

# Service Manual

Amplifier

Stereo Integrated Amplifier

## SU-V470

Color

(S)	Sliver Type
(K)	Black Type



Area

Country Code	Areas	Color
(E)	Continental Europe	(K) (S)
(EB)	Great Britain	(K) (S)
(EG)	F.R. Germany & Italy	(K) (S)

## SPECIFICATIONS

(DIN 45 500)

<b>20 Hz~20 kHz continuous power output</b>	
both channels driven	2 × 45 W (8 Ω)
<b>1 kHz continuous power output</b>	
both channels driven (THD: 1%)	2 × 60 W (8 Ω) 2 × 85 W (4 Ω)
<b>63 Hz~12.5 kHz continuous power output</b>	
both channels driven (0.7%)	2 × 55 W (8 Ω) 2 × 75 W (4 Ω)
<b>Total harmonic distortion (Power Amp Direct input)</b>	
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)
<b>Intermodulation distortion</b>	
rated power at 50 Hz: 7 kHz = 4:1, SMPTE, 8 Ω	0.007 %
<b>Residual hum and noise</b>	0.2 mV
<b>Damping factor</b>	60 (8 Ω), 30 (4 Ω)
<b>Headphones output level and impedance</b>	540 mV/330 Ω
<b>Load impedance</b>	
A or B	4 Ω~16 Ω
A and B	8 Ω~16 Ω
<b>Input sensitivity and impedance</b>	
PHONO MM	2.5 mV/47 kΩ
PHONO MC	170 μV/220 Ω
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT	150 mV/22 kΩ
POWER AMP DIRECT	1 V/18 kΩ
<b>Phono maximum input voltage (IHF '66, 1 kHz, RMS)</b>	
MM	160 mV
MC	12 mV
<b>S/N</b>	
rated power (4 Ω)	
PHONO MM	77 dB (IHF '66: 83 dB)
PHONO MC	64 dB (IHF '66: 64 dB, S=250 μV)
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)	

<b>PHONO MM</b>	76 dB
<b>PHONO MC</b>	63 dB
<b>TUNER, CD, AUX, TAPE 1, TAPE 2/DAT</b>	84 dB

<b>50 mW power (4 Ω)</b>	
PHONO MM	75 dB
PHONO MC	63 dB
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT	78 dB

<b>Frequency response</b>	
PHONO MM	RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, CD, AUX, TAPE 1, TAPE 2/DAT	3 Hz~100 kHz (+0, -3 dB) +0 dB, -0.2 dB (20 Hz~20 kHz)
POWER AMP DIRECT	2 Hz~120 kHz (+0, -3 dB) +0 dB, -0.2 dB (20 Hz~20 kHz)

<b>Tone controls</b>	
BASS	50 Hz, +10 dB, -10 dB
TREBLE	20 kHz, +10 dB, -10 dB
<b>Loudness control (volume at -30 dB)</b>	50 Hz, +9 dB
<b>Output voltage</b>	
TAPE 1, TAPE 2/DAT REC OUT	150 mV
<b>Channel balance, AUX 250 Hz~6,300 Hz</b>	±1 dB
<b>Channel separation, AUX 1 kHz</b>	50 dB

### ■ GENERAL

<b>Power consumption</b>	450 W
<b>Power supply</b>	
For Great Britain	AC 50 Hz/60 Hz, 240 V
For others	AC 50 Hz/60 Hz, 220 V
<b>Dimensions (W × H × D)</b>	430 × 125 × 320 mm (16-15/16" × 4-15/16" × 12-5/8")
<b>Weight</b>	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

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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 (VR451 and VR452) 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 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 220 V	AC 240 V
Consumed current	50 Hz	60~240 mA	55~220 mA
	60 Hz	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.

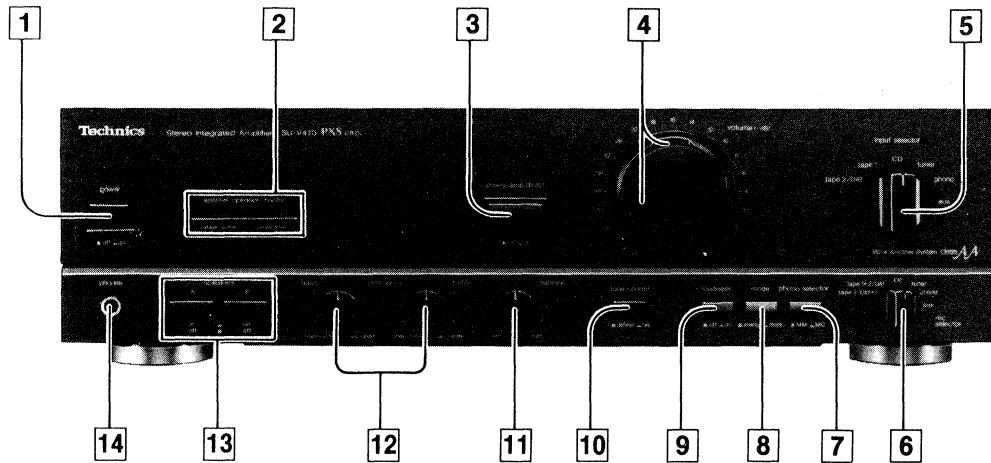
**Note:**

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

## ACCESSORY

- AC power supply cord ..... 1  
(SFDAC05E03) ..... For [E] and [EG] areas.  
(SJA193) ..... For [EB] area only.

## ■ LOCATION OF CONTROLS



### 1 Power switch (power)

### 2 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.

### 3 Power amplifier direct switch (power amp direct)

This switch is used to listen to the sound from a component connected to the "POWER AMP DIRECT" terminals.

When this switch is pressed inward to the "on" position, a superior level of tone quality can be obtained, because the signals from the component connected to the "POWER AMP DIRECT" terminals are sent directly to the volume control and power amp section of this unit. The mode selector, loudness switch, balance control and tone control circuit are bypassed.

### 4 Volume control/indicator (volume)

There are two types of volume scale indications: one for when the power amplifier direct switch is OFF, and one for when it is ON (Indicator will illuminate.).

### 5 Input selector (input selector)

This selector is used to select the sound source to be heard, such as a disc, radio broadcast, etc.

### 6 Recording output selector (rec selector)

This selector is used to select the sound source to be recorded by the connected tape deck 1 and/or tape deck 2 (or DAT).

### 7 Phono cartridge selector (phono selector)

This selector should be set to the position which corresponds to the type of cartridge used on the turntable.

### 8 Mode selector (mode)

This selector is used to select stereo or monaural operation.

### 9 Loudness switch (loudness)

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

### 10 Tone control switch (tone control)

This switch is used to turn the tone control circuit (bass, treble) on or off.

### 11 Balance control (balance)

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

### 12 Tone controls (bass/treble)

The bass control is used to adjust the low-frequency sound range, and the treble control is used to adjust the high-frequency sound range.

### 13 Speaker selectors (speakers)

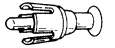
These selectors are used to turn the speaker systems on and off.

### 14 Headphones jack (phones)

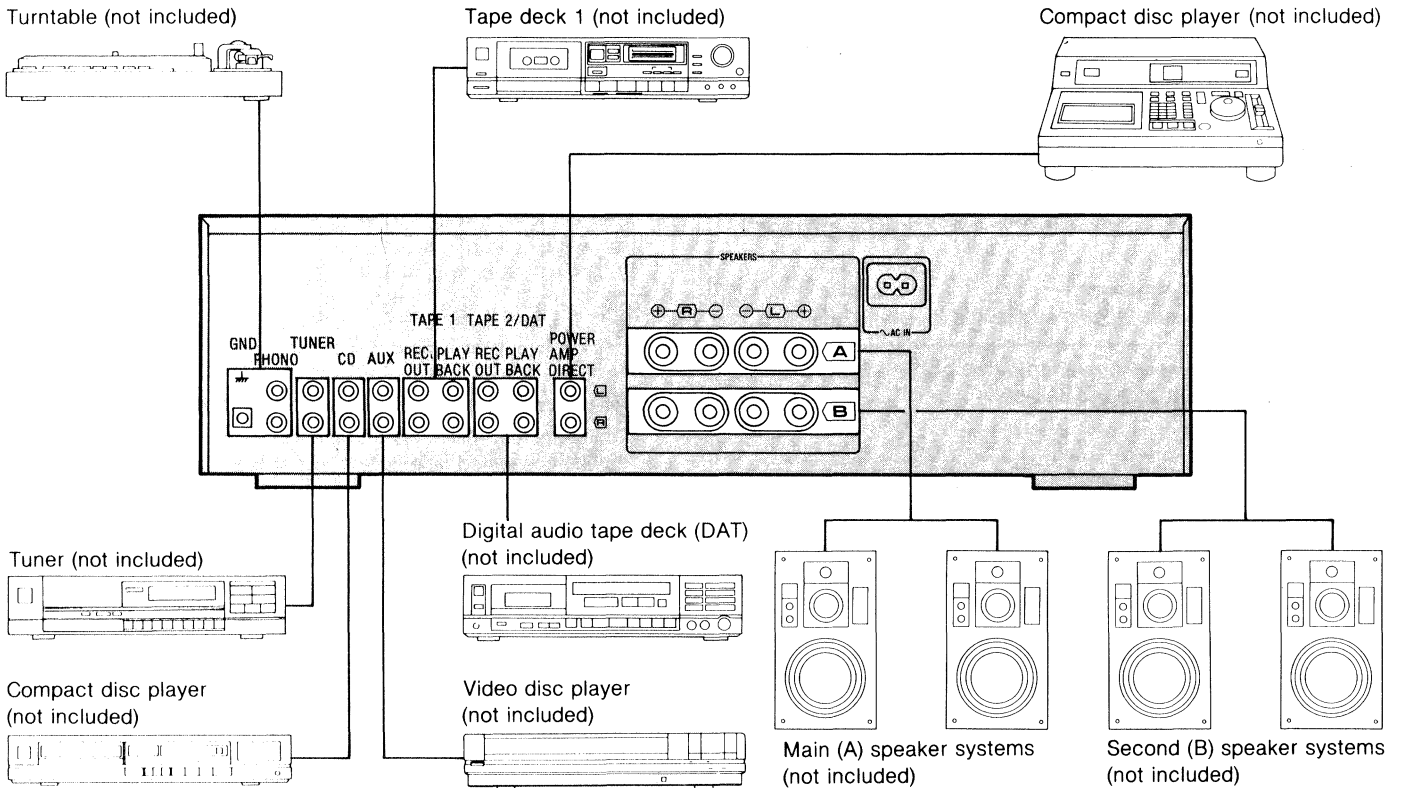
# CONNECTIONS

## Using the short-circuit pins (included)

Shorting pins are inserted into the "PHONO" terminals to reduce noise. Remove the pins before connecting a turntable and reinsert the pins if the turntable is later disconnected. Never connect a shorting pin to a "REC OUT" terminal or any terminal other than those above.



## System configurations



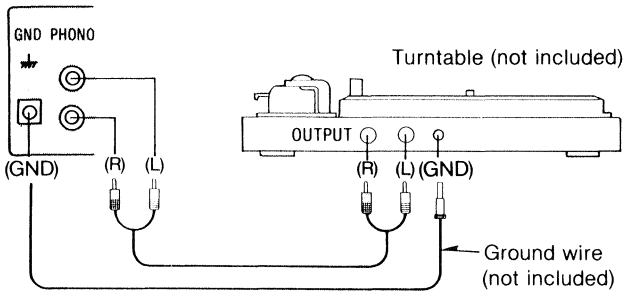
\*Phono input capacitance is about 270 pF for EG area (about 100 pF for other areas).

## To connect to each terminals

Make connections to each component in the system by using stereo connection cables (not included).

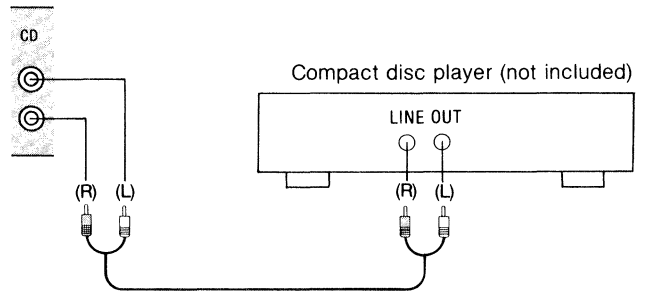
### "PHONO" terminals

Connect a turntable. See "Using the short-circuit pins", above.



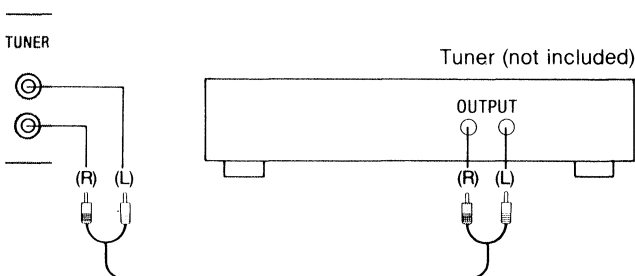
### "CD" terminals

Connect a compact disc player.



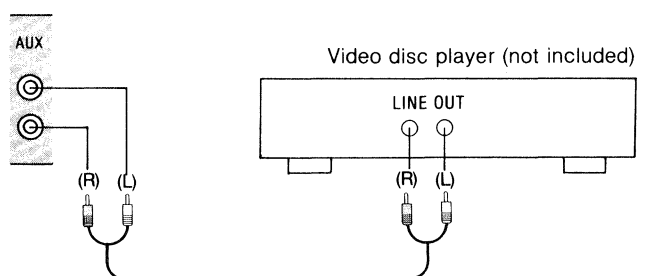
### "TUNER" terminals

Connect a tuner.



