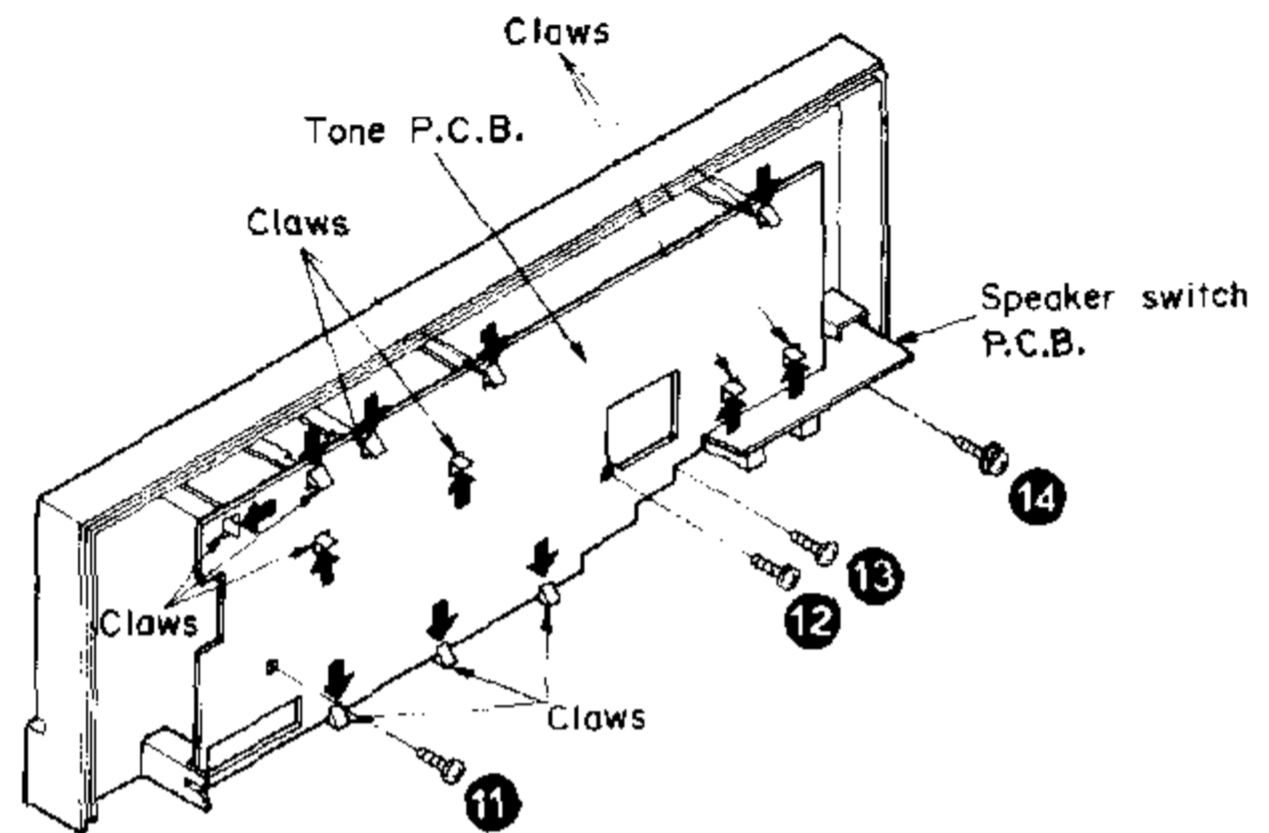
1. Remove the 1 knob (3) and 1 nut (4).
- To prevent damage to the recording selector knob when removing it with a pair of pliers, wrap it up with a piece of cloth as shown.

**How to remove the tone P.C.B.**

1. Remove the 3 knobs (5~7) and 3 nuts (8~10).
2. Remove the 2 screws (11, 12).
3. Release the 12 claws.

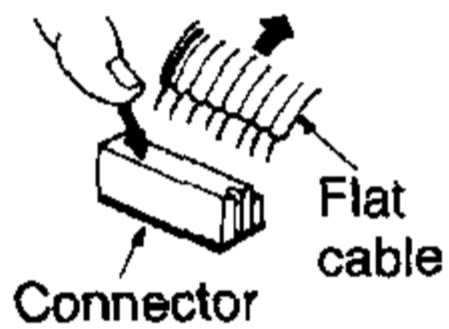
**How to remove the speaker switch P.C.B.**

1. Remove the 2 screws (13, 14).



**How to remove the flat cable**

Pull out the flat cable while pressing the connector.

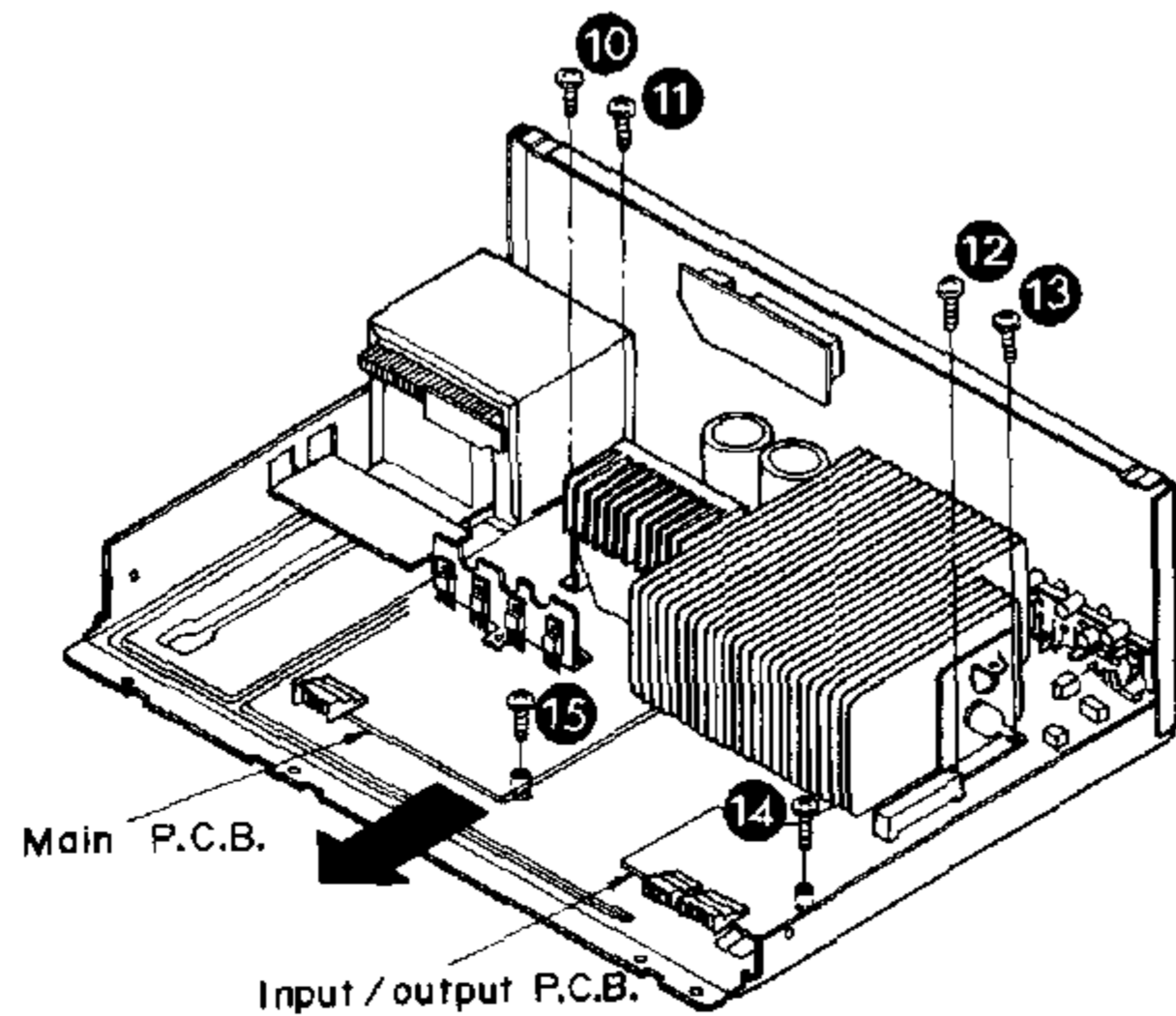
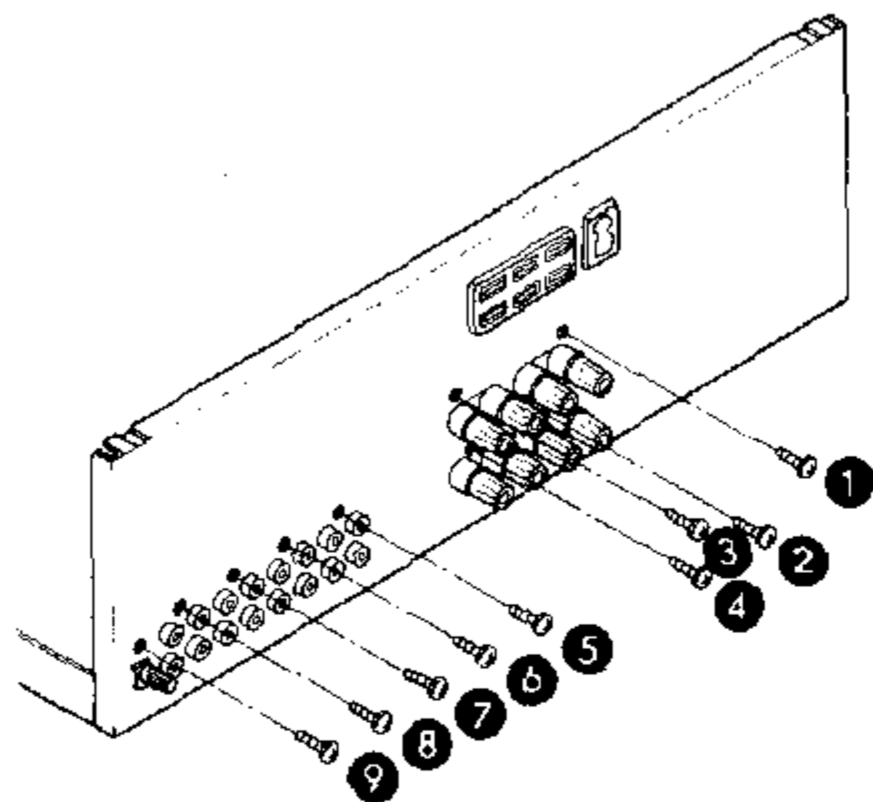


<b>Ref. No.</b> 6	<b>How to remove the main P.C.B. and input/output P.C.B.</b>
<b>Procedure</b> 1→2→6	

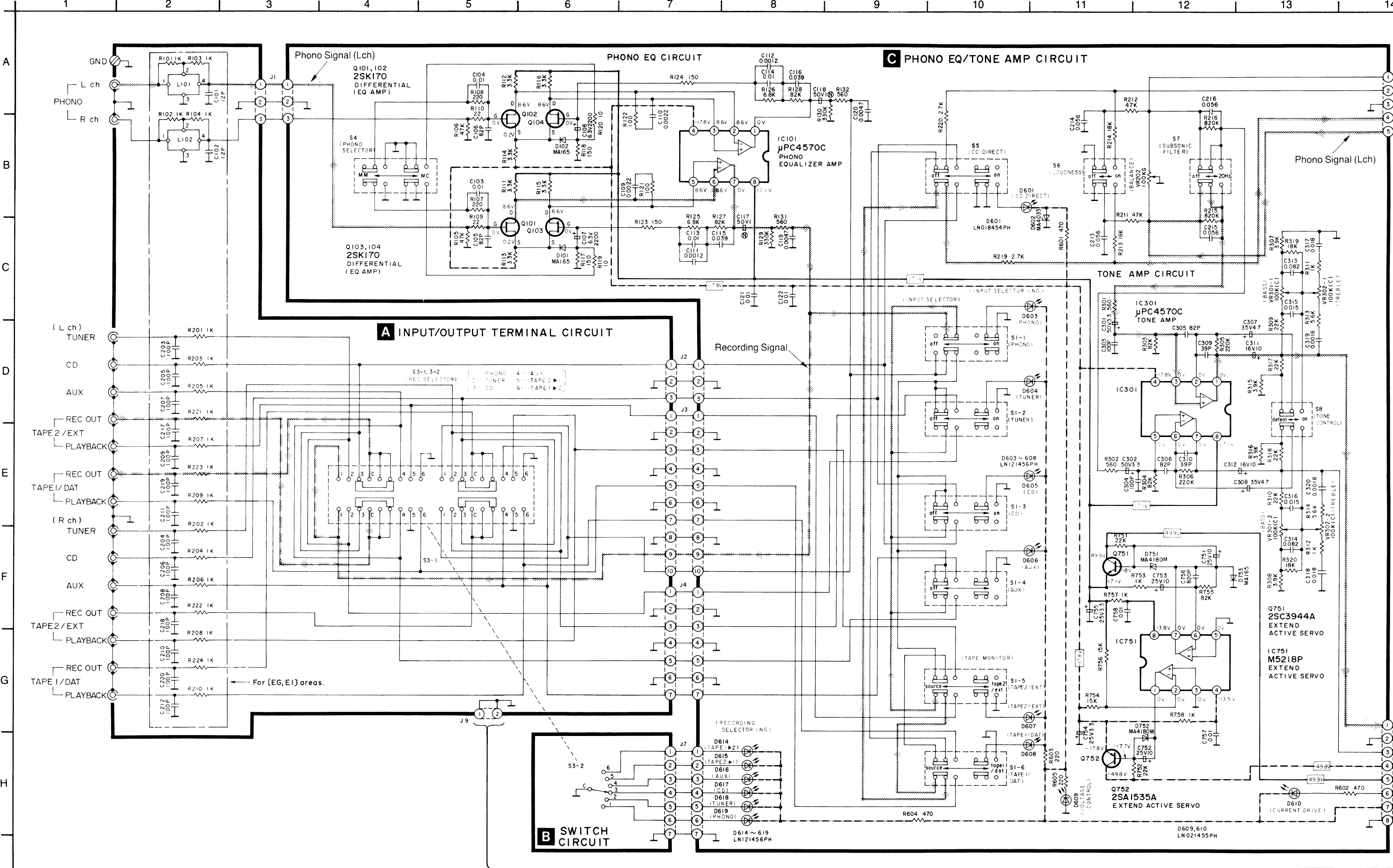
1. Remove the 15 screws (1~15).
2. Remove the main P.C.B. and input/output P.C.B. in the direction of arrow.

