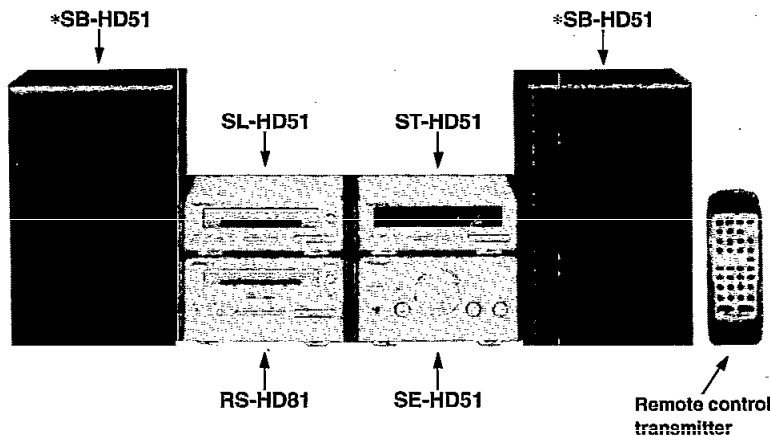


Service Manual

Amplifier

Amplifier

SE-HD51



Colour

(N) Gold

Areas

E Europe.

EG Germany and Italy, etc.

EB Great Britain.

EP East Europe and Russia.

System : SC-HD51

Because of unique interconnecting cables, when a compact requires service, send or bring in the entire system.

Specifications

Amplifier Section

Power output

DIN 1 kHz, THD 1 %, both channels driven: $2 \times 23 \text{ W}$ (6 ohm)RMS 1 kHz, THD 10 %, both channels driven: $2 \times 30 \text{ W}$ (6 ohm)

Total harmonic distortion

Rated power at 1 kHz: 1 % (6 ohm)

Half power at 1 kHz: 0.09 % (6 ohm)

Load impedance: 6 ohm

S/N (rated power): 90 dB

General

Power consumption: 90 W

Power supply

[for (E, EG, EP) area]: 230 V, AC 50 Hz

[for (EB) area]: 230 — 240 V, AC 50 Hz

Dimensions: 196(W)/103(H)/255(D) mm

Weight: 3.5 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.

System/SC-HD51:

Tuner: ST-HD51, Compact Disc Player: SL-HD51, Amplifier: SE-HD51, Cassette Deck: RS-HD81, Speakers: *SB-HD51

Notes: *..... Made in PAES

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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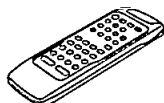
Technics®

Contents

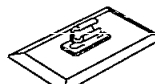
	Page		Page
Accessories	2	To Supply Power Source	11
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Accessories

- AC power supply cord 1 pc.
For (EB) area For (E, EG, EP) area
(VJA0733) (RJA0019-2K)
- Remote control transmitter 1 pc.
For (E, EB) area For (EG, EP) area
(RAK-CH215WH) (RAK-CH193WH)
- Speaker cords 2 pcs.
(REE0393)



- Remote control batteries 2 pcs.
[R03/LR03 (AAA, UM-4)]
Note: These are available on sales route.
- AM loop antenna set (RSA0021)
AM loop antenna 1 pc.
Antenna holder with stand 1 pc.
- Antenna holder without stand 1 pc.
Screw 1 pc.



- FM indoor antenna 1 pc.
(RSA0007)
- Antenna plug adaptor 1 pc.
For (EB) area only
(SJP9009)
- Flat cable (Long thick) 1 pc.
(REX0812)



- Flat cable (Long thin) 1 pc.
(REX0813)
- Flat cable (short) 1 pc.
(REX0608)



Before Repair

- (1) Turn off the power supply. Using a 10 Ω, 10 W resistor, connect both ends of power supply capacitors (C701, C702) in order to discharge the voltage.
- (2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230 V.

Area	(E) (EG) (EP)	(EB)
Power supply voltage	AC 230V	AC 240 V
Consumed current 50 Hz	50 ~ 170 mA	50 ~ 170 mA

Caution for AC Main Lead

[For (EB) are only.]

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

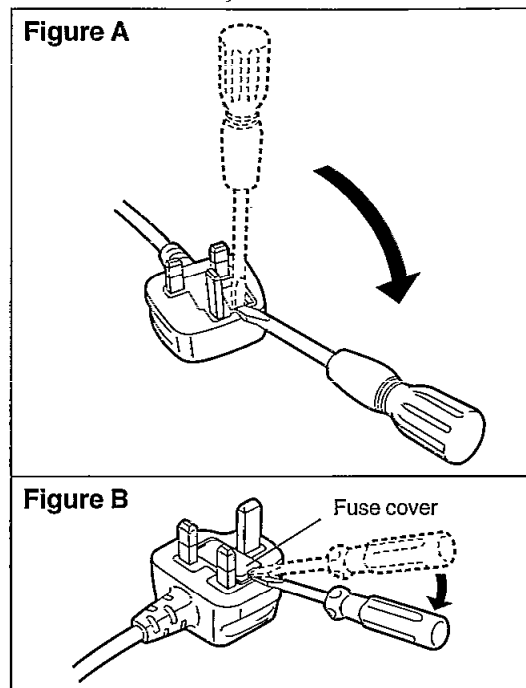
Remove the connector cover.

How to replace the fuse

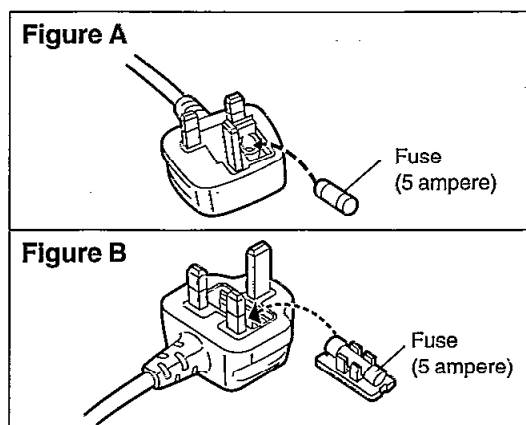
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



Protection Circuitry

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

- *No sound is heard when the power is switched ON.
- *Sound stops during a performance.

The functions 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 this unit are used.

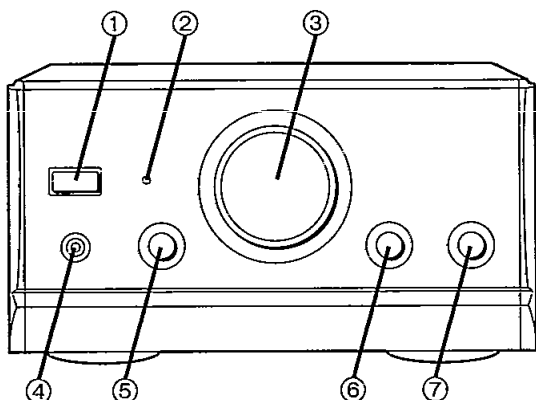
If this occurs, follow the procedure outlined below:

1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

Location of Controls



① Power "STANDBY \odot /ON" switch (POWER, STANDBY \odot /ON)

Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

② Standby indicator (STANDBY)

When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

③ Volume control (VOLUME)

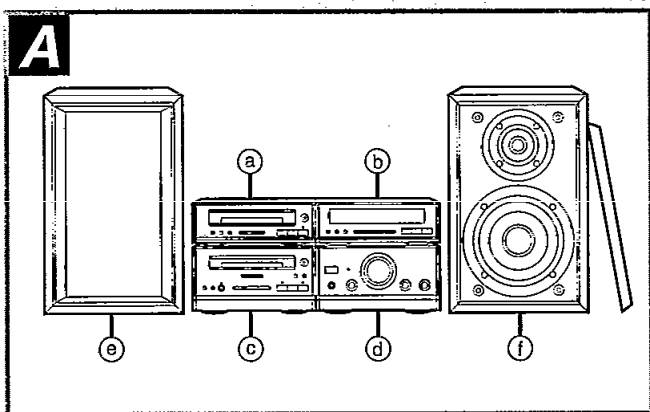
④ Headphones jack (PHONES)

⑤ Balance control (BALANCE)

⑥ Bass control (BASS)

⑦ Treble control (TREBLE)

Installation



Locating the components

Side-by-side set-up **A**

- ① CD player
- ② Tuner
- ③ Cassette deck
- ④ Amplifier
- ⑤ Left speaker
- ⑥ Right speaker

Stacking **B**

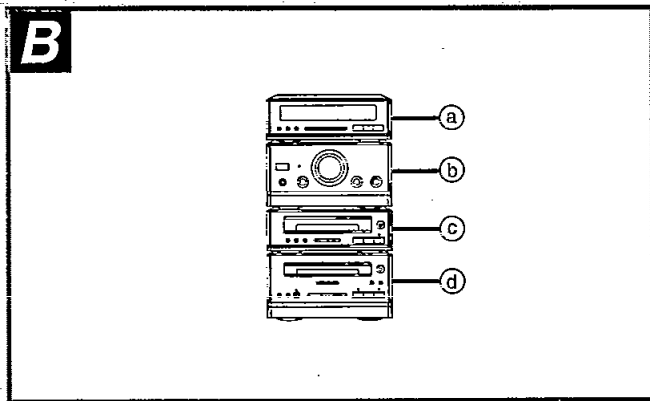
- ① Tuner
- ② Amplifier
- ③ CD player
- ④ Cassette deck

Caution

Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speaker, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.

Note

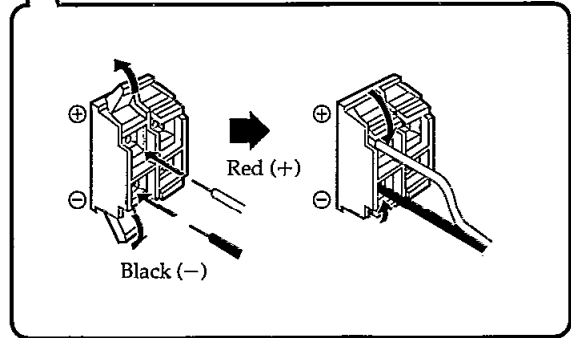
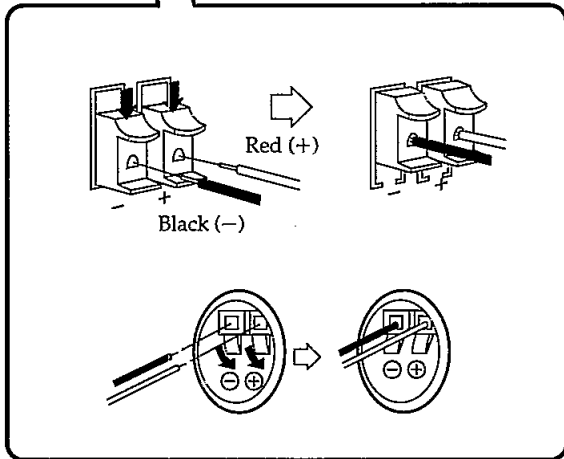
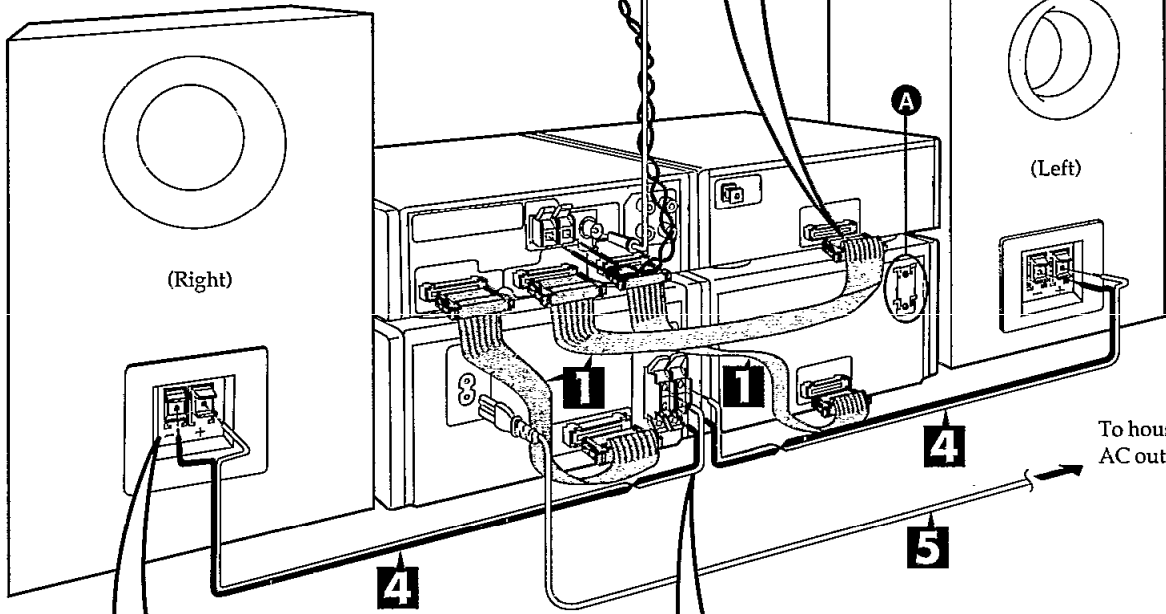
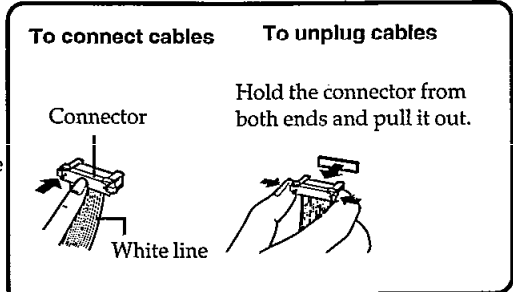
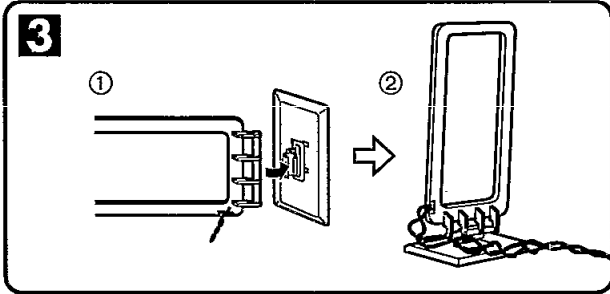
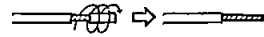
Left and right speakers are exactly the same.



Connections

Connect the AC mains lead after you have connected all other cables.

To prepare the AM loop antenna wire and speaker cords, twist the vinyl cover tip and pull off.



1 Connect the flat cables.

1. Connect the short flat cable to the terminal of the A1 and A2.
2. Connect the long thick flat cable to the terminal of the B1 and B2.
3. Connect the long thin flat cable to the terminal of the C1 and C2.

Note

Do not try connecting or disconnecting the flat cables while the power is switched to ON.

After connection:

Keep cables as flat against the back of the unit as possible.

2 Connect the FM indoor antenna.

Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

Note

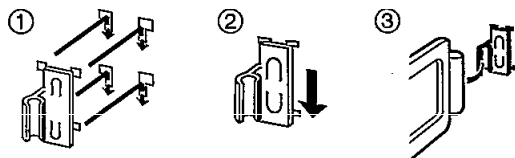
When you cannot get a good reception with this FM indoor antenna, we recommend you install an FM outdoor antenna (not included).