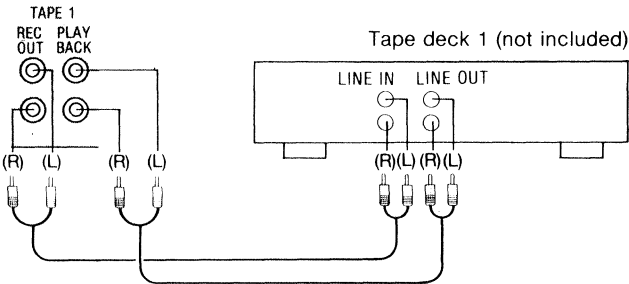
### "AUX" terminals

Connect a component such as a video disc player (audio only connectable), etc.



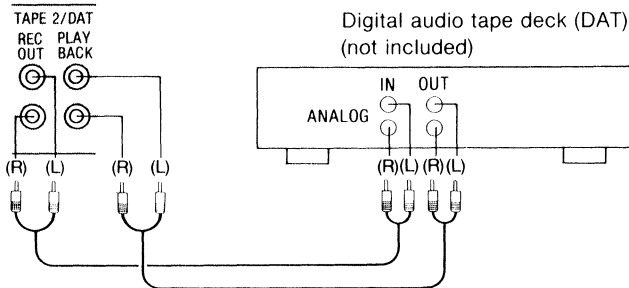
## "TAPE 1" terminals

Connect a first tape deck.



## "TAPE 2/DAT" terminals

Connect a second tape deck or a digital audio tape deck (DAT).

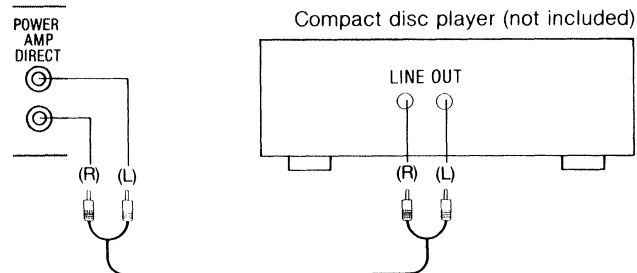


## "POWER AMP DIRECT" terminals

Connect a compact disc player.

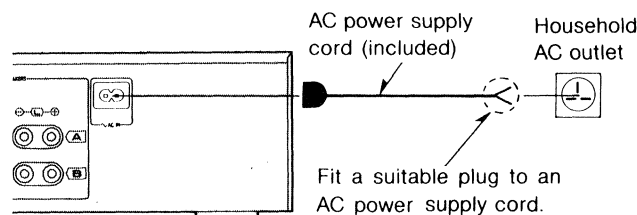
A superior level of tone quality can be obtained, because the signal from these terminals are sent directly to the volume control and power amp section of this unit.

The sounds from a component connected to these terminals cannot be recorded.



## To connect the AC power supply cord (Included)

Connect the AC power supply cord (included) after all other cables and cords are connected.



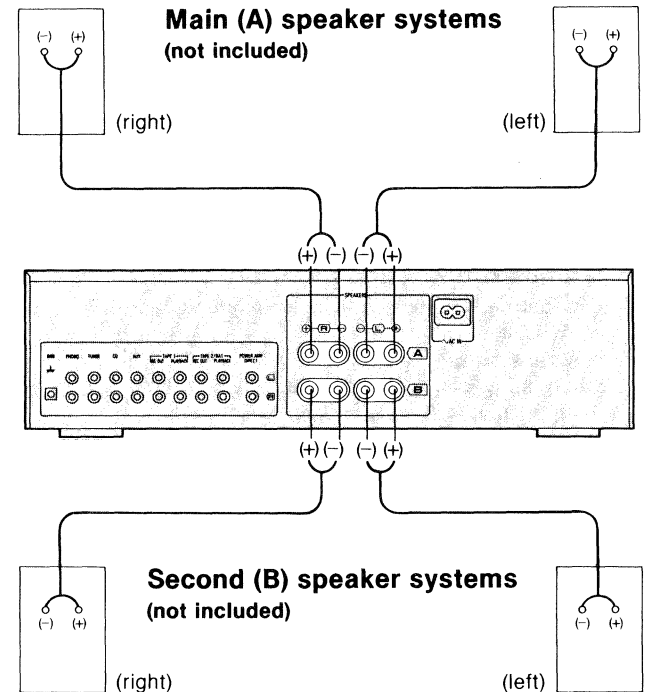
## Connection to speaker systems

One pair of speaker systems can be connected to the "A" terminals of this unit and one pair to the "B" terminals.

### Load impedance

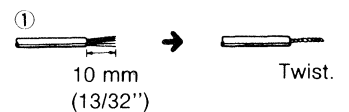
- When only the "A" or only the "B" terminals are used: 4-16 ohms
- When both the "A" and the "B" terminals are used simultaneously: 8-16 ohms

### To connect main (A) and/or second (B) speaker systems

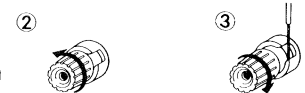


### To connect cords to terminals

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



- ② Turn 5 or 6 times.

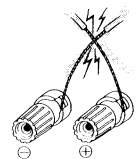


- ③ Insert the wire and tighten screw completely. Pull the wire to assure a proper connection.

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

### Note:

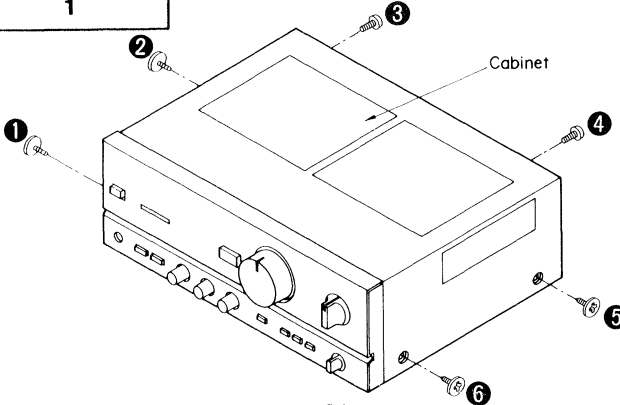
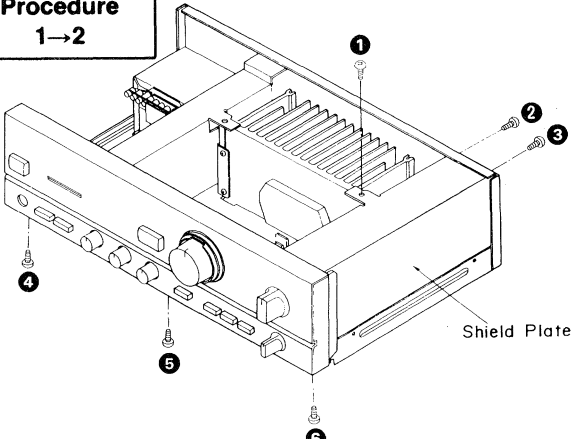
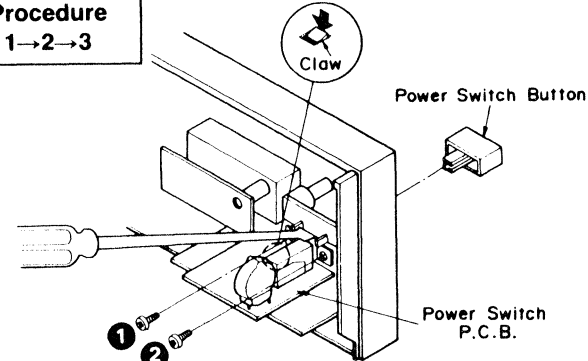
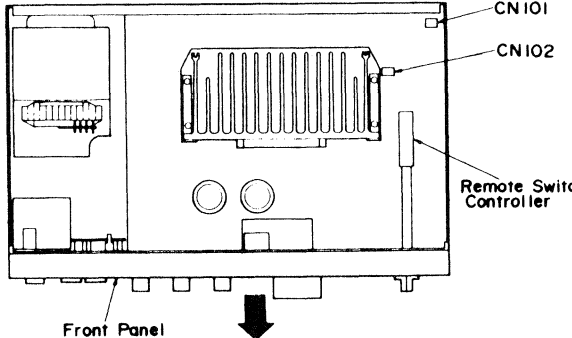
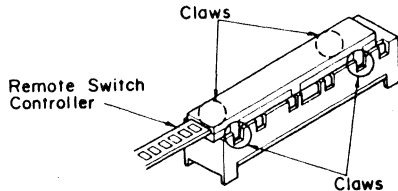
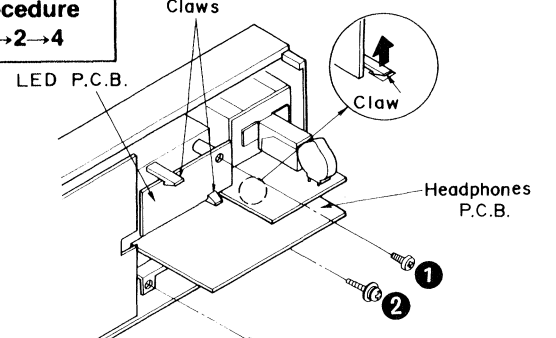
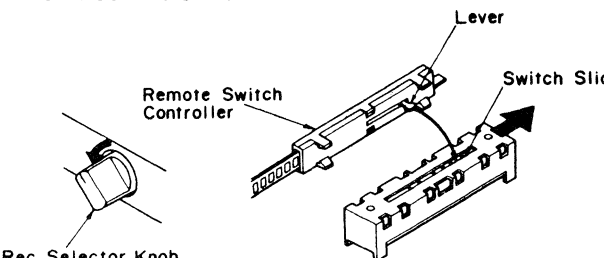
To prevent damage to circuitry, never short-circuit the plus (+) and minus (-) speaker terminals.

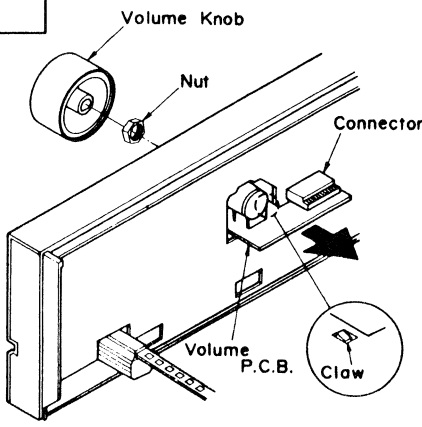
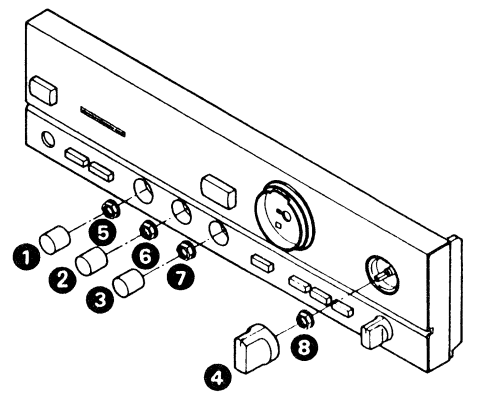
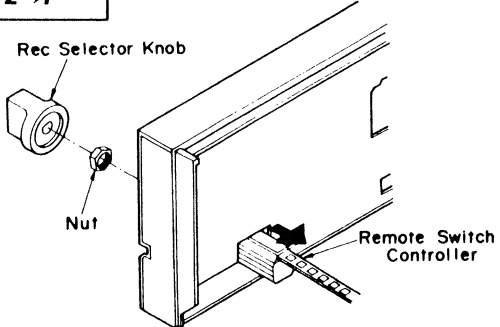
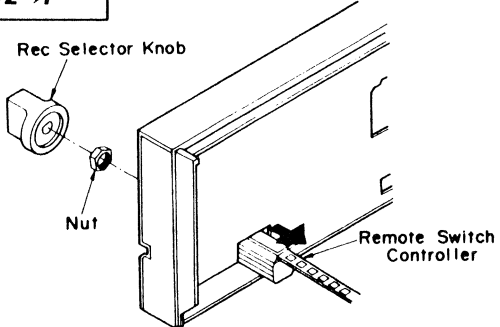
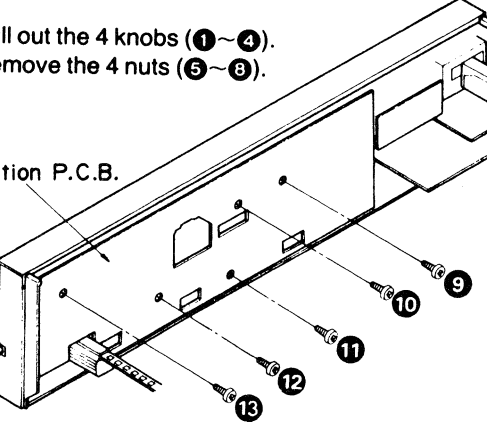
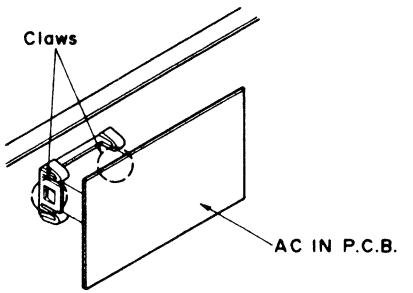
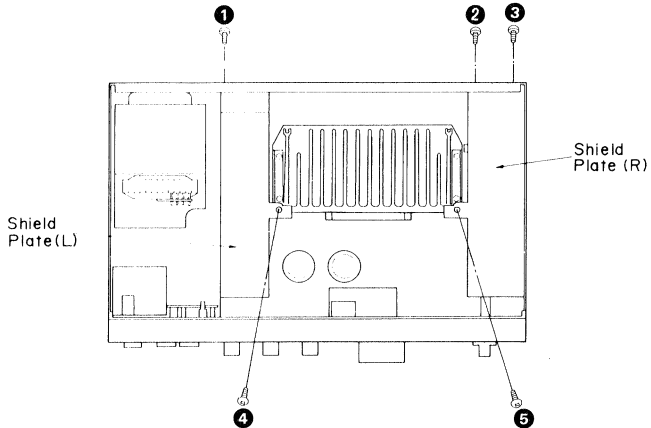
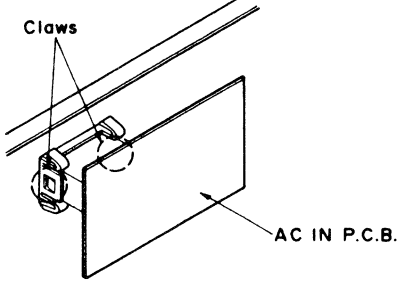