**Note:**

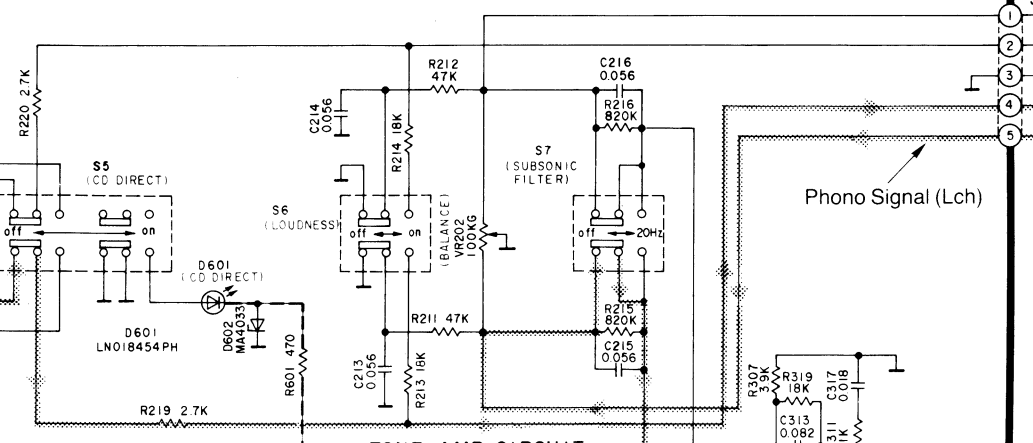
To check the unit for continuity when it is turned on, place it on its right side panel where the power IC is installed. This will prevent abnormal temperature from rising inside the unit.



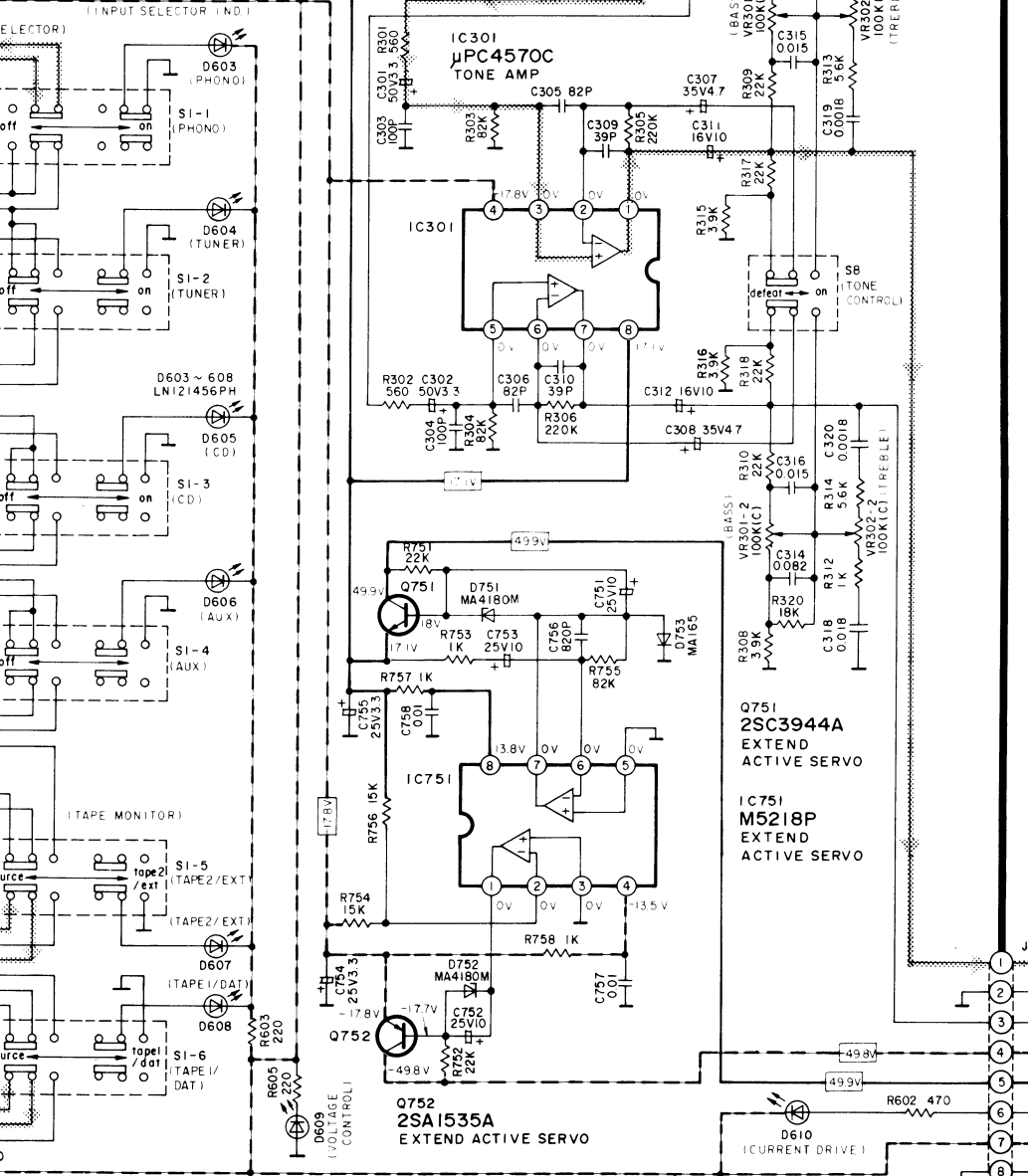
SCHEMATIC DIAGRAM



NO EQ/TONE AMP CIRCUIT



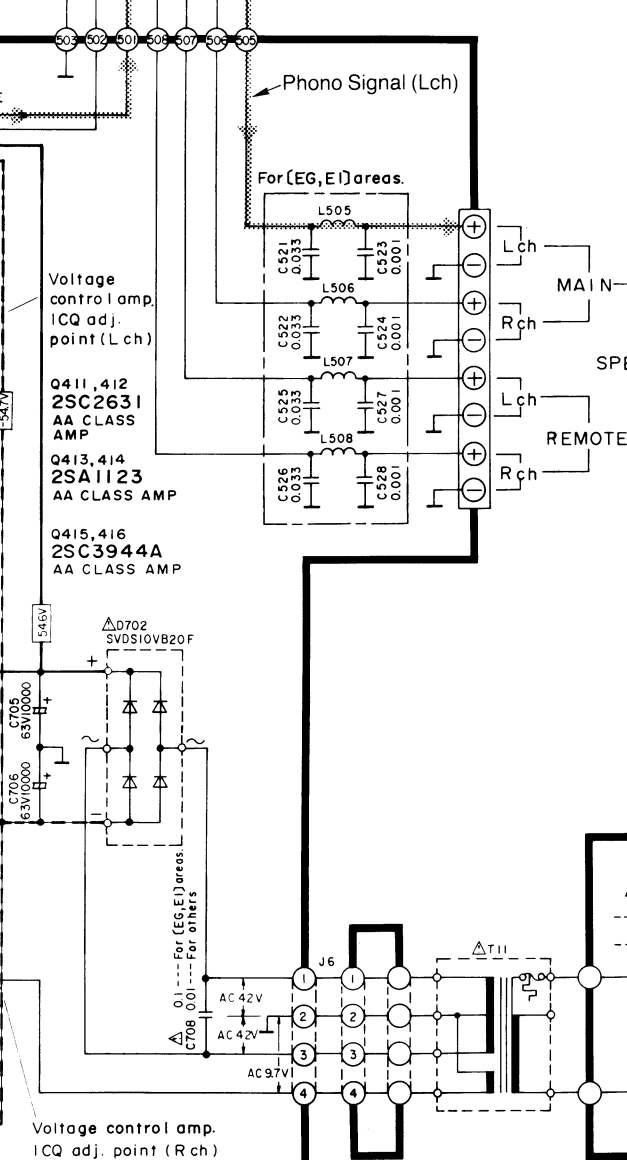
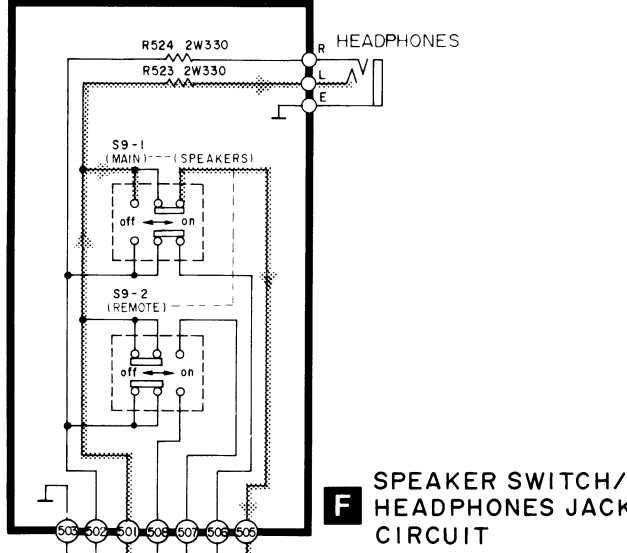
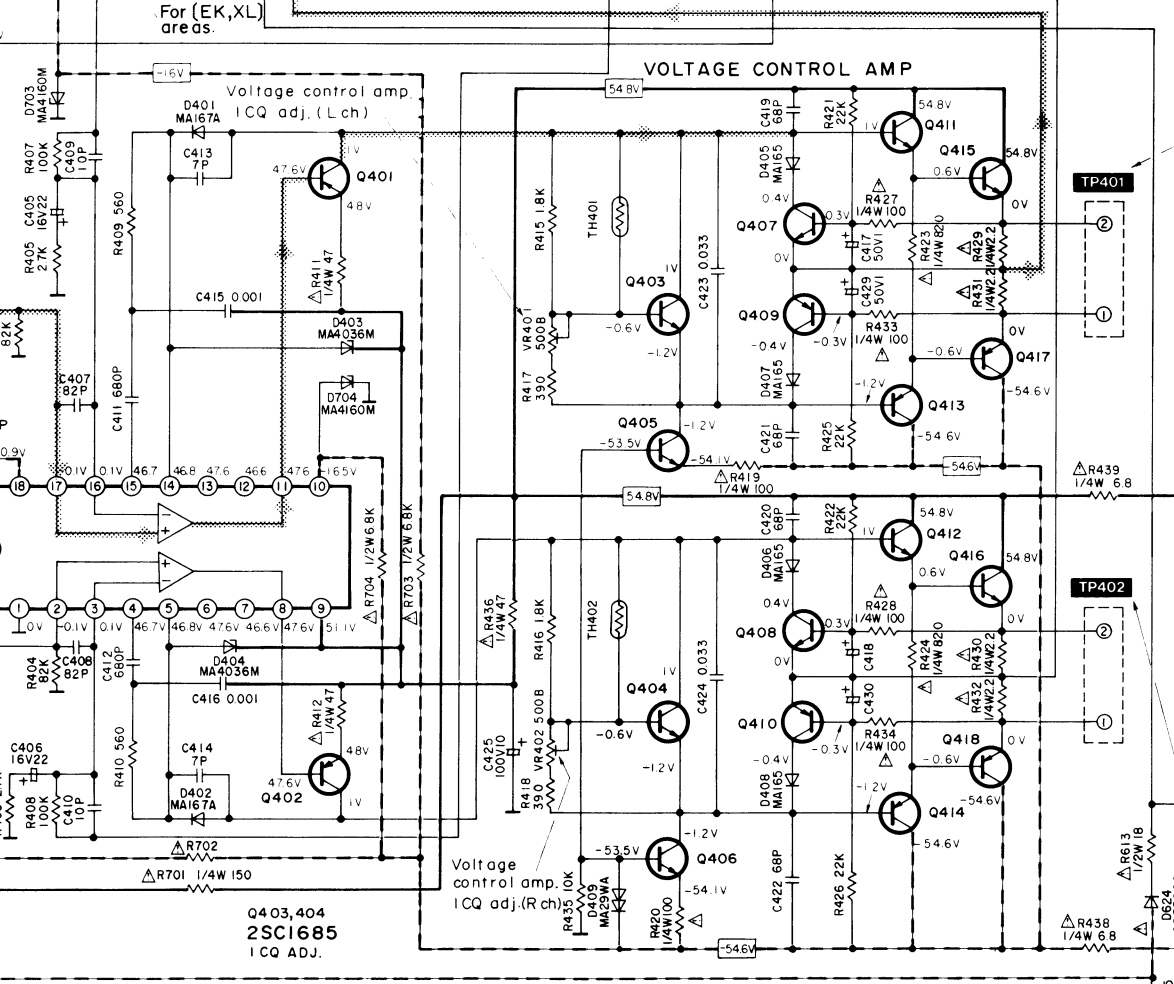
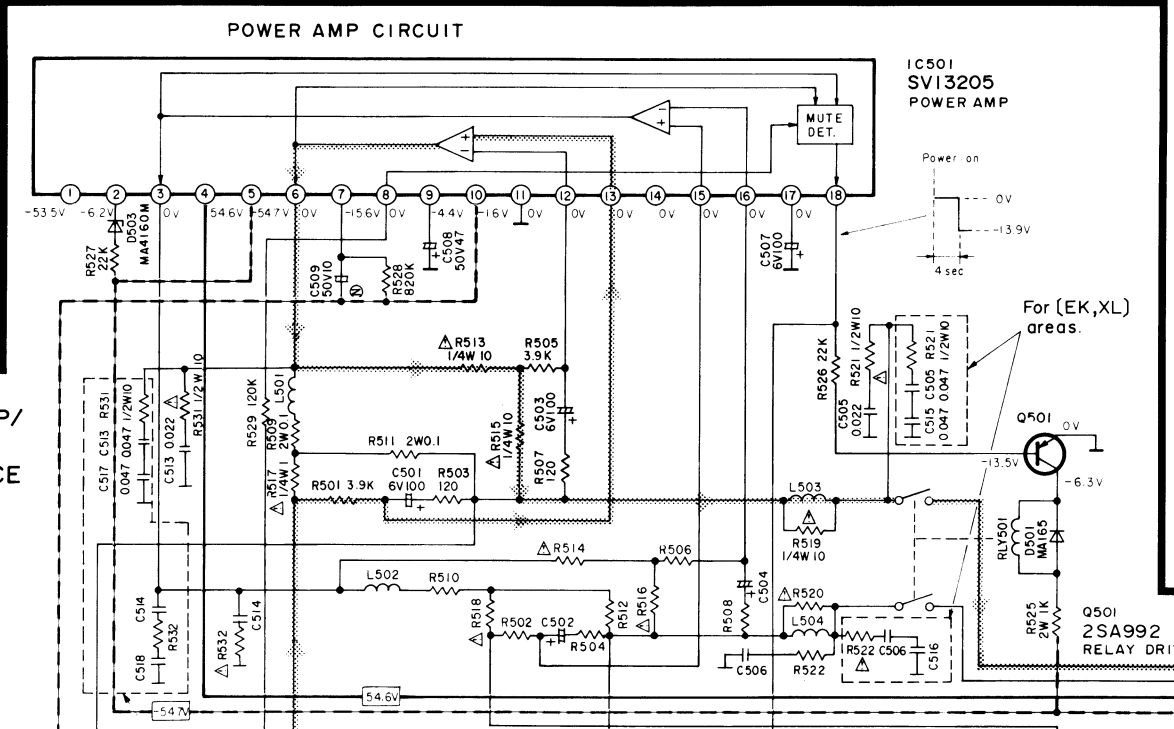
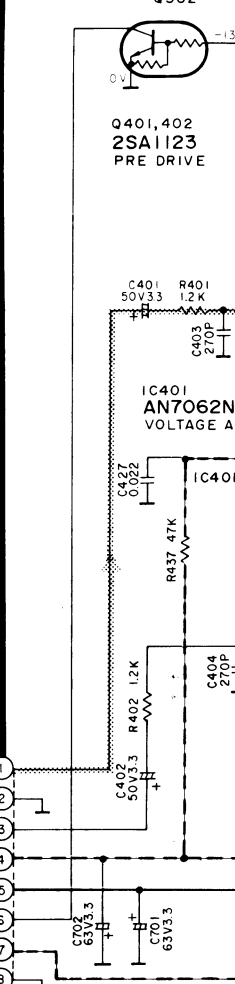
TONE AMP CIRCUIT