3 Connect the AM loop antenna.

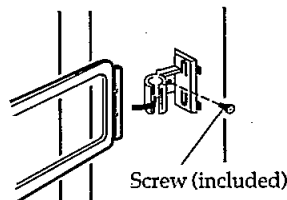
You can also install the AM loop antenna on the rear of the cassette deck, wall or pillars.

In this case, be sure to use the antenna holder with the hole.

- To install on the cassette deck rear (A)



- To install on walls or pillars

**Note**

To minimize noise pickup, bundle the loop antenna cord using a tape or so to keep the flat cables away from the AM loop antenna cord.

4 Connect the right (R) and left (L) front speaker cables.**Note**

- To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.
- Be sure to connect only positive (red) wires to positive (+) terminals and negative (black) wires to negative (-) terminals.

These speakers are made so as to be able to be used in close proximity to the TV, but irregular coloring may result due to how the system is placed. If such distortion occurs, turn off the TV for sometime between 15 and 30 minutes. The demagnetizing function of the TV will eliminate the distortion. If the irregular coloring is still visible, then move the speaker further away from the TV. Please note that if there is a magnetic object near the TV, irregular coloring may result due to the interaction between the TV and the speakers.

5 Connect the AC mains lead.

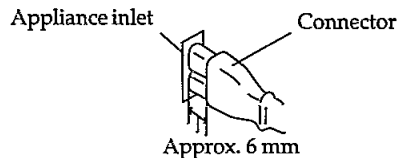
(United Kingdom only)

BE SURE TO READ THE CAUTION FOR AC MAINS LEAD ON PAGE 4 BEFORE PROCEEDING TO STEP 5.

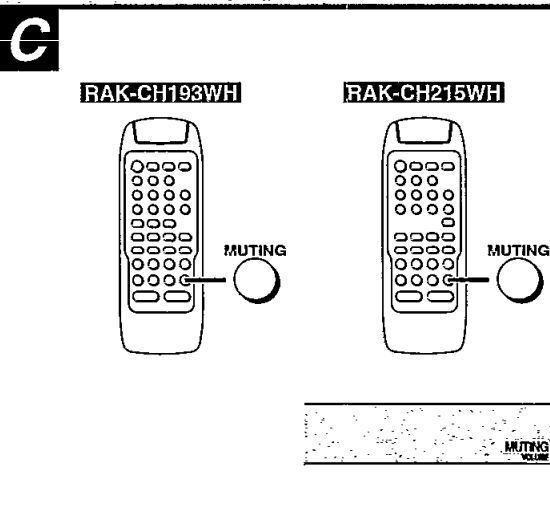
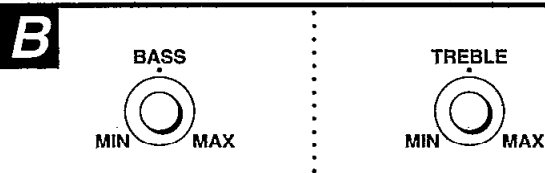
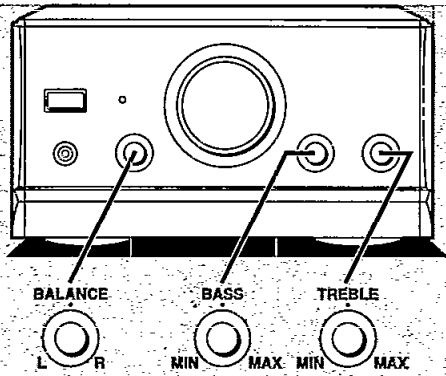
Insertion of Connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.

However there is no problem using the unit.



Changing the Tone



To adjust the sound balance **A**

Turn BALANCE to adjust the left/right sound balance.

Note

The effect works only with playback. It cannot be used in recording.

To adjust the tone quality **B**

Turn BASS to adjust the low-frequency sound.

Turn TREBLE to adjust the high-frequency sound.

Note

The effect works only with playback. It cannot be used in recording.

Convenient Functions

To mute the volume **C**

This feature is convenient when you have a telephone call, etc.

by remote control only

Press MUTING.

"MUTING" will light.

To cancel, press MUTING once again. ("MUTING" goes out.)

To cancel from the amplifier, reduce the volume level to the minimum position (— dB) and then reset to the desired volume. Muting is also canceled if you turn OFF the system.

■ Operation Checks and Main Component Replacement Procedures

NOTE

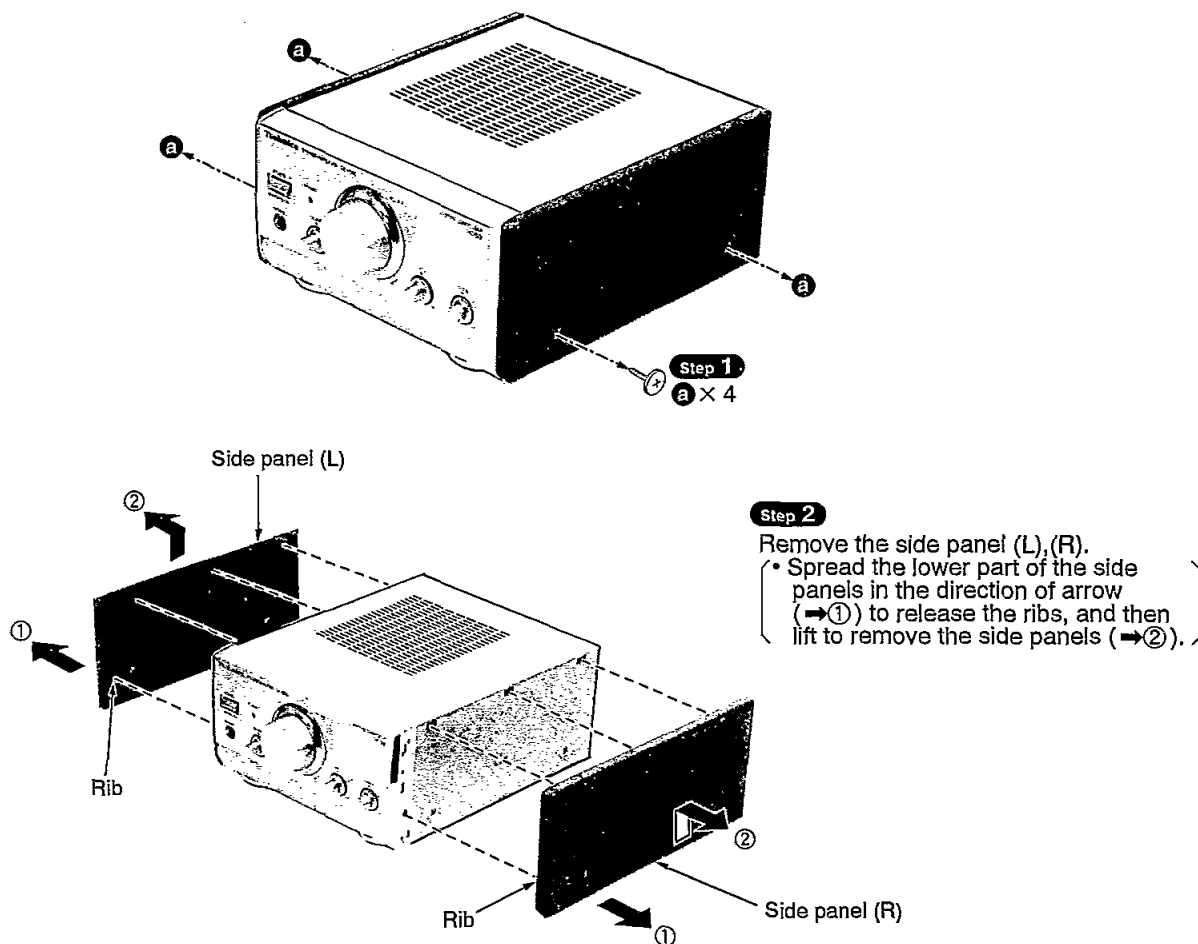
1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.
4. Refer the parts No. on the page of "Main Component Replacement Procedures", if necessary.

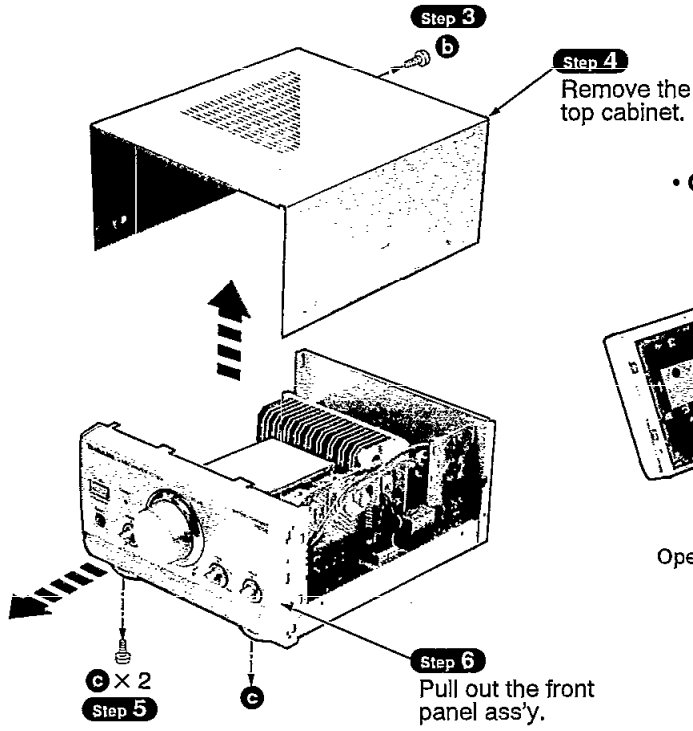
● Contents

• Checking Procedures for each P.C.B.	Page.
1. Checking for the operation P.C.B.,	8,9.
2. Checking for the protection P.C.B. and main P.C.B.,	9,10.
• Main Component Replacement Procedures	
1. Replacement for the power IC,	10.

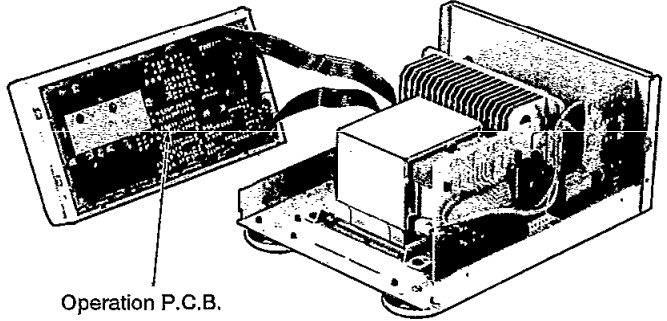
■ Checking Procedure for each P.C.B.

1. Checking for the operation P.C.B.





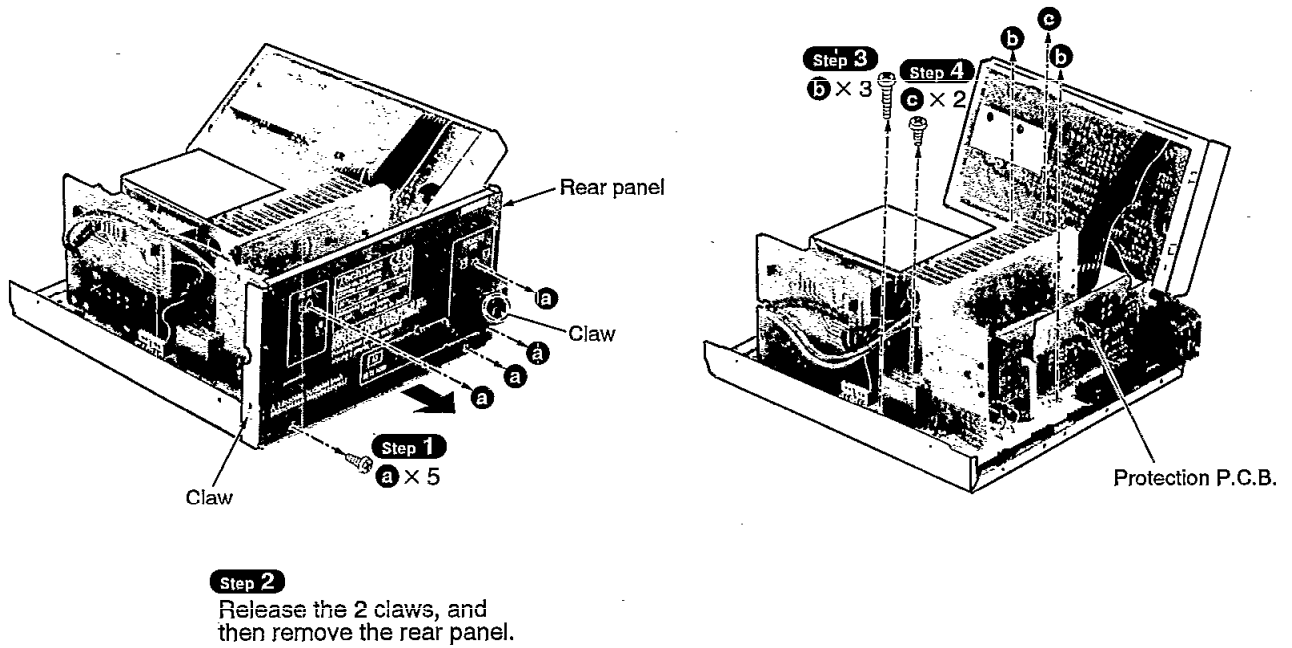
• Check the operation P.C.B. as shown below.