# DISASSEMBLY INSTRUCTIONS

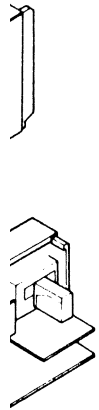
## “ATTENTION SERVICER”

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

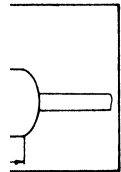
<p><b>Ref. No.</b> 1</p>	<p><b>Removal of the cabinet</b></p>	<p><b>Ref. No.</b> 2</p>	<p><b>Removal of the front panel</b></p>
<p><b>Procedure</b> 1</p>	 <p>● Remove the 6 screws (1~6).</p>	<p><b>Procedure</b> 1→2</p>	 <p>1. Remove the 3 screws (1~3). 2. Remove the shield plate (R). 3. Remove the 3 screws (4~6).</p>
<p><b>Ref. No.</b> 3</p>	<p><b>Removal of the power switch P.C.B.</b></p>		
<p><b>Procedure</b> 1→2→3</p>	 <p>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.</p>		 <p>4. Remove the 2 connectors (CN101, CN102). 5. Remove the remote switch controller. 6. Remove the front panel in the direction of the arrow.</p> <p>■ <b>Removal of the remote switch controller</b> ● Remove the 4 claws.</p> 
<p><b>Ref. No.</b> 4</p>	<p><b>Removal of the LED P.C.B. and headphones P.C.B.</b></p>		
<p><b>Procedure</b> 1→2→4</p>	 <p><b>Removal of the LED P.C.B.</b> ③ 1. Remove the 1 screw (1). 2. Release the 2 claws.</p> <p><b>Removal of the headphones P.C.B.</b> 1. Remove the 2 screws (2, 3). 2. Release the 1 claw.</p>	<p>■ <b>Replacing of the remote switch controller</b></p> <ol style="list-style-type: none"> <li>1. Fully rotate the Recording Selector Control counterclockwise.</li> <li>2. Push the Switch Slide in the direction of the arrow.</li> </ol> 	

Ref. No. 5	Removal of the volume P.C.B.	Ref. No. 6	Removal of the operation P.C.
Procedure 1→2→5	 <ol style="list-style-type: none"> <li>1. Pull out the volume knob.</li> <li>2. Remove the nut.</li> <li>3. Release the 1 claw.</li> </ol>	Procedure 1→2→5→6	 <ol style="list-style-type: none"> <li>1. Pull out the 4 knobs (1~4).</li> <li>2. Remove the 4 nuts (5~8).</li> <li>3. Remove the 5 screws (9~13).</li> </ol>
Ref. No. 7	Removal of the remote switch controller	 <ol style="list-style-type: none"> <li>1. Pull out the rec selector knob.</li> <li>2. Remove the nut.</li> <li>3. Remove the remote switch controller in the direction of the arrow.</li> </ol>	
Procedure 1→2→7	 <ol style="list-style-type: none"> <li>1. Pull out the rec selector knob.</li> <li>2. Remove the nut.</li> <li>3. Remove the remote switch controller in the direction of the arrow.</li> </ol>	 <p>●Use a wrench of the dimensions shown in the illustration above to remove nuts.</p> 	
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	 <p>●Remove the 5 screws (1~5).</p>	Procedure 1→9	 <p>●Release the 2 claws.</p>

1 P.C.B.



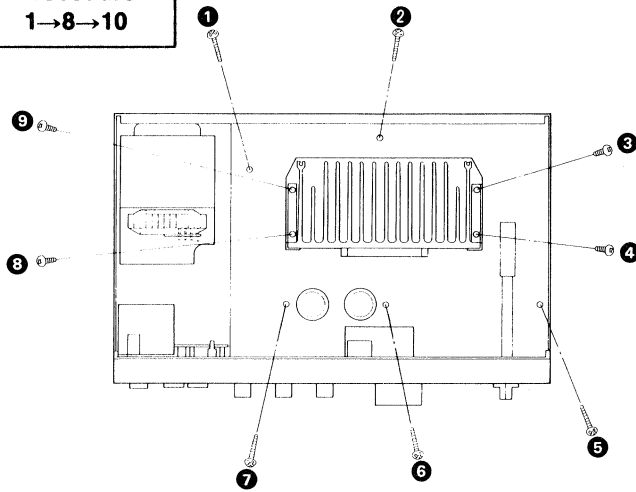
9



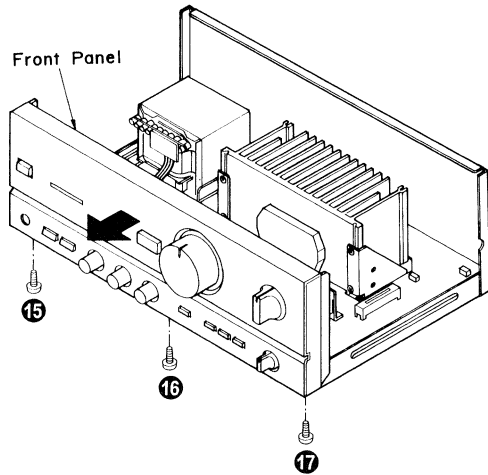
9.B.

**Ref. No. 10**      **Checking of the main P.C.B.**

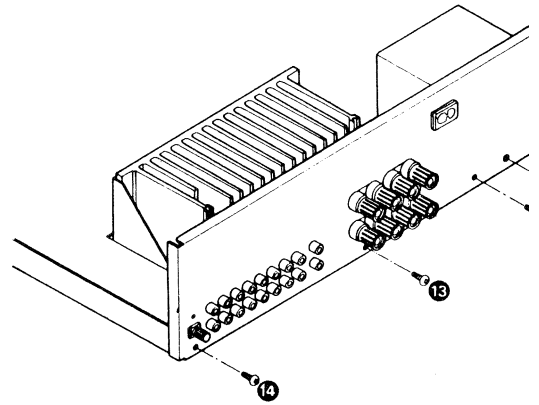
**Procedure**  
1→8→10



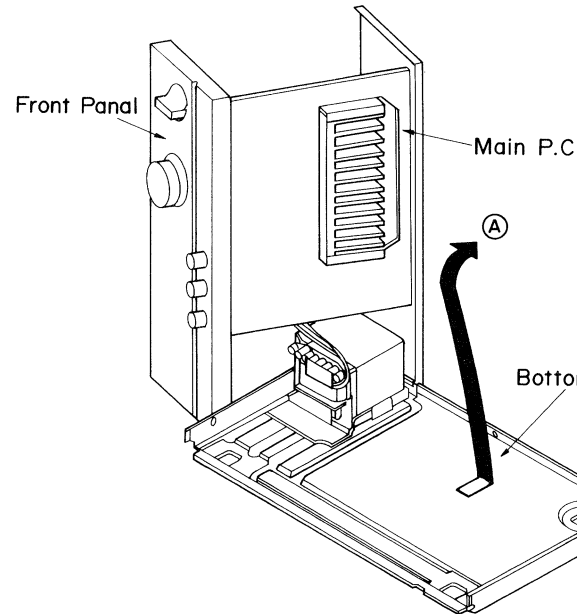
1. Remove the 9 screws (1~9).



3. Remove the 3 screws (15~17).  
4. Remove the front panel.



2. Remove the 5 screws (10~14).

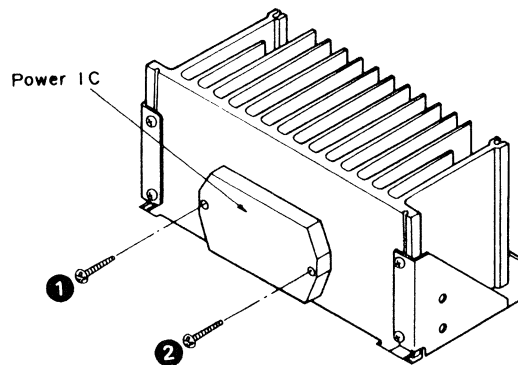


5. Remove the main P.C.B. unit in the direction arrow (A).  
6. Reinstall the front panel to the main P.C.B.

**Ref. No. 11**      **Removal of the power IC**

**Procedure**  
1→8→10→11

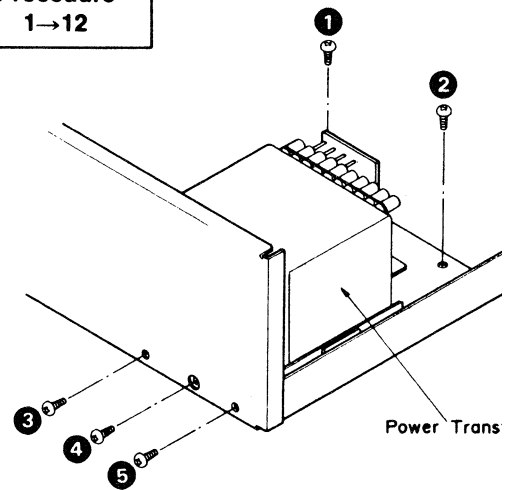
1. Unsolder the power IC.  
2. Remove the 2 screws (1, 2).



●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 tra**

**Procedure**  
1→12

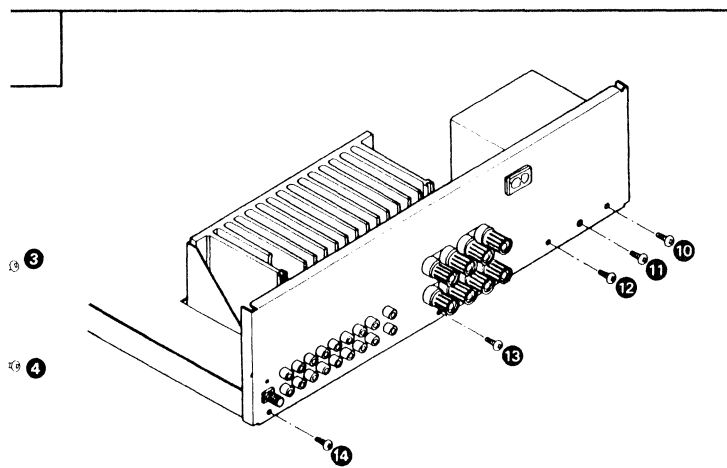
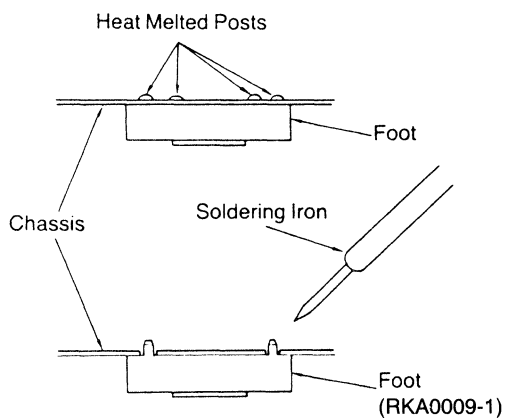


●Remove the 5 screws (1~5).

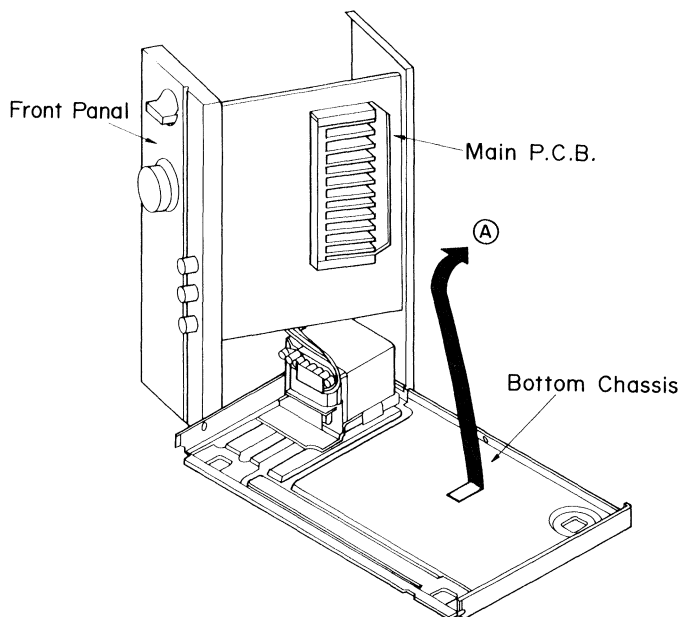


●Replacement of the Foot.

