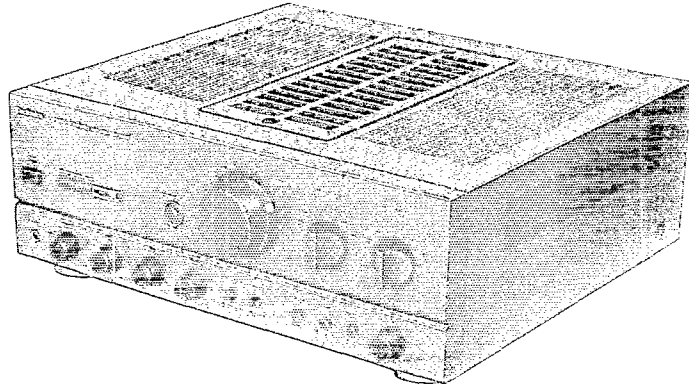


Service Manual

Stereo Integrated Amplifier

Amplifier

SU-VX920



Colour

(K) Black Type

Areas

Suffix for Model No.	Area	Colour
(EB)	Great Britain	(K)
(EG)	Europe	
(GN)	Oceania	

SPECIFICATIONS

(DIN 45 500)

■ MAIN AMP. SECTION

(POWER AMP. DIRECT input)

20 Hz~20 kHz continuous power output
both channels driven: 2×110 W (8Ω)

1 kHz continuous power output
both channels driven (THD: 1%): 2×130 W (8Ω)
2×180 W (4Ω)

63 Hz~12.5 kHz continuous power output
both channels driven (THD: 0.7%): 2×120 W (8Ω)
2×160 W (4Ω)

Total harmonic distortion
rated power at 20 Hz~20 kHz: 0.007% (8Ω)
half power at 20 Hz~20 kHz: 0.005% (8Ω)
half power at 1 kHz: 0.0009% (8Ω)
0.002% (4Ω)

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

Residual hum and noise: 0.2 mV
Damping factor: 80 (8Ω)
40 (4Ω)

Headphones output level/Impedance: 635 mV/330Ω

Load impedance
A or B, BI-WIRING: 4~16Ω
A and B: 8~16Ω

■ PRE AMP. SECTION

Input sensitivity/Impedance
PHONO MM: 2.5 mV/47 kΩ
MC: 250 μV/220Ω

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

ADAPTOR: 150 mV/22 kΩ
POWER AMP. DIRECT: 1 V/18 kΩ

Phono maximum input voltage (1 kHz, RMS)

MM: 170 mV

MC: 15 mV

S/N (Rated power, 4Ω)

PHONO MM: 79 dB (86 dB, IHF '66)

MC: 68 dB (68 dB, IHF '66)

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

97 dB (100 dB, IHF '66)

ADAPTOR: 97 dB (100 dB, IHF '66)

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

S/N at -26 dB power (4Ω)

PHONO MM: 77 dB

MC: 67 dB

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

ADAPTOR: 84 dB

S/N at 50 mW power (4Ω)

PHONO MM: 75 dB

MC: 67 dB

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

ADAPTOR: 78 dB

Frequency response

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)

ADAPTOR: 3 Hz~100 kHz (+0, -3 dB)

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

POWER AMP. DIRECT: 3 Hz~120 kHz (+0, -3 dB)

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

Technics

Tone contrls

BASS:	50 Hz, +10~-10 dB
TREBLE:	20 kHz, +10~-10 dB
Muting:	-20 dB
Subsonic filter:	20 Hz, -12 dB/oct
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~6.3 kHz):	±1 dB
Channel separation (AUX 1 kHz):	50 dB

■ GENERAL

Power consumption:	440 W
Power supply:	AC 50 Hz/60 Hz, 230/240 V
Dimensions (W×H×D):	430×158×429 mm
Weight:	16.5 kg

Notes:

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

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■ BEFORE REPAIR AND ADJUSTMENT

- (1) Turn off the power supply. Using a 10Ω, 10 W resistor, shortcircuit both ends of power supply capacitors (C601, C602) 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, VR452, VR501 and VR502) 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 230 V	AC 240 V
Consumed current	50 Hz	150~450 mA	140~430 mA
	60 Hz		

■ 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.

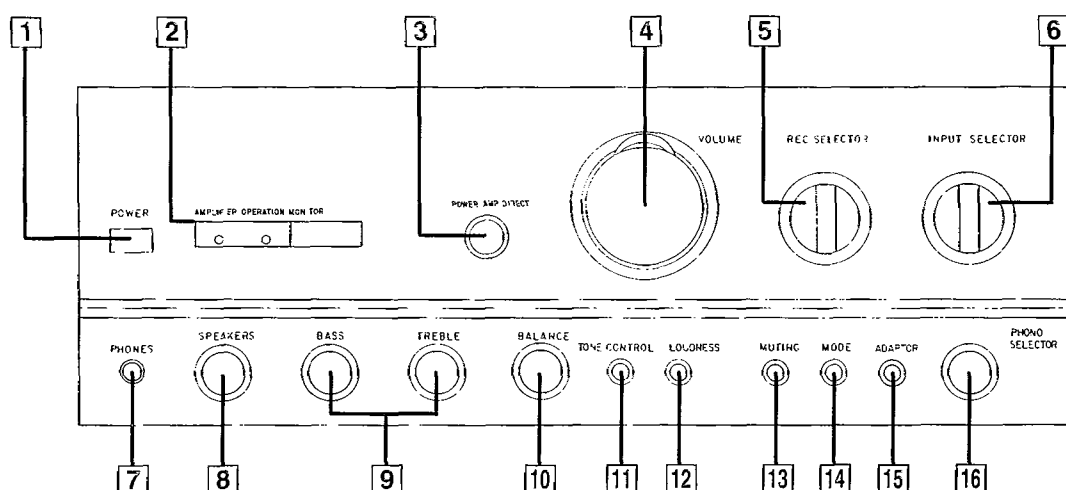
If this occurs, follow the procedure outlined below:

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.

■ LOCATION OF CONTROLS



1 Power switch (POWER)

2 Operation indicators (AMPLIFIER OPERATION MONITOR)

These indicators illuminate 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 operating condition.

CURRENT DRIVE:

When the power is switched ON, this indicator illuminates after about 4 seconds when the unit is in the operating 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 will 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 amplifier section of this unit. The tone control circuit, balance control, loudness switch, muting switch and mode selector are bypassed.

4 Volume control/indicator (VOLUME)

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

5 Recording 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).

6 Input selector (INPUT SELECTOR)

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

7 Headphones jack (PHONES)

8 Speaker selector (SPEAKERS)

This selector is used to select the speakers to be used.

9 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.

10 Balance control (BALANCE)

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

11 Tone control switch (TONE CONTROL)

This switch is used to set the tone control circuit (bass, treble) to ON or DEFEAT.

12 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.

13 Muting switch (MUTING)

This switch is used to temporarily reduce the volume level (approx. 1/10).

The effect activates when setting this switch to the "ON" position.

14 Mode selector (MODE)

This selector is used to select stereo or monaural operation.

15 Adaptor switch (ADAPTOR)

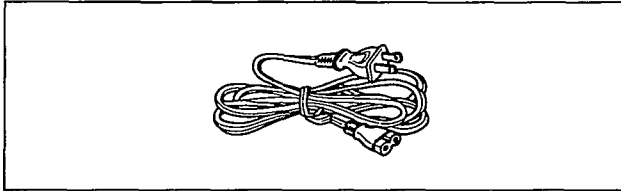
This switch is used when enjoying music by changing the sound quality with the graphic equalizer, etc.

16 Phono cartridge selector (PHONO SELECTOR)

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

The "SUBSONIC" position is used to eliminate ultra-low-frequency noise such as motor "rumble" and unusual vibration of the woofer cone caused by a warped disc, etc.

■ ACCESSORY

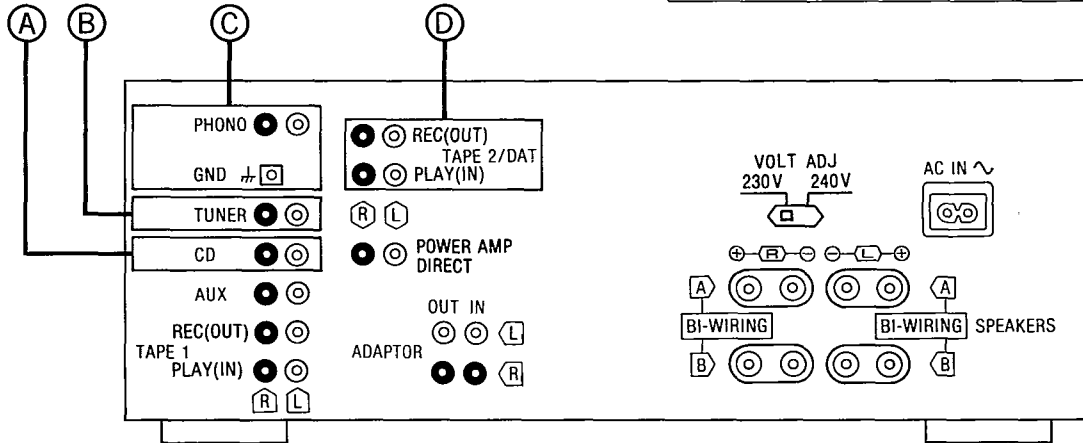
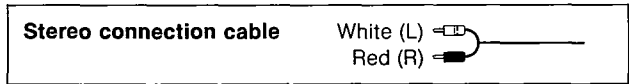


- AC power supply cords 1
- <RJA0019-1K> For (EG) area.
- <SJA193> For (EB) area.
- <SJA173> For (GN) area.

■ CONNECTIONS

To connect to each terminals

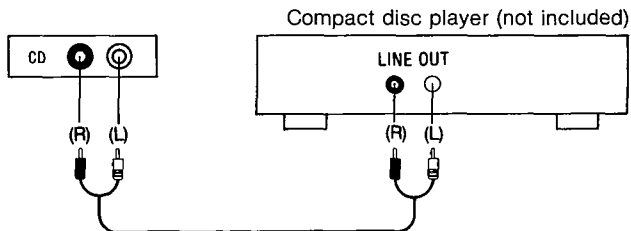
Make connections to each component in the system by using stereo connection cables (not included).



● Phono input capacitance is about 220 pF.

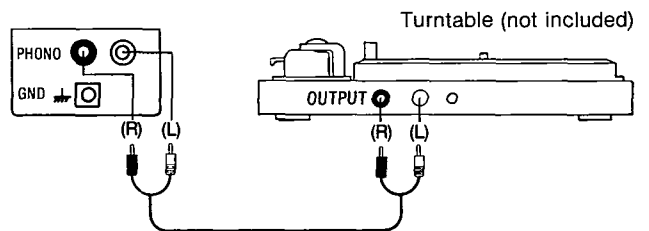
(A) "CD" terminals

Connect to a compact disc player.



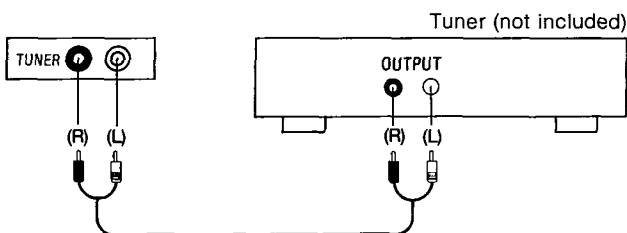
(C) "PHONO" terminals

Connect to a turntable.



(B) "TUNER" terminals

Connect to a tuner.