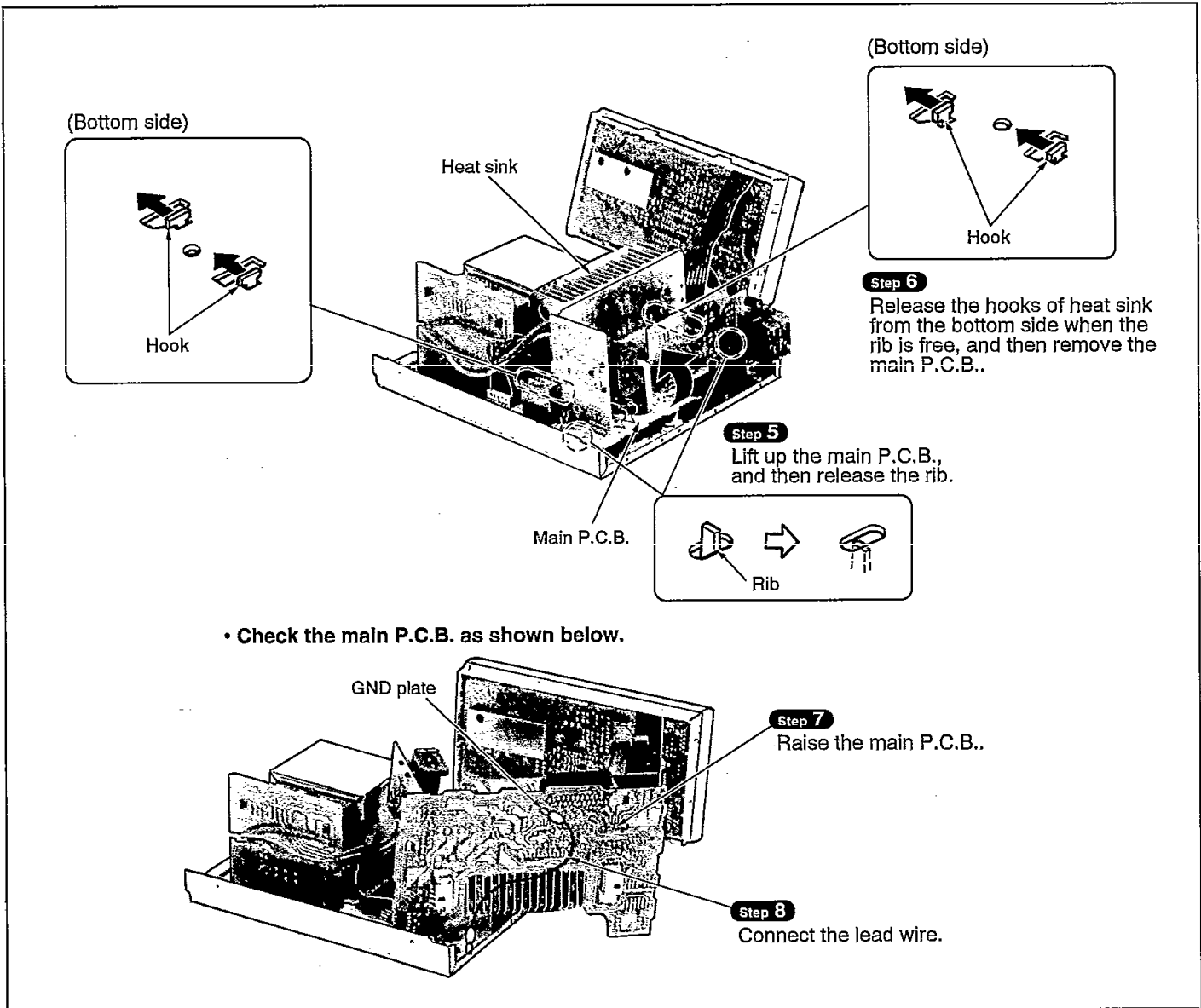


2. Checking for the protection P.C.B. and main P.C.B.

• Follow the **Step 1** ~ **Step 6** of the item 1 in checking procedure for each P.C.B. on pages 8 and 9.

• Check the protection P.C.B. as shown below.





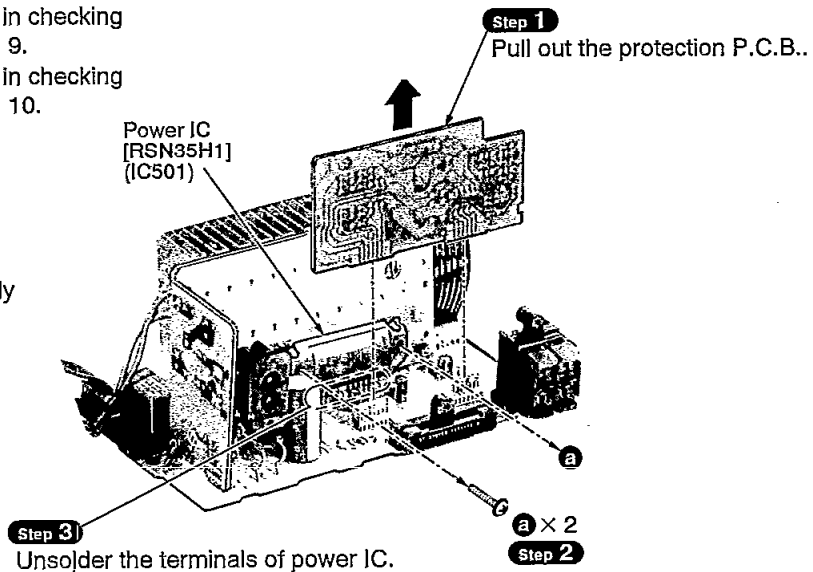
Main Component Replacement Procedures

1. Replacement for the power IC

- Follow the **Step 1** ~ **Step 6** of the item 1 in checking procedure for each P.C.B. on pages 8 and 9.
- Follow the **Step 1** ~ **Step 6** of the item 2 in checking procedure for each P.C.B. on pages 9 and 10.

NOTE

When mounting the power IC apply silicone compound (RFKX0002) to the rear side of power IC.



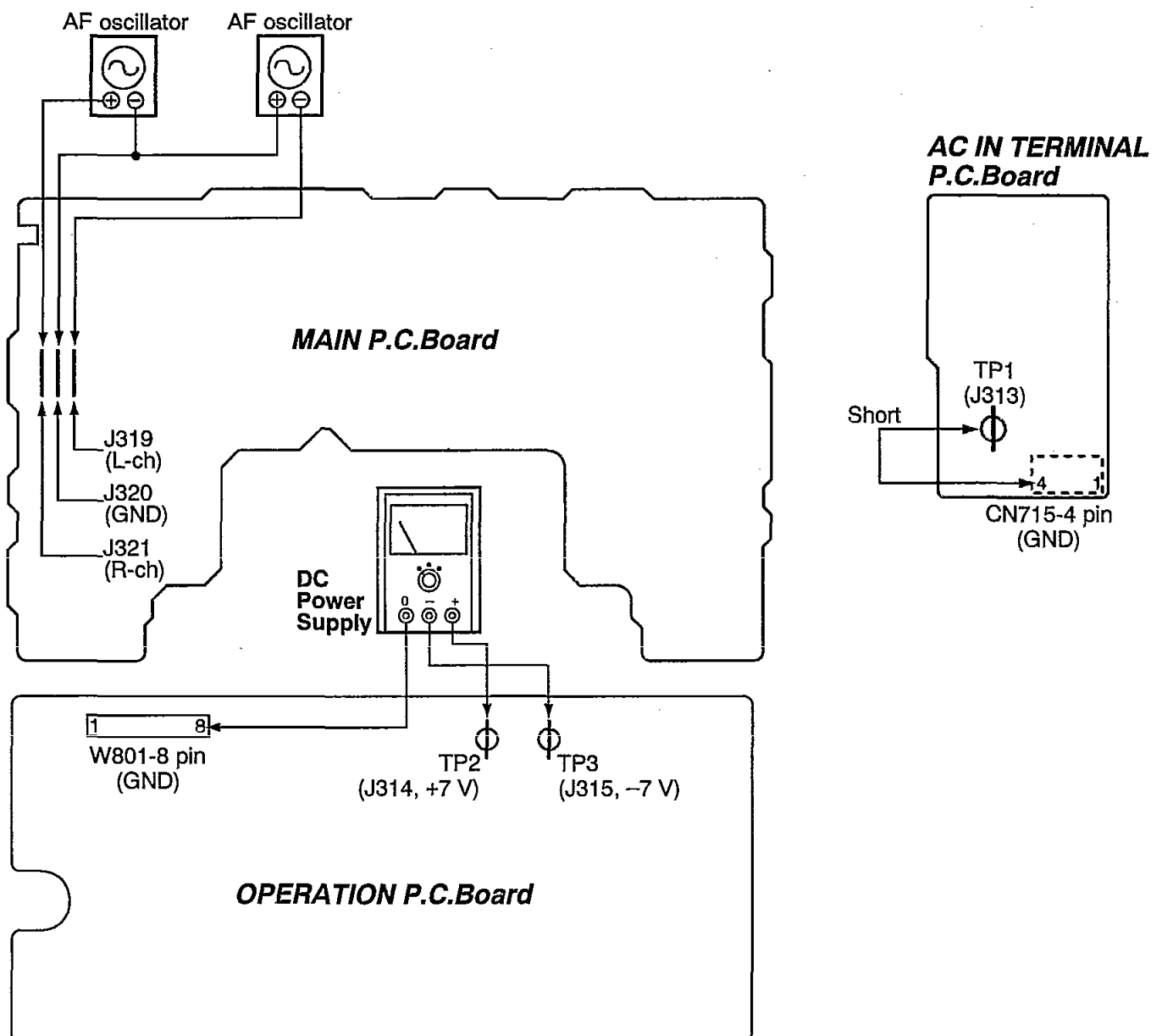
■ To Supply Power Source

1. Short the section between the points TP1 (J313, +5 V) and CN715-4 pin (GND) on the AC IN TERMINAL P.C. Board.
2. Connect the DC Power Supply as shown below.
 - 2-1. +7 V terminal of the DC Power supply connect to TP2 (J314).
 - 2-2. GND terminal of the DC Power supply connect to W801-8 pin (D. GND).
 - 2-3. -7 V terminal of the DC Power supply connect to TP3 (J315).
3. Connect this unit SE-HD51 to an AC outlet by the AC Power Cord.

Operation Check

1. Set the unit to power ON mode.
2. Input a signal (1 kHz, 100 mV), and confirm it to be outputted from the speaker terminal.

	INPUT	OUTPUT
L-ch	J319 Lch ↔ J320 GND	Lch speaker terminal
R-ch	J321 Lch ↔ J320 GND	Rch speaker terminal



■ Schematic Diagram (See parts list on pages 19, 20.)

	Page
A HEADPHONES JACK CIRCUIT	13
B OPERATION CIRCUIT	13
C MAIN CIRCUIT	14
D PROTECTION CIRCUIT	14
E POWER TRANSFORMER CIRCUIT	14
F AC IN TERMINAL CIRCUIT	14

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

Notes:

- S801 : Power "STANDBY ○ /ON" switch (POWER, STANDBY ○ /ON)
- VR301-1, VR301-2 : Bass control (BASS)
- VR302-1, VR302-2 : Treble control (TREBLE)
- VR303 : Balance control (BALANCE)
- VR801 : Volume control (VOLUME)

● 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.
No mark: Power ON

● Important safety notice:

Components identified by \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.

● Voltage and signal line

 : Positive voltage line

 : Negative voltage line

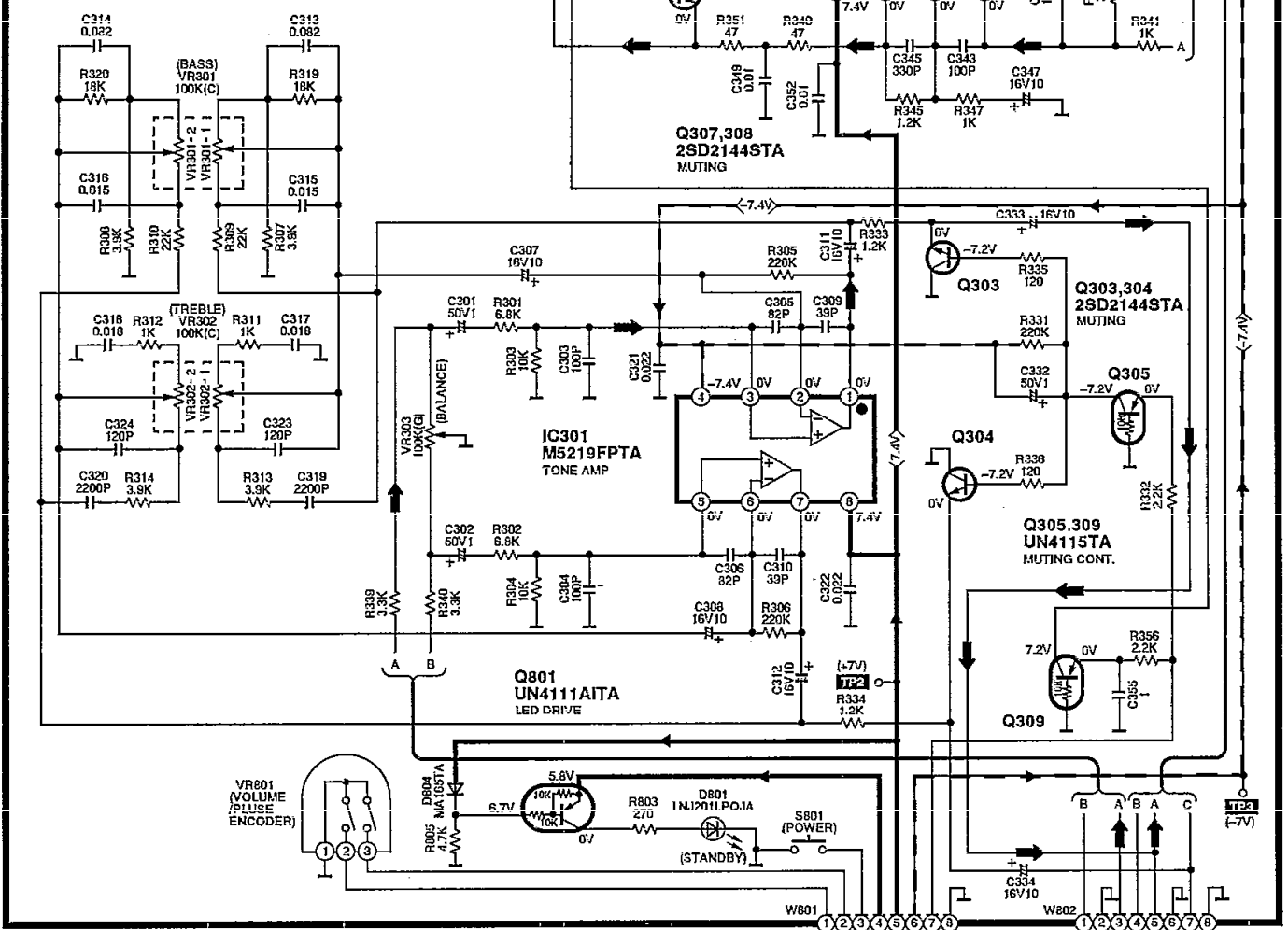
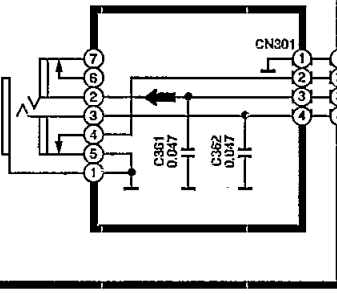
 : Source signal line

Note • → : Source signal

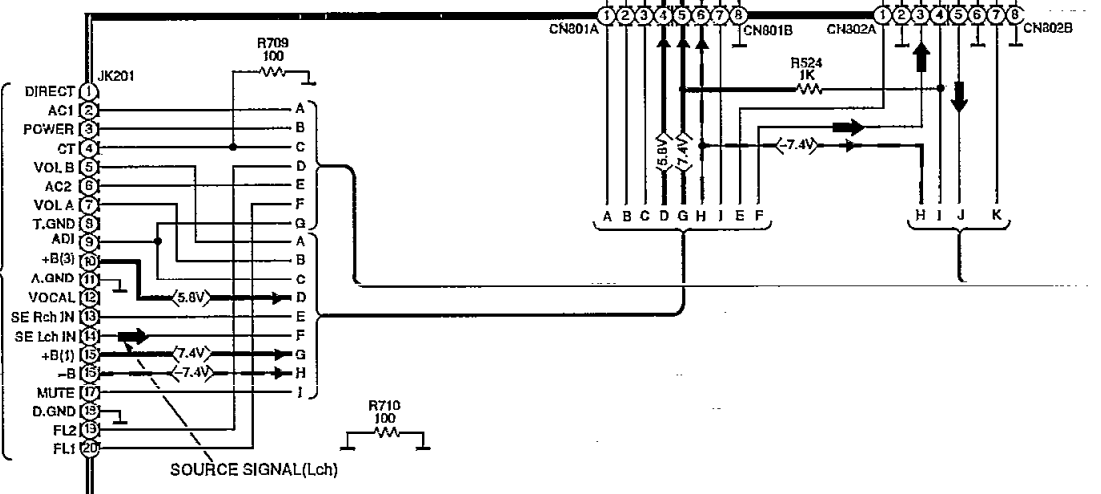
B OPERATION CIRCUIT (P.C.Board: on page 15)