1. Remove the 4 heat melted posts on the chassis with a pair of diagonal pliers or similar tool.
2. To mount the foot (RKA0009-1) on the chassis, melt the 4 posts with a soldering iron.



2. Remove the 5 screws (10~14).

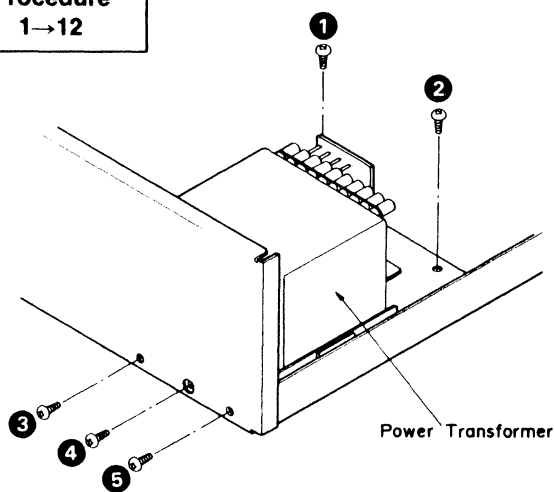


5. Remove the main P.C.B. unit in the direction of the arrow (A).
6. Reinstall the front panel to the main P.C.B.

Ref. No.  
12

Removal of the power transformer

Procedure  
1→12



●Remove the 5 screws (1~5).

# SCHEMATIC DIAGRAM

(Parts list on page 20~22)

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

**Notes:**

- S1 : Power switch in "on" position.
- S101 : Input selector switch in "phono" position.
- S102 : Recording output selector switch in "tape 2/ DAT▶1" position.
- S103-1 : Phono cartridge selector switch in "MM" 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.

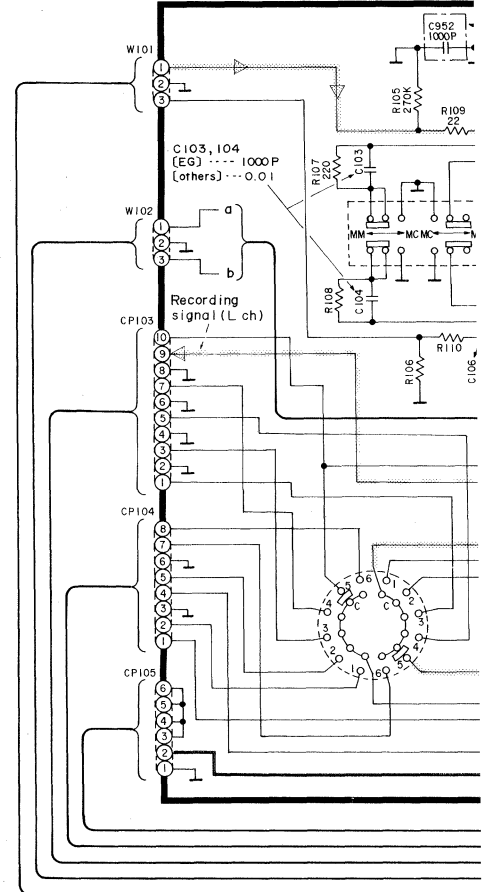
**Important safety notice:**

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

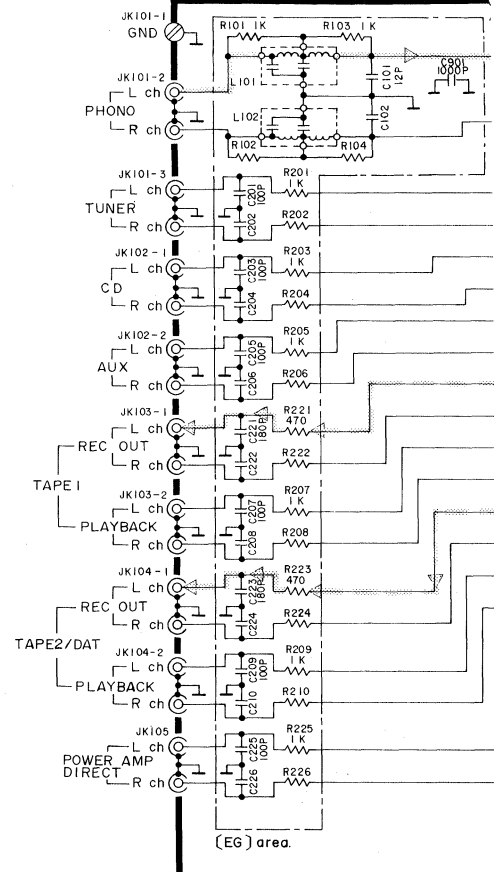
**\*Caution!**

- 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.

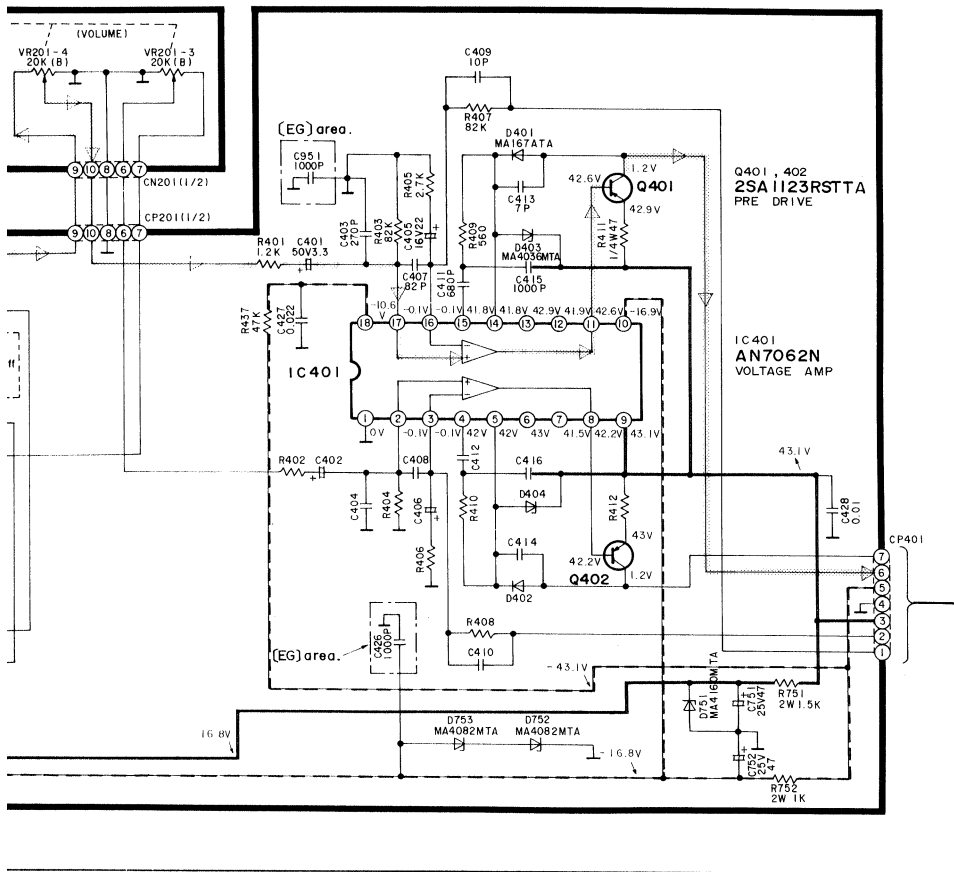
## A PHONO EQ/TONE AMP



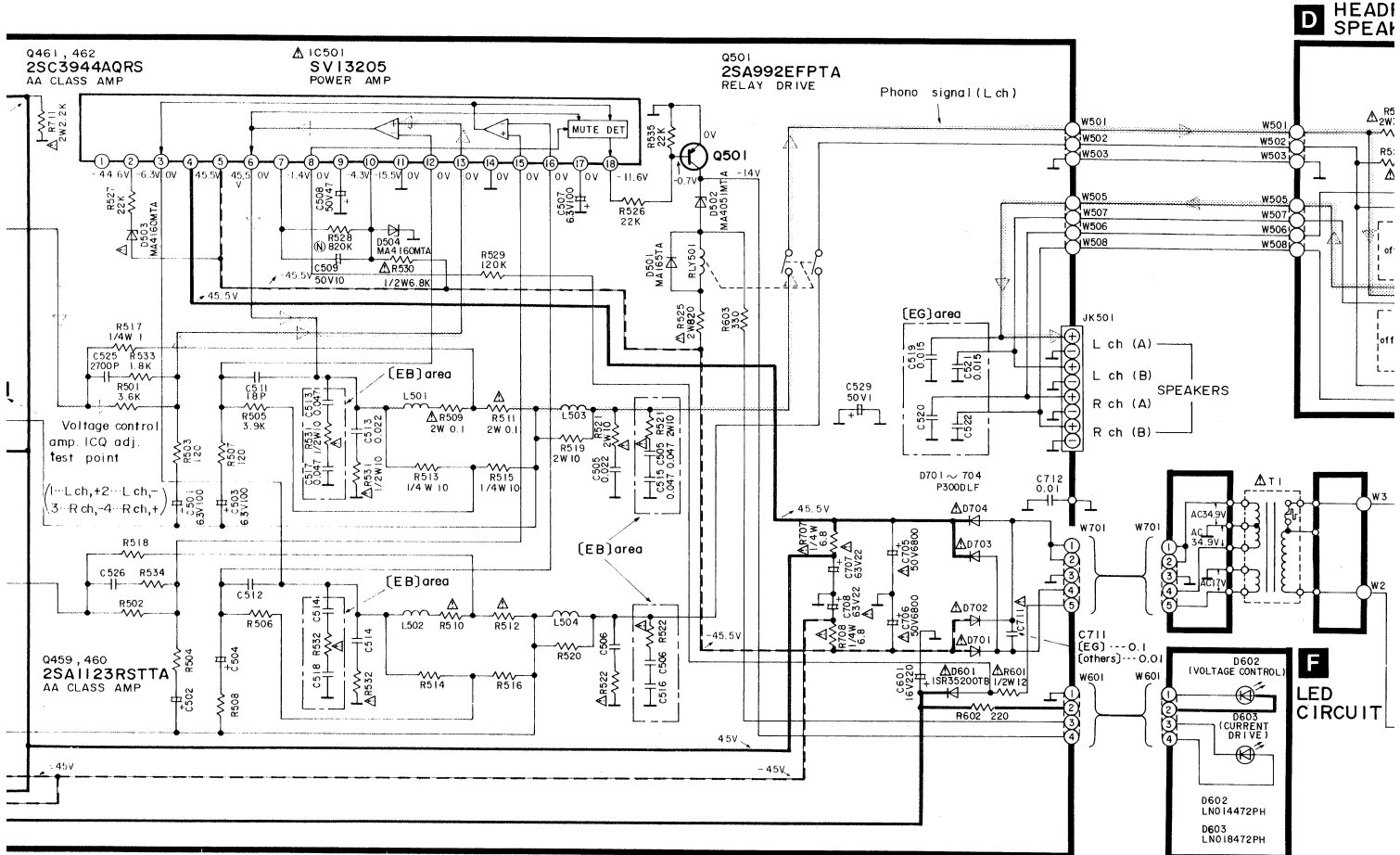
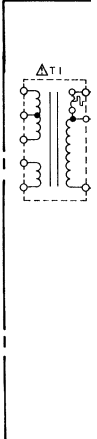
## B MAIN CIRCUIT