VOLUME CIRCUIT

VOLTAGE CONTROL AMP/ POWER AMP/ POWER SOURCE CIRCUIT

VOLUME CONTROL AMP



D609,610 LN021455PH

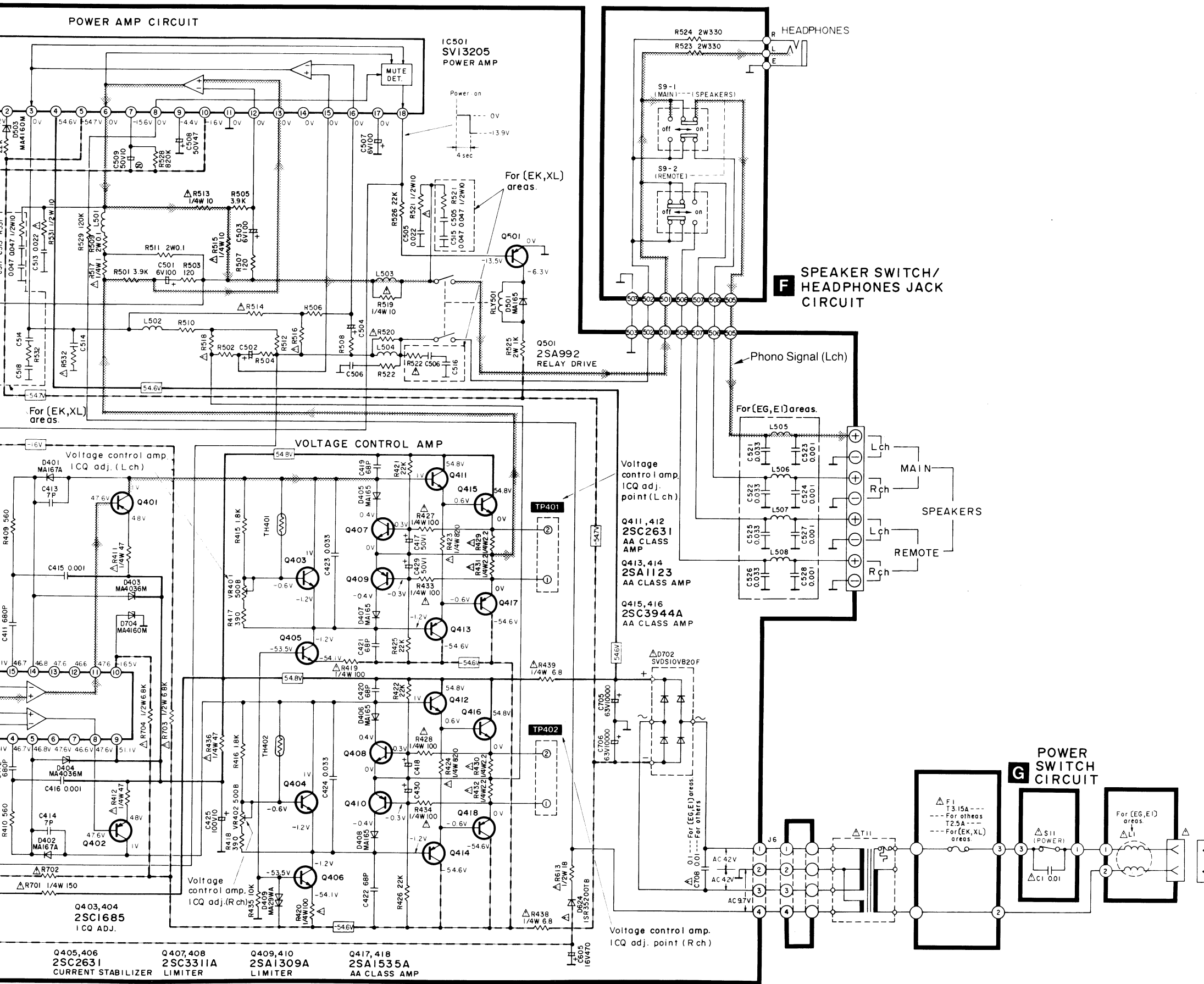
Q405,406 2SC2631 CURRENT STABILIZER

Q407,408 2SC3311A LIMITER

Q409,410 2SA1309A LIMITER

Q417,418 2SA1535A AA CLASS AMP





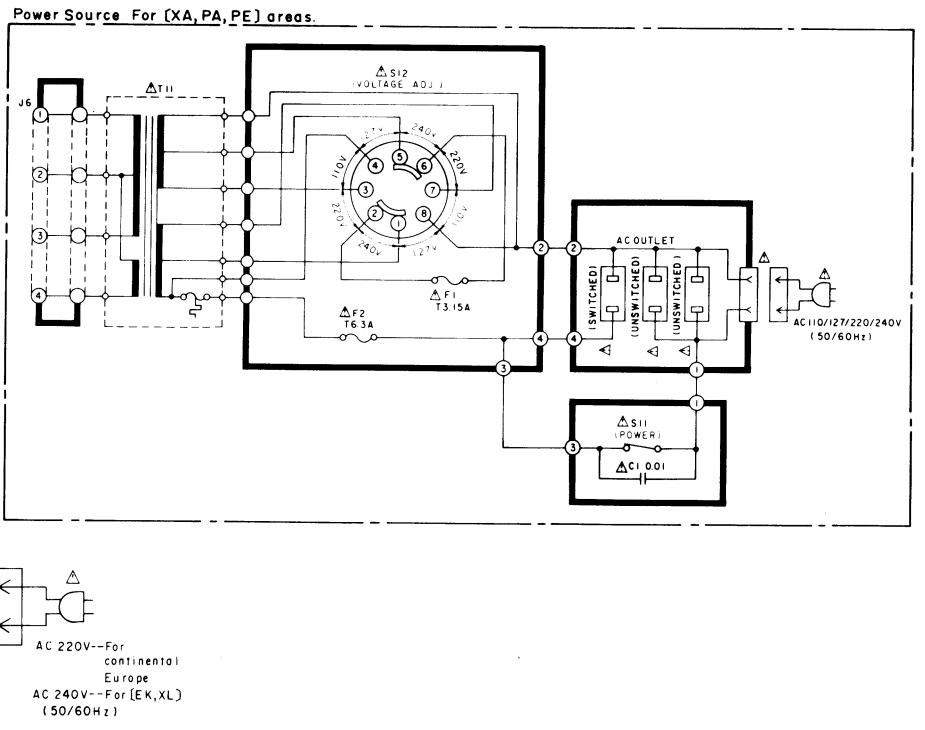
(This schematic diagram may be modified at any time with the development of new technology.)

- Notes:**
- S1-1~S1-6 : Input selector switches.  
 [S1-1: phono S1-2: tuner S1-3: CD  
 S1-4: aux S1-5: tape 2/ext S1-6: tape 1/DAT]
  - S3-1, S3-2 : Recording output selector switch in "CD" position.
  - S4 : Phono cartridge selector switch in "MM" position.
  - S5 : Compact disc direct-through switch in "off" position.
  - S6 : Loudness switch in "off" position.
  - S7 : Subsonic filter switch in "off" position.
  - S8 : Tone control switch in "off" position.
  - S9-1, S9-2 : Speaker selector switches.  
 [S9-1: main S9-2: remote]
  - S11 : Power switch in "on" position.
  - S12 : Voltage selector switch in "240 V" position.  
 (110 V → 127 V → 220 V → 240 V)  
 For (XA), (PA) and (PE) areas.
- : Phono Signal (Lch)  
 : Recording Signal  
 : Positive voltage lines.  
 : Negative voltage Lines.