A HEADPHONES JACK CIRCUIT (P.C.Board: on page 15)

JK301 HEADPHONES

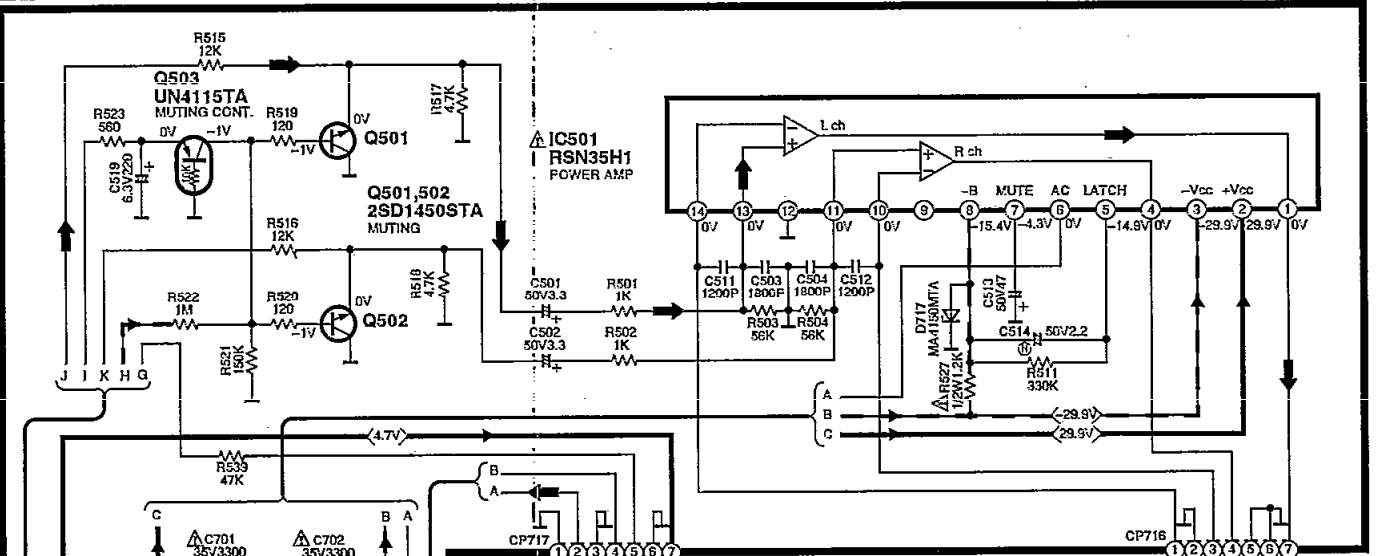


To TUNER MAIN CIRCUIT

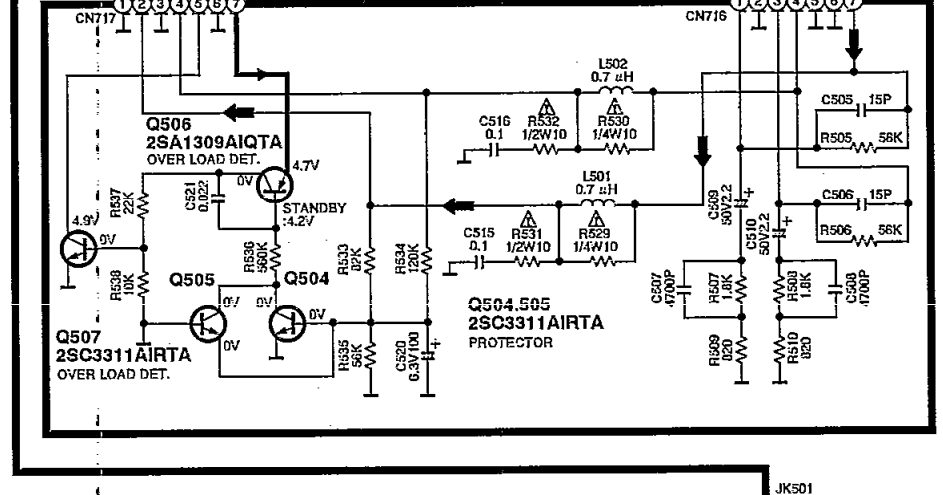


Note • → : Source signal

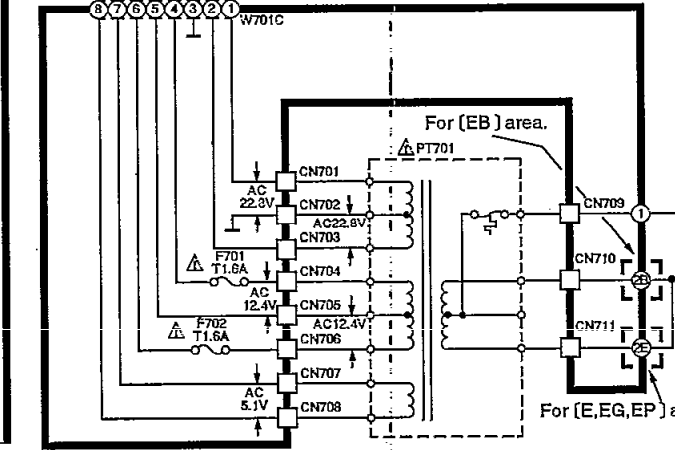
C MAIN CIRCUIT (P.C.Board: on page 16)



D PROTECTION CIRCUIT (P.C.Board: on page 15)



E POWER TRANSFORMER CIRCUIT (P.C.Board: on page 17)



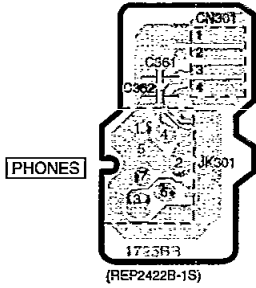
F AC IN TERMINAL CIRCUIT (P.C.Board: on page 17)



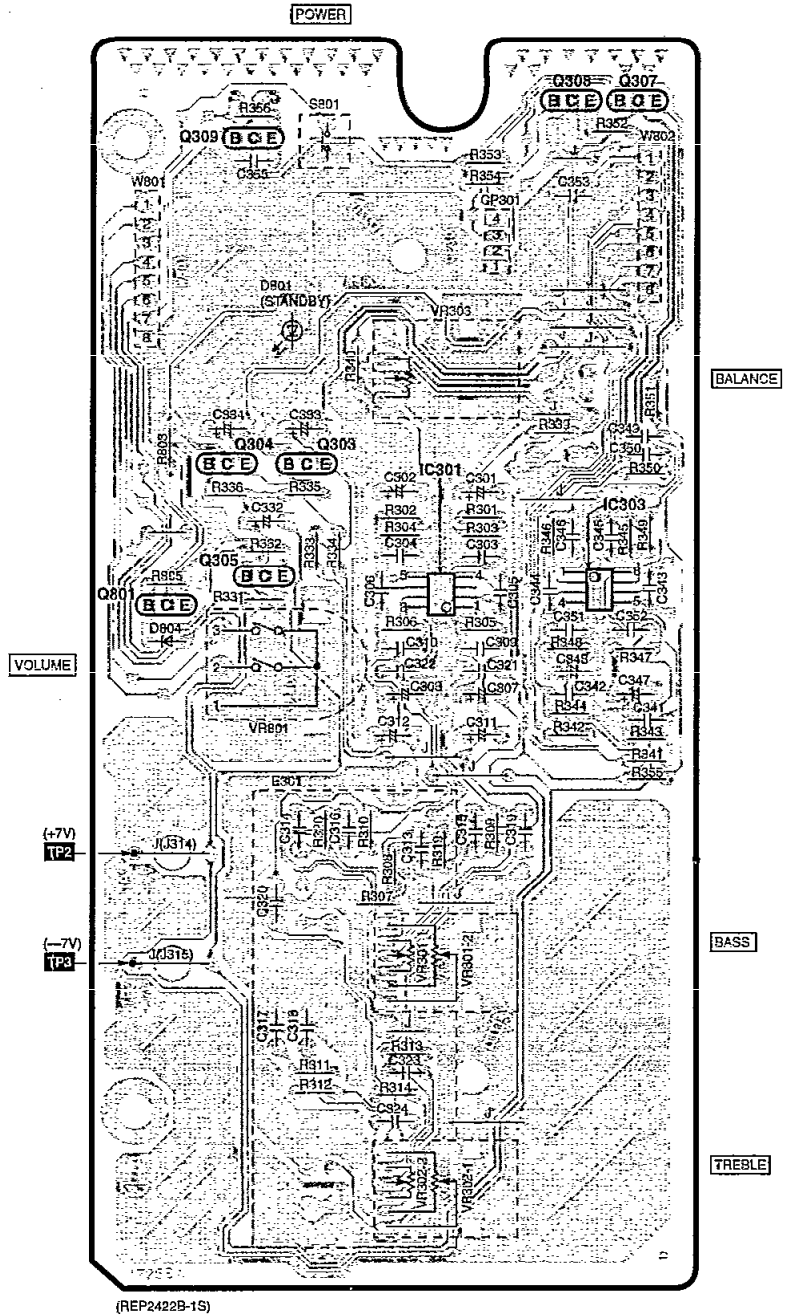
Printed Circuit Board Diagram

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

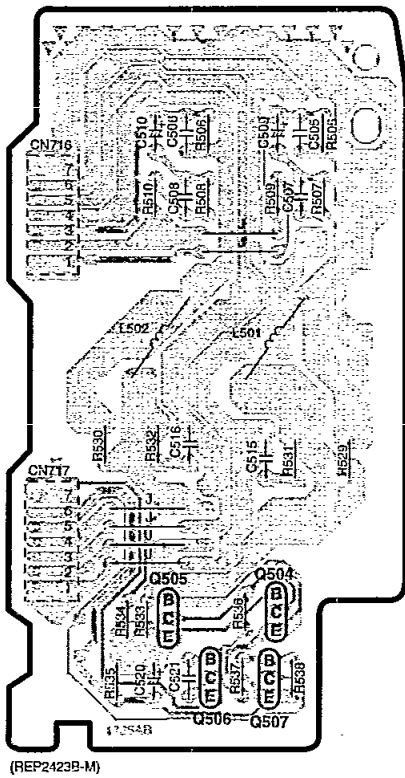
A HEADPHONES JACK P.C.B.



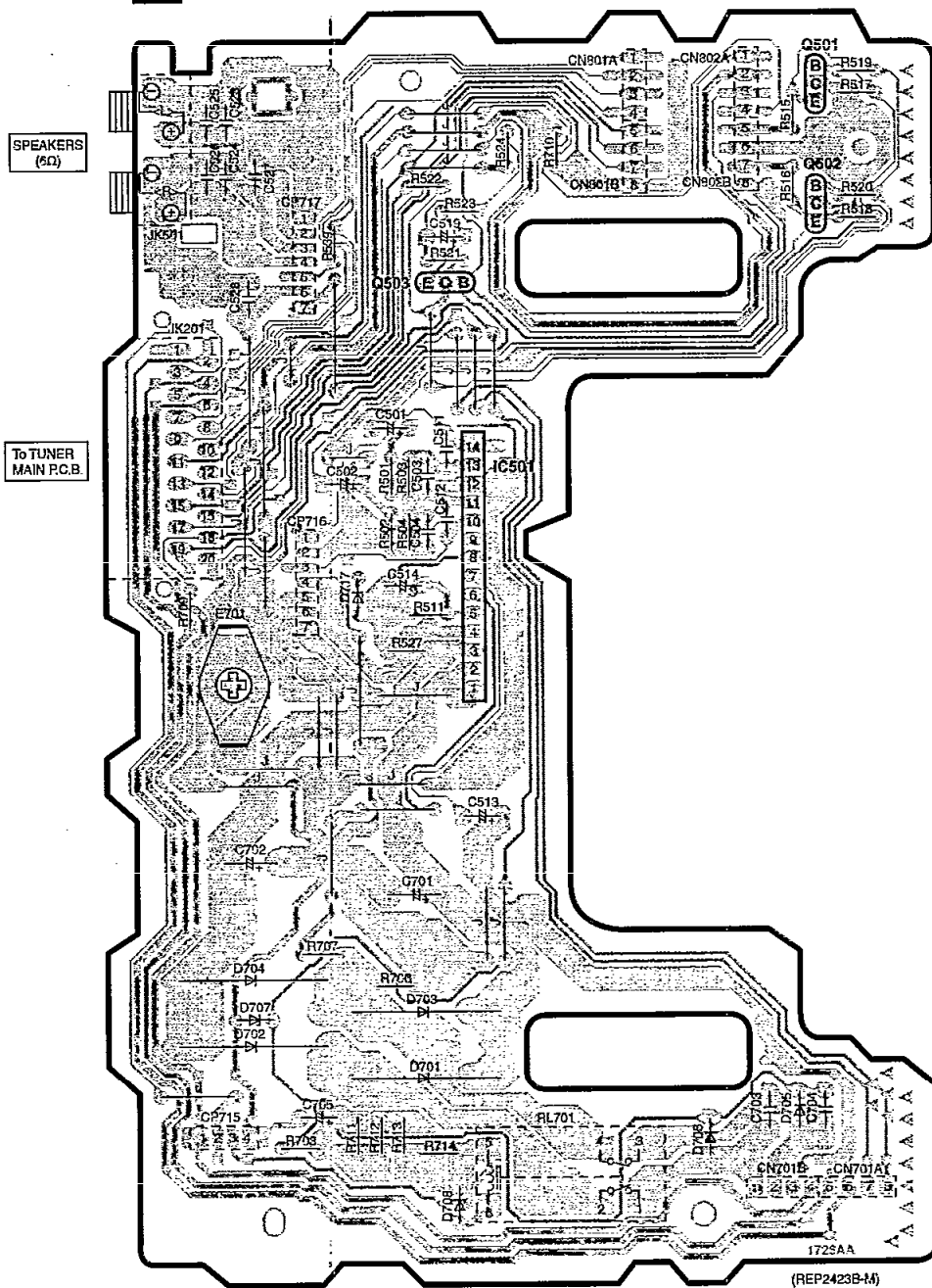
B OPERATION P.C.B.



D PROTECTION P.C.B.



C MAIN P.C.B.