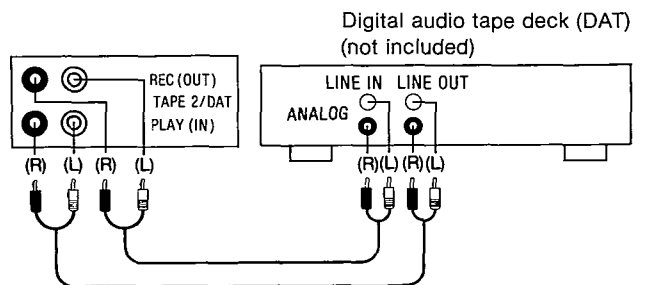


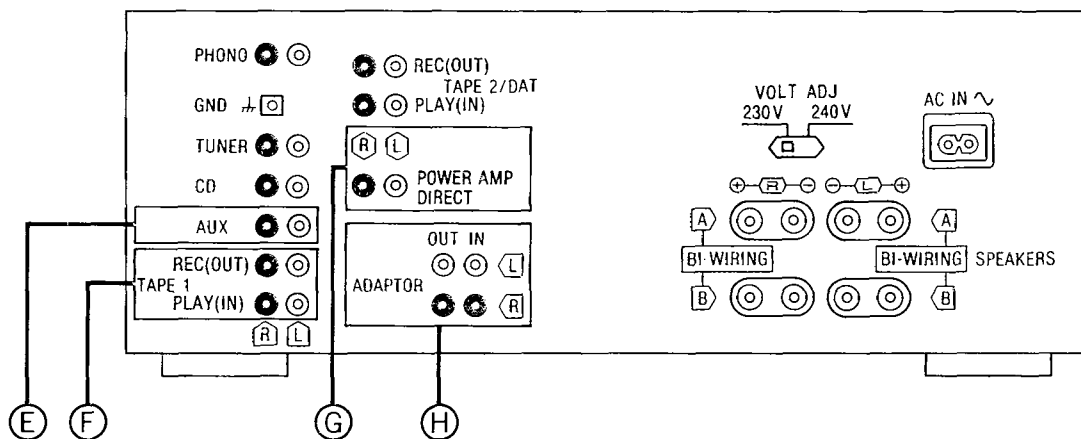
■ "GND" terminal

This terminal is for use with a turntable which has a ground wire.

(D) "TAPE 2/DAT" terminals

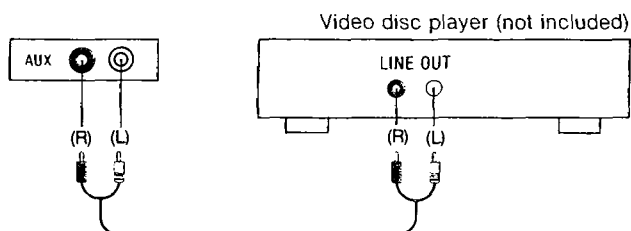
Connect to a second tape deck or a digital audio tape deck (DAT).





E "AUX" terminals

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

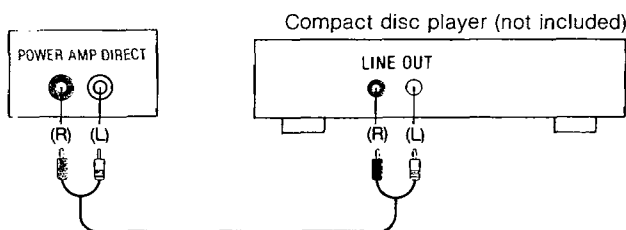


G "POWER AMP DIRECT" terminals

Connect to a compact disc player, a digital audio tape deck, or a D/A converter.

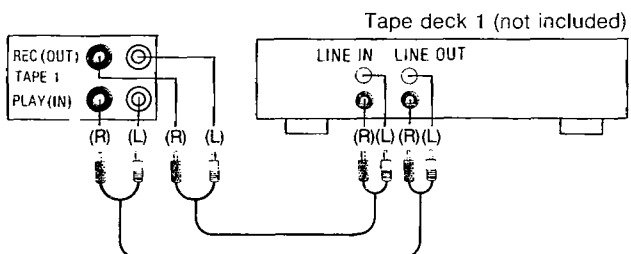
A superior level of tone quality can be obtained, because the signals from these terminals are sent directly to the volume control and power amplifier section of this unit.

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



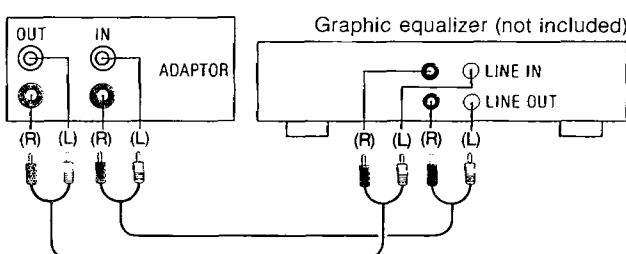
F "TAPE 1" terminals

Connect to a first tape deck.



H "ADAPTOR" terminals

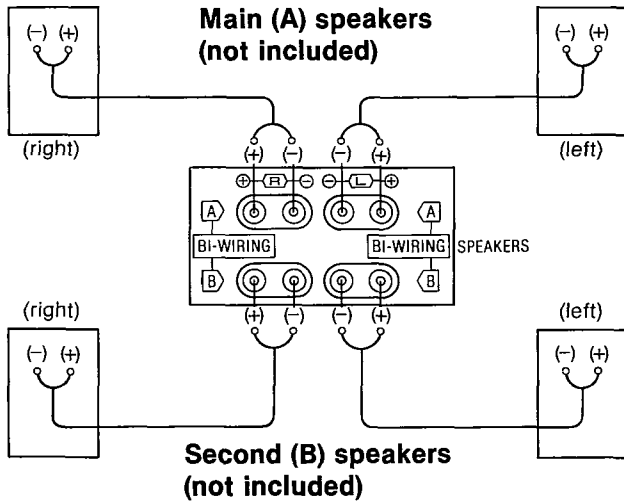
Connect to a graphic equalizer.



To connect to speakers

One pair of speakers can be connected to the "A" terminals of this unit and one pair to the "B" terminals, or only one pair of bi-wired speakers can be connected to all terminals.

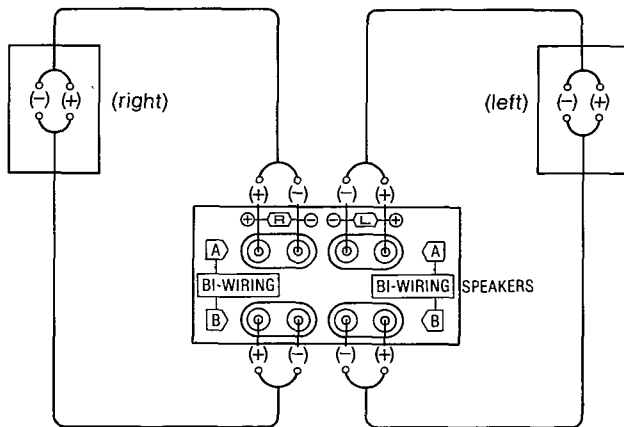
To connect main and/or second speakers



■ 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 bi-wired speakers



Note: Connect only bi-wired speakers in this way.

■ Load impedance

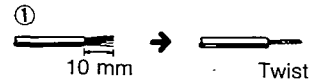
When bi-wired speakers are used: 4–16 ohms

■ Bi-wiring

The treble range and the bass range of the speakers are connected to the speaker terminals of the amplifier by using two speaker connection cords separately for each. As a result of making connections in this way, sound can be reproduced with much greater nuance and detail, with the feelings of air oscillation and deepness of sound provided by an input source that suppresses reciprocal band-range interference. (Refer to the operating instructions of the speakers.)

To connect cords to terminals

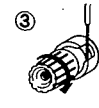
① Strip off the outer covering, and twist the center conductor.



② Turn completely to the left.



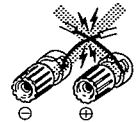
③ Insert the wire and turn completely to the right. Pull the cord to assure a proper connection.



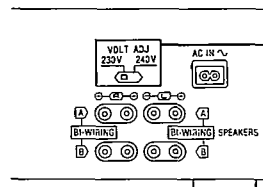
Note: Be sure to only connect positive (+) cords to positive (+) terminals, and negative (-) cords to negative (-) terminals.

Note:

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



To set the power voltage



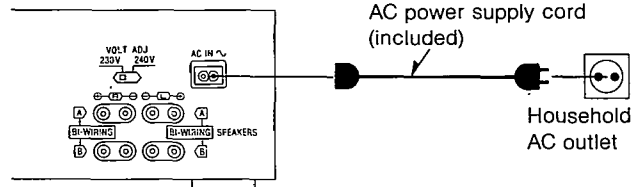
Set the voltage selector to the voltage setting for the area in which the unit will be used. [Use a minus (-) screwdriver]

Note:

Note that this unit will be seriously damaged if this setting is not made correctly.

To connect the AC power supply cord (included)

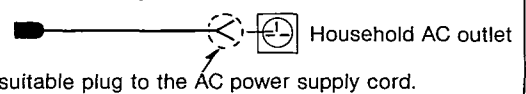
Connect the AC power supply cord (included) after all other cables and cords are connected.



Note:

The configuration of the AC power supply cord differs according to area.

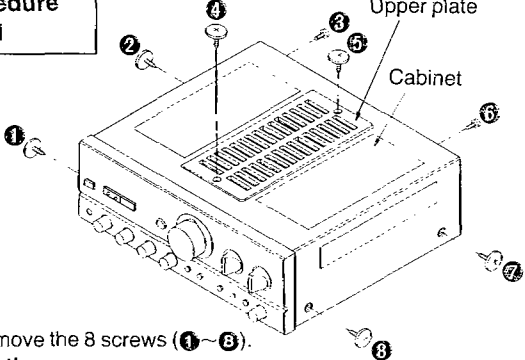
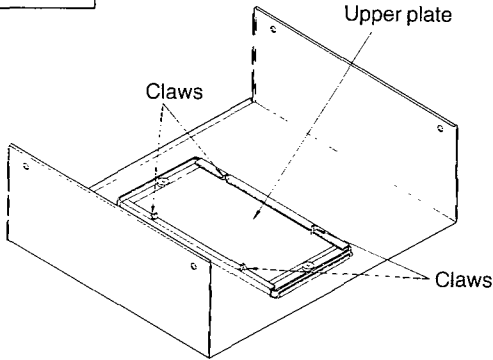
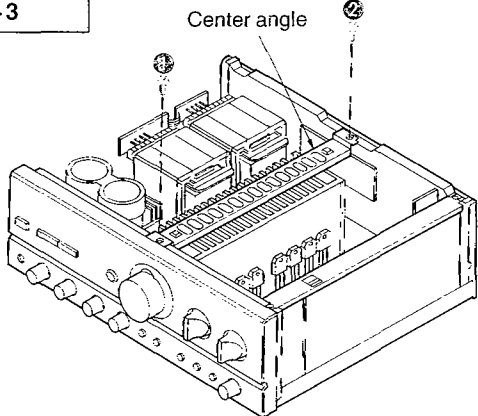
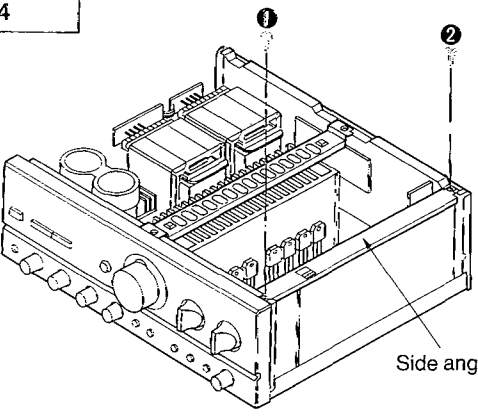
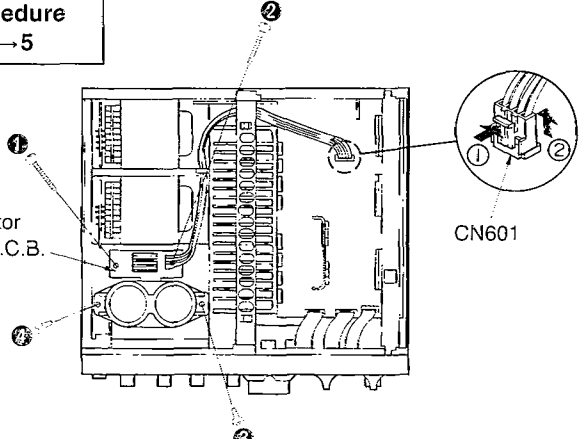
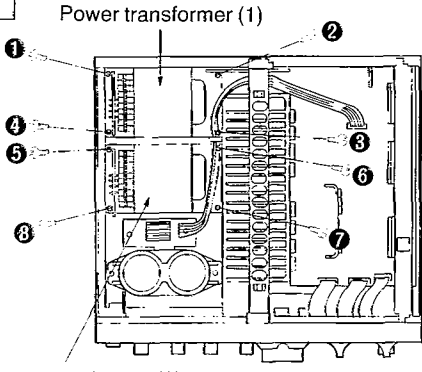
For United Kingdom