● 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  $\Delta$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

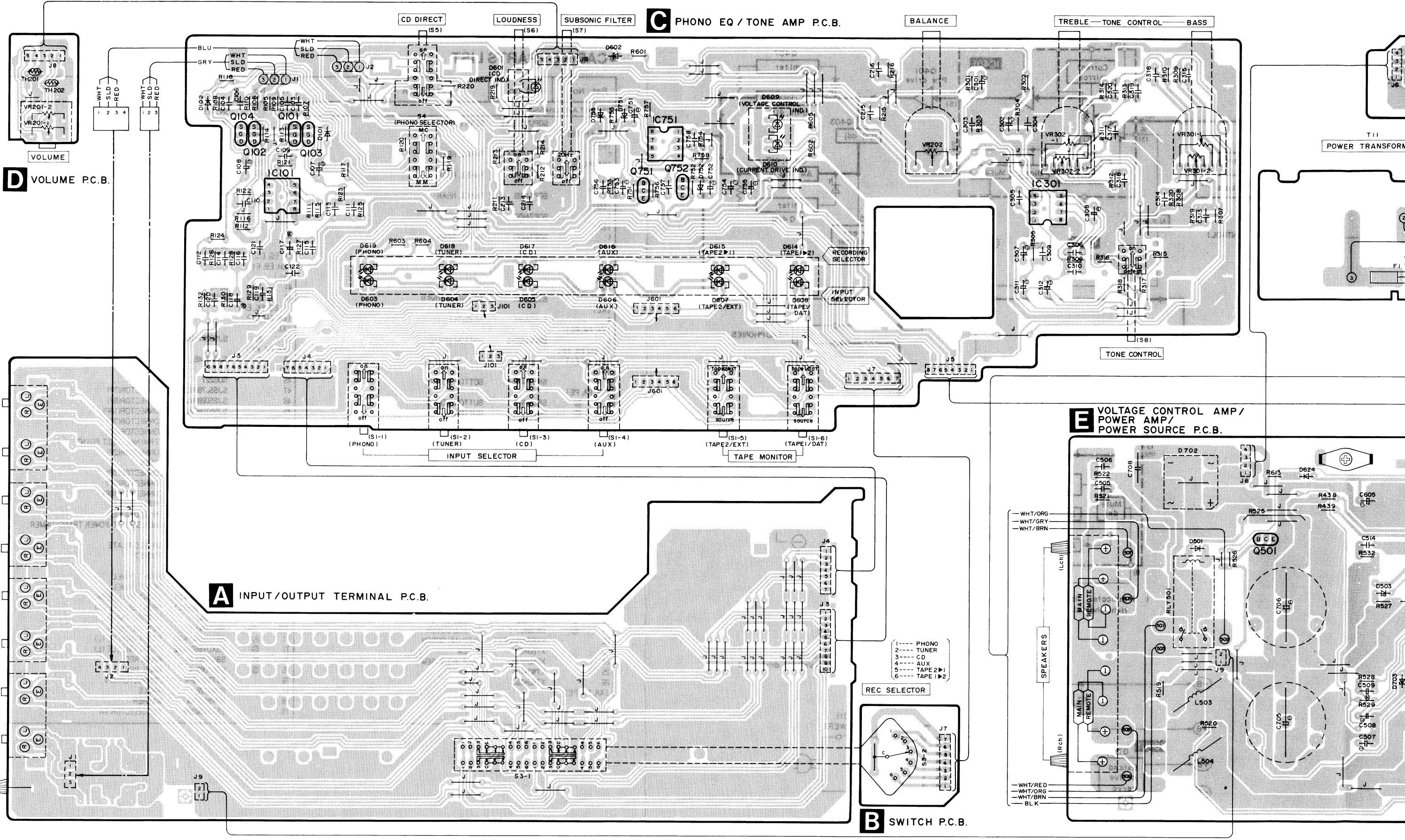
**\*Caution!**  
 IC and LSI are sensitive to static electricity.  
 Secondary trouble can be prevented by taking care during repair.  
 \*Cover the parts boxes made of plastics with aluminum foil.  
 \*Ground the soldering iron.  
 \*Put a conductive mat on the work table.  
 \*Do not touch the legs of IC or LSI with the fingers directly.



# CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A  
B  
C  
D  
E  
F  
G  
H



**D** VOLUME P.C.B.

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

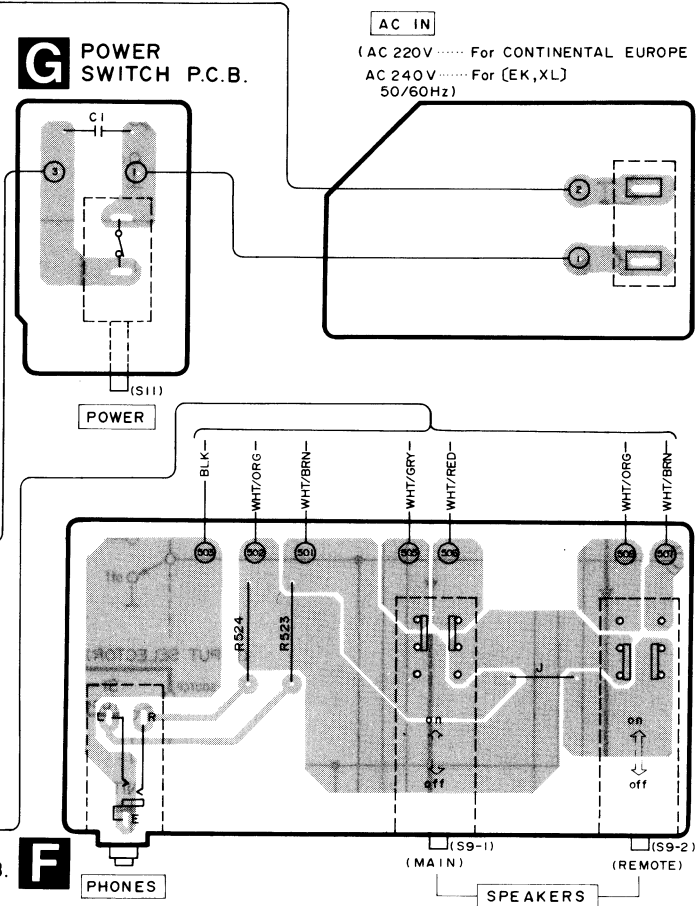
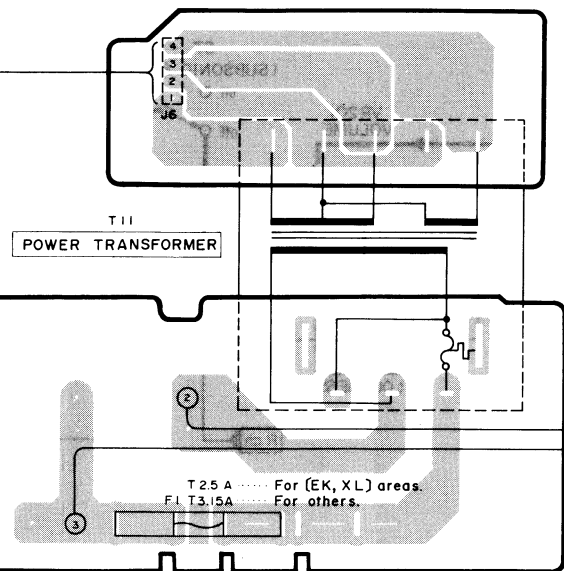
**A** INPUT/OUTPUT TERMINAL P.C.B.

**B** SWITCH P.C.B.

**E** VOLTAGE CONTROL AMP/  
POWER AMP/  
POWER SOURCE P.C.B.

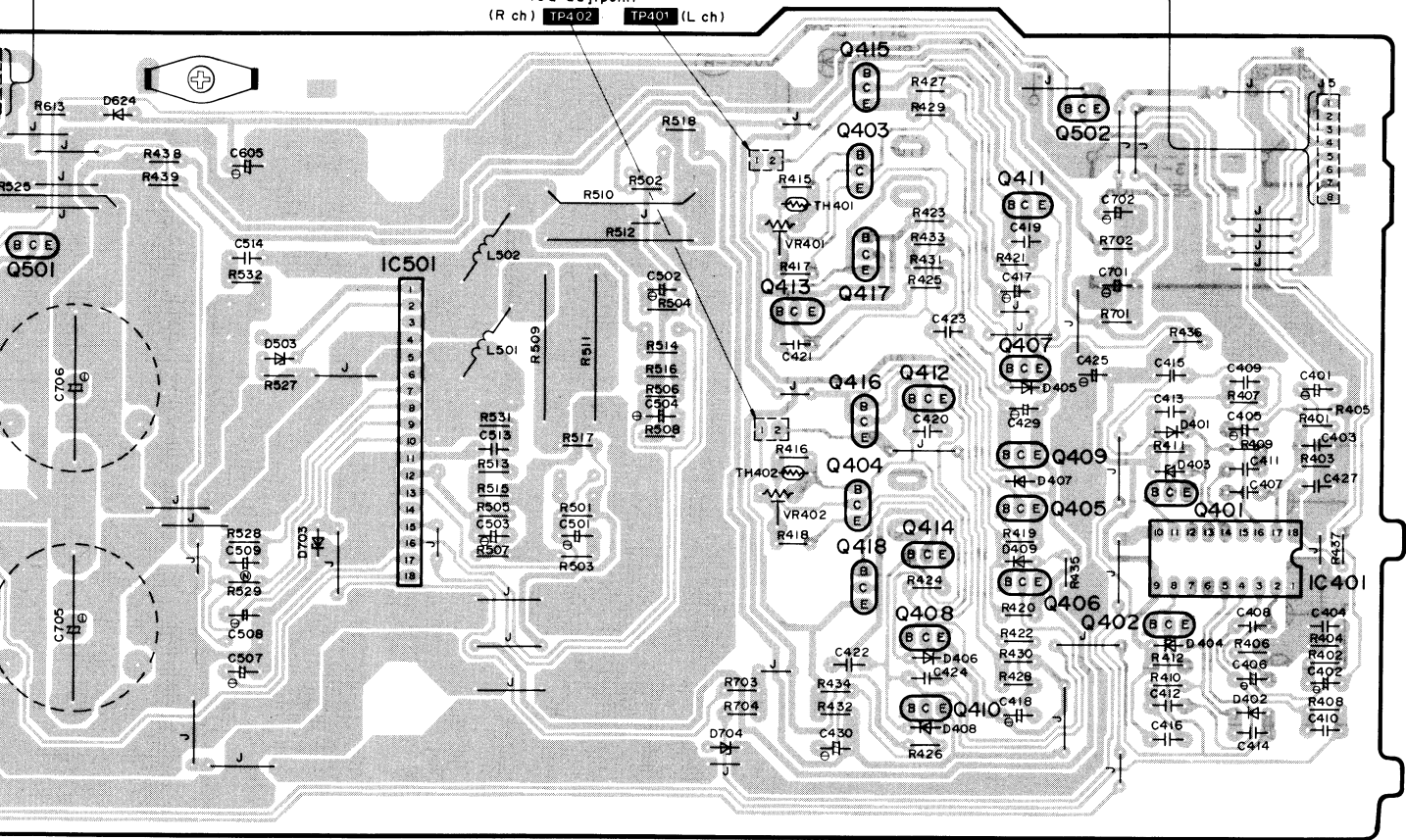
- 1 - PHONO
- 2 - TUNER
- 3 - CD
- 4 - AUX
- 5 - TAPE 2/EXT
- 6 - TAPE 1/DAT