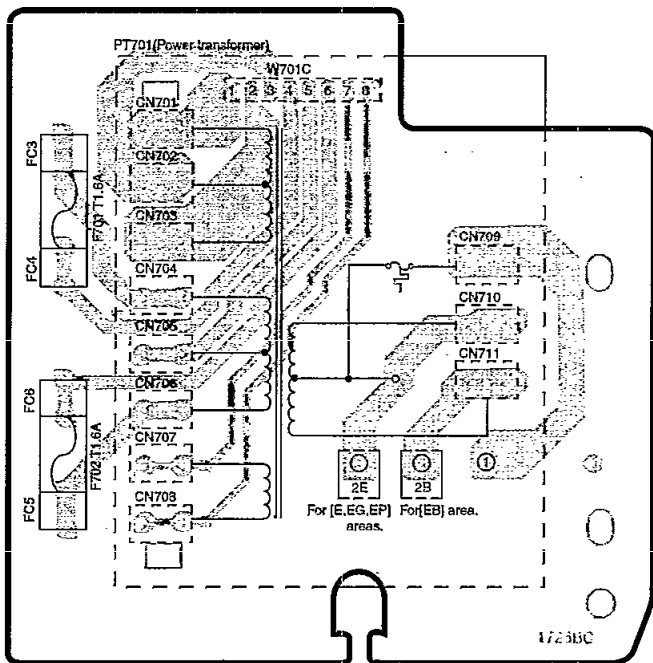


1725AA
(REP2423B-M)

■ Type Illustration of ICs, Transistors and Diodes

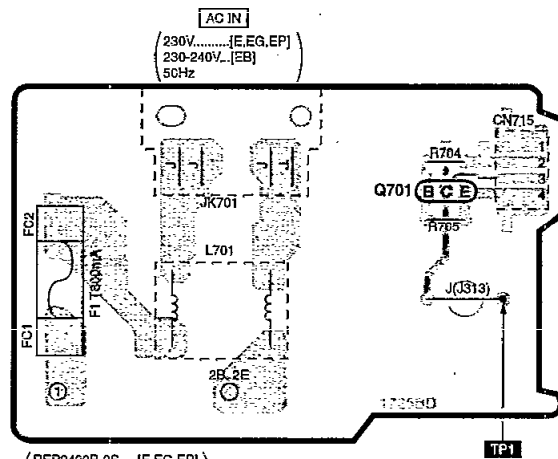
<p>M5218AFPE3 M5219FPPTA</p>	<p>RSN35H1</p>	<p>2SD244STA</p>	<p>2SA1309AIQTA 2SC3311AIRTA 2SD1450STA UN4111AITA UN4115TA</p>	<p>1N5402BF RL1N4003N02</p>
<p>MA4150MTA MA4240MTA</p>	<p>MA4051MTA</p>	<p>MA165TA</p>	<p>LNJ201LPQJA</p>	

E POWER TRANSFORMER P.C.B.



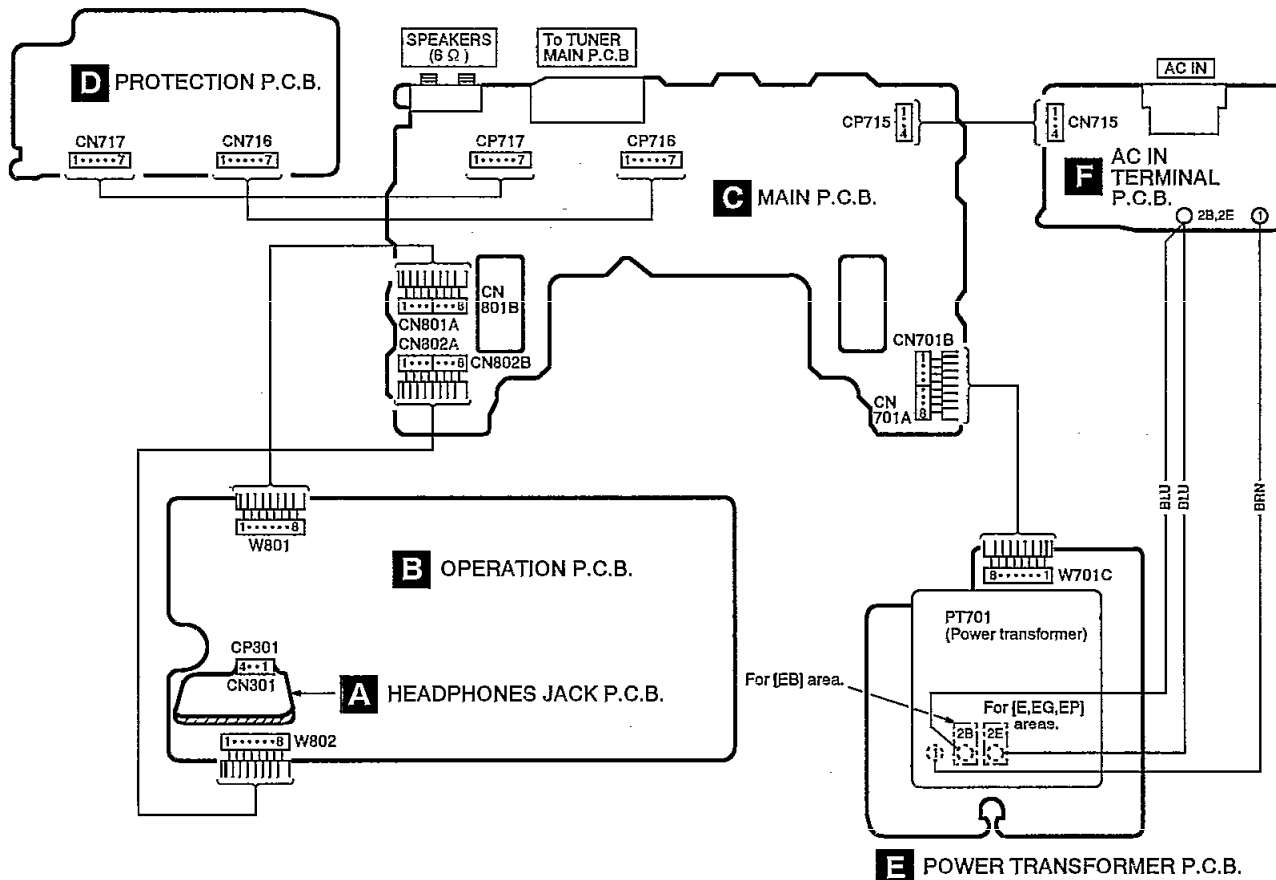
(REP2422B-2S.....[E,EG,EP])
(REP2422C-2S.....[EB])

F AC IN TERMINAL P.C.B.

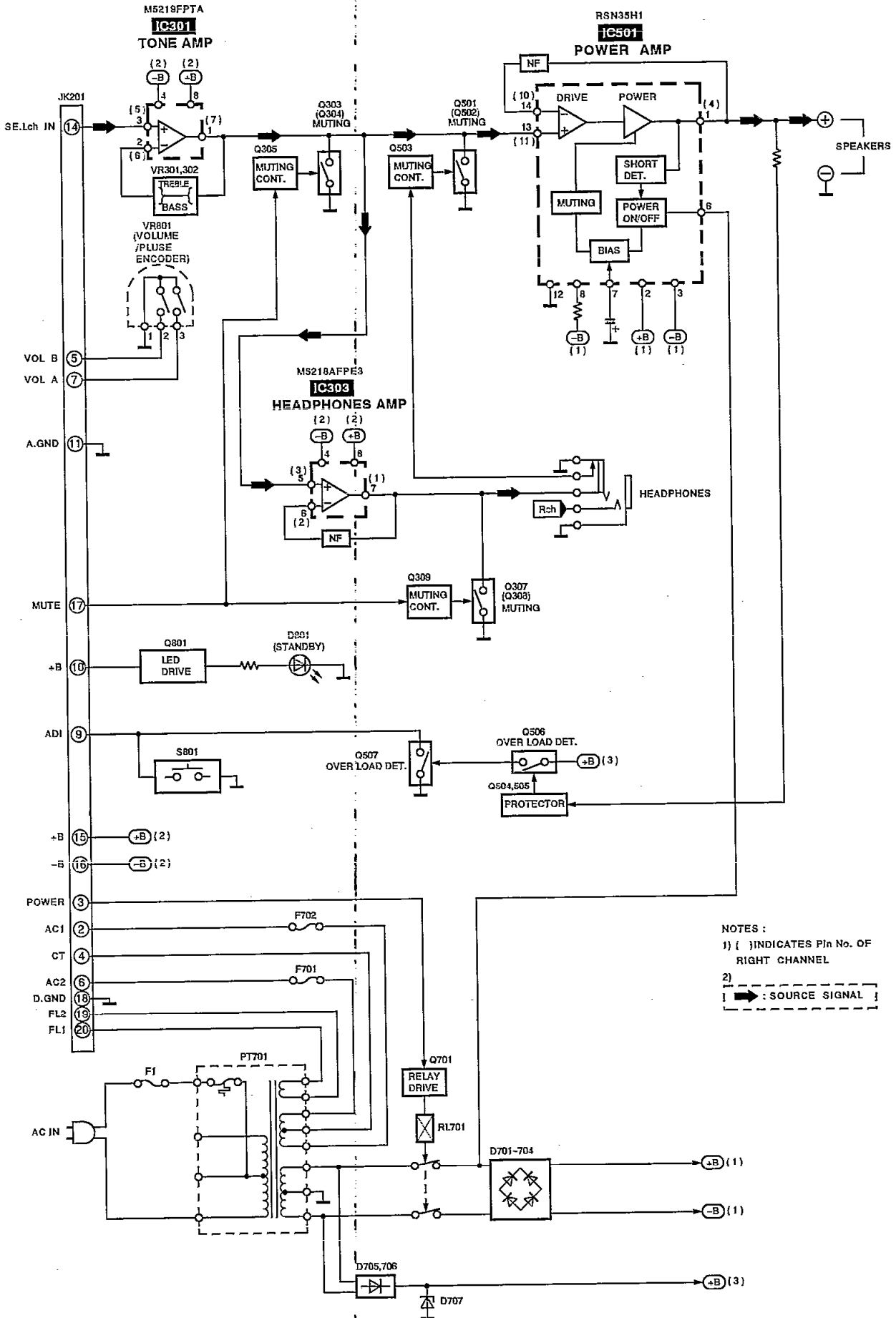


(REP2422B-2S.....[E,EG,EP])
(REP2422C-2S.....[EB])

Wiring Connection Diagram



Block Diagram



NOTES :
 1) () INDICATES Pin No. OF RIGHT CHANNEL
 2) [] : SOURCE SIGNAL

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 the parts list.

* 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.

* Remote Control Ass'y: Supply period for three years from termination of production.

* Capacity values are in microfarads (μ F) 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)

* "<IA>, <IB>, <IC>, <ID>" marks in Remarks indicate language of instruction manual.

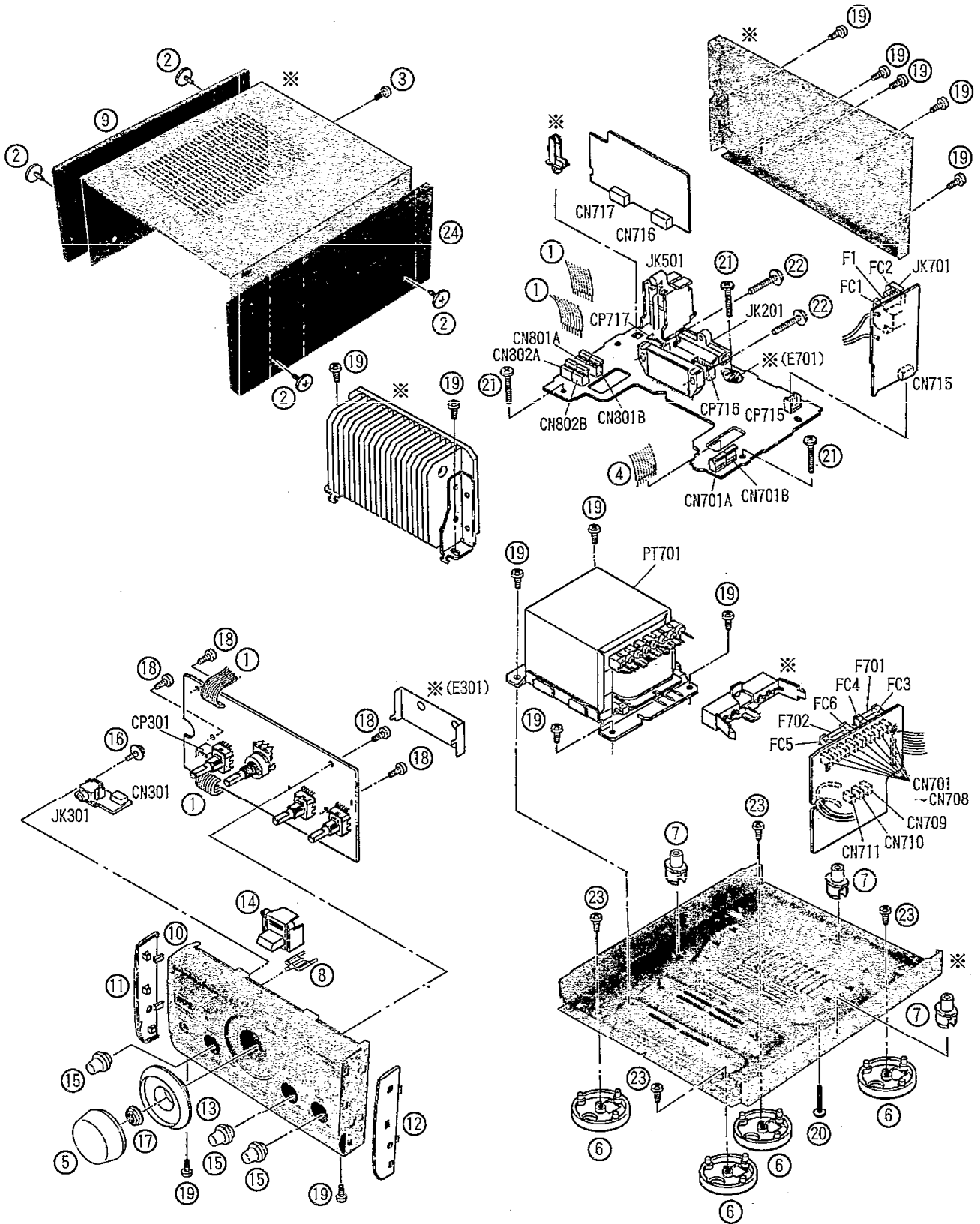
[<IA>: French/Spanish/Swedish, <IB>: Danish, <IC>: English, <ID>: Russian/Czeco/Polish]