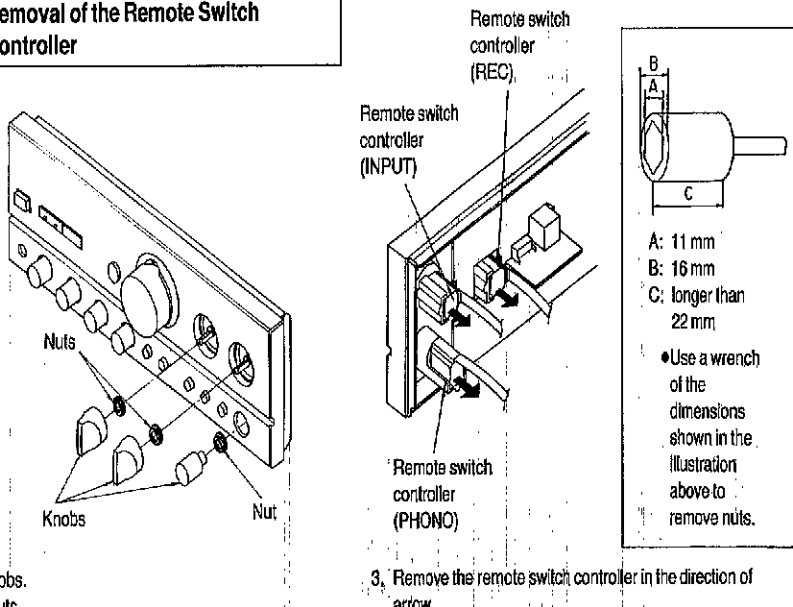
DISASSEMBLY INSTRUCTIONS

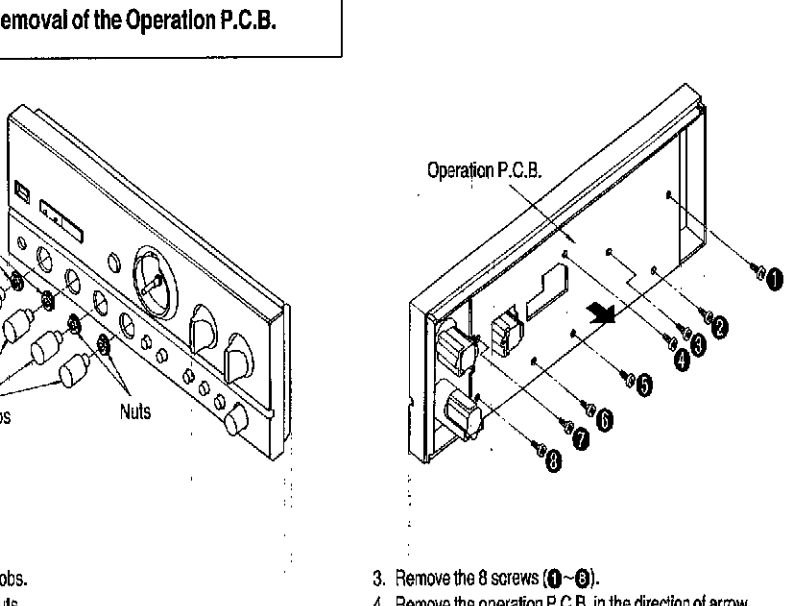
"ATTENTION SERVICER"

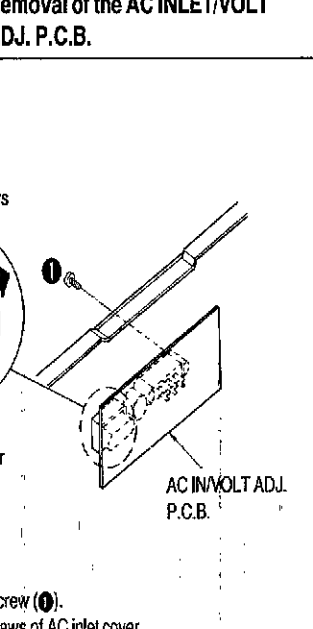
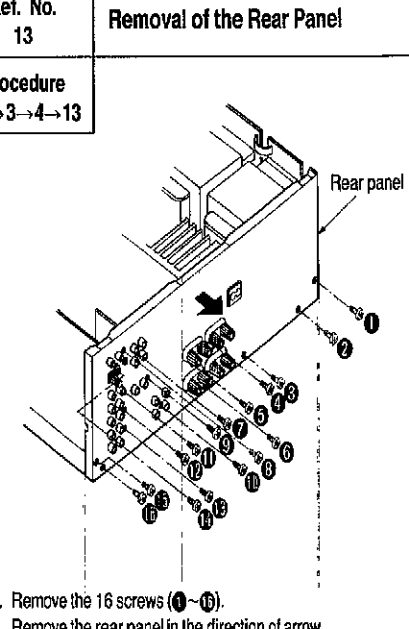
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

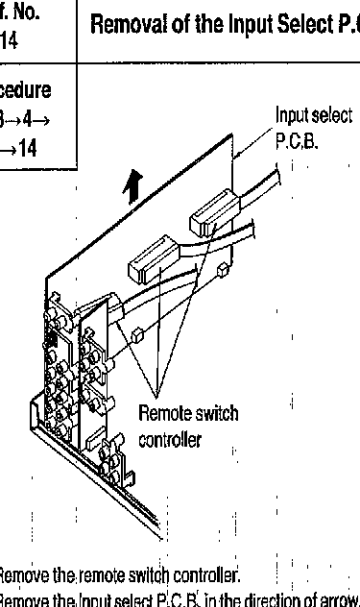
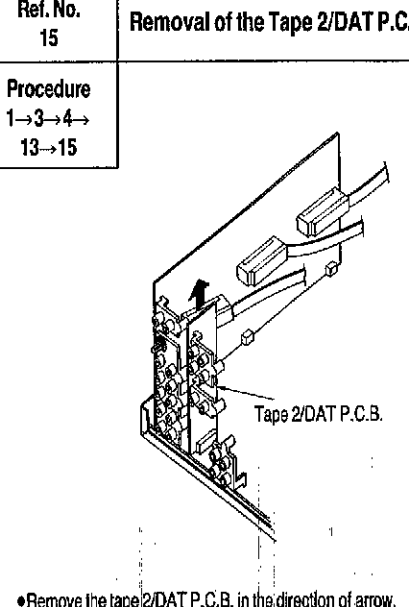
<p>Ref. No. 1</p>	<p>Removal of the Cabinet</p>	<p>Ref. No. 2</p>	<p>Removal of the Upper Plate</p>
<p>Procedure 1</p>	 <p>•Remove the 8 screws (1~8). Attention: When removing the cabinet from the unit, please don't forget to remove the 2 screws (4, 5) of the upper plate. Unless you remove the 2 screws (4, 5), it may change shape of the cabinet.</p>	<p>Procedure 1→2</p>	 <p>•Release the 4 claws.</p>
<p>Ref. No. 3</p>	<p>Removal of the Center Angle</p>	<p>Ref. No. 4</p>	<p>Removal of the Side Angle</p>
<p>Procedure 1→3</p>	 <p>•Remove the 2 screws (1, 2).</p>	<p>Procedure 1→4</p>	 <p>•Remove the 2 screws (1, 2).</p>
<p>Ref. No. 5</p>	<p>Removal of the Capacitor Block P.C.B.</p>	<p>Ref. No. 6</p>	<p>Removal of the Power Transformer (1), (2)</p>
<p>Procedure 1→5</p>	 <p>1. Remove the 1 connector (CN601). 2. Remove the 4 screws (1~4).</p>	<p>Procedure 1→6</p>	 <p>•Remove the 8 screws (1~8).</p>

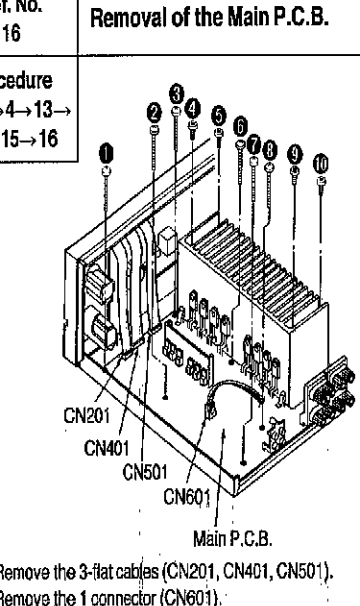
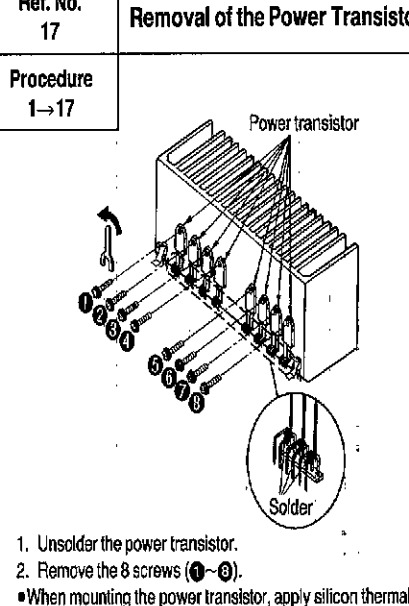
<p>Ref. No. 7</p>	<p>Removal of the Front Panel Ass'y</p>	<div style="display: flex; justify-content: space-between;"> <div data-bbox="183 280 742 672"> </div> <div data-bbox="901 224 1428 660"> </div> </div> <div style="margin-top: 20px;"> <p>1. Remove the remote switch controller. 2. Remove the 3 flat cables (CN201, CN401, CN501).</p> <p>■ Removal of the remote switch controller ● Remove the 4 claws.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="223 862 574 1086"> <p>S101 (PHONO)</p> </div> <div data-bbox="223 1120 574 1355"> <p>S102, S103 (REC, INPUT)</p> </div> </div> <div style="margin-top: 20px; display: flex; justify-content: space-around;"> <div data-bbox="686 1019 1093 1243"> </div> <div data-bbox="1141 996 1460 1243"> </div> </div> <div style="margin-top: 20px;"> <p>■ Replacing of the remote switch controller</p> <p>1. Turn the selector knobs to the arrows. 2. Put the switch slider of switch to end and put in the remote switch controller.</p> </div> </div>	
<p>Ref. No. 8</p>	<p>Removal of the Power Switch/ Headphones Jack P.C.B.</p>	<p>Ref. No. 9</p>	<p>Removal of the Volume P.C.B.</p>
<p>Procedure 1→3→4→ 7→8</p>	<div style="text-align: center;"> </div> <p>1. Remove the 1 connector (CP502A). 2. Remove the 2 screws (1, 2).</p>	<p>Procedure 1→3→4→ 7→9</p>	<div style="text-align: center;"> </div> <p>1. Pull out the volume knob. 2. Remove the nut. 3. Release the 1 claw.</p>

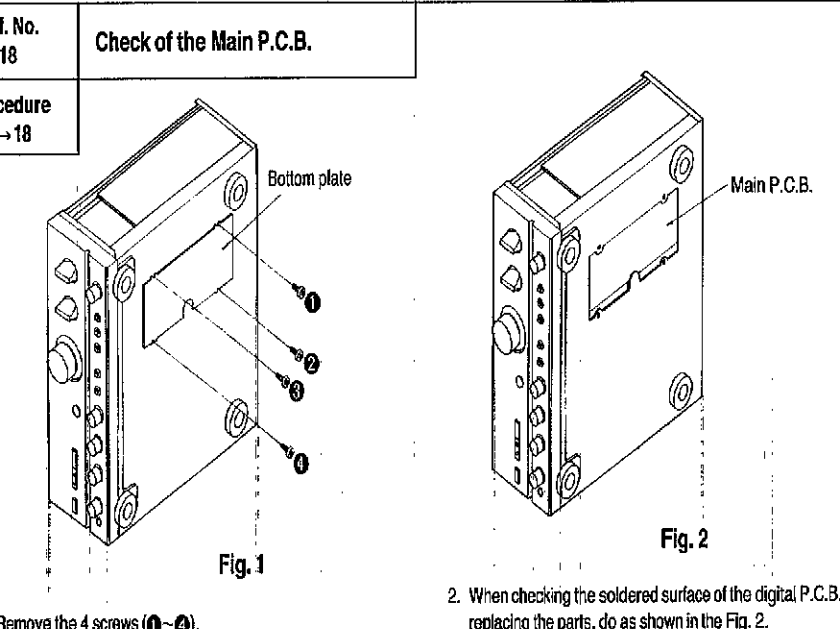
Ref. No. 10	Removal of the Remote Switch Controller
Procedure 1→3→4→ 7→10	 <p>Remote switch controller (REC)</p> <p>Remote switch controller (INPUT)</p> <p>Remote switch controller (PHONO)</p> <p>Knobs</p> <p>Nuts</p> <p>1. Pull out the 3 knobs. 2. Remove the 3 nuts. 3. Remove the remote switch controller in the direction of arrow.</p>