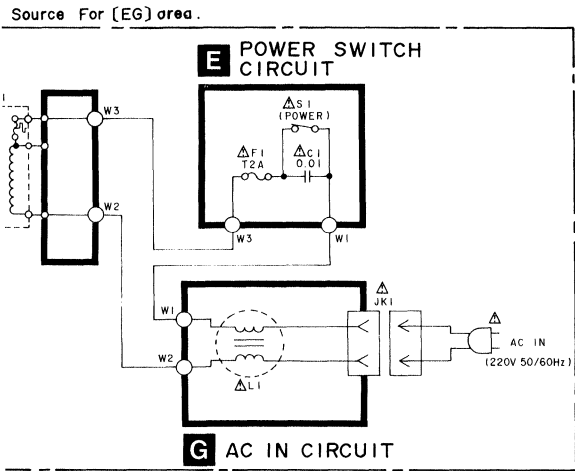
Power Sol



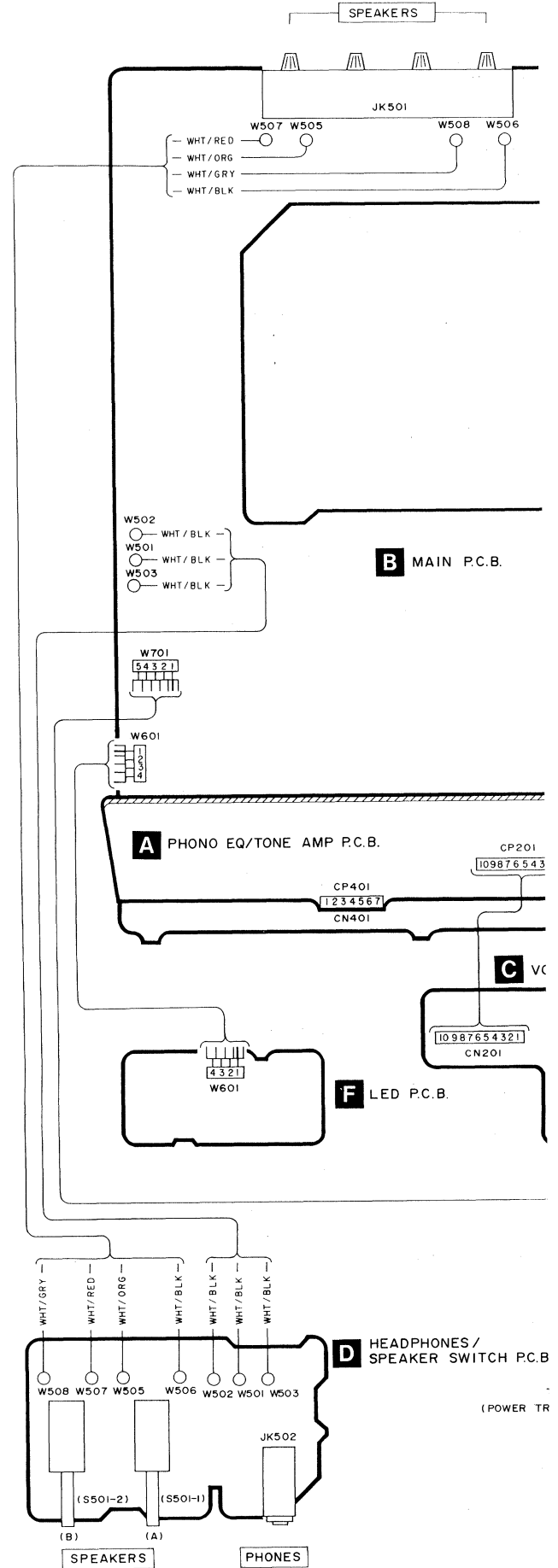
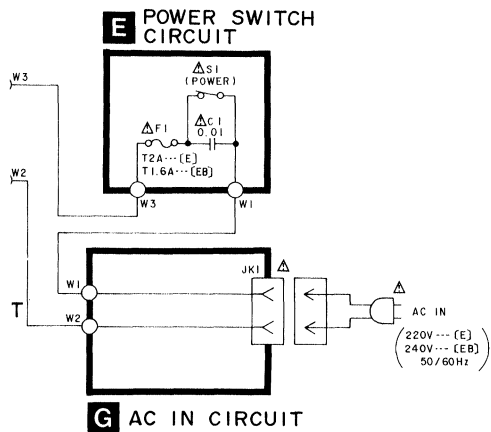
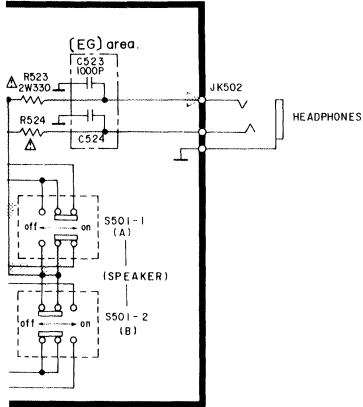
D HEADI SPEAK

F LED CIRCUIT

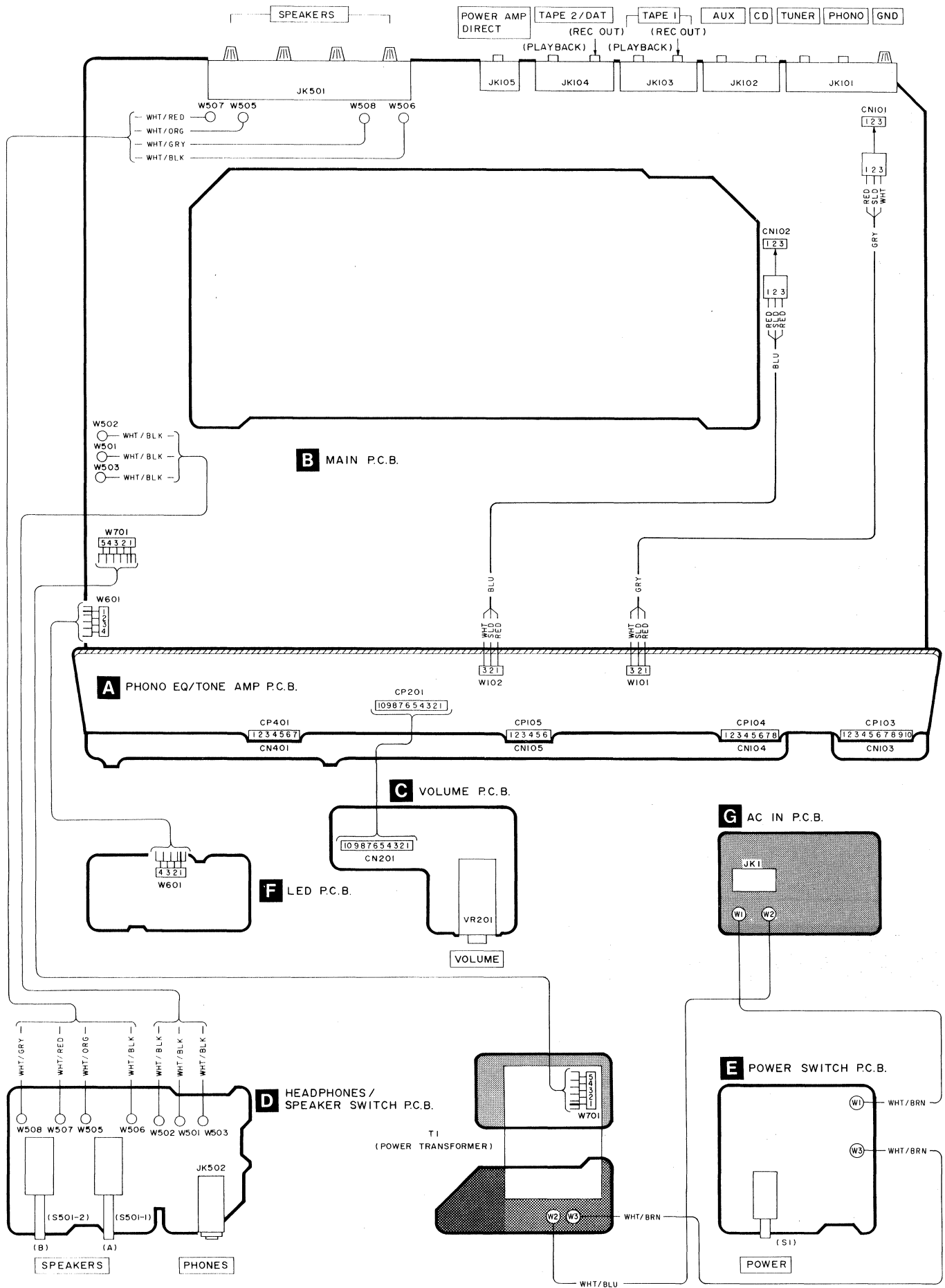
# WIRING CONNECTION DIAG



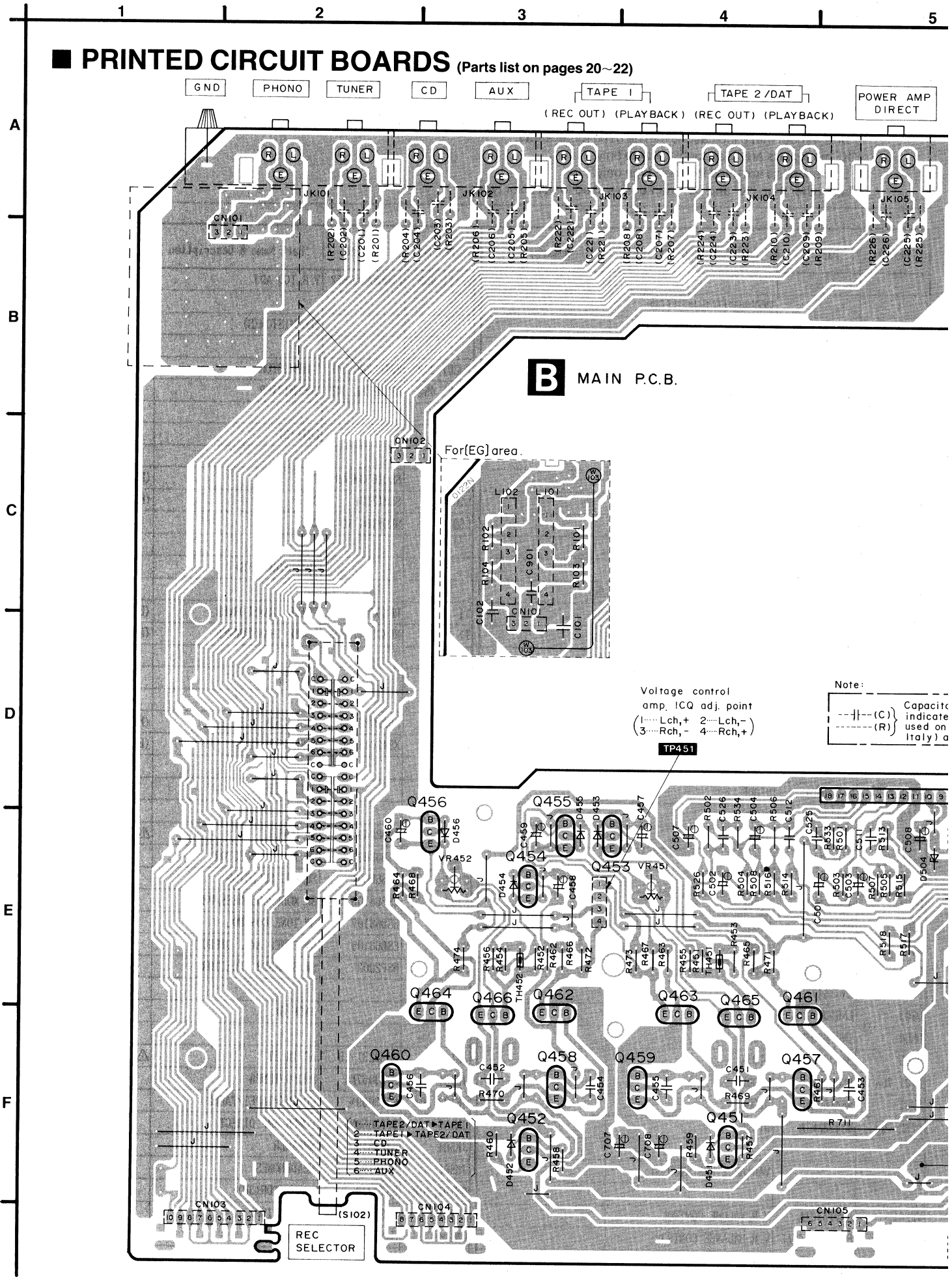
## ADPHONES / SPEAKER SWITCH CIRCUIT



# WIRING CONNECTION DIAGRAM



# PRINTED CIRCUIT BOARDS (Parts list on pages 20~22)

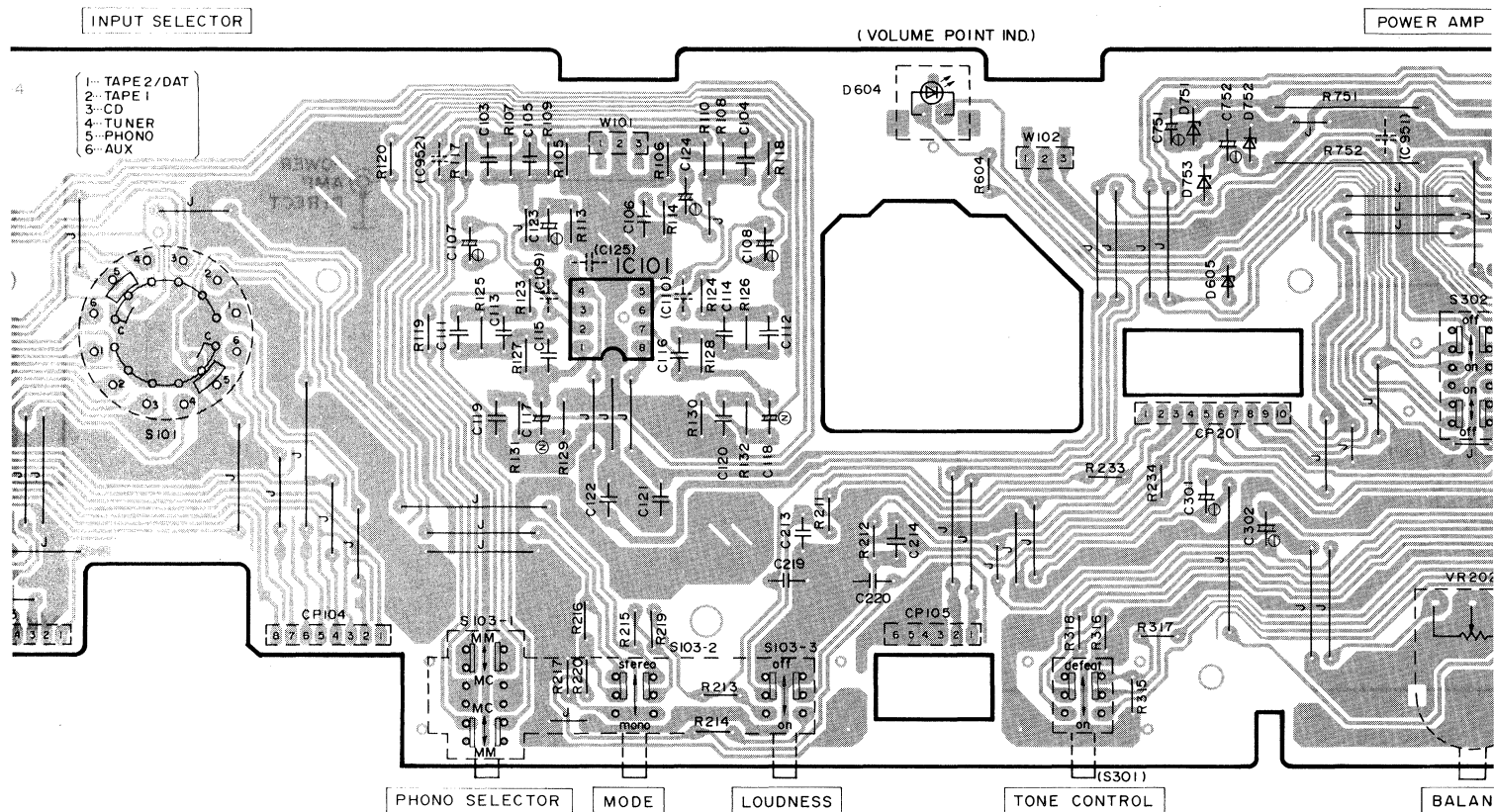




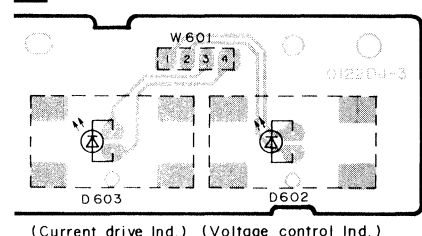




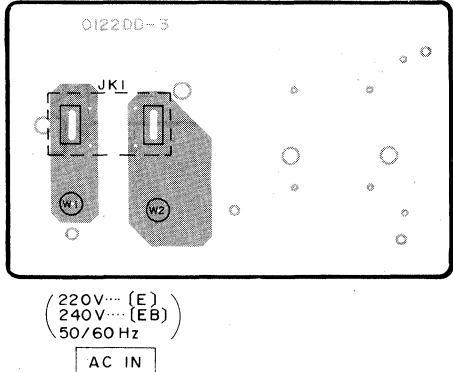
PHONO EQ/TONE AMP P.C.B.