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	REZ0950	FLAT CABLE ASS'Y	1	
2	RHD30073-K	SCREW	4	
3	XTBS3+10JFZ1	SCREW	1	
4	REZ0951	FLAT CABLE (#701/8P)	1	
5	RGW0247A-N	VOLUME KNOB	1	
6	RKA0076-N	FOOT	4	
7	RKQ0089-2	P. C. B. SUPPORT	3	
8	RGL0333-2Q	PANEL LIGHT	1	
9	RGK0808-1M	SIDE PANEL (L)	1	
10	RFKGEHDS1E-N	FRONT PANEL ASS'Y	1	
11	RGK0810-N3	SIDE ORNAMENT (L)	1	
12	RGK0811-N3	SIDE ORNAMENT (R)	1	
13	RGK0815-N	VOLUME ORNAMENT	1	
14	RGU1392-S	POWER BUTTON	1	
15	RGW0198-S	ADJUSTMENT KNOB	3	
16	RHD26016	SCREW	1	
17	SNE4021-1	NUT	1	
18	XTBS26+8J	SCREW	4	
19	XTBS3+8JFZ1	SCREW	13	
20	XTB3+12JFZ	SCREW	1	
21	XTB3+20JFZ	SCREW	3	
22	XTW3+15T	SCREW	2	
23	XTB3+6G	SCREW	4	
24	RGK0809-1M	SIDE PANEL (R)	1	
A1	RQT4304-E	INSTRUCTION MANUAL	1	(E) <IA>
A1	RQT4306-JI	INSTRUCTION MANUAL	1	(EG) <IB>
A1	RQT4307-B	INSTRUCTION MANUAL	1	(EB) (EP) <IC>
A1	RQT4308-R	INSTRUCTION MANUAL	1	(EP) <ID>
A2	REX0608	FLAT CABLE (SHORT) (20P)	1	
A3	REX0812	FLAT CABLE (LONG) (19P)	1	
A4	REX0813	FLAT CABLE (MIDDLE) (16P)	1	
A5	REE0393	SPEAKER CORD	2	
A6	RJA0019-X	AC POWER SUPPLY CORD	1	(EG) (E) (EP)
A6	RJA0053-1X	AC POWER SUPPLY CORD	1	(EB)
A7	RAK-CH193WH	REMOTE CONT. TRANSMITTER	1	(EG) (E) (EP)
A7	RAK-CH215WH	REMOTE CONT. TRANSMITTER	1	(EB)
A7-1	RKK0057-K	BATTERY COVER	1	
A8	RQA0117	WARRANTY CARD	1	(EG) (E) (EB)

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
A9	RQCB0169	SERVICENTER LIST	1	(EG) (E) (EB)
A10	RSA0007	FM INDOOR ANTENNA	1	
A11	RSA0021	AM LOOP ANTENNA	1	
A12	RQCA0559	QUICK SET UP GUIDE	1	(EB)
A13	SJP9009	AC PLUG ADAPTOR	1	(EB)
C301, 02	ECEA1HKA010B	50V 1U	2	
C303, 04	ECBT1H101KB5	50V 100P	2	
C305, 06	ECBT1H820KB5	50V 82P	2	
C307, 08	RCE1CKA100BG	16V 10U	2	
C309, 10	ECBT1H390J5	50V 39P	2	
C311, 12	RCE1CKA100BG	16V 10U	2	
C313, 14	ECQV1H823JM3	50V 0.082U	2	
C315, 16	ECQB1H153JF3	50V 0.015U	2	
C317, 18	ECQB1H183JF3	50V 0.018U	2	
C319, 20	ECQB1H222JF3	50V 2200P	2	
C321, 22	ECBT1E223ZF5	25V 0.022U	2	
C323, 24	ECBT1H121KB5	50V 120P	2	
C332	ECEA1HKA010B	50V 1U	1	
C333, 34	RCE1CKA100BG	16V 10U	2	
C341-44	ECBT1H101KB5	50V 100P	4	
C345, 46	ECBT1H331KB5	50V 330P	2	
C347, 48	RCE1CKA100BG	16V 10U	2	
C349-52	ECBT1E103ZF5	25V 0.01U	4	
C353	ECBT1H102KB5	50V 1000P	1	
C355	ECBT1C105ZF5	15V 1U	1	
C361, 62	ECBT1H473ZF5	50V 0.047U	2	
C501, 02	RCE1HKA3R3BG	50V 3.3U	2	
C503, 04	ECBT1C182KR5	16V 1800P	2	
C505, 06	ECBT1H150J5	50V 15P	2	
C507, 08	ECBT1C472KR5	16V 4700P	2	
C509, 10	ECEA1HKA2R2B	50V 2.2U	2	
C511, 12	ECBT1C122KR5	16V 1200P	2	
C513	ECA1HW470B	50V 47U	1	
C514	ECEA1HKN2P2B	50V 2.2U	1	
C515, 16	ECQV1H104JM3	50V 0.1U	2	
C519	ECEA0JKA221B	6.3V 220U	1	
C520	ECEA0JKA101B	6.3V 100U	1	
C521	ECBT1E223ZF5	25V 0.022U	1	
C523, 24	ECBT1E223ZF5	25V 0.022U	2	
C525-26	ECBT1H102KB5	50V 1000P	4	
Δ C701, 02	EEUPL1V332E	35V 3300U	2	
C703	ECQE1104KF3	100V 0.1U	1	
C704	ECKR2H102ZF5	500V 1000P	1	
C705	ECA1HW470B	50V 47U	1	
CN301	RJU057W004	CONNECTOR (4P)	1	
CN701	RJS1A1101T1	CONNECTOR (1P)	1	
CN701A	RJS1A6604	CONNECTOR (4P)	1	
CN701B	RJS1A6604	CONNECTOR (4P)	1	
CN702-11	RJS1A1101T1	CONNECTOR (1P)	10	
CN715	RJU057W004	SOCKET (4P)	1	
CN716, 17	RJU057W007	SOCKET (7P)	2	
CN801A	RJS1A6604	CONNECTOR (4P)	1	
CN801B, 2A	RJS1A6604	CONNECTOR (4P)	2	
CN802B	RJS1A6604	CONNECTOR (4P)	1	
CP301	RJT057W004-1	CONNECTOR (4P)	1	
CP715	RJT057W004-1	CONNECTOR (4P)	1	
CP716, 17	RJT057W007-1	CONNECTOR (7P)	2	
Δ D701-04	1N5402BF	DIODE	4	
Δ D705, 06	RL1N4003N02	DIODE	2	
Δ D707	MA4051MTA	DIODE	1	
D708	MA4240MTA	DIODE	1	
D717	MA4150MTA	DIODE	1	
D801	LNJ201LPQJA	LED	1	
D804	MA165	DIODE	1	
Δ F1	XBA2C08T80	FUSE	1	
Δ F701, 02	XBA2C16T80	FUSE	2	
FC1-C6	EYF52BC	FUSE HOLDER	6	
IC301	MS219FPTA	IC	1	

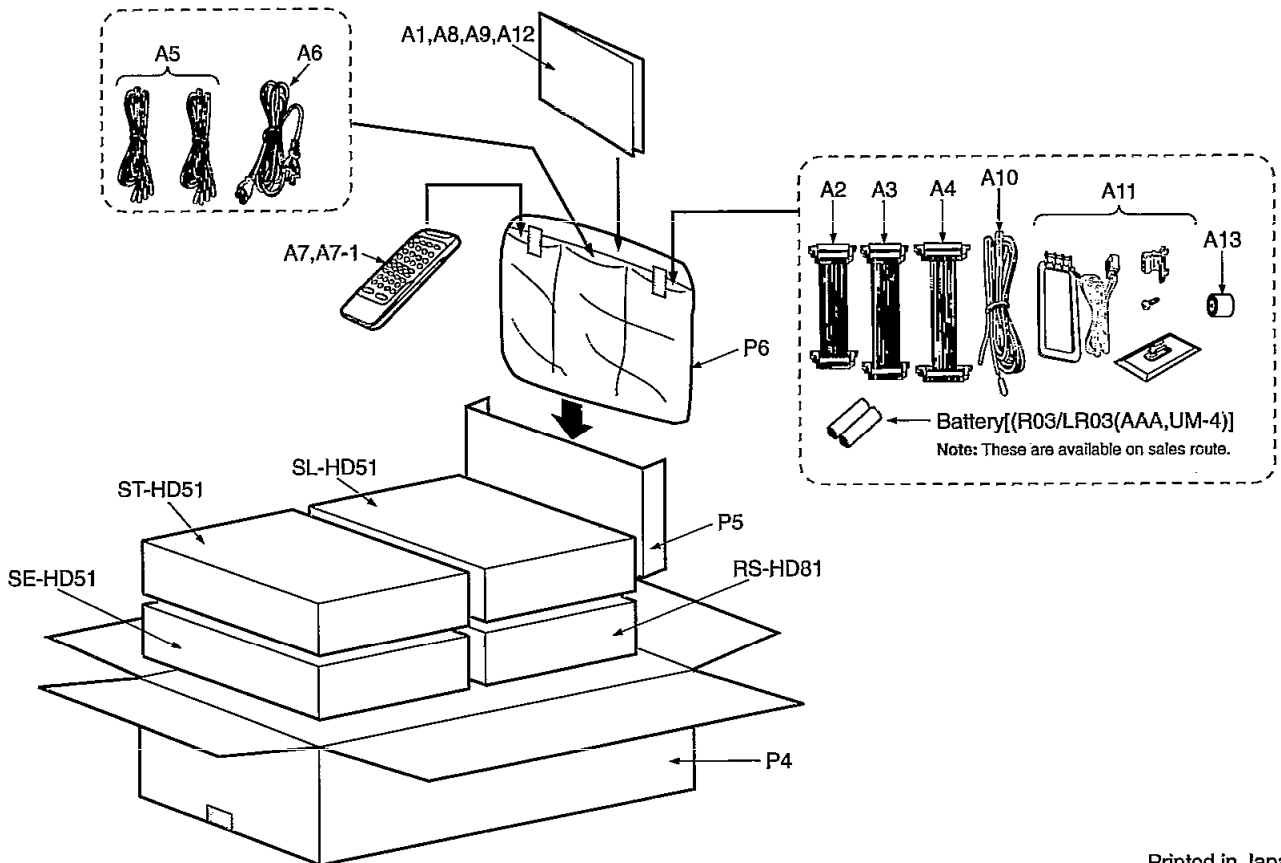
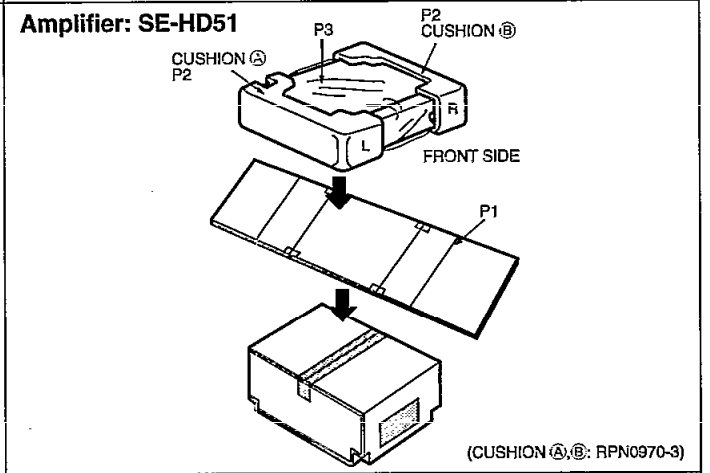
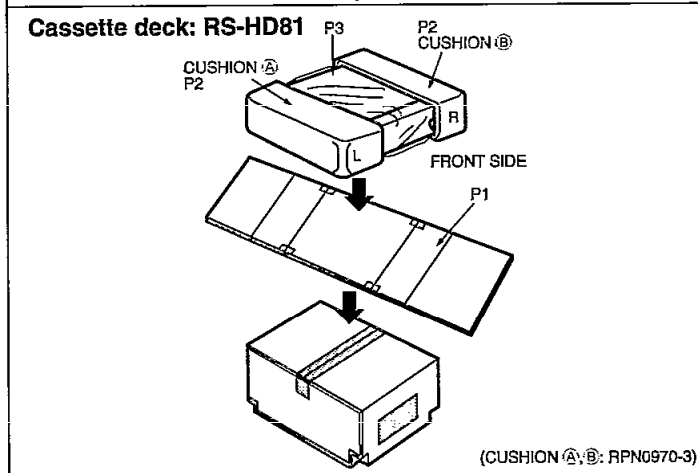
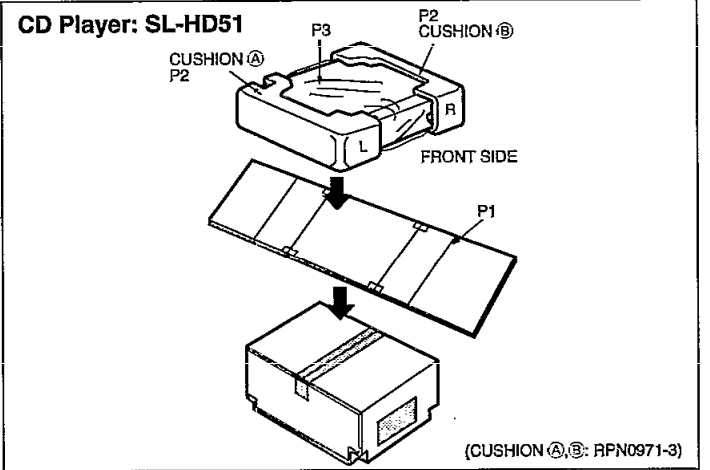
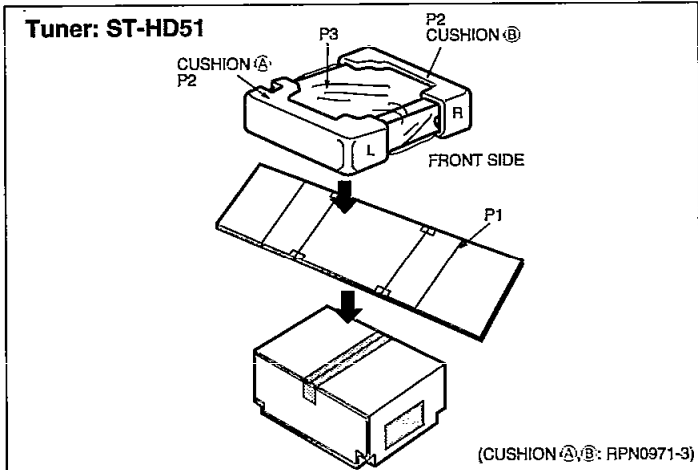
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
JG303	M5218AFPE3	IC	1		R535	ERDS2FJ563T	1/4W 56K	1	
△ IC501	RSN35H1	IC	1		R536	ERDS2FJ564T	1/4W 560K	1	
					R537	ERDS2FJ223T	1/4W 22K	1	
					R538	ERDS2FJ103	1/4W 10K	1	
JK201	RJT065K20	SYSTEM(20P)	1		R539	ERDS2FJ473T	1/4W 47K	1	
JK301	RJJ37TN01-C	HEADPHONES	1		R703	ERDS2FJ333T	1/4W 33K	1	
JK501	RJR0054	SPEAKERS	1		R704	ERDS2FJ392	1/4W 3.9K	1	
△ JK701	SJS9236	AC INLET	1		R705	ERDS2FJ473T	1/4W 47K	1	
					R706	ERDS2FJ104	1/4W 100K	1	
L501, 02	SLQY07G-40	COIL	2		R707	ERDS2FJ684T	1/4W 680K	1	
△ L701	RLQ2271M	COIL	1		R709, 10	ERDS2FJ101	1/4W 100	2	
					R711-14	ERDS2FJ390T	1/4W 39	4	
P1	RPG3529	PACKING CASE(CD/TUNER)	2		R803	ERDS2FJ271T	1/4W 270	1	
P1	RPG3619	PACKING CASE(AMPLIF/DECK)	2		R805	ERDS2FJ472	1/4W 4.7K	1	
P2	RPN0970-3	CUSHION(AMPLIF/ER/DECK)	2						
P2	RPH0971-3	CUSHION(CD/TUNER)	2		△ RL701	RSY0013M-0	RELAY	1	
P3	SPP740	PROTECTION BAG(UNIT)	4						
P4	RPG3837	PACKING CASE(SYSTEM)	1	(EG)	S801	EVQPTD05Q	SW	1	
P4	RPG3838	PACKING CASE(SYSTEM)	1	(EP)					
P4	RPG3956	PACKING CASE(SYSTEM)	1	(E)	VR301, 02	EVJYA1F04C15	V. R.	2	
P4	RPG3957	PACKING CASE(SYSTEM)	1	(EB)	VR303	EVJ02QF04G15	V. R.	1	
P5	RPQ0771	SPACER	1		VR801	EVQWQAF2524B	V. R.	1	
P6	RPF0139	PROTECTION BAG(F.B.)	1						
△ PT701	RTP2M5B012	POWER TRANSFORMER	1						
Q303, 04	2SD2144STA	TRANSISTOR	2						
Q305	UN4115TA	TRANSISTOR	1						
Q307, 08	2SD2144STA	TRANSISTOR	2						
Q309	UN4115TA	TRANSISTOR	1						
Q501, 02	2SD1450STA	TRANSISTOR	2						
Q503	UN4115TA	TRANSISTOR	1						
Q504, 05	2SC3311AIRTA	TRANSISTOR	2						
Q506	2SA1309A1QTA	TRANSISTOR	1						
Q507	2SC3311AIRTA	TRANSISTOR	1						
Q701	2SC3311AIRTA	TRANSISTOR	1						
Q801	UN4111	TRANSISTOR	1						
R301, 02	ERDS2FJ682	1/4W 6.8K	2						
R303, 04	ERDS2FJ103	1/4W 10K	2						
R305, 06	ERDS2FJ224	1/4W 220K	2						
R307, 08	ERDS2FJ392	1/4W 3.9K	2						
R309, 10	ERDS2FJ223T	1/4W 22K	2						
R311, 12	ERDS2FJ102	1/4W 1K	2						
R313, 14	ERDS2FJ392	1/4W 3.9K	2						
R319, 20	ERDS2FJ183	1/4W 18K	2						
R331	ERDS2FJ224	1/4W 220K	1						
R332	ERDS2FJ222	1/4W 2.2K	1						
R333, 34	ERDS2FJ122T	1/4W 1.2K	2						
R335, 36	ERDS2FJ121T	1/4W 120	2						
R339, 40	ERDS2FJ332T	1/4W 3.3K	2						
R341, 42	ERDS2FJ102	1/4W 1K	2						
R343, 44	ERDS2FJ333T	1/4W 33K	2						
R345, 46	ERDS2FJ22T	1/4W 1.2K	2						
R347, 48	ERDS2FJ102	1/4W 1K	2						
R349-52	ERDS2FJ470	1/4W 47	4						
R353, 54	ERDS2FJ121T	1/4W 120	2						
R355	ERDS2FJ334T	1/4W 330K	1						
R356	ERDS2FJ222	1/4W 2.2K	1						
R501, 02	ERDS2FJ102	1/4W 1K	2						
R503-06	ERDS2FJ563T	1/4W 56K	4						
R507, 08	ERDS2FJ182T	1/4W 1.8K	2						
R509, 10	ERDS2FJ821T	1/4W 820	2						
R511	ERDS2FJ334T	1/4W 330K	1						
R515, 16	ERDS2FJ123T	1/4W 12K	2						
R517, 18	ERDS2FJ472	1/4W 4.7K	2						
R519, 20	ERDS2FJ121T	1/4W 120	2						
R521	ERDS2FJ154T	1/4W 150K	1						
R522	ERDS2FJ105	1/4W 1M	1						
R523	ERDS2FJ561T	1/4W 560	1						
R524	ERDS2FJ102	1/4W 1K	1						
△ R527	ERDS1FJ122	1/2W 1.2K	1						
△ R529, 30	ERDS2FJ100	1/4W 10	2						
△ R531, 32	ERDS1FJ100	1/2W 10	2						
R533	ERDS2FJ823	1/4W 82K	1						
R534	ERDS2FJ124	1/4W 120K	1						