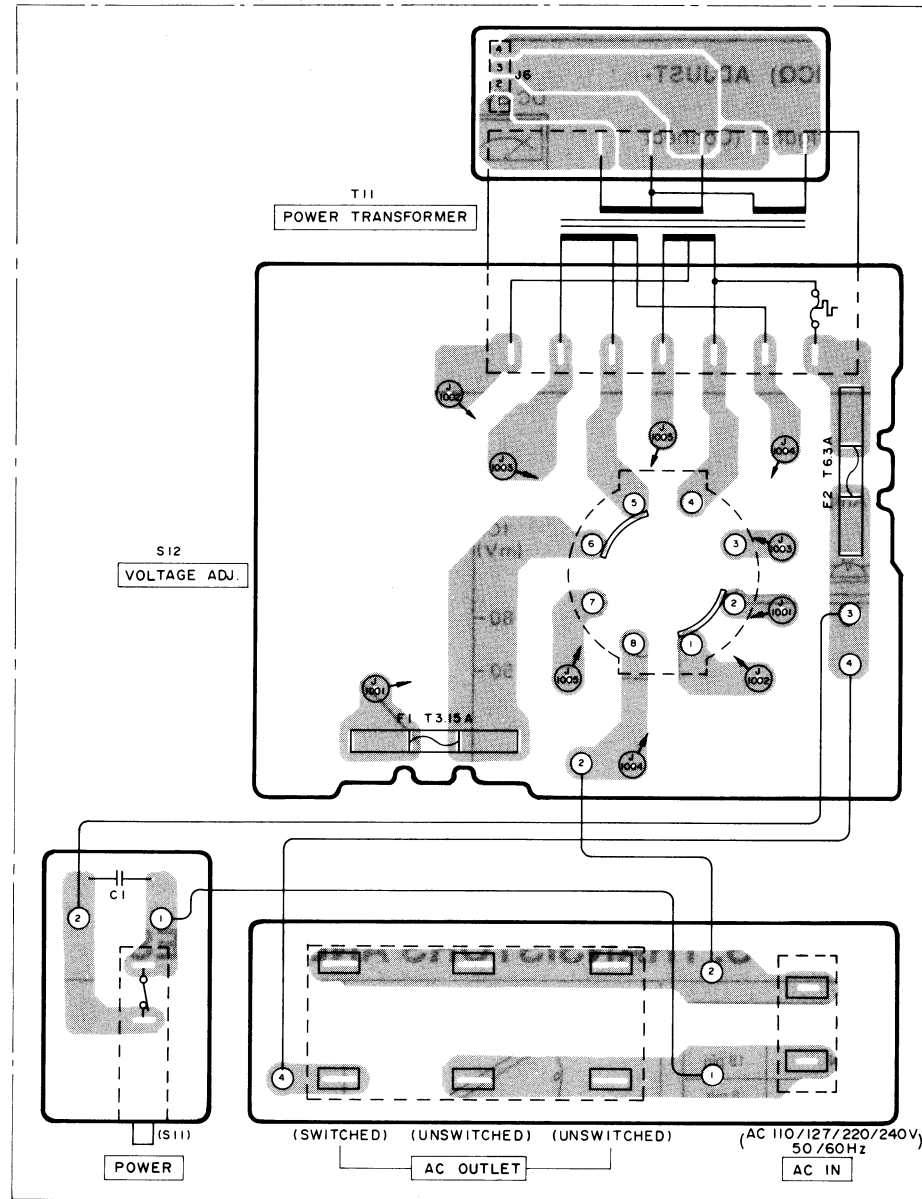


**F** SPEAKER SWITCH / HEADPHONES JACK P.C.B.

Voltage control amp  
ICQ adj. point  
(R ch) TP402 (L ch) TP401



Power Source For (XA, PA, PE) areas.



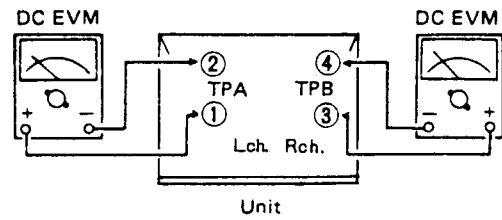
## MEASUREMENTS AND ADJUSTMENTS

### Control positions and equipment used.

- Volume knob.....∞ (Minimum)
- Main speaker selector.....off
- Remote speaker selector.....off
- DC electronic voltmeter(EVM)

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

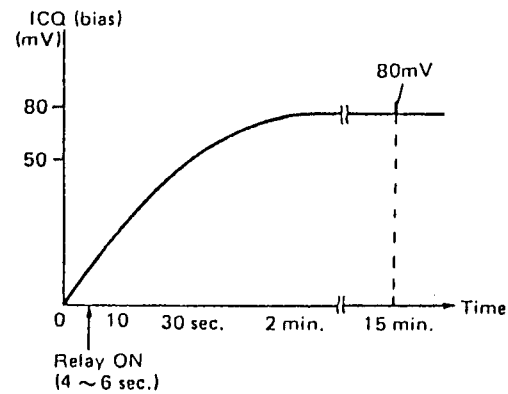
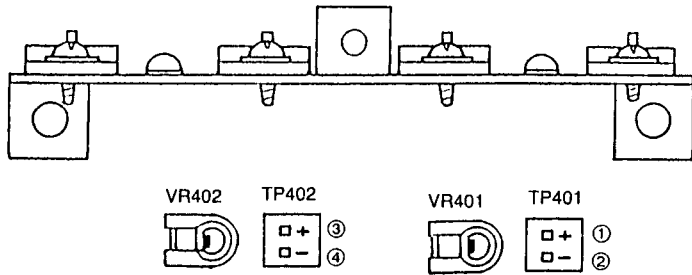
1. Test equipment connection is shown in figure. (Connect the DC EVM on both channels.)
2. Completely turn the (V) amp. adjusting volumes (VR401, VR402) counter-clockwise.
3. Turn ON the set when it is cold, and 15 sec. later, adjust VR401 and VR402 so that the voltage is 50mV. Also, check that the voltage is 60 ~ 85mV (standard : 80mV) after lapse of 10 - 15 minutes. (Below 85mV after lapse of 60 min.)



TPA = ①TP401(+), TPB = ③TP402(+)  
 ②TP401(-) ④TP402(-)

### Adjustment points

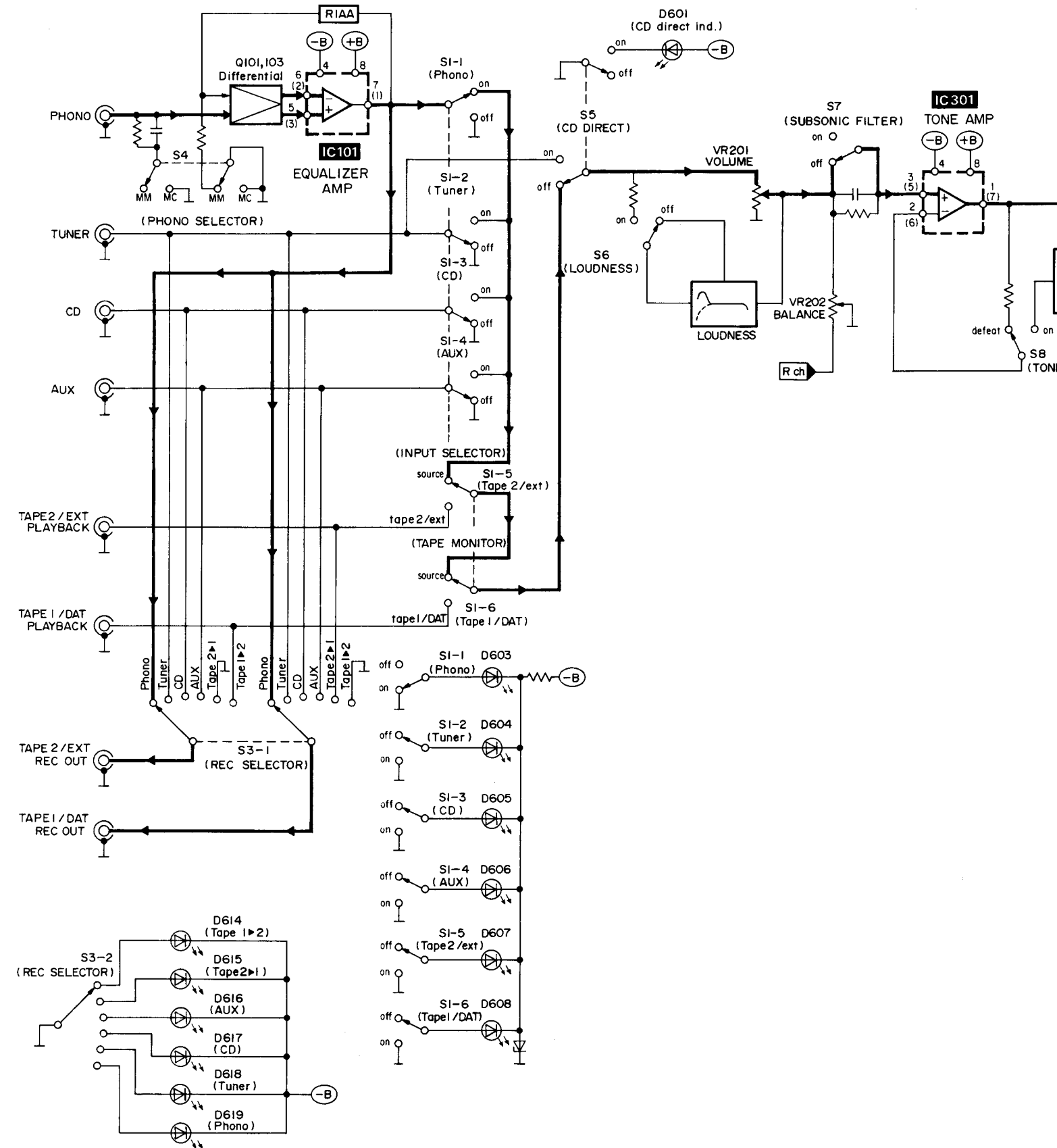
Voltage control Amp.



## TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 UPC4570C 8 pin AN7062N 18 pin M5218P 8 pin	 SVI3205 18 pin	 UN4112
 2SC3311, 2SA1309	 2SC3944, 2SA1535	 2SK170 2SA1123 2SC1685, 2SC2631 2SA992
 MA165, MA167 MA29, SVD15R35200	 MA4036, MA4160 MA4033, MA4180	 LN018454 LN121456 LN121455