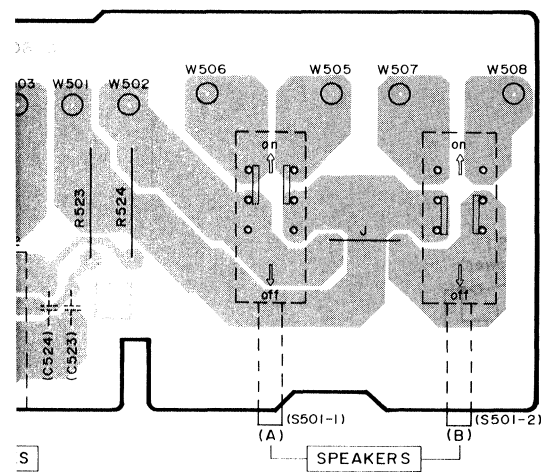
LED P.C.B.



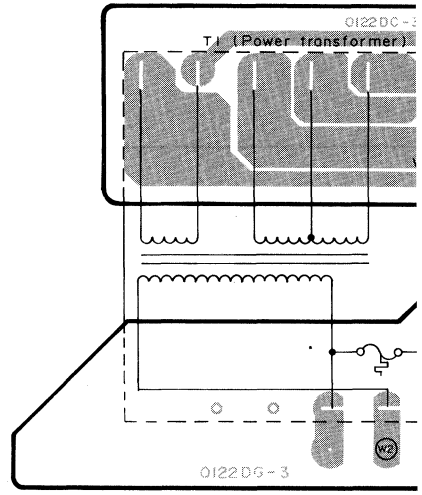
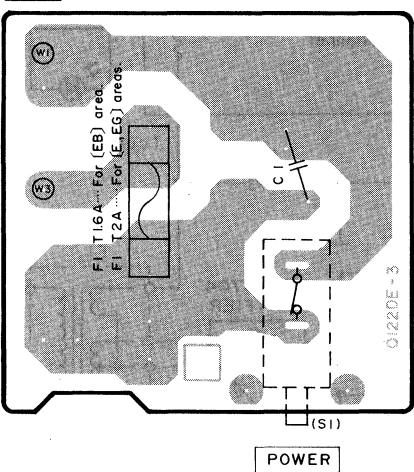
AC IN P.C.B.



PHONES/SPEAKER SWITCH P.C.B.

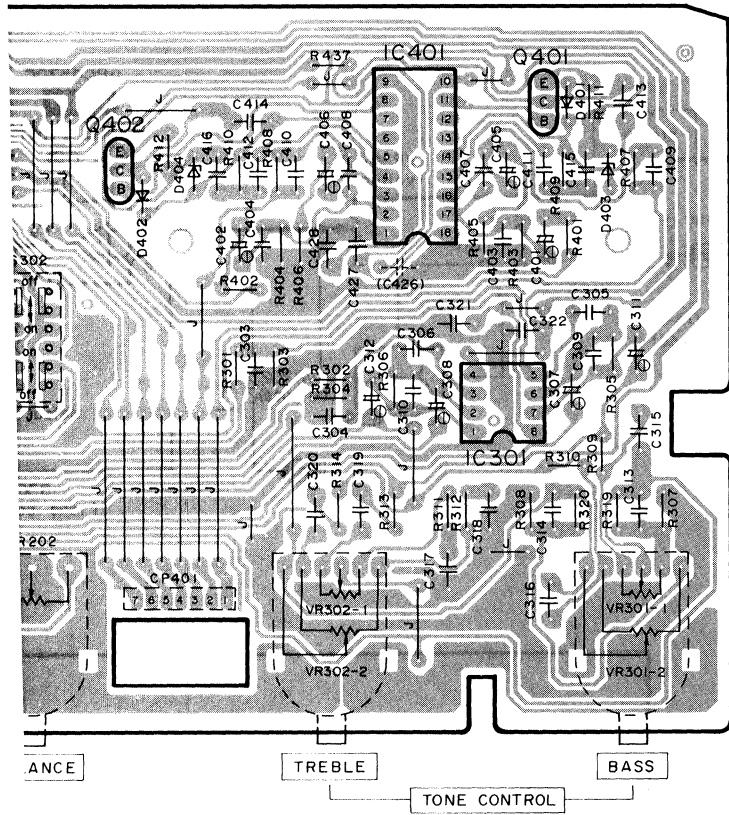


POWER SWITCH P.C.B.

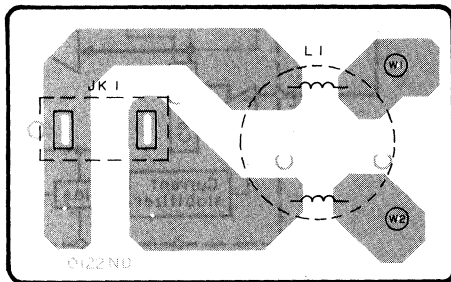


# ■ TERMINAL GUIDE OF IC'S TRANSISTORS AND DIOD

AMP DIRECT



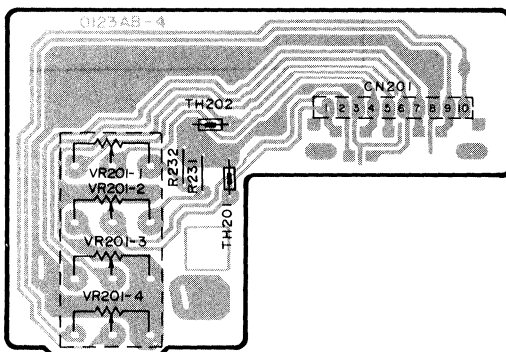
## G AC IN P.C.B.



(220V 50/60Hz (—EG) )

AC IN

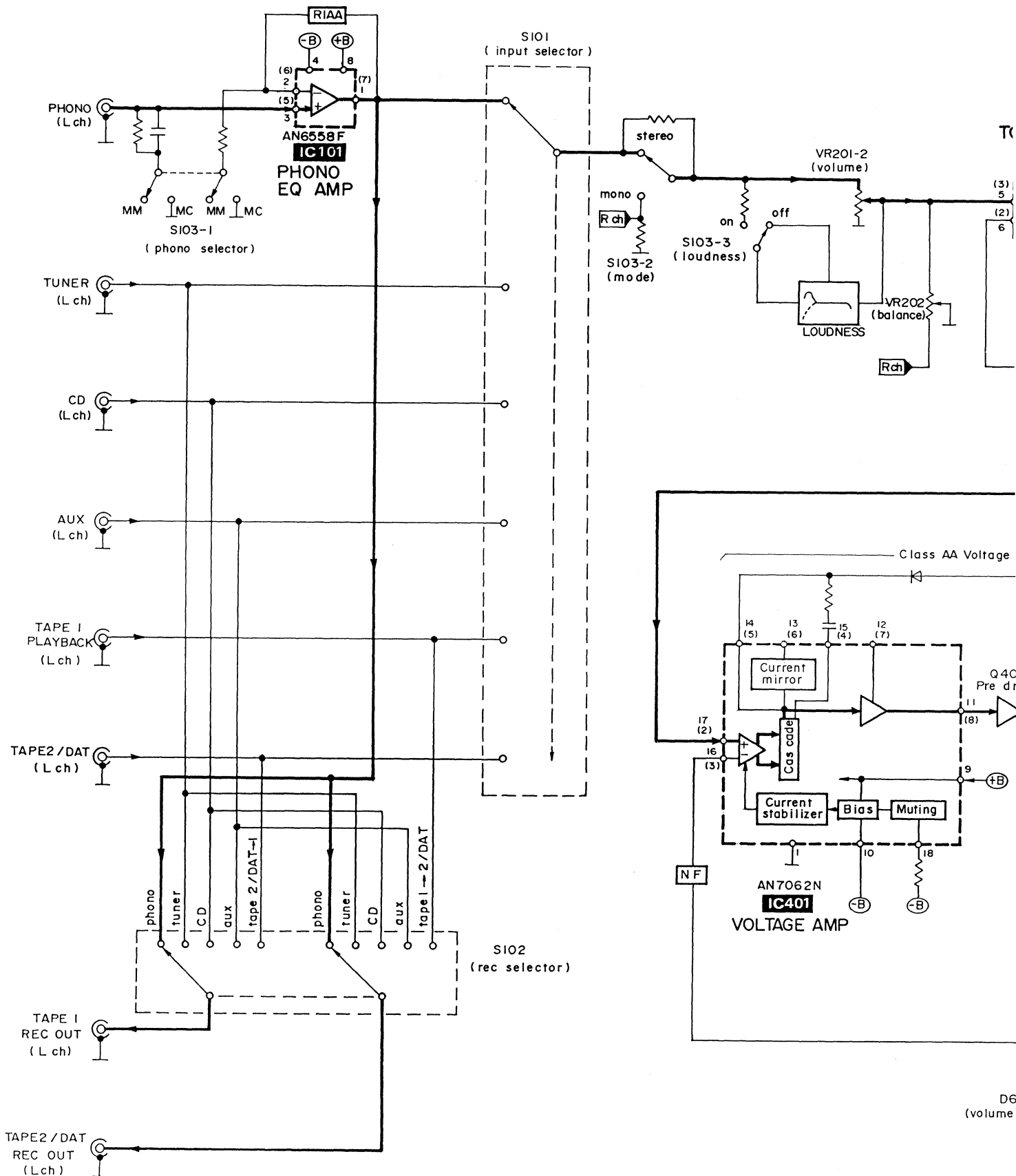
## C VOLUME P.C.B.