Ref. No. 11	Removal of the Operation P.C.B.
Procedure 1→3→4→7→ 8→9→11	 <p>Operation P.C.B.</p> <p>Knobs</p> <p>Nuts</p> <p>1. Pull out the 4 knobs. 2. Remove the 4 nuts. 3. Remove the 8 screws (1-8). 4. Remove the operation P.C.B. in the direction of arrow.</p>

Ref. No. 12	Removal of the AC INLET/VOLT ADJ. P.C.B.	Ref. No. 13	Removal of the Rear Panel
Procedure 1→3→12	 <p>AC Inlet cover</p> <p>AC IN/VOLT ADJ. P.C.B.</p> <p>Claws</p> <p>1. Remove the 1 screw (1). 2. Release the 2 claws of AC inlet cover.</p>	Procedure 1→3→4→13	 <p>Rear panel</p> <p>1. Remove the 16 screws (1-16). 2. Remove the rear panel in the direction of arrow.</p>

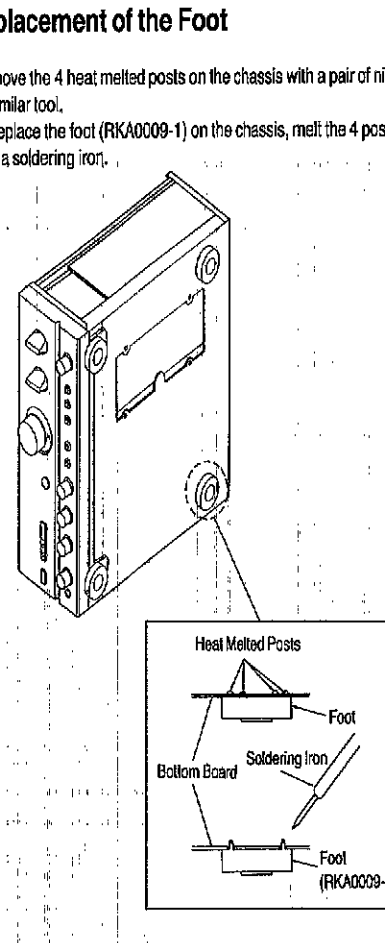
Ref. No. 14	Removal of the Input Select P.C.B.	Ref. No. 15	Removal of the Tape 2/DAT P.C.B.
Procedure 1→3→4→ 13→14	 <p>Input select P.C.B.</p> <p>Remote switch controller</p> <p>1. Remove the remote switch controller. 2. Remove the input select P.C.B. in the direction of arrow.</p>	Procedure 1→3→4→ 13→15	 <p>Tape 2/DAT P.C.B.</p> <p>•Remove the tape 2/DAT P.C.B. in the direction of arrow.</p>

Ref. No. 16	Removal of the Main P.C.B.	Ref. No. 17	Removal of the Power Transistor
Procedure 1→3→4→13→ 14→15→16	 <p>Main P.C.B.</p> <p>CN201</p> <p>CN401</p> <p>CN501</p> <p>CN601</p> <p>1. Remove the 3-flat cables (CN201, CN401, CN501). 2. Remove the 1 connector (CN601). 3. Remove the 10 screws (1-10).</p>	Procedure 1→17	 <p>Power transistor</p> <p>Bottom Board</p> <p>Soldering Iron</p> <p>Foot (RKA0009-1)</p> <p>Solder</p> <p>1. Unsolder the power transistor. 2. Remove the 8 screws (1-8). •When mounting the power transistor, apply silicon thermal compound (RFX0002) to the rear of the power transistor.</p>

Ref. No. 18	Check of the Main P.C.B.
Procedure 1→18	 <p>Bottom plate</p> <p>Main P.C.B.</p> <p>Fig. 1</p> <p>Fig. 2</p> <p>1. Remove the 4 screws (1-4). 2. When checking the soldered surface of the digital P.C.B. and replacing the parts, do as shown in the Fig. 2.</p>

•Replacement of the Foot

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



Heat Melted Posts

Foot

Bottom Board

Soldering Iron

Foot (RKA0009-1)

MEASUREMENTS AND ADJUSTMENTS

•ADJUSTMENT

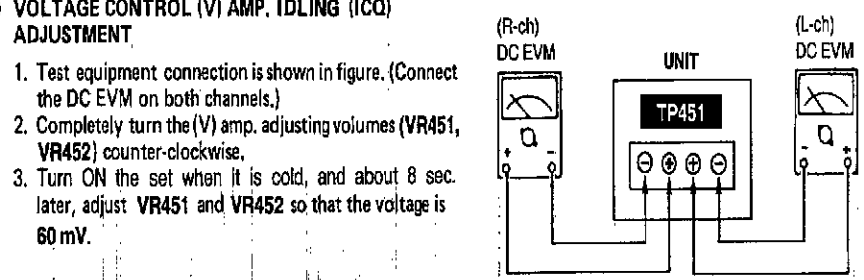
Control positions and equipment used.

- Volume knob ∞ (Minimum)
- Speaker selector off

•AC and DC electronic voltmeter (EVM)

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

- Test equipment connection is shown in figure. (Connect the DC EVM on both channels.)
- Completely turn the (V) amp. adjusting volumes (VR451, VR452) counter-clockwise.
- Turn ON the set when it is cold, and about 8 sec. later, adjust VR451 and VR452 so that the voltage is 60 mV.



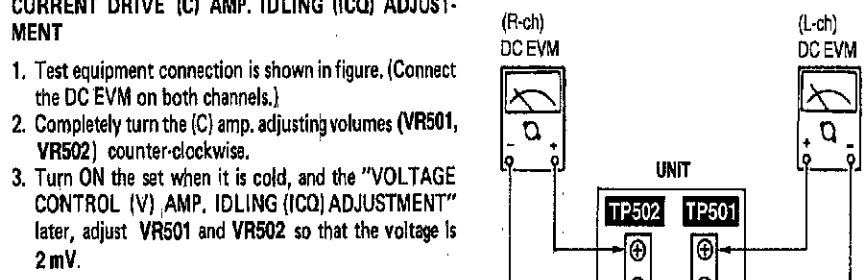
(R-ch) DC EVM

UNIT

(L-ch) DC EVM

(2) CURRENT DRIVE (C) AMP. IDLING (ICQ) ADJUSTMENT

- Test equipment connection is shown in figure. (Connect the DC EVM on both channels.)
- Completely turn the (C) amp. adjusting volumes (VR501, VR502) counter-clockwise.
- Turn ON the set when it is cold, and the "VOLTAGE CONTROL (V) AMP. IDLING (ICQ) ADJUSTMENT" later, adjust VR501 and VR502 so that the voltage is 2 mV.

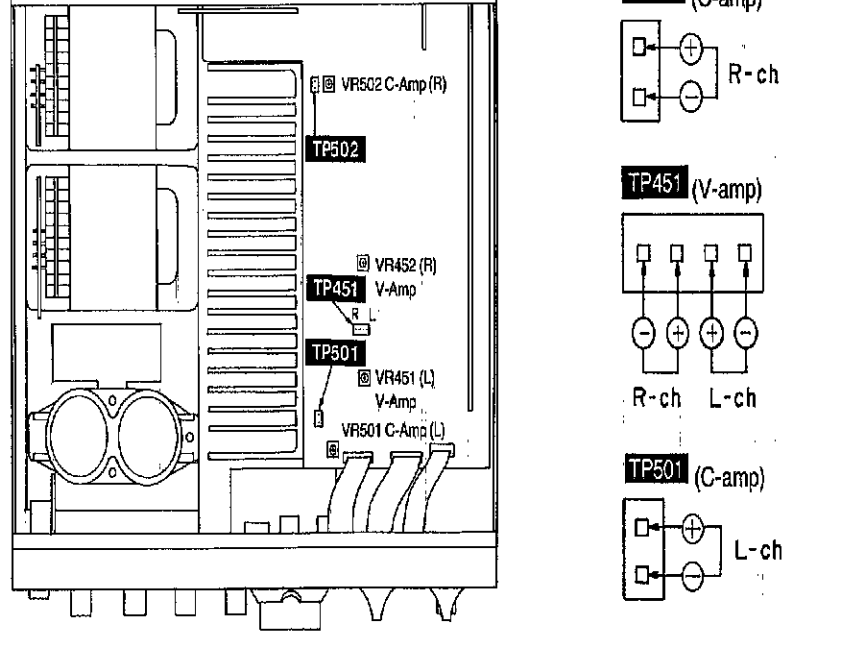


(R-ch) DC EVM

UNIT

(L-ch) DC EVM

•ADJUSTMENT POINTS



TP502 (C-amp)

R-ch

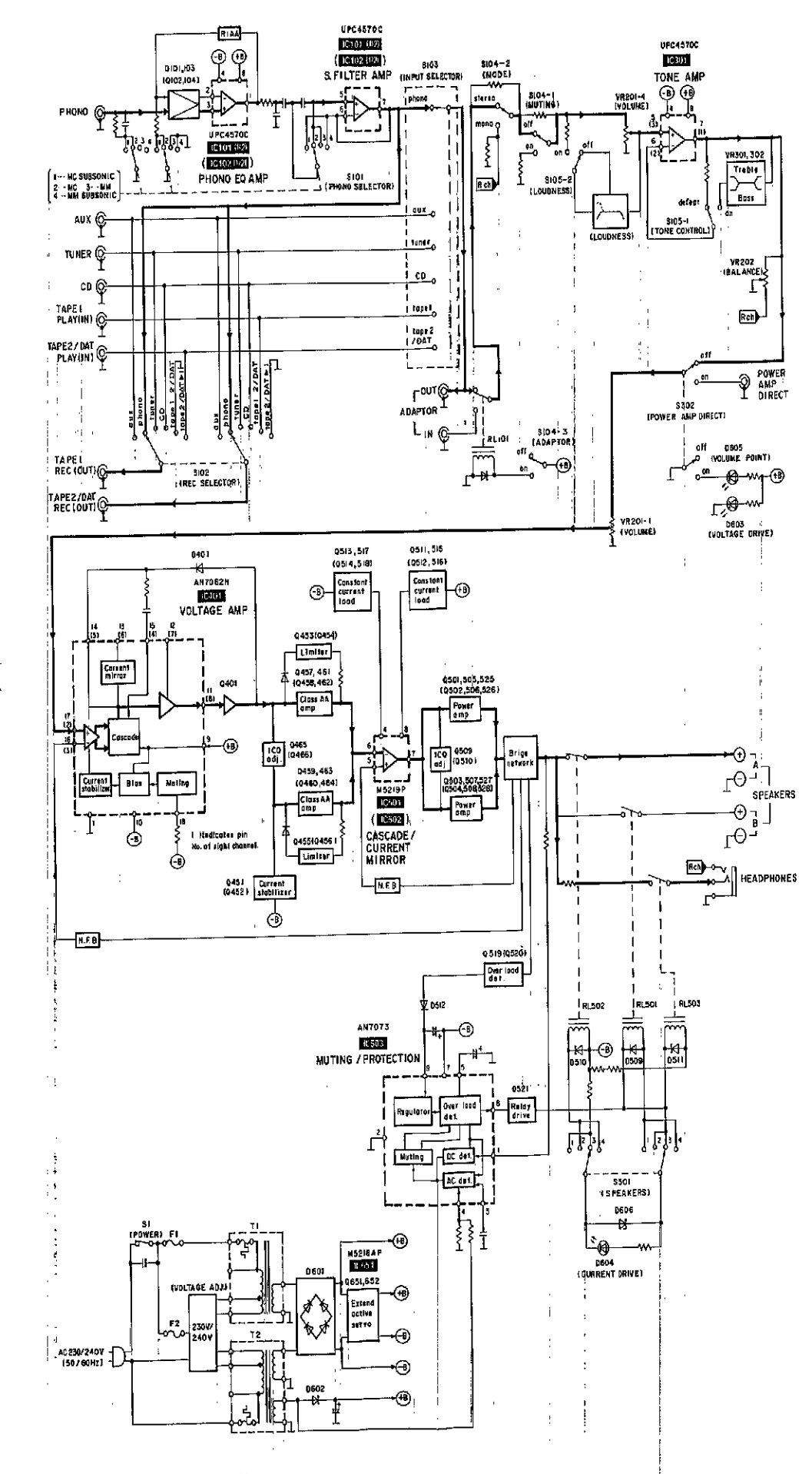
TP451 (V-amp)