Cabinet Parts Location



※ : Not supplies.

■ Packaging



022

Service Manual

Supplement

Tuner

ST-HD51

Amplifier

SE-HD51

Compact Disc Player

SL-HD51

■ This document is supplementary to the following Service Manuals:

Colour

(N) ... Gold Type

Areas

E Europe.

EB Great Britain.

EG Germany and Italy, etc.

EP Europe and Russia.

Model No.	Area Code	Order No.
ST-HD51	(E) (EG)	AD9802030C2
SE-HD51	(E) (EB) (EG) (EP)	AD9802031C2
SL-HD51	(E)	AD9803047C2

■ **Purpose**

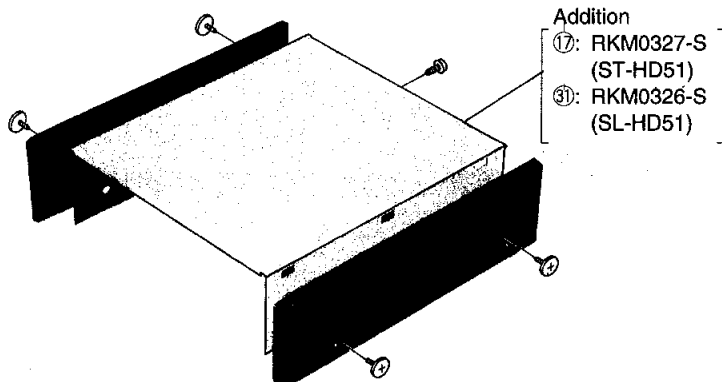
Cabinets of those models to be supplied are as shown below.

CHANGE

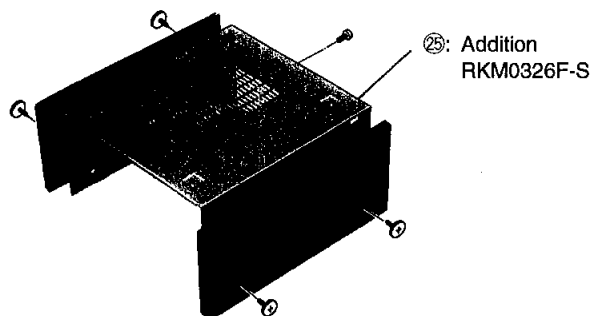
■ **Cabinet Parts Location**

[ST-HD51: Refer to page 30 of Service Manual. / SE-HD51: Refer to page 21 of Service Manual.]
 [SL-HD51: Refer to page 34 of Service Manual.]

● **ST-HD51/SL-HD51**



● **SE-HD51**



△ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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Technics®

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 the parts list.

* 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.

* Remote Control Ass'y: Supply period for three years from termination of production.

* 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)

* "<IA>, <IB>, <IC>, <ID>" marks in Remarks indicate language of instruction manual.

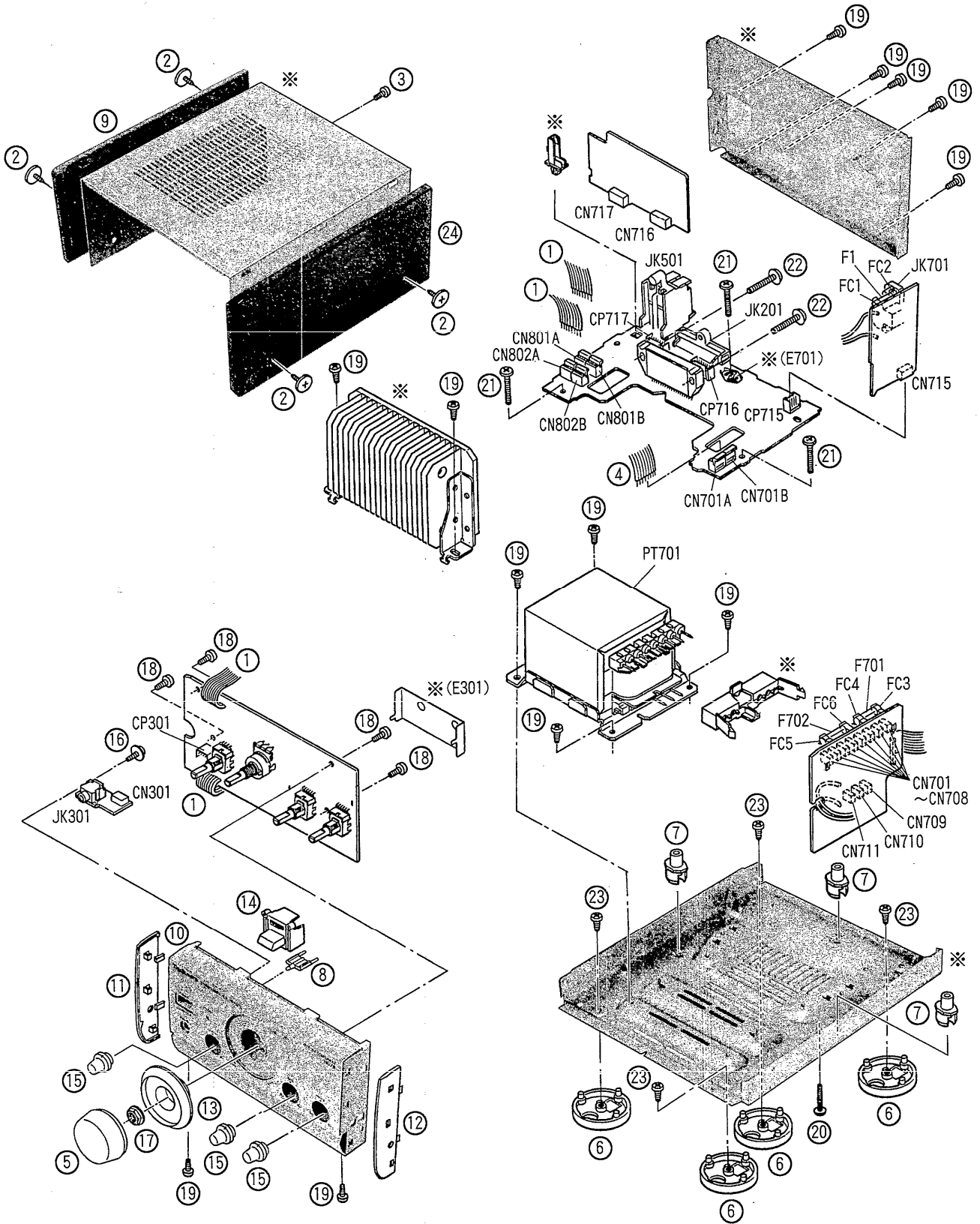
[<IA>: French/Spanish/Swedish, <IB>: Danish, <IC>: English, <ID>: Russian/Czeco/Polish]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	REZ0950	FLAT CABLE ASS'Y	1	
2	RHD30073-K	SCREW	4	
3	XTBS3+10JFZ1	SCREW	1	
4	REZ0951	FLAT CABLE(W701/8P)	1	
5	RGW0247A-N	VOLUME KNOB	1	
6	RKA0076-N	FOOT	4	
7	RKQ0089-2	P. C. B. SUPPORT	3	
8	RGL0333-2Q	PANEL LIGHT	1	
9	RGK0808-1M	SIDE PANEL (L)	1	
10	RFKGEHD51E-N	FRONT PANEL ASS'Y	1	
11	RGK0810-N3	SIDE ORNAMENT (L)	1	
12	RGK0811-N3	SIDE ORNAMENT (R)	1	
13	RGK0815-N	VOLUME ORNEMTNT	1	
14	RGU1392-S	POWER BUTTON	1	
15	RGW0198-S	ADJUSTMENT KNOB	3	
16	RHD26016	SCREW	1	
17	SNE4021-1	NUT	1	
18	XTBS26+8J	SCREW	4	
19	XTBS3+8JFZ1	SCREW	13	
20	XTB3+12JFZ	SCREW	1	
21	XTB3+20JFZ	SCREW	3	
22	XTW3+15T	SCREW	2	
23	XTB3+6G	SCREW	4	
24	RGK0809-1M	SIDE PANEL (R)	1	
A1	RQT4304-E	INSTRUCTION MANUAL	1	(E) <IA>
A1	RQT4306-H	INSTRUCTION MANUAL	1	(EG) <IB>
A1	RQT4307-B	INSTRUCTION MANUAL	1	(EB) (EP) <IC>
A1	RQT4308-R	INSTRUCTION MANUAL	1	(EP) <ID>
A2	REX0608	FLAT CABLE (SHORT) (20P)	1	
A3	REX0812	FLAT CABLE (LONG) (19P)	1	
A4	REX0813	FLAT CABLE (MIDDLE) (15P)	1	
A5	REE0393	SPEAKER CORD	2	
A6	RJA0019-X	AC POWER SUPPLY CORD	1	(EG) (E) (EP)
A6	RJA0053-1X	AC POWER SUPPLY CORD	1	(EB)
A7	RAK-CH193WH	REMOTE CONT. TRANSMITTER	1	(EG) (E) (EP)
A7	RAK-CH215WH	REMOTE CONT. TRANSMITTER	1	(EB)
A7-1	RKK0057-K	BATTERY COVER	1	
A8	RQA0117	WARRANTY CARD	1	(EG) (E) (EB)

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
A9	RQCB0169	SERVICENTER LIST	1	(EG) (E) (EB)
A10	RSA0007	FM INDOOR ANTENNA	1	
A11	RSA0021	AM LOOP ANTENNA	1	
A12	RQCA0559	QUICK SET UP GUIDE	1	(EB)
A13	SJP9009	AC PLUG ADAPTOR	1	(EB)
C301, 02	ECEA1HKA010B	50V 1U	2	
C303, 04	ECBT1H101KB5	50V 100P	2	
C305, 06	ECBT1H820KB5	50V 82P	2	
C307, 08	RCE1CKA100BG	16V 10U	2	
C309, 10	ECBT1H390J5	50V 39P	2	
C311, 12	RCE1CKA100BG	16V 10U	2	
C313, 14	ECQV1H823JM3	50V 0.082U	2	
C315, 16	ECQB1H153JF3	50V 0.015U	2	
C317, 18	ECQB1H163JF3	50V 0.018U	2	
C319, 20	ECQB1H222JF3	50V 2200P	2	
C321, 22	ECBT1E223ZF5	25V 0.022U	2	
C323, 24	ECBT1H121KB5	50V 120P	2	
C332	ECEA1HKA010B	50V 1U	1	
C333, 34	RCE1CKA100BG	16V 10U	2	
C341-44	ECBT1H101KB5	50V 100P	4	
C345, 46	ECBT1H331KB5	50V 330P	2	
C347, 48	RCE1CKA100BG	16V 10U	2	
C349-52	ECBT1E103ZF5	25V 0.01U	4	
C353	ECBT1H102KB5	50V 1000P	1	
C355	ECBT1C105ZF5	16V 1U	1	
C361, 62	ECBT1H473ZF5	50V 0.047U	2	
C501, 02	RCE1HKA3R3BG	50V 3.3U	2	
C503, 04	ECBT1C182KR5	16V 1800P	2	
C505, 06	ECBT1H150J5	50V 15P	2	
C507, 08	ECBT1C472KR5	16V 4700P	2	
C509, 10	ECEA1HKA2R2B	50V 2.2U	2	
C511, 12	ECBT1C122KR5	16V 1200P	2	
C513	ECA1HM470B	50V 47U	1	
C514	ECEA1HKN2R2B	50V 2.2U	1	
C515, 16	ECQV1H104JM3	50V 0.1U	2	
C519	ECEA0JKA221B	6.3V 220U	1	
C520	ECEA0JKA101B	6.3V 100U	1	
C521	ECBT1E223ZF5	25V 0.022U	1	
C523, 24	ECBT1E223ZF5	25V 0.022U	2	
C525-28	ECBT1H102KB5	50V 1000P	4	
Δ C701, 02	EEUPLV1332E	35V 3300U	2	
C703	ECQE1104KF3	100V 0.1U	1	
C704	ECKR2H102ZF5	500V 1000P	1	
C705	ECA1HM470B	50V 47U	1	
CN301	RJU057W004	CONNECTOR (4P)	1	
CN701	RJSA11101T1	CONNECTOR (1P)	1	
CN701A	RJSA1A6604	CONNECTOR (4P)	1	
CN701B	RJSA1A6604	CONNECTOR (4P)	1	
CN702-11	RJSA11101T1	CONNECTOR (1P)	10	
CN715	RJU057W004	SOCKET (4P)	1	
CN716, 17	RJU057W007	SOCKET (7P)	2	
CN801A	RJSA1A6604	CONNECTOR (4P)	1	
CN801B, 2A	RJSA1A6604	CONNECTOR (4P)	2	
CN802B	RJSA1A6604	CONNECTOR (4P)	1	
CP301	RJT057W004-1	CONNECTOR (4P)	1	
CP715	RJT057W004-1	CONNECTOR (4P)	1	
CP716, 17	RJT057W007-1	CONNECTOR (7P)	2	
Δ D701-04	1N5402BF	DIODE	4	
Δ D705, 06	RL1N4003N02	DIODE	2	
Δ D707	MA4051MTA	DIODE	1	
D708	MA4240MTA	DIODE	1	
D717	MA4150MTA	DIODE	1	
D801	LNJ201LPQJA	LED	1	
D804	MA165	DIODE	1	
Δ F1	XBA2C08TB0	FUSE	1	
Δ F701, 02	XBA2C16TB0	FUSE	2	
FC1-C6	EYF52BC	FUSE HOLDER	6	
IC301	M5219FPPTA	IC	1	

