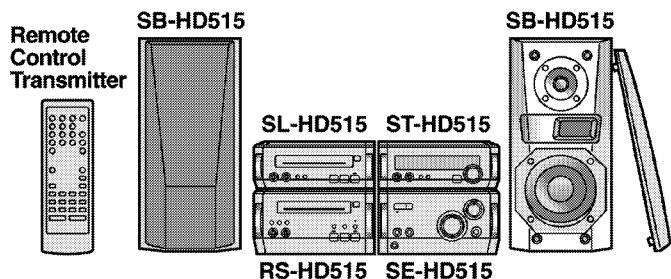


# Service Manual

**Amplifier**



## SE-HD515

### Colour

(S).....Silver Type

### Areas

(PP).....U.S.A. and Canada.

(EG).....Europe.

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

## Specifications

### Amplifier section (Low frequency side)

#### Power output for (PP) area:

40 – 5500 Hz, THD 1 %,  
both channels driven; 2 × 10 W (6 Ω)

#### Power output for (EG) area:

DIN 1 kHz, THD 1 %,  
both channels driven; 2 × 12 W (6 Ω)

#### RMS 1 kHz, THD 10 %, both channels driven;

2 × 15 W (6 Ω)

#### Total harmonic distortion:

Half power at 1 kHz; 0.09 % (6 Ω)

#### S/N:

75 dB

#### Load impedance:

6 Ω

### Amplifier section (High frequency side)

#### Power output for (PP) area:

5500 – 16000 Hz, THD 1 %,  
both channels driven; 2 × 5 W (6 Ω)

#### Power output for (EG) area:

DIN 10 kHz, THD 1 %,  
both channels driven; 2 × 5 W (6 Ω)

#### RMS 10 kHz, THD 10 %, both channels driven;

2 × 8 W (6 Ω)

#### S/N:

75 dB

#### Load impedance:

6 Ω

### Headphones

#### Jack type:

3.5 mm STEREO

#### Load impedance:

16 – 32 Ω

### General

#### Power supply:

AC 120 V, 60 Hz

(EG) area;

AC 230 V, 50 Hz

#### Power consumption for (PP) area:

68 W

#### Power consumption for (EG) area:

77 W

#### Standby;

Normal mode 9 W

ECO mode 0.8 W

#### Dimensions (W×H×D):

200×104.5×277 mm

(7 7/8"×4 1/8"×10 29/32")

3.5 kg (7.7 lb)

#### Mass:

**Notes:** Specifications are subject to change without notice.

Mass and dimensions are approximate.

Total harmonic distortion is measured by the digital spectrum analyzer.

### ⚠ 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.

**Technics®**

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## 1 Blue LED

- The blue LED mounted to each sides of front panel is very sensitive to static electricity. When handling the LED base plate, be very careful about it.
- Do not replace the blue LED by itself because it may be subject to electrostatic breakdown or deterioration in

## 2 Safety Precaution

(This "Safety Precaution" is applied only in U.S.A.)

- Before servicing, unplug the power cord to prevent an electric shock.
- When replacing parts, use only manufacturer's recommended components for safety.
- Check the condition of the power cord. Replace if wear or damage is evident.
- After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields etc..
- Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

### 2.1. Insulation resistance test

- Unplug the power cord and short the two prongs of the plug with a jumper wire.
- Turn on the power switch.
- Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet parts, such as screw heads antenna, control shafts, handle brackets, etc.. Equipment with antenna terminals should read between  $3\text{ M}\Omega$  -  $5.2\text{ M}\Omega$  to all exposed parts. Refer to Fig. 2-1. Equipment without antenna terminals should read approximately infinity to all exposed parts. Refer to Fig. 2-2.

#### Note:

Some exposed parts may be isolated from the chassis by design. These will read infinity.

- If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be

quality. When replacing the LED base plate, be sure to replace L and R sides simultaneously to adjust the brightness. For configuration at the time of supply of replacement parts, refer to Printed Circuit Board Diagram.

repaired and rechecked before it is returned to the customer.