R-ch L-ch

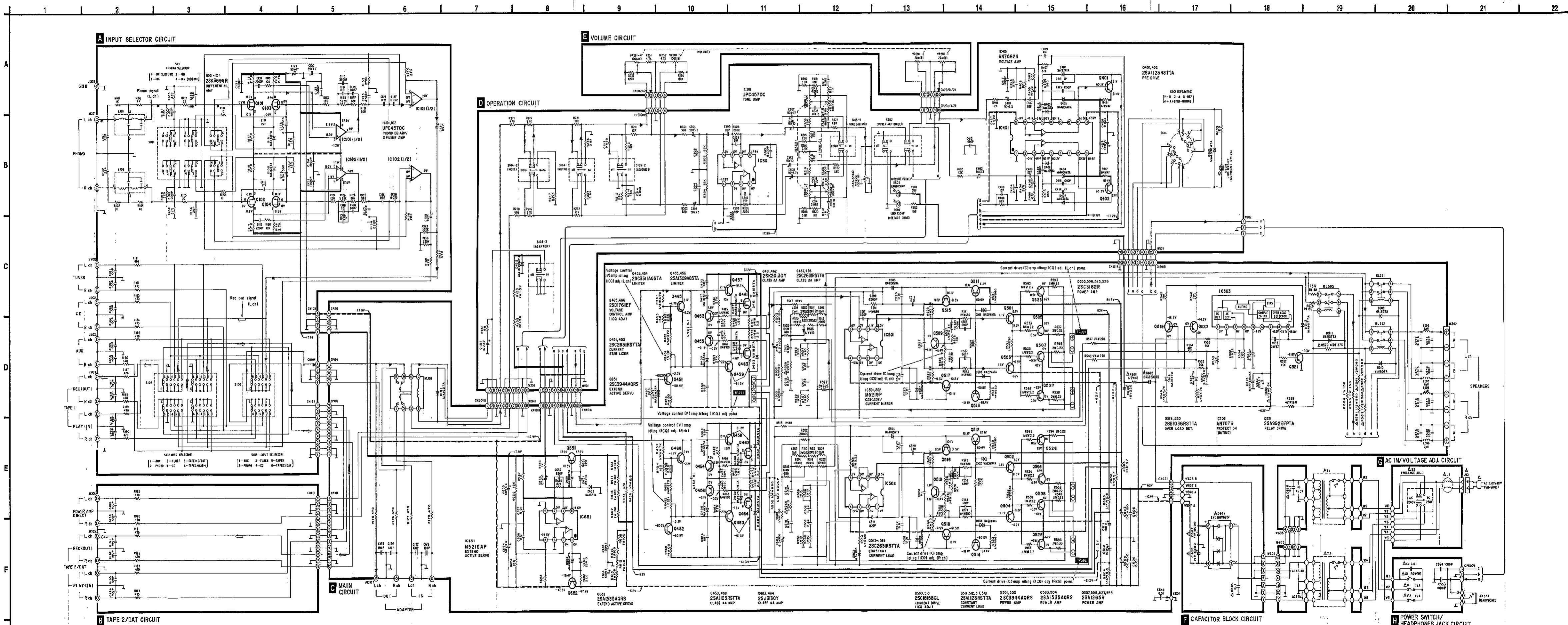
TP501 (C-amp)

L-ch

BLOCK DIAGRAM



SCHEMATIC DIAGRAM (Parts list on pages 23-26.)



PRINTED CIRCUIT BOARDS (Parts list on pages 23-26.)

Terminal guide of IC's, transistors and diodes

M5218AP 	M5219P 	AN7073
UPC4570C 8 Pin AN7062N 18 Pin		2SA1265R 2SC3182R
2SA1309AQSTA 2SB1036RSTTA 2SC3311AQSTA 	2SK369GR 	
2SA992EFPTA 2SA1123RSTTA 2SC1815BGL 2SC2631RSTTA 	2SA1535AQRS 2SC3944AQRS 2SD1761EF 	
2SK20130Y 2SJ3130Y 	1SR35200TB MA165TA MA167TA MA167ATA MA185TA MA29WATA 	
MA4100MTA MA4120MTA MA4180MTA MA4180MTA MA4240MTA 	MA4030MTA MA4036MTA 	
SVDS10VB20F 	LN014304P LN018304P 	

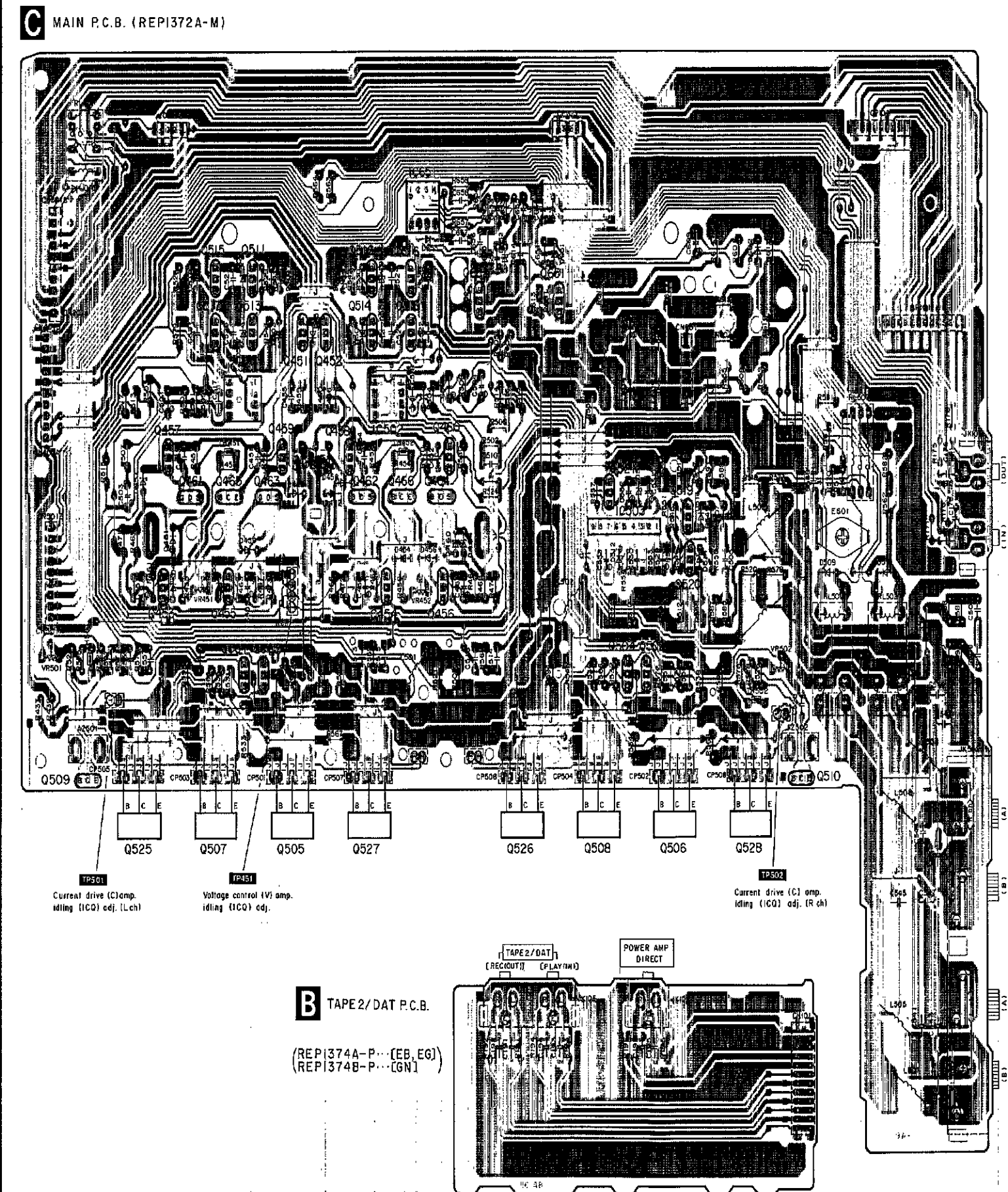
(This schematic diagram may be modified at any time with the development of new technology.)

- Notes:**
- S1 : Power switch in "off" position.
 - S2 : Voltage selector switch in "240 V" position. (230 V/240 V)
 - S101 : Phono cartridge selector (PHONO SELECTOR) switch in "MC" position.
 - S102 : Recording output selector (REC SELECTOR) switch in "TAPE/DAT" position.
 - S103 : Input selector (INPUT SELECTOR) switch in "TAPE/DAT" position.
 - S104-1 : Muting (MUTING) switch in "off" position.
 - S104-2 : Mode (MODE) switch in "stereo" position.
 - S104-3 : Adaptor (ADAPTOR) switch in "off" position.
 - S105-1 : Tone control (TONE CONTROL) switch in "defeat" position.
 - S105-2 : Loudness (LOUDNESS) switch in "off" position.
 - S302 : Power amplifier direct (POWER AMP DIRECT) switch in "off" position.
 - S501 : Speaker selector (SPEAKERS) switch in "off" position.
- Positive voltage line.
- Negative voltage line.
→ Phono signal line.
→ Recording output signal line.