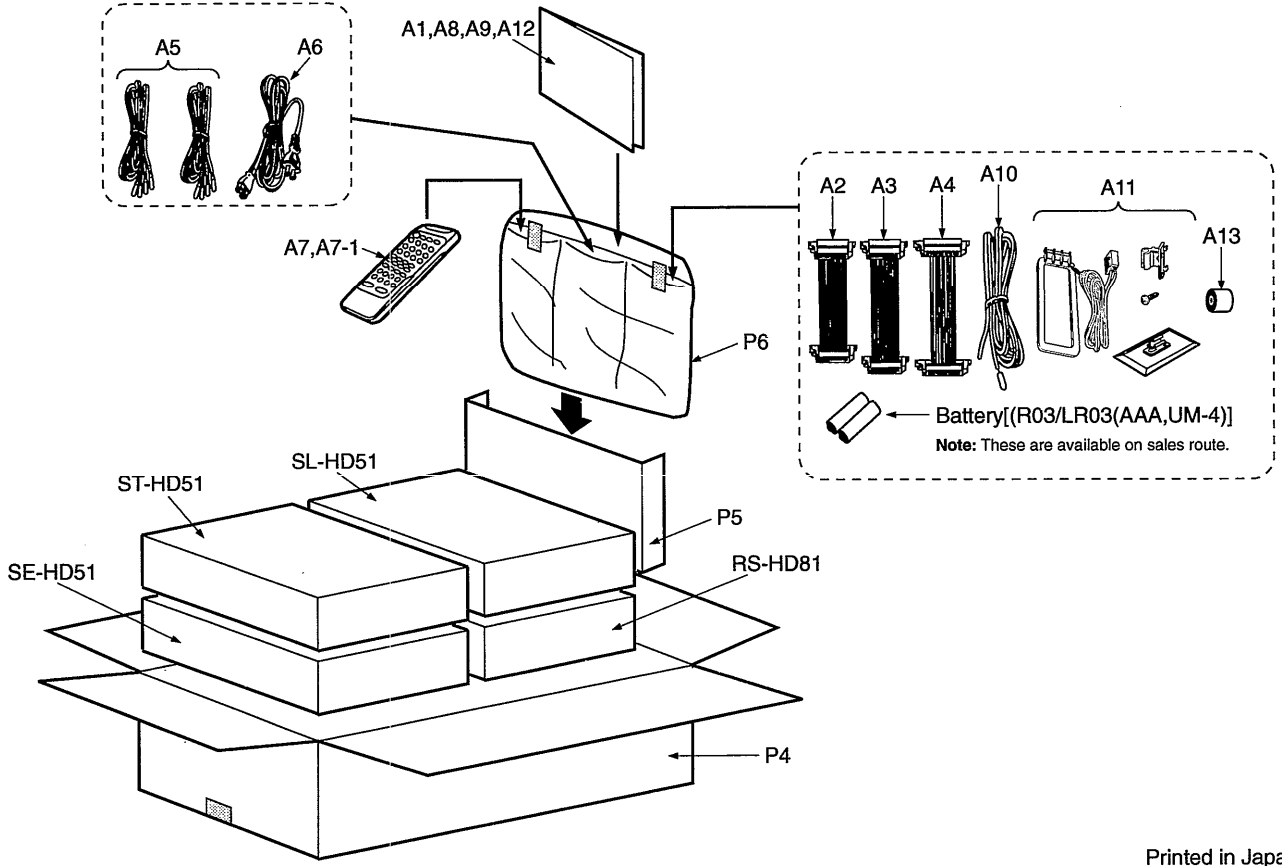
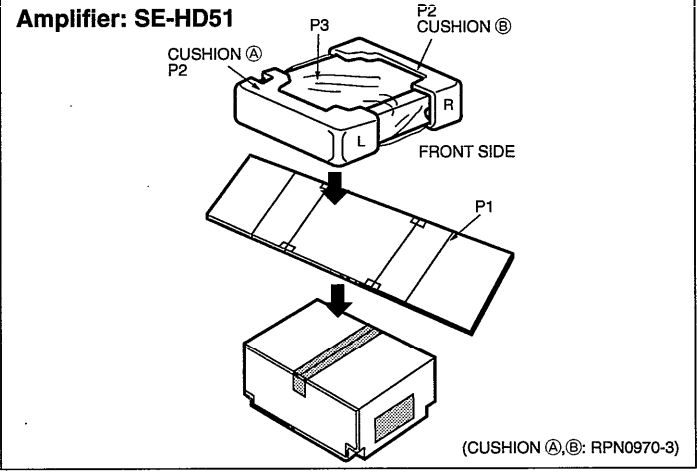
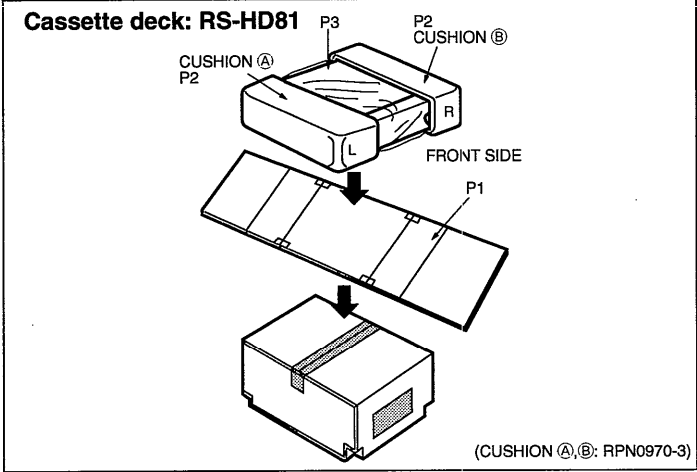
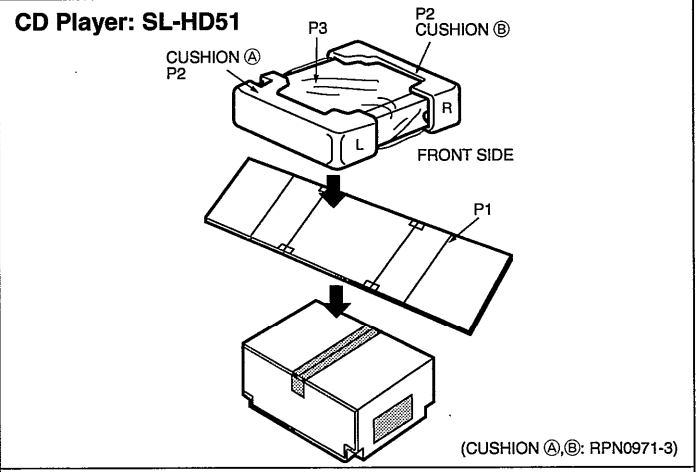
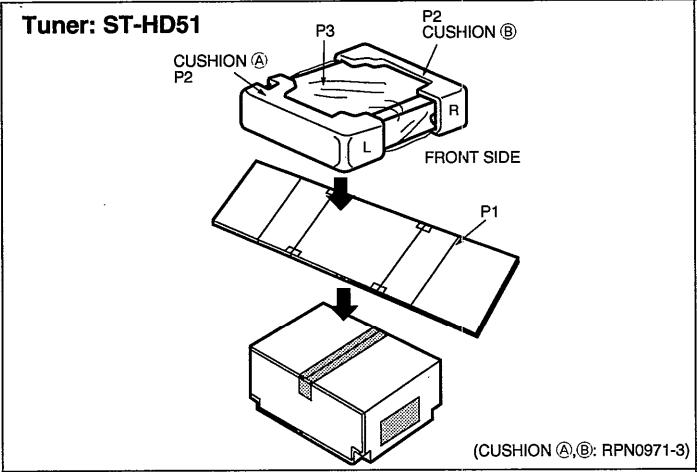
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC303	MS218AFPE3	IC	1		R535	ERDS2TJ563T	1/4W 56K	1	
△ IC501	RSN35H1	IC	1		R536	ERDS2TJ564T	1/4W 560K	1	
					R537	ERDS2TJ223T	1/4W 22K	1	
					R538	ERDS2FJ103	1/4W 10K	1	
JK201	RJT065K20	SYSTEM (20P)	1		R539	ERDS2TJ473T	1/4W 47K	1	
JK301	RJJ377N01-C	HEADPHONES	1		R703	ERDS2TJ333T	1/4W 33K	1	
JK501	RJR0054	SPEAKERS	1		R704	ERDS2FJ392	1/4W 3.9K	1	
△ JK701	SJS9236	AC INLET	1		R705	ERDS2TJ473T	1/4W 47K	1	
					R706	ERDS2FJ104	1/4W 100K	1	
L501, 02	SLQY07G-40	COIL	2		R707	ERDS2TJ684T	1/4W 680K	1	
△ L701	RLQZ271M	COIL	1		R709, 10	ERDS2FJ101	1/4W 100	2	
					R711-14	ERDS2TJ390T	1/4W 39	4	
P1	RPG3529	PACKING CASE (CD/TUNER)	2		R803	ERDS2TJ271T	1/4W 270	1	
P1	RPG3619	PACKING CASE (AMPLIF/DECK)	2		R805	ERDS2FJ472	1/4W 4.7K	1	
P2	RPN0970-3	CUSHION (AMPLIFIER/DECK)	2						
P2	RPN0971-3	CUSHION (CD/TUNER)	2		△ RL701	RSY0013M-0	RELAY	1	
P3	SPP740	PROTECTION BAG (UNIT)	4						
P4	RPG3837	PACKING CASE (SYSTEM)	1	(EG)	S801	EVQPTD05Q	SW	1	
P4	RPG3838	PACKING CASE (SYSTEM)	1	(EP)					
P4	RPG3956	PACKING CASE (SYSTEM)	1	(E)	VR301, 02	EVJYA1F04C15	V. R.	2	
P4	RPG3957	PACKING CASE (SYSTEM)	1	(EB)	VR303	EVJ02QF04G15	V. R.	1	
P5	RPQ0771	SPACER	1		VR801	EVQWQAF2524B	V. R.	1	
P6	RPF0139	PROTECTION BAG (F. B.)	1						
△ PT701	RTP2M5B012	POWER TRANSFORMER	1						
Q303, 04	2SD2144STA	TRANSISTOR	2						
Q305	UN4115TA	TRANSISTOR	1						
Q307, 08	2SD2144STA	TRANSISTOR	2						
Q309	UN4115TA	TRANSISTOR	1						
Q501, 02	2SD1450STA	TRANSISTOR	2						
Q503	UN4115TA	TRANSISTOR	1						
Q504, 05	2SC3311A1RTA	TRANSISTOR	2						
Q506	2SA1309A1QTA	TRANSISTOR	1						
Q507	2SC3311A1RTA	TRANSISTOR	1						
Q701	2SC3311A1RTA	TRANSISTOR	1						
Q801	UN4111	TRANSISTOR	1						
R301, 02	ERDS2FJ682	1/4W 6.8K	2						
R303, 04	ERDS2FJ103	1/4W 10K	2						
R305, 06	ERDS2FJ224	1/4W 220K	2						
R307, 08	ERDS2FJ392	1/4W 3.9K	2						
R309, 10	ERDS2TJ223T	1/4W 22K	2						
R311, 12	ERDS2FJ102	1/4W 1K	2						
R313, 14	ERDS2FJ392	1/4W 3.9K	2						
R319, 20	ERDS2FJ183	1/4W 18K	2						
R331	ERDS2FJ224	1/4W 220K	1						
R332	ERDS2FJ222	1/4W 2.2K	1						
R333, 34	ERDS2TJ122T	1/4W 1.2K	2						
R335, 36	ERDS2TJ121T	1/4W 120	2						
R339, 40	ERDS2TJ332T	1/4W 3.3K	2						
R341, 42	ERDS2FJ102	1/4W 1K	2						
R343, 44	ERDS2TJ333T	1/4W 33K	2						
R345, 46	ERDS2TJ122T	1/4W 1.2K	2						
R347, 48	ERDS2FJ102	1/4W 1K	2						
R349-52	ERDS2FJ470	1/4W 47	4						
R353, 54	ERDS2TJ121T	1/4W 120	2						
R355	ERDS2TJ334T	1/4W 330K	1						
R356	ERDS2FJ222	1/4W 2.2K	1						
R501, 02	ERDS2FJ102	1/4W 1K	2						
R503-06	ERDS2TJ563T	1/4W 56K	4						
R507, 08	ERDS2TJ182T	1/4W 1.8K	2						
R509, 10	ERDS2TJ821T	1/4W 820	2						
R511	ERDS2TJ334T	1/4W 330K	1						
R515, 16	ERDS2TJ123T	1/4W 12K	2						
R517, 18	ERDS2FJ472	1/4W 4.7K	2						
R519, 20	ERDS2TJ121T	1/4W 120	2						
R521	ERDS2TJ154T	1/4W 150K	1						
R522	ERDS2FJ105	1/4W 1M	1						
R523	ERDS2TJ561T	1/4W 560	1						
R524	ERDS2FJ102	1/4W 1K	1						
△ R527	ERDS1FJ122	1/2W 1.2K	1						
△ R529, 30	ERDS2FJ100	1/4W 10	2						
△ R531, 32	ERDS1FJ100	1/2W 10	2						
R533	ERDS2FJ823	1/4W 82K	1						
R534	ERDS2FJ124	1/4W 120K	1						

Cabinet Parts Location



※ : Not supplies.

■ Packaging



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