## BLOCK DIAGRAM

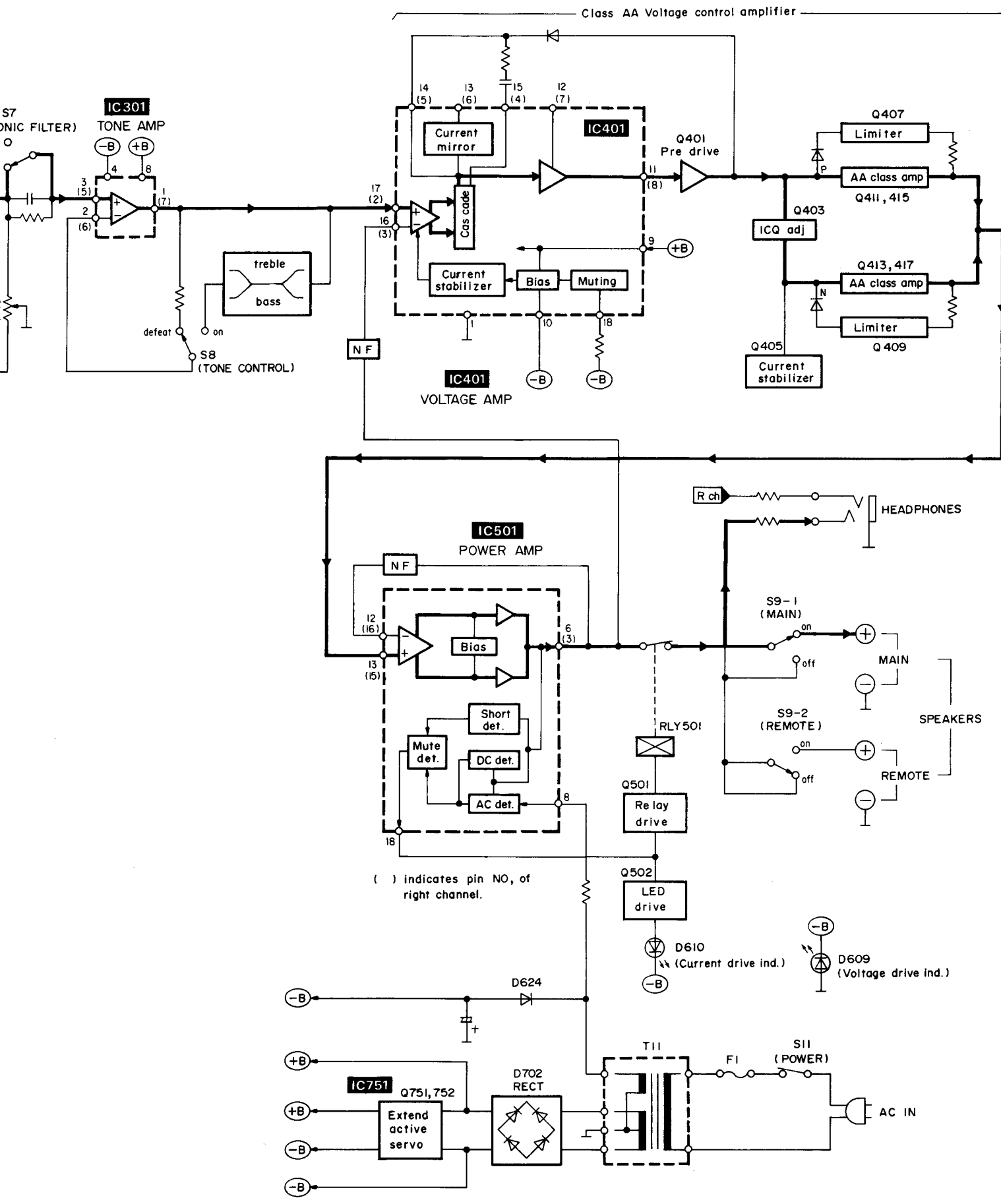


### REPLACEMENT PARTS LIST

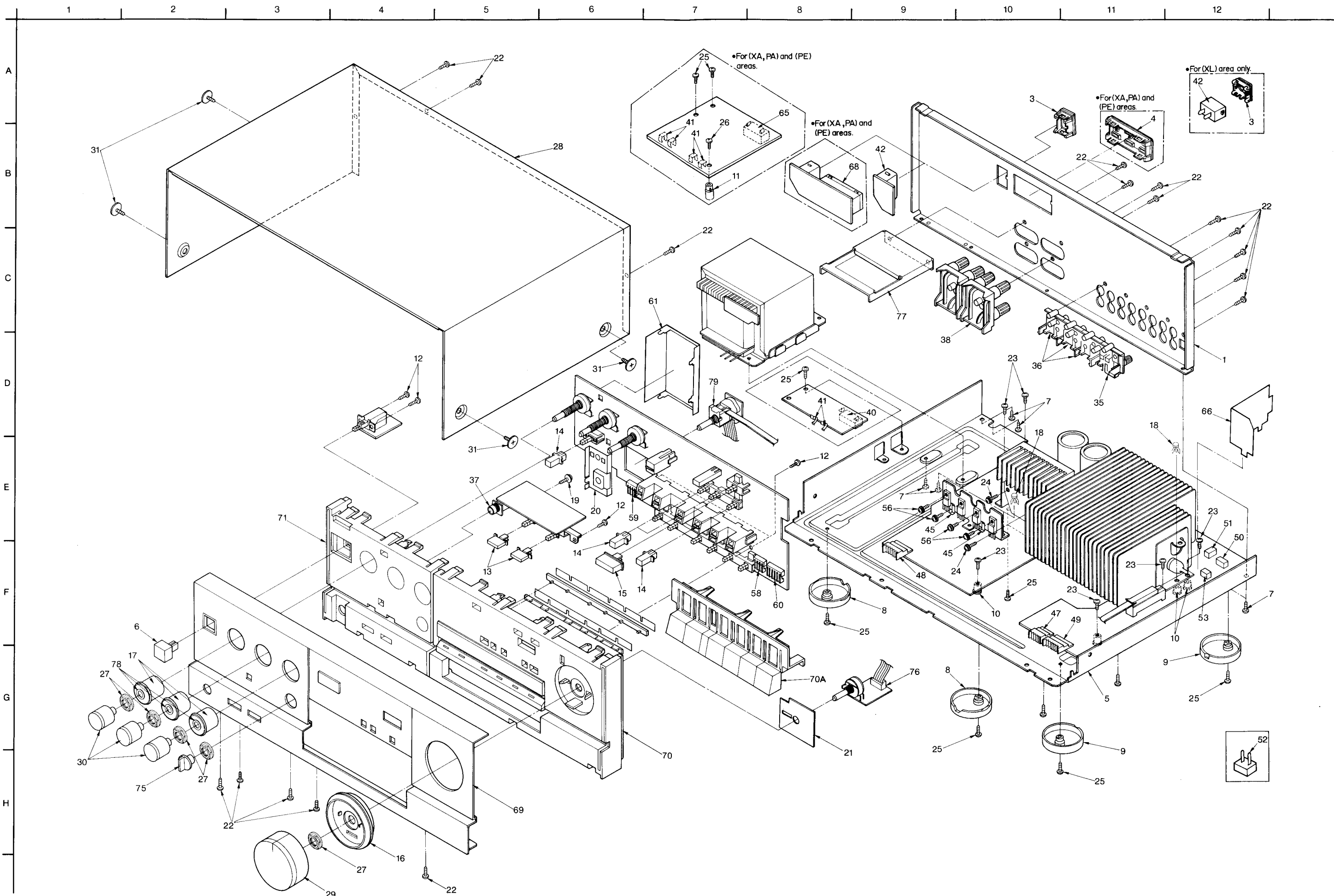
Notes : \* Important safety notice :  
 Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.  
 \* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)  
 Parts without these indications can be used for all areas.

### CABINET PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
<b>CABINET AND CHASSIS</b>					
1	SGPUV650-KE	REAR PANEL	27	SNE4021-1	NUT
(EF, EH, EB)			28	SKC2210K991	CABINET BODY
(E1)			28	SKC2210S981	CABINET BODY
1	SGP7440-1A	PANEL, REAR	29	SBN1249	KNOB, MAIN VOL
(XA, PA, PE)			29	SBN1249-1	KNOB, MAIN VOL
1	SGP7440A	PANEL, REAR	30	SBN1247	KNOB, TONE
(E)			30	SBN1248	KNOB, TONE
1	SGP7440B	PANEL, REAR	31	SNE2129-3	SCREW
(EG)			31	SNE2129-2	ORNAMENT SCREW
1	SGP7440C	REAR PANEL	35	SJF3070NJ	TERMINAL, PHONO IN
(EK)			36	SJF3071NJ	TERMINAL, INPUT
1	SGP7440D	PANEL, REAR	37	SJJD17B	JACK, HEADPHONES
(XL)			38	SJF4819	TERMINAL, SP
3	SJS9231A	AC INLET COVER	40	SJS305-1	JACK, POWER TRANSFORMER
(E, EG, EK, EF)					
(EH, EB, E1)					
(XL)					
3	SJS9234A	AC INLET COVER	41	$\Delta$ SJT388	FUSE HOLDER
(XL)			42	$\Delta$ SJS9231-1B	AC INLET
4	SJS9238A	AC OUTLET COVER			
(XA, PA, PE)					
5	SKU11420-5	BOTTOM BOARD	42	$\Delta$ SJS9231-1B	AC INLET
(E, EG, EK, EF)					
(EH, EB, E1)					
(XL)					
5	SKU11420-6	BOTTOM BOARD	45	SJS227	SPRING
(XA, PA, PE)			47	SJS5.780WL	CONNECTOR(7P)
6	$\Delta$ SBC666-5	BUTTON, POWER	48	SJS50880WL	CONNECTOR(8P)
6	$\Delta$ SBC666	BUTTON, POWER	49	SJS51060WL	CONNECTOR(10P)
7	XTB3+6FFZ	SCREW	50	SJT3319	CONNECTOR(3P)
8	SKL308	SET FOOT(L)	51	SJT3415	CONNECTOR(4P)
9	SKL309	SET FOOT(R)	52	SJT3209	TERMINAL, TEST POINT
10	SHE187-2	HOLDER	53	SJT30243-V	CONNECTOR(2P)
11	SHE237	HOLDER	56	XTW3+8T	SCREW
(XA, PA, PE)			58	SJT30747WL	CONNECTOR(7P)
12	XTB3+10G	SCREW	59	SJT30847WL	CONNECTOR(8P)
13	$\Delta$ SBC439-2	BUTTON, SP	60	SJT31047WL	CONNECTOR(10P)
13	$\Delta$ SBC439	BUTTON, SP	61	SMC1300	SHIELD COVER
14	$\Delta$ SBC719-1	BUTTON, TONE/SUB/LOUD	61	$\Delta$ SMC1295	SHIELD COVER
14	$\Delta$ SBC719	BUTTON, TONE/SUB/LOUD	65	SJS702-1	JACK, SOCKET, POWER TRANSFORMER
15	$\Delta$ SBC820	BUTTON, CD DIRECT			
15	$\Delta$ SBC820-1	BUTTON, CD DIRECT			
16	$\Delta$ SGX8006	ORNAMENT	66	SMC1299	SHIELD PLATE
16	$\Delta$ SGX8006-1	ORNAMENT	68	$\Delta$ SJS9288	SOCKET
17	$\Delta$ SGX8007	ORNAMENT			
17	$\Delta$ SGX8007-1	ORNAMENT			
18	SHR415	LOCK PIN	69	$\Delta$ SGWUV650-KE	FRONT PANEL
19	XTWS3+10Q	SCREW	69	$\Delta$ SGWUV650-SE	FRONT PANEL
20	$\Delta$ SMC1296	SHIELD COVER	70	$\Delta$ SGXUV650-KE1	FRONT GRILLE (R)
21	$\Delta$ SMC6407-1	SHIELD COVER	70	$\Delta$ SGXUV650-SE1	FRONT GRILLE (R)
22	XTBS3+10JFZ1	TAPPING SCREW	70A	$\Delta$ SBC1040	BUTTON, INPUT
23	XTB3+20J	SCREW	70A	$\Delta$ SBC1040-1	BUTTON, INPUT
24	XYN3+F14	TAPPING SCREW	71	$\Delta$ SGXUV650-KE2	FRONT GRILLE (L)
25	XTW3+10T	SCREW	71	$\Delta$ SGXUV650-SE2	FRONT GRILLE (L)
26	XTB3+30J	SCREW	75	$\Delta$ SBN1089-3	KNOB, REC
(XA, PA, PE)			75	$\Delta$ SBN1089-4	KNOB, REC
			76	SJT30543-V	CONNECTOR(5P)
			77	SUN3126	ANGLE
			78	SHW82S25A	WASHER
			79	ESA335029B	REC SELECTOR SW



# EXPLODED VIEW



## ● ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
INTEGRATED CIRCUITS			VR202	EVH0YA015G15	V.R. BALANCE
IC101	UPC4570C	I.C. PHONO EQ	VR301	EWCRYA023C15	V.R. TONE
IC301	UPC4570C	I.C. TONE CONTROL	VR302	EWCRYA023C15	V.R. TONE
IC401	AN7062N	I.C. V.AMP	VR401	EVND4AA00B52	V.R. I.C.Q ADJUST
IC501	SV13205	I.C. P.AMP/C.AMP	VR402	EVND4AA00B52	V.R. I.C.Q ADJUST
IC751	MS218P	I.C. ACTIVE SERVO	THERMISTORS AND VARISTORS		
TRANSISTORS			TH201	ERTD2WHL104S	THERMISTOR
Q101	2SK1708L	TRANSISTOR	TH202	ERTD2WHL104S	THERMISTOR
Q102	2SK1708L	TRANSISTOR	TH401	ERTD2WHL104S	THERMISTOR
Q103	2SK1708L	TRANSISTOR	TH402	ERTD2WHL104S	THERMISTOR
Q104	2SK1708L	TRANSISTOR	COILS AND TRANSFORMERS		
Q401	2SA1123R	TRANSISTOR	L1	Δ SLQZ650MH49	CHOKE COIL
Q402	2SA1123R	TRANSISTOR	(EG, E1)		
Q403	2SC1685NCQRS	TRANSISTOR	L101	SLM1Z33	MPX COIL
Q404	2SC1685NCQRS	TRANSISTOR	(EG, E1)		
Q405	2SC2631-Q	TRANSISTOR	L102	SLM1Z33	MPX COIL
Q406	2SC2631-Q	TRANSISTOR	(EG, E1)		
Q407	2SC3311A-Q	TRANSISTOR	L501	SLQY07G-50	COIL
Q408	2SC3311A-Q	TRANSISTOR	L502	SLQY07G-50	COIL
Q409	2SA1309Q	TRANSISTOR	L503	SLQY18G-20	COIL
Q410	2SA1309Q	TRANSISTOR	L504	SLQY18G-20	COIL
Q411	2SC2631-Q	TRANSISTOR	L505	SLQY07G-50	COIL
Q412	2SC2631-Q	TRANSISTOR	(EG, E1)		
Q413	2SA1123R	TRANSISTOR	L506	SLQY07G-50	COIL
Q414	2SA1123R	TRANSISTOR	(EG, E1)		
Q415	2SC3944AQRS	TRANSISTOR	L507	SLQY07G-50	COIL
Q416	2SC3944AQRS	TRANSISTOR	(EG, E1)		
Q417	2SA1535AQRS	TRANSISTOR	L508	SLQY07G-50	COIL
Q418	2SA1535AQRS	TRANSISTOR	(EG, E1)		
Q501	2SA992EFP	TRANSISTOR	T11	Δ SLT5Q154	POWER TRANSFORMER
Q502	UN4112TA	TRANSISTOR	(E, EG, EF, EH)		
Q751	2SC3944AQRS	TRANSISTOR	(EB, E1)		
Q752	2SA1535AQRS	TRANSISTOR	T11	Δ SLT5Q155	POWER TRANSFORMER
DIODES			(EK, XL)		
D101	MA165	DIODE	T11	Δ SLT5Q156	POWER TRANSFORMER
D102	MA165	DIODE	(XA, PA, PE)		
D401	MA167	DIODE	FUSES		
D402	MA167	DIODE	F1	Δ XBA2C25TB0	FUSE, T2.5A 250V
D403	MA4036MTA	DIODE	(EK, XL)		
D404	MA4036MTA	DIODE	F1	Δ XBA2C31TB0	FUSE 250V, T3.15A
D405	MA165	DIODE	(E, EG, EF, EH)		
D406	MA165	DIODE	(EB, E1, XA)		
D407	MA165	DIODE	(PA, PE)		
D408	MA165	DIODE	F2	Δ XBA2C63TB0	FUSE 250V, T6.3A
D409	MA29WA	DIODE	(XA, PA, PE)		
D501	MA165	DIODE	SWITCHES		
D503	MA4160M	DIODE	S1-1	SSH6002	PUSH SWITCH, PHONO
D601	LN018454PH	DIODE, L.E.D	S1-2	SSH6002	PUSH SWITCH, TUNER
D602	MA4033	DIODE	S1-3	SSH6002	PUSH SWITCH, CD
D603	LN121456PH	DIODE, L.E.D	S1-4	SSH6002	PUSH SWITCH, AUX
D604	LN121456PH	DIODE, L.E.D	S1-5	SSH6002	PUSH SWITCH, TAPE2/EXT
D605	LN121456PH	DIODE, L.E.D	S1-6	SSH6002	PUSH SWITCH, TAPE1/DAT
D606	LN121456PH	DIODE, L.E.D	S12	Δ ESE37263	SW. VOLTAGE SELECTOR
D608	LN121456PH	DIODE, L.E.D	(XA, PA, PE)		
D609	LN021455PH	DIODE, L.E.D	S3-1	ESA2682	SWITCH, REC SELECTOR
D610	LN021455PH	DIODE, L.E.D	S3-2	ESA335029B	SWITCH, REC SELECTOR
D614	LN121456PH	DIODE, L.E.D	S4	SSH3704	SWITCH, PHONO SELECTOR
D615	LN121456PH	DIODE, L.E.D	S5	SSH1215	SWITCH, CD DIRECT
D616	LN121456PH	DIODE, L.E.D	S6	SSH3704	SWITCH, LOUDNESS
D617	LN121456PH	DIODE, L.E.D	S7	SSH3704	SWITCH, SUBSONIC
D618	LN121456PH	DIODE, L.E.D	S8	SSH1218	SWITCH, TONE CONTROL
D619	LN121456PH	DIODE, L.E.D	S9-1	SSH2115	SWITCH, SP MAIN
D624	Δ SVD1SR35200A	DIODE	S9-2	SSH2115	SWITCH, SP REMOTE
D702	Δ SVDS10VB20F	DIODE	S11	Δ ESB8249V	SW. POWER
D703	MA4160M	DIODE	(E, EG, EK, EF)		
D704	MA4160M	DIODE	(EH, EB, E1)		
D751	MA4180-M	DIODE	(XL)		
D752	MA4180-M	DIODE	S11	Δ SSH1201	SW. POWER
D753	MA165	DIODE	(XA, PA, PE)		
VARIABLE RESISTORS			RELAYS		
VR201	EWJXA090B15	V.R. MAIN VOL	RLY501	SSY126	RELAY