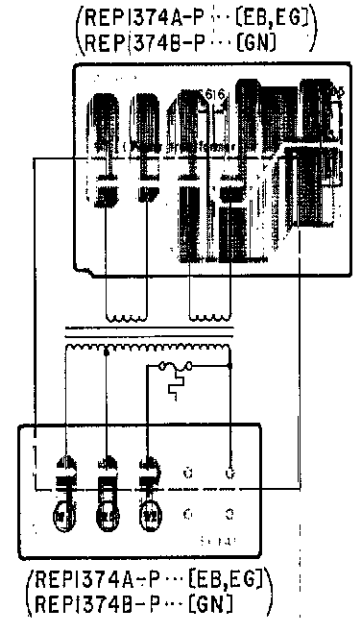
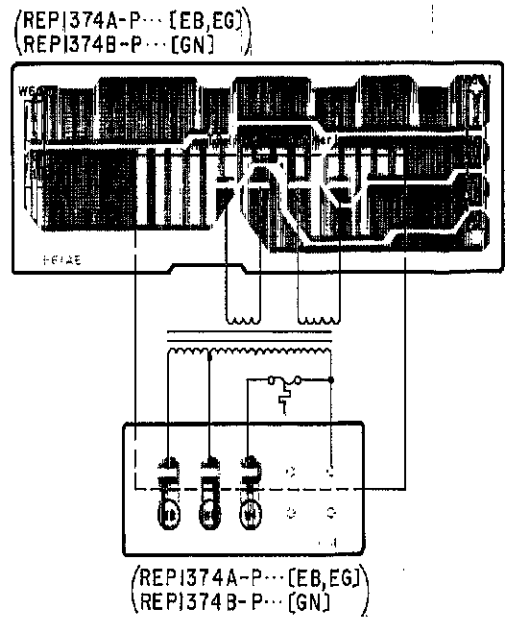
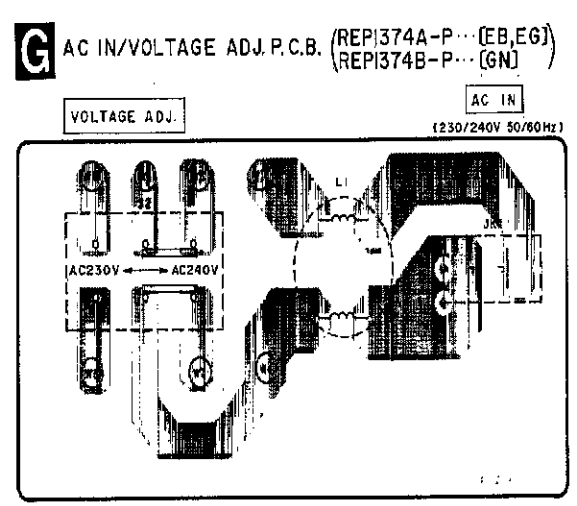
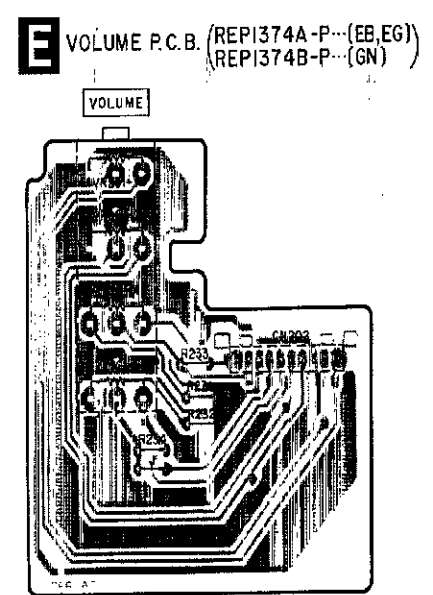
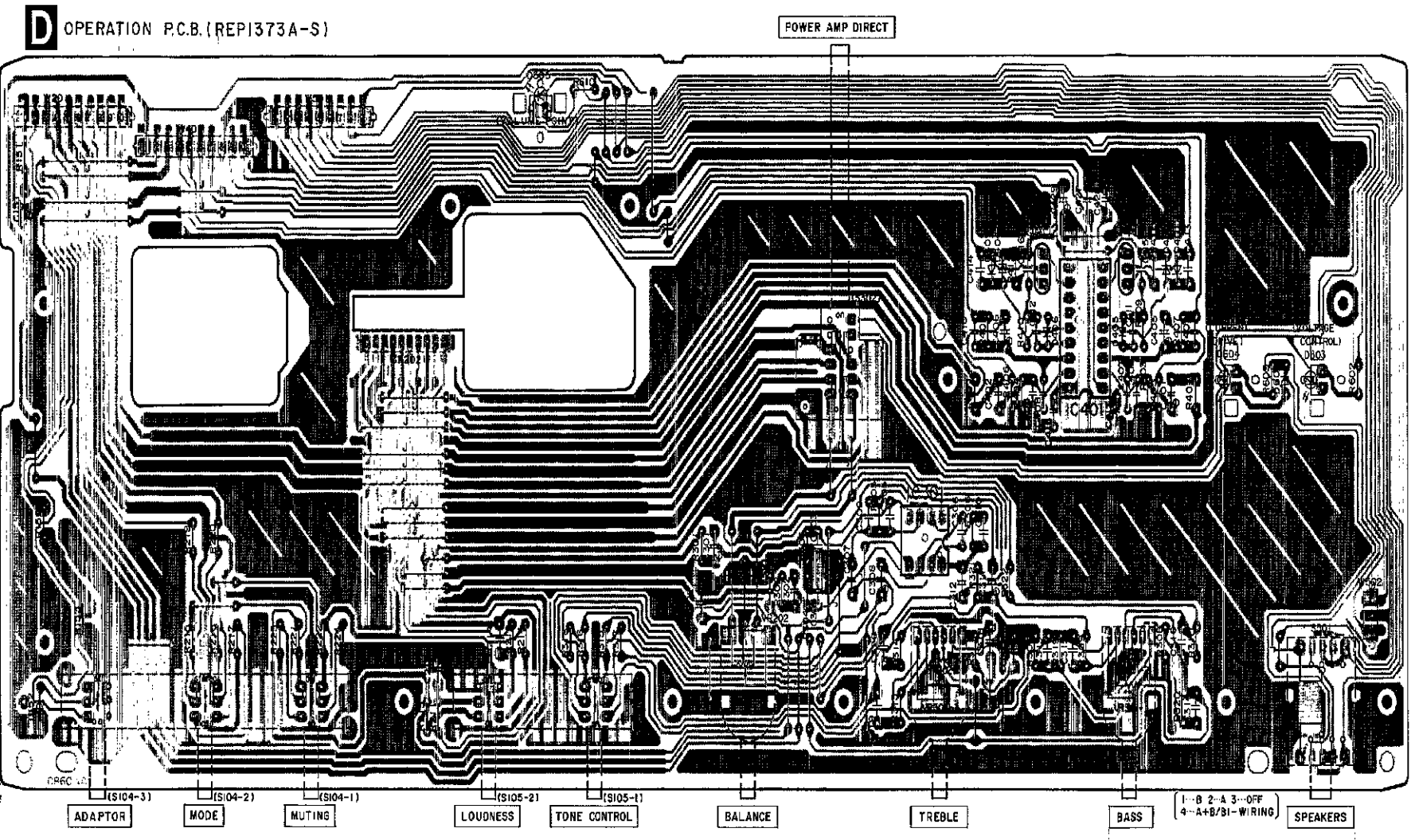
Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

Important safety notice:
Components identified by a triangle mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

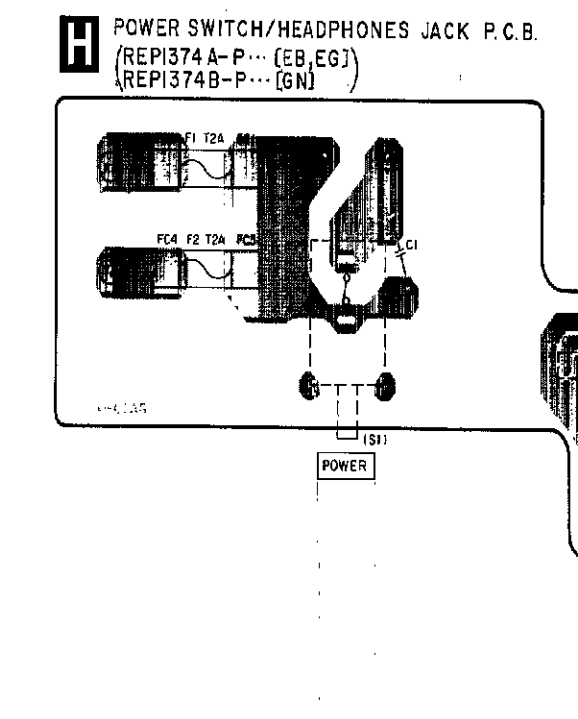
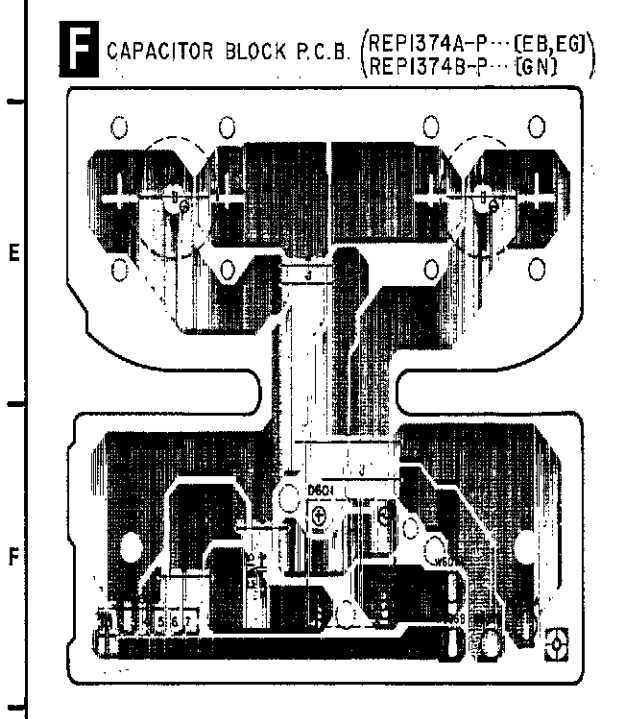
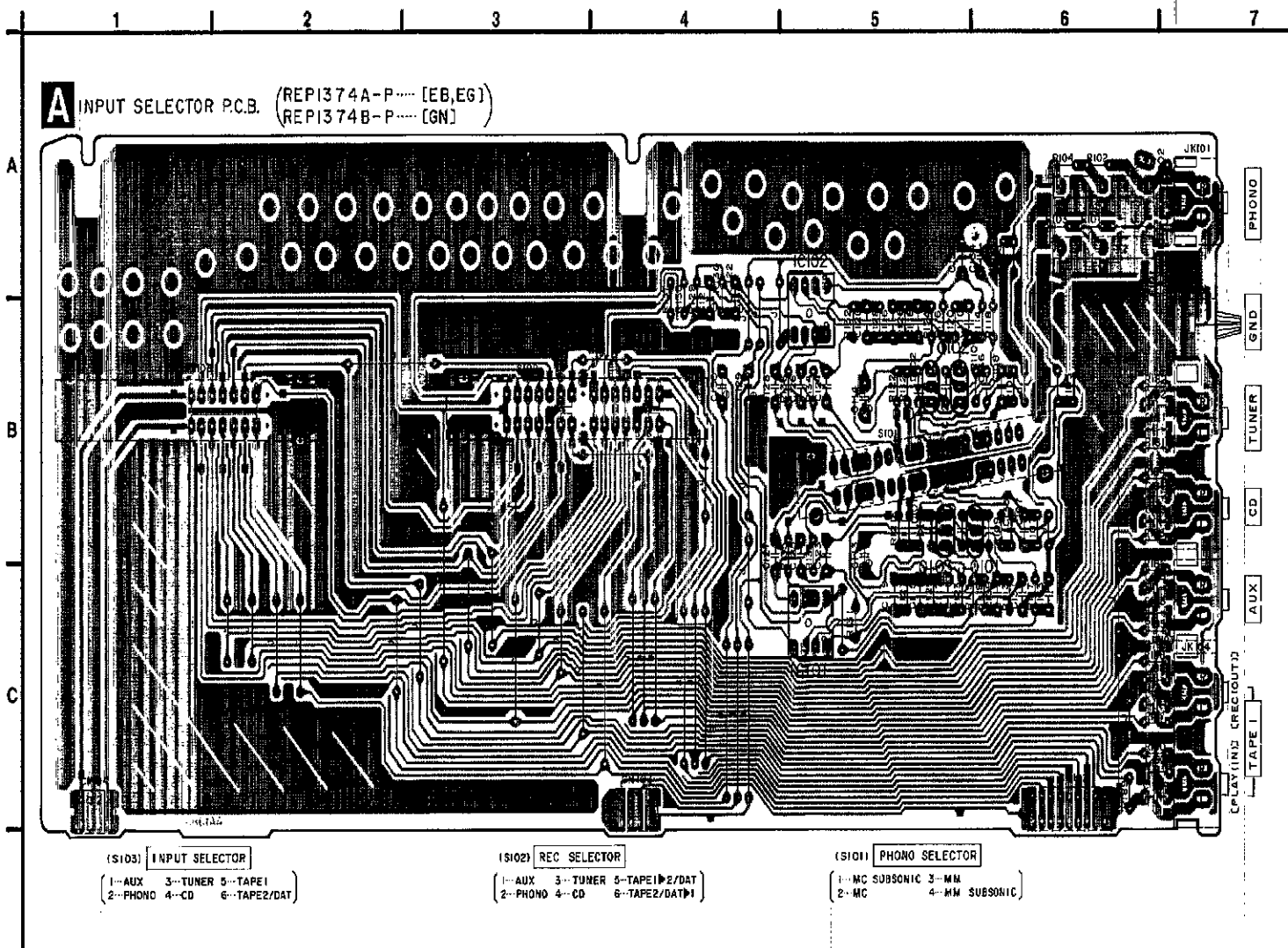
Caution!
IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair. Cover the parts boxes made of plastics with aluminum foil. Ground the soldering iron. Put a conductive mat on the work table. Do not touch the legs of IC or LSI with the fingers directly.