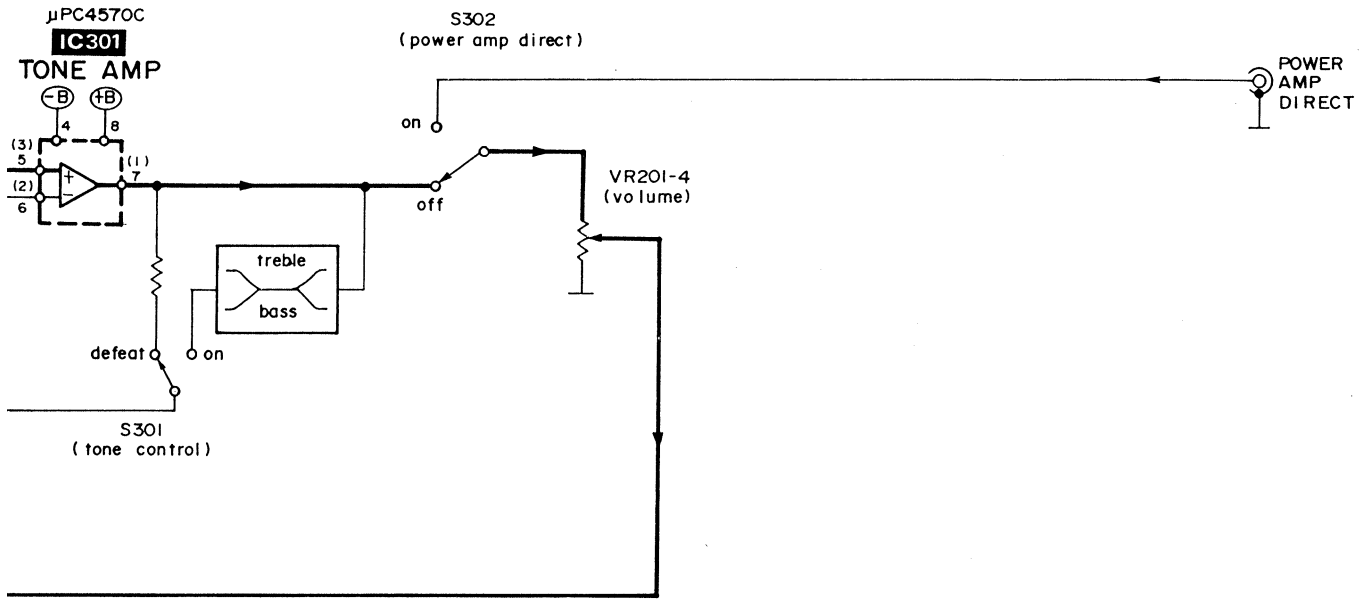


VOLUME

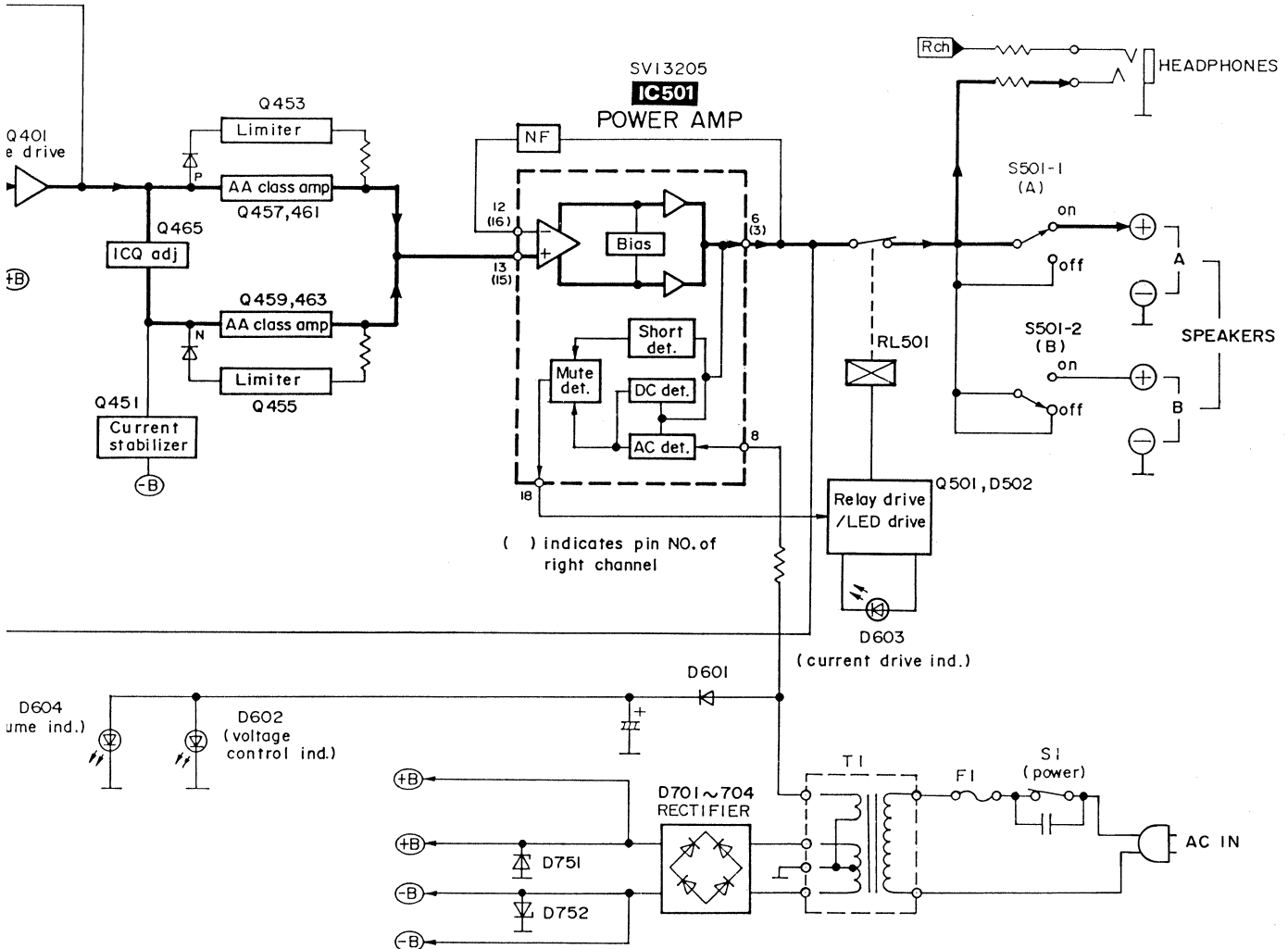
<p>AN6558F UPC4570C</p>	<p>AN7062N</p>
<p>SVI3205</p>	<p>2SA1309AQRS 2SC3311AQSTA</p>
	<p>2SA992EFPTA 2SA1123RSTTA 2SC1685RST 2SC2631RSTTA</p>
<p>2SA1535AQRS 2SC3944AQRS</p>	
	<p>MA165TA MA167ATA MA29WATA 1SR35200TB</p>
	<p>MA4033MTA MA4036MTA MA4051MTA MA4082MTA</p>
<p>MA4160MTA</p>	<p>P300DLF</p>
<p>LN014472PH LN018472PH</p>	<p>LN018304P</p>

■ BLOCK DIAGRAM





Large control amplifier



# MEASUREMENTS AND ADJUSTMENTS

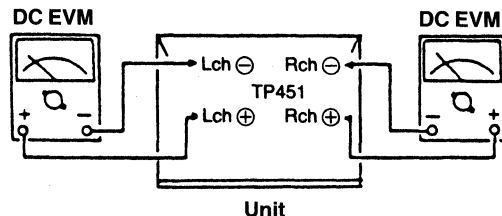
### Control positions and equipment used.

- Volume knob ..... ∞ (Minimum)
- Main speaker selector ..... off
- Balance knob ..... 0
- DC electronic voltmeter (EVM)

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

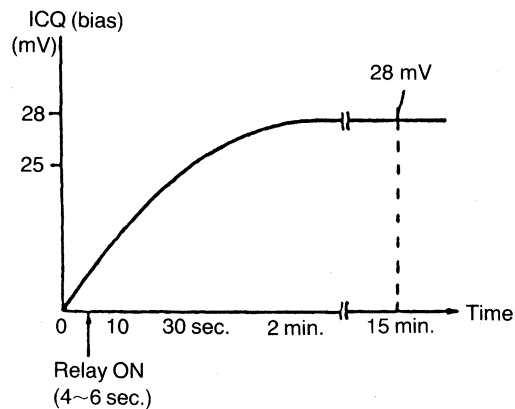
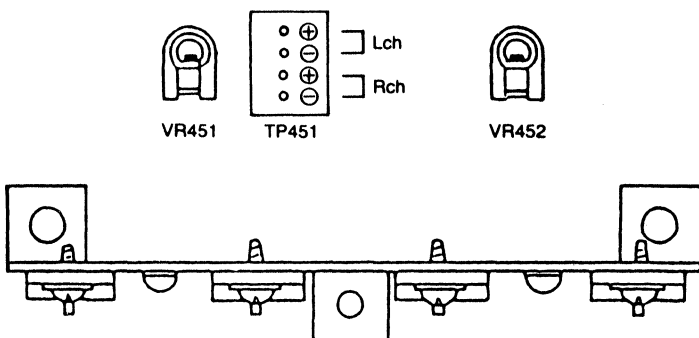
#### ADJUSTMENT

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  $\Delta$  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 cover 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
		INTEGRATED CIRCUIT(S)		VR451, 452	EVNDXAA00B52	V. R, ICQ ADJ.	
						THERMISTOR(S)	
IC101	AN6558F	IC, PHONO EQ AMP.		TH201, 202	ERTD2ZHL104T	THERMISTOR	
IC301	UPC4570C	IC, TONE AMP.		TH451, 452	ERTD2ZHL104T	THERMISTOR	
IC401	AN7062N	IC, V AMP.				COIL(S)	
IC501	SVI3205	IC, POWER AMP.	$\Delta$				
		TRANSISTOR(S)		L1	SLQZ650MH49	COIL	(EG) $\Delta$
Q401, 402	2SA1123RSTTA	TRANSISTOR		L101, 102	SLM1Z33	COIL	(EG)
Q451, 452	2SC2631RSTTA	TRANSISTOR		L501-504	SLQY18G-10	COIL	
Q453, 454	2SC3311AQSTA	TRANSISTOR				TRANSFORMER(S)	
Q455, 456	2SA1309AQSTA	TRANSISTOR					
Q457, 458	2SC2631RSTTA	TRANSISTOR	$\Delta$	T1	RFKCUV470E-K	POWER TRANSFORMER	(E, EG) $\Delta$
Q459, 460	2SA1123RSTTA	TRANSISTOR	$\Delta$	T1	RFKCUV470EBK	POWER TRANSFORMER	(EB) $\Delta$
Q461, 462	2SC3944AQRS	TRANSISTOR	$\Delta$			FUSE(S)	
Q463, 464	2SA1535AQRS	TRANSISTOR	$\Delta$				
Q465, 466	2SC1685RST	TRANSISTOR		F1	XBA2C20TBO	FUSE 250V 2.0A	(E, EG) $\Delta$
Q501	2SA992EFPTA	TRANSISTOR		F1	XBA2C16TBO	FUSE 250V 1.6A	(EB) $\Delta$
		DIODE(S)				SWITCH(ES)	
D401, 402	MA167ATA	DIODE		S1	ESB8249V	SW, POWER	$\Delta$
D403, 404	MA4036MTA	DIODE		S101	RSR6B001	SW, INPUT SELECTOR	
D451, 452	MA29WATA	DIODE	$\Delta$	S102	RSS6D001	SW, REC SELECTOR	
D453-456	MA165TA	DIODE		S103	ESB68106	SW, MODE/LOUDNESS/PHONO	
D501	MA165TA	DIODE		S301	ESB68107	SW, TONE CONTROL	
D502	MA4051MTA	DIODE		S302	ESB68109	SW, POWER AMP. DIRECT	
D503	MA4160MTA	DIODE	$\Delta$	S501	RSP2002	SW, SPEAKER SELECTOR	
D504	MA4160MTA	DIODE				JACK(S)	
D601	1SR35200TB	DIODE	$\Delta$	JK1	SJS9231-1B	AC INLET	$\Delta$
D602	LN014472PH	DIODE		JK101	SJF3067NJ	PHONO/TUNER	
D603	LN018472PH	DIODE		JK102-104	SJF3069N	CD/AUX/TAPE1/TAPE2	
D604	LN018304P	DIODE		JK105	SJF3068NJ	POWER AMP DIRECT	
D605	MA4033MTA	DIODE		JK501	SJF4819	SPEAKER	
D701-704	P300DLF	DIODE	$\Delta$	JK502	SJJD19	HEADPHONES	
D751	MA4160MTA	DIODE		CN101, 102	SJT3319	CONNECTOR(3P)	
D752, 753	MA4082MTA	DIODE		CN103	SJS51080WL	SOCKET(10P)	
		VARIABLE RESISTOR(S)		CN104	SJS50880WL	SOCKET(8P)	
VR201	RRV16J01A	V. R, VOLUME CONTROL		CN105	SJS50680WL	SOCKET(6P)	
VR202	EWHFDA014G15	V. R, BALANCE CONTROL					
VR301, 302	EW2XA000C15	V. R, TONE CONTROL					



Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
C107, 108	ECEAOJU222E	6. 3V 2200U	C525, 526	ECQB1H272JZ3	50V 2700P
C109, 110	ECBT1H820KB5	50V 82P (EG)	C529	ECEA1HK010B	50V 1U
C111, 112	ECQM1H122KV3	50V 1200P	C601	ECEA1CU221B	16V 220U
C113, 114	ECQM1H103KV3	50V 0. 01U	C705, 706	ECES1HV682UG	50V 6800U $\Delta$
C115, 116	ECQV1H393JZ3	50V 0. 039U	C707, 708	ECEA1JU220B	63V 22U $\Delta$
C117, 118	UES1H010M1TA	50V 1U	C709, 710	ECEA1JU220B	63V 22U
C119, 120	ECQM1H472KV3	50V 4700P	C711	ECKR2H103ZU	500V 0. 01U $\Delta$ (E, EB)
C121, 122	ECKR1H103ZF5	50V 0. 01U	C711	ECQE2104KF3	200V 0. 1U $\Delta$ (EG)
C123, 124	ECA1HPXS3R3B	50V 3. 3U	C712	ECKR1H103ZF5	50V 0. 01U
C125	ECBT1H102KB5	50V 1000P (EG)	C751, 752	ECA1EPXS470B	25V 47U
C201-210	ECBT1H101KB5	50V 100P (EG)	C901	ECKR1H102KB5	50V 1000P (EG)
C213, 214	ECQV1H563JZ3	50V 0. 056U	C951, 952	ECBT1H102KB5	50V 1000P (EG)
C219, 220	ECBT1H271KB5	50V 270P			
C221-224	ECBT1H181KB5	50V 180P (EG)			
C225, 226	ECBT1H101KB5	50V 100P (EG)			
C301, 302	ECA1HPXS3R3B	50V 3. 3U			
C303, 304	ECBT1H101KB5	50V 100P			
C305, 306	ECBT1H820KB5	50V 82P			
C307, 308	ECA1HPXS4R7B	50V 4. 7U			
C309, 310	ECBT1H390J5	50V 39P			
C311, 312	ECA1CPXS100B	16V 10U			
C313, 314	ECQV1H823JZ3	50V 0. 082U			
C315, 316	ECQM1H153KV3	50V 0. 015U			
C317, 318	ECQM1H183KV3	50V 0. 018U			
C319, 320	ECQM1H182KV3	50V 1800P			
C321, 322	ECKR1H103ZF5	50V 0. 01U			
C401, 402	ECA1HPXS3R3B	50V 3. 3U			
C403, 404	ECBT1H271KB5	50V 270P			
C405, 406	ECA1CPXS220B	16V 22U			
C407, 408	ECBT1H820KB5	50V 82P			
C409, 410	ECBT1H100J5	50V 10P			
C411, 412	ECBT1H681KB5	50V 680P			
C413, 414	ECCR2H070D5	500V 7P			
C415, 416	ECQM1H102KV3	50V 1000P			
C426	ECBT1H102KB5	50V 1000P (EG)			
C427	ECKR1H223ZF5	50V 0. 022U			
C428	ECKR1H103ZF5	50V 0. 01U			
C451, 452	ECKR1H333ZF5	50V 0. 033U			
C453-456	ECCR2H680K5	500V 68P $\Delta$			
C457-460	ECEA1HK010B	50V 1U			
C501-504	ECA0JPXS101B	6. 3V 100U			
C505, 506	ECKR1H223ZF5	50V 0. 022U (E, EG)			
C505, 506	ECKR1H473ZF5	50V 0. 047U (EB)			
C507	ECEA0JK101B	6. 3V 100U			
C508	ECEA1HU470B	50V 47U			
C509	ECEA1HN100SB	50V 10U			
C511, 512	ECBT1H180J5	50V 18P			
C513, 514	ECKR1H223ZF5	50V 0. 022U (E, EG)			
C513, 514	ECKR1H473ZF5	50V 0. 047U (EB)			
C515-518	ECKR1H473ZF5	50V 0. 047U (EB)			
C519-522	ECQM1H153KV3	50V 0. 015U (EG)			
C523, 524	ECBT1H102KB5	50V 1000P (EG)			