# RESISTORS AND CAPACITORS

Notes : \* Important safety notice :

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\* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)

Parts without these indications can be used for all areas.

## Numbering System of Resistor

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1K $\Omega$ )
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470 $\Omega$ )

## Numbering System of Capacitor

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001 $\mu$ F)	Tolerance	Peculiarity
ECEA	50	M	330	
Type	Voltage (50V)	Peculiarity	Value (33 $\mu$ F)	

● Capacity values are in microfarads ( $\mu$ F) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).

● Resistance values are in ohms ( $\Omega$ ), unless specified otherwise, 1K = 1,000 $\Omega$ , 1M = 1,000k $\Omega$

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : $\pm$ 5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : $\pm$ 1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : $\pm$ 2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : $\pm$ 5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : $\pm$ 10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : $\pm$ 20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : $\pm$ 10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : $\pm$ 20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 % -20
ECQM	: Polyester	50 : 50V	05 : 50V	J : $\pm$ 5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : $\pm$ 2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : $\pm$ 1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : $\pm$ 0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : $\pm$ 0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
RESISTORS(VALUE, WATTAGE)			(EG, E1)			R313	ERDS2TJ562	5.6K 1/4
R101	ERDS2TJ102	1K 1/4	R204	ERDS2TJ102	1K 1/4	R314	ERDS2TJ562	5.6K 1/4
(EG, E1)			(EG, E1)			R315	ERD25FJ392	3.9K 1/4
R102	ERDS2TJ102	1K 1/4	R205	ERDS2TJ102	1K 1/4	R316	ERD25FJ392	3.9K 1/4
(EG, E1)			(EG, E1)			R317	ERD25FJ223	22K 1/4
R103	ERDS2TJ102	1K 1/4	R206	ERDS2TJ102	1K 1/4	R318	ERD25FJ223	22K 1/4
(EG, E1)			(EG, E1)			R319	ERDS2TJ183	18K 1/4
R104	ERDS2TJ102	1K 1/4	R207	ERDS2TJ102	1K 1/4	R320	ERDS2TJ183	18K 1/4
(EG, E1)			(EG, E1)			R401	ERDS2TJ122	1.2K 1/4
R105	ERDS2TJ473	47K 1/4	R208	ERDS2TJ102	1K 1/4	R402	ERDS2TJ122	1.2K 1/4
R106	ERDS2TJ473	47K 1/4	(EG, E1)			R403	ERDS2TJ823	82K 1/4
R107	ERDS2TJ221	220 1/4	R209	ERDS2TJ102	1K 1/4	R404	ERDS2TJ823	82K 1/4
R108	ERDS2TJ221	220 1/4	(EG, E1)			R405	ERD25FJ272	2.7K 1/4
R109	ERDS2TJ220	22 1/4	R210	ERDS2TJ102	1K 1/4	R406	ERD25FJ272	2.7K 1/4
R110	ERDS2TJ220	22 1/4	(EG, E1)			R407	ERD25TJ104	100K 1/4
R111	ERD25FJ332	3.3K 1/4	R211	ERDS2TJ473	47K 1/4	R408	ERD25TJ104	100K 1/4
R112	ERD25FJ332	3.3K 1/4	R212	ERDS2TJ473	47K 1/4	R409	ERDS2TJ561	560 1/4
R113	ERDS2TJ332	3.3K 1/4	R213	ERDS2TJ183	18K 1/4	R410	ERDS2TJ561	560 1/4
R114	ERDS2TJ332	3.3K 1/4	R214	ERDS2TJ183	18K 1/4	R411	$\Delta$ ERD25FJ470	47 1/4
R115	ERD25FJ332	3.3K 1/4	R215	ERDS2TJ824	820K 1/4	R412	$\Delta$ ERD25FJ470	47 1/4
R116	ERD25FJ332	3.3K 1/4	R216	ERDS2TJ824	820K 1/4	R415	ERDS2TJ182	1.8K 1/4
R117	ERDS2TJ151	150 1/4	R219	ERD25FJ272	2.7K 1/4	R416	ERDS2TJ182	1.8K 1/4
R118	ERDS2TJ151	150 1/4	R220	ERD25FJ272	2.7K 1/4	R417	ERDS2TJ391	390 1/4
R119	ERDS2TJ100	10 1/4	R221	ERDS2TJ102	1K 1/4	R418	ERDS2TJ391	390 1/4
R120	ERDS2TJ100	10 1/4	(EG, E1)			R419	$\Delta$ ERD25FJ101	100 1/4
R121	ERDS2TJ101	100 1/4	R222	ERDS2TJ102	1K 1/4	R420	$\Delta$ ERD25FJ101	100 1/4
R122	ERDS2TJ101	100 1/4	(EG, E1)			R421	ERDS2TJ223	22K 1/4
R123	ERDS2TJ151	150 1/4	R223	ERDS2TJ102	1K 1/4	R422	ERDS2TJ223	22K 1/4
R124	ERDS2TJ151	150 1/4	(EG, E1)			R423	$\Delta$ ERD25FJ821	820 1/4
R125	ERDS2TJ682	6.8K 1/4	R224	ERDS2TJ102	1K 1/4	R424	$\Delta$ ERD25FJ821	820 1/4
R126	ERDS2TJ682	6.8K 1/4	(EG, E1)			R425	ERDS2TJ223	22K 1/4
R127	ERDS2TJ823	82K 1/4	R301	ERD25FJ561	560 1/4	R426	ERDS2TJ223	22K 1/4
R128	ERDS2TJ823	82K 1/4	R302	ERD25FJ561	560 1/4	R427	$\Delta$ ERD25FJ101	100 1/4
R129	ERDS2TJ334	330K 1/4	R303	ERDS2TJ823	82K 1/4	R428	$\Delta$ ERD25FJ101	100 1/4
R130	ERDS2TJ334	330K 1/4	R304	ERDS2TJ823	82K 1/4	R429	$\Delta$ ERD25FJ2R2	2.2 1/4
R131	ERDS2TJ561	560 1/4	R305	ERDS2TJ224	220K 1/4	R430	$\Delta$ ERD25FJ2R2	2.2 1/4
R132	ERDS2TJ561	560 1/4	R306	ERDS2TJ224	220K 1/4	R431	$\Delta$ ERD25FJ2R2	2.2 1/4
R201	ERDS2TJ102	1K 1/4	R307	ERDS2TJ392	3.9K 1/4	R432	$\Delta$ ERD25FJ2R2	2.2 1/4
(EG, E1)			R308	ERDS2TJ392	3.9K 1/4	R433	$\Delta$ ERD25FJ101	100 1/4
R202	ERDS2TJ102	1K 1/4	R309	ERDS2TJ223	22K 1/4	R434	$\Delta$ ERD25FJ101	100 1/4
(EG, E1)			R310	ERDS2TJ223	22K 1/4	R435	ERDS2TJ103	10K 1/4
R203	ERDS2TJ102	1K 1/4	R311	ERDS2TJ102	1K 1/4	R436	$\Delta$ ERD25FJ470	47 1/4
			R312	ERDS2TJ102	1K 1/4	R437	ERDS2TJ473	47K 1/4



Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
R438	△ ERD25FJ6R8	6.8 1/4	C118	ECEA1HK010	1 50	C421	ECCD2H680K	68P 500
R439	△ ERD25FJ6R8	6.8 1/4	C119	ECQM1H472JZ	0.0047 50	C422	ECCD2H680K	68P 500
R501	ERDS2T J392	3.9K 1/4	C120	ECQM1H472JZ	0.0047 50	C423	ECKD1H333PF	0.033 50
R502	ERDS2T J392	3.9K 1/4	C121	ECKD1H103PF	0.01 50	C424	ECKD1H333PF	0.033 50
R503	ERDS2T J121	120 1/4	C122	ECKD1H103PF	0.01 50	C425	ECEA2AU100	10 100
R504	ERDS2T J121	120 1/4	C203	RCBC1H101KBY	100P 50	C427	ECKD1H223PF	0.022 50
R505	ERDS2T J392	3.9K 1/4	(EG, E1)			C429	ECEA1HK010	1 50
R506	ERDS2T J392	3.9K 1/4	C204	RCBC1H101KBY	100P 50	C430	ECEA1HK010	1 50
R507	ERDS2T J121	120 1/4	(EG, E1)			C501	ECEA0JPS101B	100 6.3
R508	ERDS2T J121	120 1/4	C205	RCBC1H101KBY	100P 50	C502	ECEA0JPS101B	100 6.3
R509	ERF2AKR10P	0.1 2	(EG, E1)			C503	ECEA0JPS101B	100 6.3
R510	ERF2AKR10P	0.1 2	C206	RCBC1H101KBY	100P 50	C504	ECEA0JPS101B	100 6.3
R511	ERF2AKR10P	0.1 2	(EG, E1)			C505	ECKD1H223PF	0.022 50
R512	ERF2AKR10P	0.1 2	C207	RCBC1H101KBY	100P 50	(E, EG, EF, EH)		
R513	△ ERD25FJ100	10 1/4	(EG, E1)			(EB, E1, XA)		
R514	△ ERD25FJ100	10 1/4	C208	RCBC1H101KBY	100P 50	(PA, PE)		
R515	△ ERD25FJ100	10 1/4	(EG, E1)			C505	ECKD1H473ZF	0.047 50
R516	△ ERD25FJ100	10 1/4	C209	RCBC1H101KBY	100P 50	(EK, XL)		
R517	△ ERD25FJ1R0	1 1/4	(EG, E1)			C506	ECKD1H223PF	0.022 50
R518	△ ERD25FJ1R0	1 1/4	C210	RCBC1H101KBY	100P 50	(E, EG, EF, EH)		
R519	△ ERD25FJ100	10 1/4	(EG, E1)			(EB, E1, XA)		
R520	△ ERD25FJ100	10 1/4	C211	RCBC1H101KBY	100P 50	(PA, PE)		
R521	△ ERDS1FJ100	10 1/2	(EG, E1)			C506	ECKD1H473ZF	0.047 50
R522	△ ERDS1FJ100	10 1/2	C212	RCBC1H101KBY	100P 50	(EK, XL)		
R523	ERG2S J331H	330 2	(EG, E1)			C507	ECEA0JPS101B	100 6.3
R524	ERG2S J331H	330 2	C213	ECQM1H563JV	0.056 50	C508	ECEA1HU470	47 50
R525	ERG2ANJP102S	1K 2	C214	ECQM1H563JV	0.056 50	C509	ECEA1HN100S	10 50
R526	ERDS2T J223	22K 1/4	C215	ECQM1H563JV	0.056 50	C513	ECKD1H223PF	0.022 50
R527	ERDS2T J223	22K 1/4	C216	ECQM1H563JV	0.056 50	(E, EG, EF, EH)		
R528	ERDS2T J824	820K 1/4	C217	RCBC1H101KBY	100P 50	(EB, E1, XA)		
R529	ERDS2T J124	120K 1/4	(EG, E1)			(PA, PE)		
R531	△ ERDS1FJ100	10 1/2	C218	RCBC1H101KBY	100P 50	C513	ECKD1H473ZF	0.047 50
R532	△ ERDS1FJ100	10 1/2	(EG, E1)			(EK, XL)		
R601	ERDS2T J471	470 1/4	C219	RCBC1H101KBY	100P 50	C514	ECKD1H223PF	0.022 50
R602	ERDS2T J471	470 1/4	(EG, E1)			(E, EG, EF, EH)		
R603	ERDS2T J221	220 1/4	C220	RCBC1H101KBY	100P 50	(EB, E1, XA)		
R604	ERDS2T J471	470 1/4	(EG, E1)			(PA, PE)		
R605	ERDS2T J221	220 1/4	C301	ECEA1HPS3R3	3.3 50	C514	ECKD1H473ZF	0.047 50
R613	△ ERDS1FJ180	18 1/2	C302	ECEA1HPS3R3	3.3 50	(EK, XL)		
R701	△ ERD25FJ151	150 1/4	C303	ECCD1H101K	100P 50	C515	ECKD1H473ZF	0.047 50
R702	△ ERD25FJ151	150 1/4	C304	ECCD1H101K	100P 50	(EK, XL)		
R703	△ ERDS1FJ682	6.8K 1/2	C305	ECCD1H820K	82P 50	C516	ECKD1H473ZF	0.047 50
R704	△ ERDS1FJ682	6.8K 1/2	C306	ECCD1H820K	82P 50	(EK, XL)		
R751	ERDS2T J223	22K 1/4	C307	ECEA1VPS4R7	4.7 35	C517	ECKD1H473ZF	0.047 50
R752	ERDS2T J223	22K 1/4	C308	ECEA1VPS4R7	4.7 35	(EK, XL)		
R753	ERDS2T J102	1K 1/4	C309	ECCD1H390K	39P 50	C518	ECKD1H473ZF	0.047 50
R754	ERDS2T J153	15K 1/4	C310	ECCD1H390K	39P 50	(EK, XL)		
R755	ERDS2T J823	82K 1/4	C311	ECEA1CPS100	10 16	C521	ECQM1H333JZ	0.033 50
R756	ERDS2T J153	15K 1/4	C312	ECEA1CPS100	10 16	(EG, E1)		
R757	ERDS2T J102	1K 1/4	C313	ECQM1H823JZ	0.082 50	C522	ECQM1H333JZ	0.033 50
R758	ERDS2T J102	1K 1/4	C314	ECQM1H823JZ	0.082 50	(EG, E1)		
CAPACITORS (VALUE, VOLTAGE)								
C1	△ ECKWNS103ZV	0.01	C315	ECQM1H153JZ	0.015 50	C523	ECKD1H102MD	0.001 50
C1	△ ECKWNS103ZVS	0.01	C316	ECQM1H153JZ	0.015 50	(EG, E1)		
(E, EG, EK, EF)			C317	ECQM1H183JZ	0.018 50	C524	ECKD1H102MD	0.001 50
(EH, EB, E1)			C318	ECQM1H183JZ	0.018 50	(EG, E1)		
(XL)			C319	ECQM1H182JZ	0.0018 50	C525	ECQM1H333JZ	0.033 50
C101	RCBS1H120JLY	12P 50	C320	ECQM1H182JZ	0.0018 50	(EG, E1)		
(EG, E1)			C401	ECEA1HPS3R3	3.3 50	C526	ECQM1H333JZ	0.033 50
C102	RCBS1H120JLY	12P 50	C402	ECEA1HPS3R3	3.3 50	(EG, E1)		
(EG, E1)			C403	ECKD1H271KB	270P 50	C527	ECKD1H102MD	0.001 50
C103	ECQM1H103JZ	0.01 50	C404	ECKD1H271KB	270P 50	(EG, E1)		
C104	ECQM1H103JZ	0.01 50	C405	ECEA1CPS220	22 16	C528	ECKD1H102MD	0.001 50
C105	ECCD1H820K	82P 50	C406	ECEA1CPS220	22 16	(EG, E1)		
C106	ECCD1H820K	82P 50	C407	ECCD1H820K	82P 50	C605	ECEA1CU471	470 16
C107	ECEA0JU222	2200 6.3	C408	ECCD1H820K	82P 50	C701	ECEA1JPS3R3B	3.3 63
C108	ECEA0JU222	2200 6.3	C409	ECCD1H100KC	10P 50	C702	ECEA1JPS3R3B	3.3 63
C109	ECQM1H222JZ	0.0022 50	C410	ECCD1H100KC	10P 50	C705	ECET1JV103LM	10000 63
C110	ECQM1H222JZ	0.0022 50	C411	ECKD1H681K	680P 50	C706	ECET1JV103LM	10000 63
C111	ECQM1H122JZ	0.0012 50	C412	ECKD1H681K	680P 50	C708	△ ECKD2H103PE	0.01 500
C112	ECQM1H122JZ	0.0012 50	C413	ECCD2H070D	7P 500	(E, EK, EF, EH)		
C113	ECQM1H103JZ	0.01 50	C414	ECCD2H070D	7P 500	(EB, XL, XA)		
C114	ECQM1H103JZ	0.01 50	C415	ECQM1H102JZ	0.001 50	(PA, PE)		
C115	ECQM1H393JZ	0.039 50	C416	ECQM1H102JZ	0.001 50	C708	△ ECQE2104KS	0.1 250
C116	ECQM1H393JZ	0.039 50	C417	ECEA1HK010	1 50	(EG, E1)		
C117	ECEA1HK010	1 50	C418	ECEA1HK010	1 50	C751	ECEA1EK100	10 25
			C419	ECCD2H680K	68P 500	C752	ECEA1EK100	10 25
			C420	ECCD2H680K	68P 500	C753	ECEA1EK100	10 25

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
C754	ECEA1EK3R3B	3.3 25	C755	ECEA1EK3R3B	3.3 25	C756	ECKD1H821KB	820P 50
						C757	ECKD1H103PF	0.01 50
						C758	ECKD1H103PF	0.01 50

**●PACKING PARTS LIST**

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
<b>PACKING MATERIAL</b>			A1	SQF13375	INSTRUCTION BOOK
P1	⊗ SPG6386	PACKING CASE	{E, EF, EH, EB}		
	{E, EG, EK, EH}		A1	SQF13376	INSTRUCTION BOOK
	{EB, EI, XL}		{EG}		
	{XA, PA, PE}		A1	SQF13377	INSTRUCTION BOOK
P1	⊗ SPG6387	PACKING CASE	{EK, XL}		
	{EF}		A1	SQF13378	INSTRUCTION BOOK
P1	⊙ SPG6388	PACKING CASE	{E1}		
	{E, EG, EK, EH}		A1	SQF13379	INSTRUCTION BOOK
	{EB, EI, XL}		{XA}		
	{XA, PA, PE}		A1	SQF13380	INSTRUCTION BOOK
P1	⊙ SPG6389	PACKING CASE	{PA, PE}		
	{EF}		A2 △	SFDAC05E03	POWER CORD
P2	SPS5257	PAD	{E, EG, EF, EH}		
P3	SPS5258	PAD	{EB, EI}		
P4	SPS5185	PAD	A2 △	SJA168	POWER CORD
P5	⊗ SPP730	PROTECTION COVER	{XA, PA, PE}		
P5	⊙ SPP705	PROTECTION COVER	A2 △	SJA173	POWER CORD
P6	SKL312	INSULATOR	{XL}		
<b>ACCESSORIES</b>			A2 △	SJA193	POWER CORD
			{EK}		
			A3 △	RJP120ZBS-H	AC PLUG ADAPTOR
			{XA, PA, PE}		

# Service Manual

Amplifier

## SU-V650

Color

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

**Supplement**

Stereo Integrated Amplifier

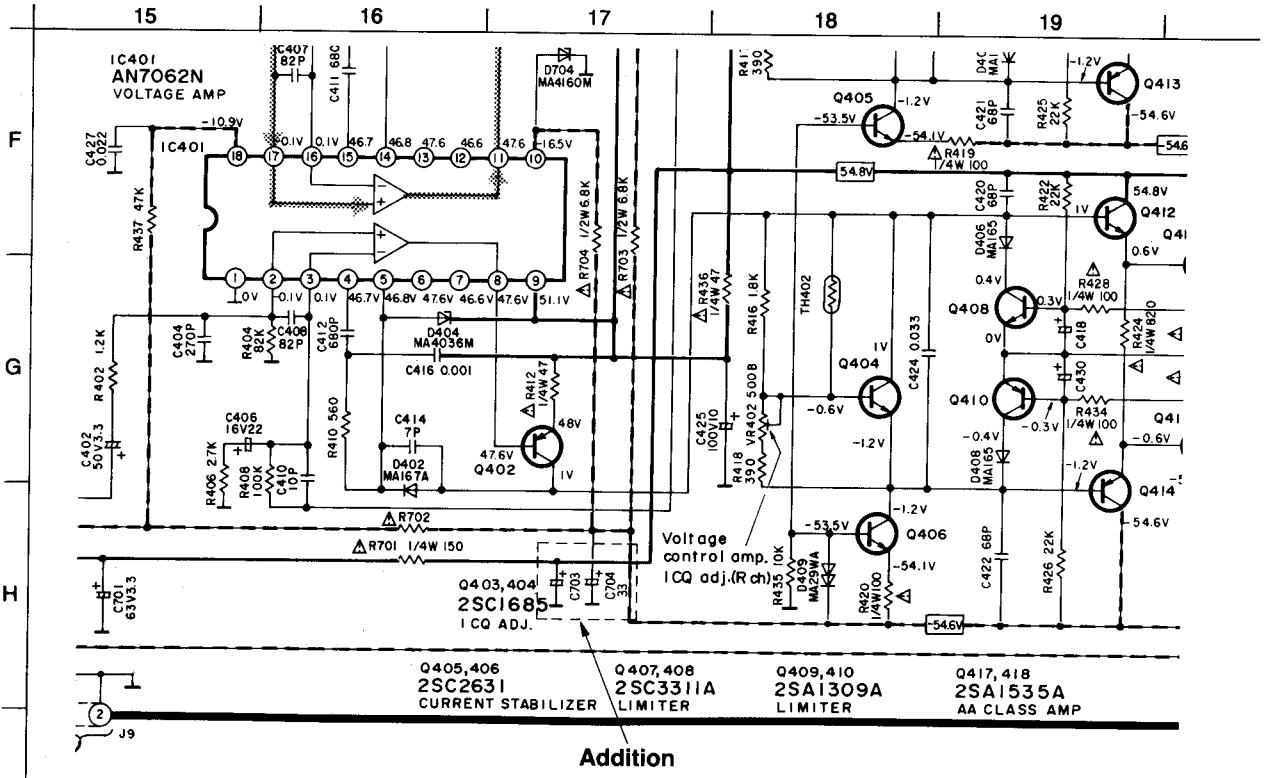
**Area**

Color	Area
(S)(K)	(E) .....Continental Europe.
(S)(K)	(Ei) .....Italy.
(S)(K)	(EG) .....F.R.Germany.
(S)(K)	(EB) .....Belgium.
(S)(K)	(EK) .....United Kingdom.
(S)(K)	(EF) .....France.
(S)(K)	(EH) .....Holland.
(S)(K)	(XL) .....Australia.
(S)(K)	(XA) .....Asia, Latin America, Middle Near East, Africa and Oceania.
(S)(K)	(PA) .....Far East PX.
(S)(K)	(PE) .....European Military.

Please file and use this supplement manual together with the Service Manual for Model No. **SU-V650**, Order No. **AD8805088C9**.  
This supplement is issued to correct a mistake in a part number on page 25.

Ref. No.	Wrong Part No.	Correct Part No.	Part Name & Descriptions	Remarks
C703	—	ECEA1JU330	E. Capacitor, 63 V 33 μF	Addition
C704	—	ECEA1JU330	E. Capacitor, 63 V 33 μF	Addition

## ■ SCHEMATIC DIAGRAM (See page 11)



## ■ CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM (See page 15)