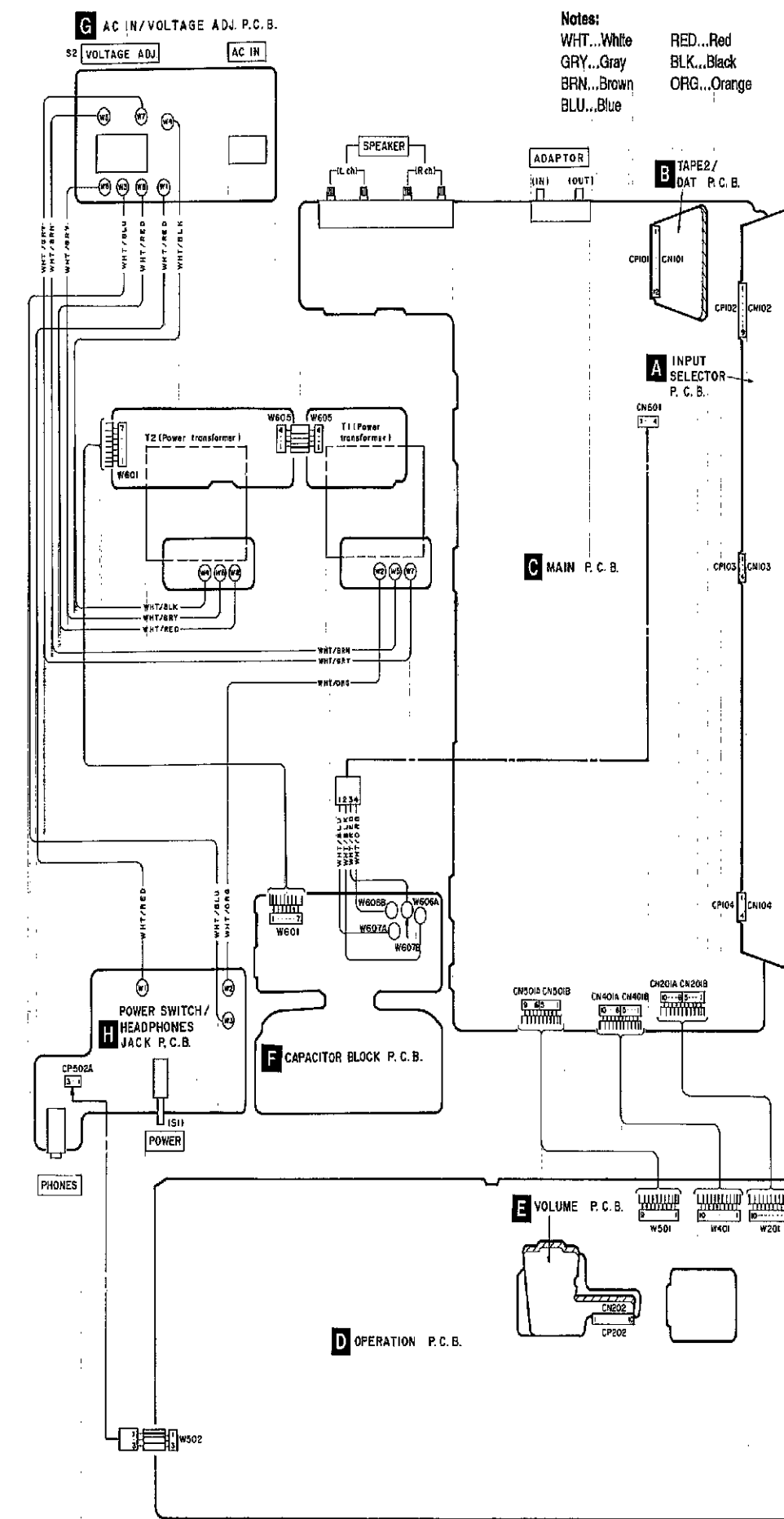
This circuit board diagram may be modified at any time with the development of new technology.



PRINTED CIRCUIT BOARDS (Parts list on pages 23-26.)



WIRING CONNECTION DIAGRAM



REPLACEMENT PARTS LIST

Notes: *Important safety notice:
Components identified by Δ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors, low-noise resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in this parts list. *The parenthesized indications in the Remarks column specify the areas. (Refer to the cover page for areas.) Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		0453-459	MA165	DIODE	
		TRANSISTOR(S)		0457-460	MA220M	DIODE	
IC101, 102	UPC4570C	I. C. PHONO/EQ. AMP.		0451-464	MA1957A	DIODE	
IC201	UPC4570C	I. C. TONE AMP.		0601-504	MA299A	DIODE	
IC401	AN7062V	I. C. VOLTAGE AMP.		0605-508	MA4100MTA	DIODE	
IC501, 502	MS218P	I. C. CASCADE CURRENT MIRROR		0609-511	MA165	DIODE	
IC503	AN7073	I. C. PROTECTION		0612-514	MA167	DIODE	
IC651	MS218AP	I. C. EXTEND ACTIVE SERVO		0615	MA160M	DIODE	
		TRANSISTOR(S)		0601	SVS010R20F	DIODE	Δ
		TRANSISTOR(S)		0602	1SR052007R	DIODE	Δ
Q101-104	2SK369R	TRANSISTOR		0603	LND14364P	L. E. D.	
Q401, 402	2SA1123RSTTA	TRANSISTOR		0604, 405	LND18304P	L. E. D.	
Q451, 452	2SC2631RSTTA	TRANSISTOR		0606	MA4300MTA	DIODE	
Q453, 454	2SC3311A-Q	TRANSISTOR		0651, 452	MAA180-M	DIODE	
Q455, 456	2SA1309A-R	TRANSISTOR		0653	MA165	DIODE	
Q457, 458	2SC2631RSTTA	TRANSISTOR				VARIABLE RESISTOR(S)	
Q459, 460	2SA1123RSTTA	TRANSISTOR		VZ201	RYV18J04A	V. R. VOLUME CONTROL	
Q461, 462	2SK2013DY	TRANSISTOR		VR202	EVJ02QFA2C15	V. R. BALANCE	
Q463, 464	2S43130Y	TRANSISTOR		VR301, 302	EVJVA1FA2C15	V. R. BASS/TREBLE CONTROL	
Q465, 466	2SD1761EF	TRANSISTOR		VR451, 452	EVN00AA00B13	V. R. ICQ ADJ. (V-AMP.)	
Q501, 502	2SC3944QBR	TRANSISTOR		VR501, 502	EVN00AA00B52	V. R. ICQ ADJ. (G-AMP.)	
Q503, 504	2SA1535AQR	TRANSISTOR				THERMISTOR(S)	
Q505, 506	2SC3182R	TRANSISTOR					
Q507, 508	2SA1285R	TRANSISTOR		TH451, 452	ERT020K1251T	THERMISTOR	
Q509, 510	2SC1818R	TRANSISTOR		TH601, 602	ERT020L104T	THERMISTOR	
Q511, 512	2SA1123RSTTA	TRANSISTOR				COIL(S)	
Q513-516	2SC2631RSTTA	TRANSISTOR					
Q517, 518	2SA1123RSTTA	TRANSISTOR		L1	SLQ2650M40	COIL	Δ
Q519, 520	2SB1036R	TRANSISTOR		L101, 102	SLM1233	COIL	
Q621	2SA992EFYTA	TRANSISTOR		L501, 502	SLQ076-40	COIL	
Q625, 526	2SC3182R	TRANSISTOR		L503, 504	SLQ18C-10	COIL	
Q627, 528	2SA1285R	TRANSISTOR		L505-508	SLQ076-40	COIL	
Q651	2SC3944QBR	TRANSISTOR				TRANSFORMER(S)	
Q652	2SA1535AQR	TRANSISTOR					
		DIODE(S)		D101, 102	MA165	DIODE	
		TRANSFORMER(S)		D151	MA165	DIODE	
		FUSE(S)		D152	MA4120	DIODE	
		RELAY(S)		D401, 402	MA167	DIODE	
		JACK(S)		D403, 404	MA4306MTA	DIODE	
		AC INLET		D405, 406	MA165	DIODE	
		SWITCH(ES)		D451	MA299A	DIODE	
		POWER TRANSFORMER					
		FUSE HOLDER(S)					
		JACK(S)					

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
	ESB249V	SW. POWER	Δ	JK101	SJF3068N	PHONO JACK	
S1	ESD2620A	SW. VOLTAGE SELECTOR	Δ	JK102	SJF3067N	TUNER/CD JACK	
S101	RSS4901-A	SW. PHONO SELECTOR		JK103	SJF3068N	AUX JACK	
S102	RSS4901	SW. REC. SELECTOR		JK104	SJF3068N	TAPE 1 JACK	
S103	RSS4901	SW. INPUT SELECTOR		JK105	SJF3068N	TAPE 2/DAT JACK	
S104	ESB68131	SW. MUTING/MODE/ADAPTOR		JK106	SJF3068N	POWER AMP DIRECT JACK	
S105	ESB68120	SW. LOUDNESS/TONE		JK107	SJF3068N	ADAPTOR JACK	
S202	RSP2009-A	SW. POWER AMP. DIRECT		JK351	QW4452C-A	HEADPHONES JACK	
S501	RSH4904-A	SW. SPEAKER SELECTOR		JK502	RJH901-1	SPEAKER TERMINAL	
		CONNECTOR(S)				TEST POINT	
		SOCKET(12P)		TP451	SJT3409	TEST POINT	
CK101	RJU0579012	SOCKET(12P)		TP501	SJT3209	TEST POINT	
CK102	RJU0579009	SOCKET(9P)		TP502	SJT3209	TEST POINT	
CK103, 104	RJU0579004	SOCKET(4P)		TP503	SJT3209	TEST POINT	
CK202	RJUN03010ML	SOCKET(10P)		TP504	SJT3209	TEST POINT	
CK301	RJPA3404	PLUG(4P)					
CK301A	RJSA11705	SOCKET(5P)					
CK401A	RJSA11705	SOCKET(5P)					
CK301B	RJSA11704	SOCKET(4P)					
CK201B	RJSA11705	SOCKET(5P)					
CK401B	RJSA11705	SOCKET(5P)					
CK501B	RJSA11705	SOCKET(5P)					
CP101	RJT0579012-1	CONNECTOR(12P)					
CP102	RJT0579009-1	CONNECTOR(9P)					
CP103, 104	RJT0579004-1	CONNECTOR(4P)					
CP202	RJT003010-1	CONNECTOR(10P)					
CP301	RJH0031	CONNECTOR					
CP502A	RJP363YA	CONNECTOR(3P)					
CP302-508	RJH0031	CONNECTOR					
		EARTH TERMINAL(S)					
		TRANSISTOR SPRING					
		SHIELD PLATE					
		GND PLATE					
		FUSE HOLDER(S)					
		RELAY(S)					
		RELAY					
		RELAY					
		RELAY					
		JACK(S)					
		AC INLET	Δ (EB, EG)				
		AC INLET	Δ (GW)				

Notes : * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico farads (pF) F=Farads (F)
 * Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k(OHM)