EXPLODED VIEW

A

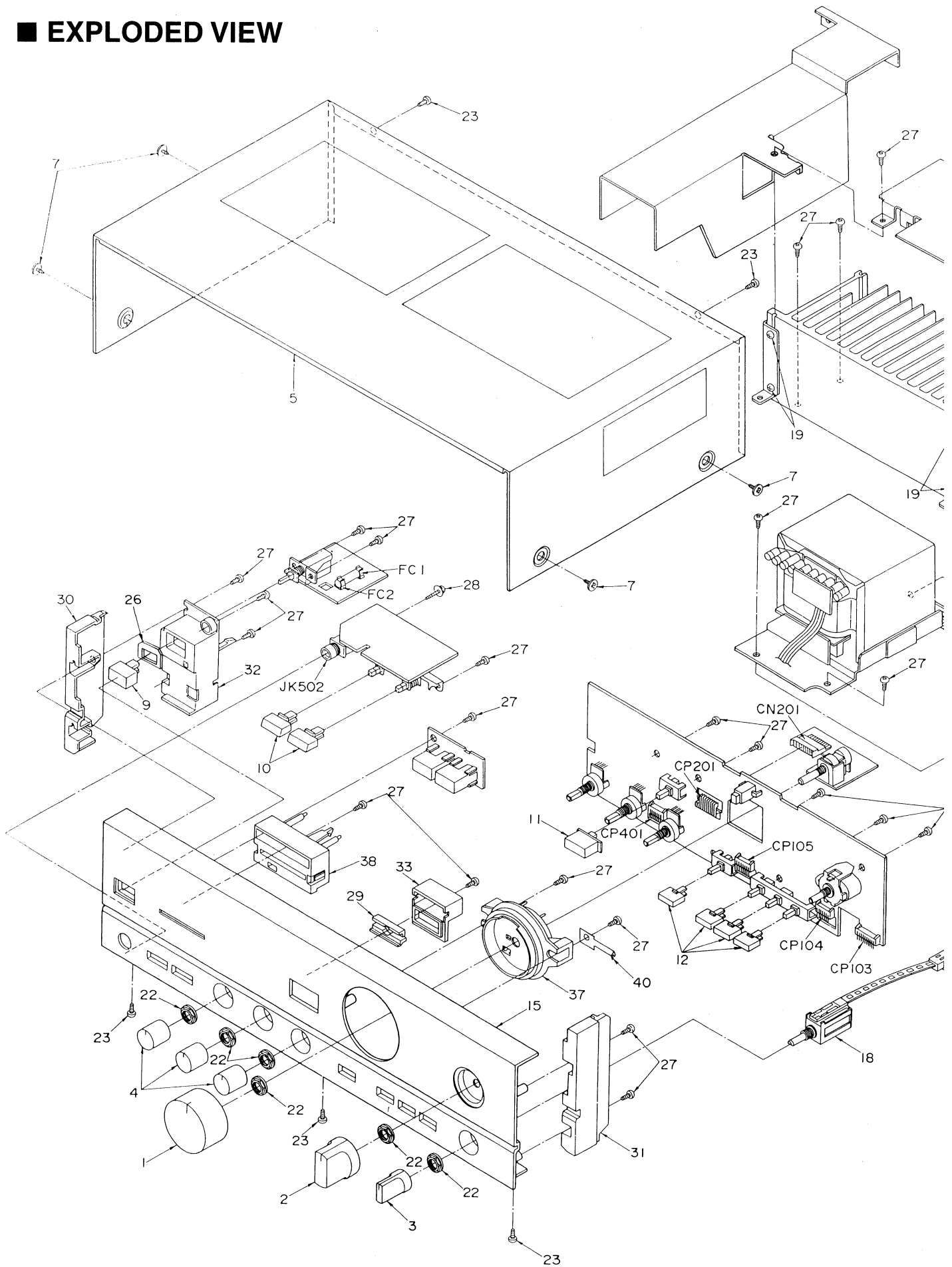
B

C

D

E

F



# SU-V470

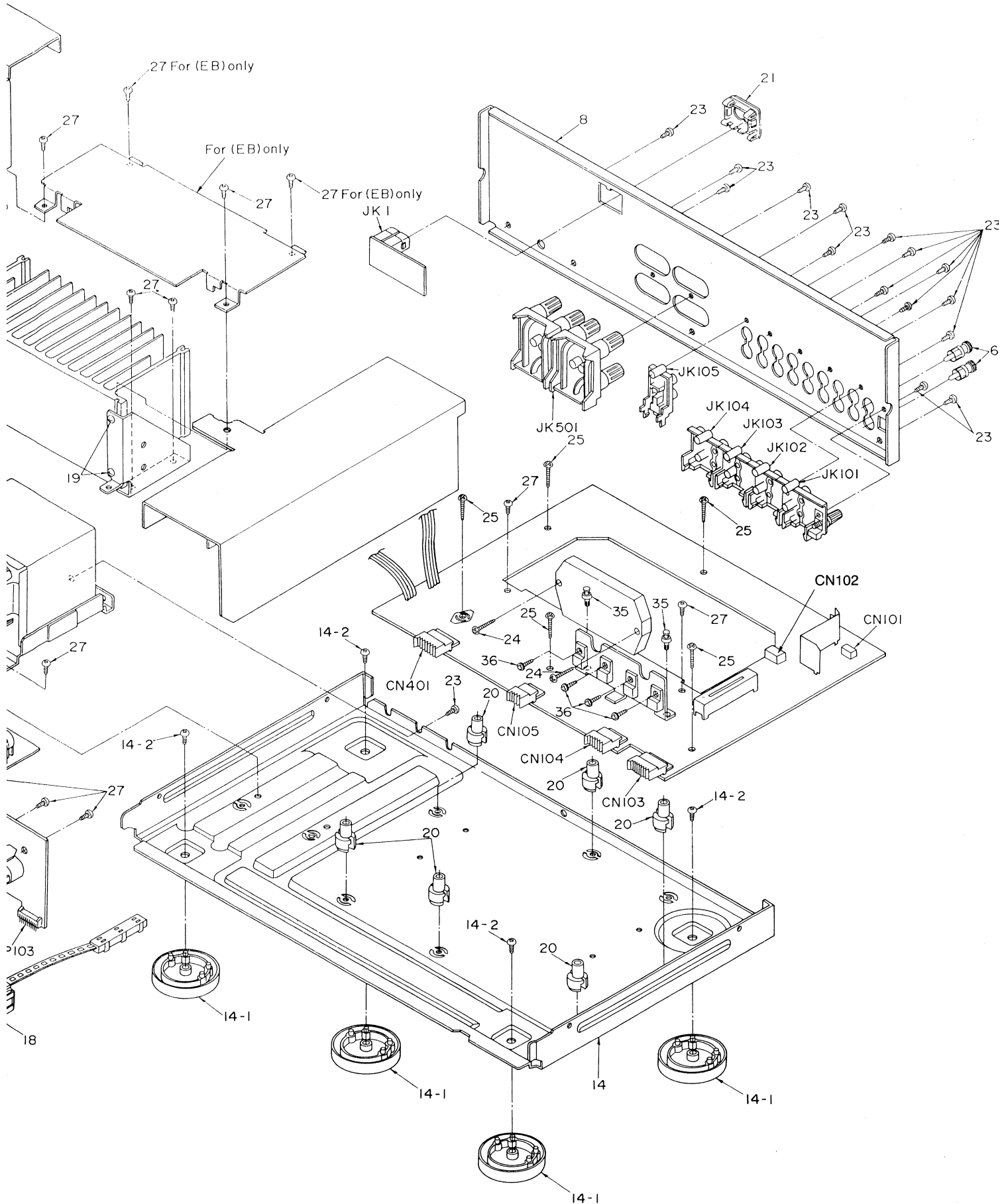
5

6

7

8

9



Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS		33	RMRO137-S	HOLDER	S
				35	SHR415	LATCH	
				36	XTW3+8T	SCREW	
1	RGW0025-K	VOLUME KNOB	K	37	RFKNUV470EK1	VOLUME ORNAMENT	K
1	RGW0025-S	VOLUME KNOB	S	37	RFKNUV470ES1	VOLUME ORNAMENT	S
2	RGW0026-K	INPUT SELECT KNOB	K	38	RFKNUV470EK2	INDICATOR ORNAMENT	K
2	RGW0026-S	INPUT SELECT KNOB	S	38	RFKNUV470ES2	INDICATOR ORNAMENT	S
3	RGW0027-2K	REC SELECT KNOB	K	40	SUS800	SPRING	S
3	RGW0027-S	REC SELECT KNOB	S			PACKING MATERIAL	
4	RGW0028-2K	TONE KNOB	K				
4	RGW0028-S	TONE KNOB	S	P1	RPG0551	CARTON BOX	K
5	RKM0036A-K	CABINET	K	P1	RPG0552	CARTON BOX	S
5	RKM0036A-S	CABINET	S	P2	SPS5185	PAD (POWER CORD)	
6	SJPA11-1	SHORTING PIN		P3	SPS5255-1	PAD (FRONT)	
7	SNE2129-1	SCREW	K	P4	SPS5256-1	PAD (REAR)	
7	SNE2129	SCREW	S	P5	SPP701	PROTECTION COVER	
8	RGR0019A-H	REAR PANEL	(E)			ACCESSORIES	
8	RGR0019A-J	REAR PANEL	(EB)	A1	RQF0718	INSTRUCTIONS MANUAL ASS'Y	(E)
8	RGR0019A-I	REAR PANEL	(EG)	A1	RQF0719	INSTRUCTIONS MANUAL ASS'Y	(EB)
9	RGU0030	POWER BUTTON	K	A1	RQF0720	INSTRUCTIONS MANUAL ASS'Y	(EG)
9	RGU0030-S	POWER BUTTON	S	A1-1	RQA0013	WARRANTY CARD	
10	RGU0118-K	SPEAKER BUTTON	K	A1-2	RQCB0169	SERVICENTOR LIST	
10	RGU0118-S	SPEAKER BUTTON	S	A1-3	RFKSUV470E-K	INSTRUCTIONS MANUAL	(E)
11	RGU0119-K	DIRECT BUTTON	K	A1-3	RQT0706-B	INSTRUCTIONS MANUAL	(EB)
11	RGU0119-S	DIRECT BUTTON	S	A1-3	RQT0623-D	INSTRUCTIONS MANUAL	(EG)
12	RGU0120-K	SIGNAL BUTTON	K	A1-4	RQCS0009	CAUTION NOTE for FTZ	(EG)
12	RGU0120-S	SIGNAL BUTTON	S	A2	SFDAC05E03	POWER CORD	△ (E, EG)
14	RFKJUV470E-K	CHASSIS ASS'Y		A2	SJA193	POWER CORD	△ (EB)
14-1	RKA0009-1	FOOT					
14-2	XTB3+6J	SCREW					
15	RFKGV470E-K	FRONT PANEL	K				
15	RFKGV470E-S	FRONT PANEL	S				
18	RSQ004	REC SELECTOR					
19	XTB3+8J	SCREW					
20	SHE187-2	HOLDER					
21	SJS9231A	AC INLET COVER					
22	SNE4021-1	NUT					
23	XTBS3+8JFZ1	SCREW					
24	XTB3+16JFZ	SCREW					
25	XTB3+20JFZ	SCREW					
26	RGQ006-1	ORNAMENT	K				
26	RGQ006-1S	ORNAMENT	S				
27	XTB3+8JFZ	SCREW					
28	XTWS3+8T	SCREW					
29	RGK0097	ORNAMENT (GOLD LINE)					
30	RGK0098-K	SIDE ORNAMENT (L)	K				
30	RGK0098-1S	SIDE ORNAMENT (L)	S				
31	RGK0099-K	SIDE ORNAMENT (R)	K				
31	RGK0099-1S	SIDE ORNAMENT (R)	S				
32	RMRO136-K	HOLDER	K				
32	RMRO136-S	HOLDER	S				
33	RMRO137-K	HOLDER	K				