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
RESISTORS								
R101-104	ERDS2TJ102	1/4W 1K	R437	ERDS2TJ473	1/4W 47K	R585-592	ERGLSJ100E	1W 10
R105, 106	ERDS2TJ473	1/4W 47K	R439	ERDFS2VJ6R8T	1/4W 6.8	R593-598	ERF2EXKR22V	2W 0.22
R107, 108	ERDS2TJ221	1/4W 220	R451, 452	ERDFS2VJ472T	1/4W 4.7K	R601	ERDS1FVJ180T	1/2W 18 Δ
R109, 110	ERDS2TJ220T	1/4W 22	R453, 454	ERDS2TJ151	1/4W 150	R602	ERDS2TJ151	1/4W 150
R111, 112	ERDS2TJ100	1/4W 10	R455, 456	ERDFS2VJ271T	1/4W 270	R603, 604	ERDFS2VJ6R8T	1/4W 6.8
R113-118	ERDAS3G272T	1/4W 2.7K	R457	ERDS2TJ823T	1/4W 82K	R605, 606	ERDFS2VJ4H7T	1/4W 4.7
R119, 120	ERDS2TJ101	1/4W 100	R459, 460	ERDFS2VJ101T	1/4W 100	R607, 608	ERGLSJ101E	1W 100
R121, 124	ERDAS3G121	1/4W 120	R461-464	ERDS2TJ273	1/4W 27K	R609	ERDS2TJ151	1/4W 150
R125, 126	ERDS2TRF5231	1/4W 5.23K	R465-468	ERDFS2VJ101T	1/4W 100	R610	ERDS2TJ661	1/4W 680
R127, 128	ERDS2TRG6802	1/4W 68K	R469, 470	ERDFS2VJ182T	1/4W 1.8K	R611-616	ERGLSJ101E	1W 100
R129, 130	ERDS2TJ334	1/4W 330K	R471-474	ERDFS2VJ2R2T	1/4W 2.2	R651, 652	ERDS2TJ223	1/4W 22K
R131, 132	ERDAS3G561	1/4W 560	R501, 502	ERDFS2VJ681T	1/4W 680	R653	ERDS2TJ102	1/4W 1K
R133, 134	ERDS2TJ274	1/4W 270K	R503, 504	ERDFS2VJ121T	1/4W 120	R654	ERDS2TJ153	1/4W 15K
R135, 136	ERDS2TJ223	1/4W 22K	R505, 506	ERDFS2VJ681T	1/4W 680	R655	ERDS2TJ823T	1/4W 82K
R137, 138	ERDAS3G471T	1/4W 470	R507, 508	ERDFS2VJ121T	1/4W 120	R656	ERDS2TJ153	1/4W 15K
R151	ERDS2TJ680T	1/4W 68	R509-512	ERF2EXKR22V	2W 0.22	R657, 658	ERDS2TJ102	1/4W 1K
R152, 153	ERGLSJ152E	1W 1.5K	R513-516	ERDFS2VJ100T	1/4W 10	CAPACITORS		
R175-178	ERDAS3G471T	1/4W 470	R517, 518	ERDFS2VJ180T	1/4W 1	C1	ECWNS103ZVS	500V 0.01 Δ
R181-194	ERDAS3G471T	1/4W 470	R519, 520	ERDFS2VJ100T	1/4W 10	C101, 132	ECBT1H220J5	50V 22P
R195, 196	ERDLS2VJ471T	1/4W 470	R521, 522	ERF2EXKR22V	2W 0.22	C107, 138	ECQB1H1C2JF3	50V 1000P
R211, 212	ERDAS3G223T	1/4W 22K	R523, 524	ERDFS2VJ332T	1/4W 3.3K	C109, 110	ECQB1H222JF3	50V 2200P
R213, 214	ERDS2TJ183T	1/4W 18K	R325, 526	ERDFS2VJ102T	1/4W 1K	C111, 112	ECBT1H270J5	50V 27P
R215, 216	ERDS2TJ272T	1/4W 2.7K	R527, 528	ERDFS2VJ332T	1/4W 3.3K	C113, 114	ECA0JAP332E	6.3V 3300C
R217	ERDS2TJ824	1/4W 820K	R529, 530	ERDS2TJ104	1/4W 100K	C115, 116	ECQB1H392JF3	50V 3900P
R219, 220	ERDAS3G471T	1/4W 470	R531, 532	ERDFS2VJ331T	1/4W 330	C117, 118	ECQB1H103JF3	50V 0.01C
R221, 222	ERDAS3G393T	1/4W 39K	R533-535	ERDFS2VJ2R2T	1/4W 2.2	C119, 120	ECQV1H473JZ3	50V 0.047C
R223, 224	ERDAS3G392T	1/4W 3.9K	R537-540	ERF2EXKR22V	2W 0.22	C121, 122	ECA1HPXS010B	50V 1C
R231, 232	ERDAS3G472T	1/4W 4.7K	R541-544	ERDFS2VJ561T	1/4W 560	C123, 124	ECQB1H472JF3	50V 4700P
R233, 234	ERDAS3G124T	1/4W 120K	R545, 546	ERDS2TJ153	1/4W 15K	C125, 126	ECQV1H564JZ3	50V 0.56C
R301, 302	ERDAS3G561	1/4W 560	R547, 548	ERDFS2VJ271T	1/4W 270	C127, 128	ECQB1H223JF3	50V 0.022U
R303, 304	ERDS2TJ823T	1/4W 82K	R549, 550	ERDFS2VJ472T	1/4W 4.7K	C129, 130	ECA1HPXS4R7B	50V 4.7U
R305, 306	ERDS2TJ224T	1/4W 220K	R551	ERDS2TJ473	1/4W 47K	C131-134	ECBT1H102KB	50V 1000P
R307, 308	ERDS2TJ392T	1/4W 3.9K	R552	ERDS2TJ563	1/4W 56K	C135, 136	ECBT1H390J5	50V 39P
R309, 310	ERDS2TJ223	1/4W 22K	R553	ERDS2TJ153	1/4W 15K	C151	ECA1CAP47CB	16V 47U
R311, 312	ERDS2TJ102	1/4W 1K	R554	ERDS2TJ103	1/4W 10K	C175, 176	ECBT1H181KB5	50V 180P
R313, 314	ERDS2TJ562	1/4W 5.6K	R555	ERDS2TJ563	1/4W 56K	C177, 178	ECBT1H101KB5	50V 100P
R315, 316	ERDAS3G392T	1/4W 3.9K	R556	ERDS2TJ153	1/4W 15K	C181-186	ECCRIH101K5	50V 100P
R317, 318	ERDAS3G223T	1/4W 22K	R557	ERDS2TJ153	1/4W 15K	C187, 188	ECCRIH181K5	50V 180P
R319, 320	ERDS2TJ183T	1/4W 18K	R559, 560	ERDS1FVJ130T	1/2W 10 Δ	C189, 190	ECCRIH1C1K5	50V 100P
R321, 322	ERDAS3G182	1/4W 1.8K	R561, 562	ERDS1FVJ561T	1/2W 560 Δ	C191, 192	ECBT1H181KB5	50V 180P
R401, 402	ERDLS2VJ122T	1/4W 1.2K	R563, 564	ERGLSJ151E	1W 150	C193-196	ECCRIH101K5	50V 100P
R403, 404	ERDS2TJ823T	1/4W 82K	R565-568	ERDFS2VJ2R2T	1/4W 2.2	C213, 214	ECQV1H563JZ3	50V 0.056U
R405, 406	ERDAS3G272T	1/4W 2.7K	R569	ERDFS2VJ6R8T	1/4W 6.8	C301, 302	ECA1HPXS3R3B	50V 3.3U
R407, 408	ERDAS3G823T	1/4W 82K	R570	ERDS1FVJ272T	1/2W 2.7K Δ	C303, 304	ECBT1H101KB5	50V 100P
R409, 410	ERDS2TJ561	1/4W 560	R571-574	ERDFS2VJ681T	1/4W 680	C305, 306	ECBT1H820KB5	50V 82P
R411, 412	ERDFS2VJ470T	1/4W 47	R575, 576	ERDS2TJ103	1/4W 10K	C307, 308	ECA1HPXS4R7B	50V 4.7U
			R577, 578	ERGLSJ181E	1W 180	C309, 310	ECBT1H390J5	50V 39P
			R579, 580	ERDFS2VJ332T	1/4W 3.3K			
			R581, 582	ERDS1FVJ561T	1/2W 560 Δ			

Ref. No.	Part No.	Values & Remarks
C311, 312	ECA1CPXS100B	16V 10U
C313, 314	ECQV1H823JZ	50V 0.082U
C315, 316	ECQB1H153JF3	50V 0.015U
C317, 318	ECQB1H183JF3	50V 0.018U
C319, 320	ECQB1H182JF3	50V 1800P
C321, 322	ECQB1H822JF3	50V 8200P
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	ECBA1H681KB5	50V 680P
C413, 414	ECV2H070D	500V 7P
C415, 418	ECBT1H102KB5	50V 1000P
C427, 428	ECQB1H223JF3	50V 0.022U
C429	ECA2APXS010B	100V 1U
C451, 452	ECBT1H104ZF5	50V 0.1U
C453, 456	ECV2H680K	500V 68P
C457, 460	ECA1HPKA010B	50V 1U
C501, 504	ECA0JPXS101B	6.3V 100C
C505, 508	ECQM1H224JZ	50V 0.22U
C509, 510	ECQB1H822JF3	50V 8200P
C513, 516	ECKR1H473ZF5	50V 0.047U
C517, 518	ECBT1H821KB5	50V 820P
C519, 526	ECKR1H103ZF5	50V 0.01U
C527, 528	ECBT1H104ZF5	50V 0.1U
C529	ECA0JAP331B	6.3V 330C
C530	ECFR1E223KR	25V 0.022U
C531	ECEA0JKA470B	6.3V 47C
C532, 533	ECEA1EKA4R7B	25V 4.7U
C541-544	ECCRIH181K5	50V 180P
C545-548	ECQB1H153JF3	50V 0.015U
C549	ECKR1H103ZF5	50V 0.01U
C553, 554	ECBT1H102KB5	50V 1000P
C555, 558	ECBA1H681KB5	50V 580P
C603, 604	ECA2APXS101E	100V 100C
C605, 606	EC1R1H103JZ3	50V 0.01U
C607, 608	ECED71M153T	71V 15000U Δ
C609	ECA1CM221B	16V 220C
C611-614	ECA2APXS010B	100V 1U
C615, 616	ECQE2104KF3	100V 0.1U Δ
C651-653	ECA1EPXS100B	25V 10U
C654, 655	ECA1HPXS3R3B	50V 3.3U
C656	ECBT1H821KB5	50V 820P
C657, 658	ECKR1H103ZF5	50V 0.01U

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS		47	RMQ0240	ANGLE	
				48	SNE2117-1	SCREW	
				49	XTB3+8JFZ	SCREW	
1	RGK0397-K	UPPER PLATE		50	RJSA3404	SOCKET (4P)	
2	RGW0122-K	VOLUME KNOB		51	RJT053	TERMINAL	
3	RGW0123-K	REC. /INPUT KNOB		52	SJS5331	SOCKET (3P)	
4	RGW0150-K	TONE/PHONO/S. P. SELECT KNOB		53	SJT783	TERMINAL	
5	RK00172-K	CABINET					
6	SNE2129-3	SCREW				PACKING MATERIALS	
7	XTBS3+8JFZ1	SCREW					
8	RWJ3910170QQ	FLAT CABLE (10P) (W201, W401)		P1	RPG1213	PACKING CASE	
9	RWJ3909170QQ	FLAT CABLE (9P) (W501)		P2	RPNO511-1	PAD	
10	RWJ3903070XQ	FLAT CABLE (3P) (W502)		P3	SPH223	PROTECTION SHEET (A)	
11	RWJ3904050KK	FLAT CABLE (4P) (W605)		P4	SPH6434	PROTECTION SHEET (B)	
12	RWJ3907150QQ	FLAT CABLE (7P) (W601)		P5	RPQ0164	ACCESSORIES BOX	
13	RGR0124B-AA	REAR PANEL	(EG)	P6	XZB24X34C04	PROTECTION COVER (ACCESSORY)	
13	RGR0124B-BA	REAR PANEL	(EB, GN)				
14	RGU0030	POWER BUTTON				ACCESSORIES	
15	RGU0609-K	LOUDNESS/MUTING/MODE BUTTON					
16	RGU0611-K	DIRECT BUTTON		A1	RFKSUVX820EG	INSTRUCTIONS MANUAL	(EG)
17	RHN90001	NUT		A1	RQT1486-B	INSTRUCTIONS MANUAL	(EB, GN)
18	RFKJUVX800EX	BOTTOM BOARD ASS'Y		A2	RQAD013	WARRANTY CARD	(EG, EB)
18-1	RKA0009-1	FOOT		A2	RQX7433ZA	WARRANTY CARD	(GN)
19	RKL0036	BOTTOM PLATE		A3	RQCB0169	SERVICE CENTER LIST	
20	RMA0476-2	ANGLE		A4	RJA0019-1K	AC POWER SUPPLY CORD	△ (EG)
21	RMA0584	SIDE ANGLE		A4	SJA193	AC POWER SUPPLY CORD	△ (EB)
22	RMA0585	CENTER ANGLE		A4	SJA173	AC POWER SUPPLY CORD	△ (GN)
23	RMQ0255-1	PLATE					
24	RSQ0019	REMOTE SWITCH (INPUT)					
25	RSQ0020	REMOTE SWITCH (REC. SEL.)					
26	RSQ0021	REMOTE SWITCH (PHONO)					
27	RFKJUVX920EG	FRONT PANEL ASS'Y					
28	RGK0393-K	VOLUME ORNAMENT					
29	RGK0394-A	RING					
30	RGK0398-K	SIDE ORNAMENT (R)					
31	RGK0399-K	SIDE ORNAMENT (L)					
32	RGL0136-C1	ORNAMENT					
33	RGL0164-C	ORNAMENT					
34	RMR0460-K	HOLDER					
35	RMR0461-K	HOLDER					
36	XTBS26+8J	SCREW					
37	SHE187-2	P. C. B. SPACER					
38	SHR9814	CLUMPER					
39	SJS9231A	AC INLET COVER	(EG, EB)				
39	SJS9234A	AC INLET COVER	(GN)				
40	XTBS3+8JFZ1	SCREW					
41	XTB3+20JFZ	SCREW					
42	XTBS26+8J	SCREW					
43	XTB4+10FFZ	SCREW					
44	XTB4+8FFZ	SCREW					
45	XTWS3-8T	SCREW					
46	RMQ0239	ANGLE					

■ PACKAGING

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