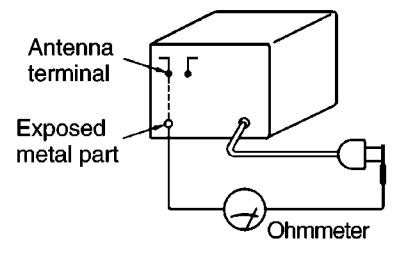


Fig. 2-1.

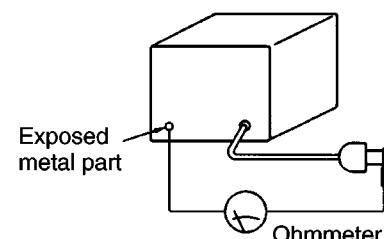


Fig. 2-2.

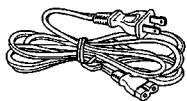
## 3 Before Repair

- Turn off the power supply. Using a 10 Ω, 10 W resistor, connect both ends of power supply capacitors (C101 - 105, C127) in order to discharge the voltage.
- 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 50/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 120/230 V.

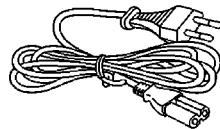
Power supply voltage	AC 120 V, 60 Hz	AC 230 V, 50 Hz
Consumed current	105 - 305 mA	60 - 155 mA

## 5 Accessories

- AC power supply cord for (PP) area  
(RJA0065-A).....1 pc.



- AC power supply cord for (EG) area  
(RJA0019-X).....1 pc.



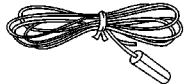
- AM loop antenna set  
(RSA0022-J).....1 pc.



- FM indoor antenna for (PP) area  
(RSA0006-J).....1 pc.



- FM indoor antenna for (EG) area  
(RSA0007).....1 pc.



## 4 Protection Circuitry

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

- No sound is heard when the power is supplied.
- 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 bellow:

1. Press the Standby/on button, switch to standby mode.
2. Determine the cause of the problem and correct it.
3. Press the Standby/on button once again, supply the power.

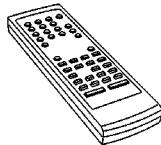
### Note:

When the protection circuitry functions, the unit will not operate unless the Standby/on button is first switched Standby and then ON again.

- Speaker cords  
(REE0499) (Red, Black).....2 pcs.  
(REE0853) (Blue, Gray).....2 pcs.

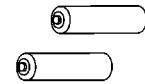


- Remote control transmitter  
(RAK-HDA10WH).....1 pc.

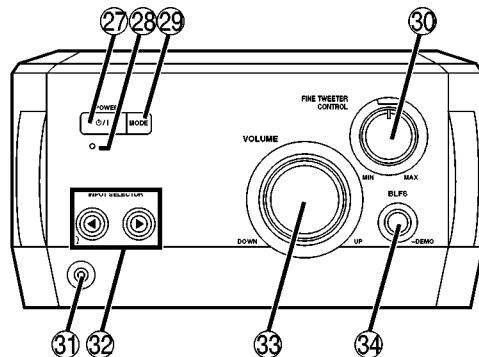
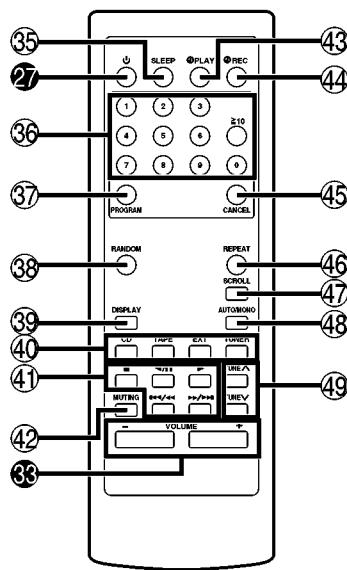


- Remote control batteries  
(R6/LR6, AA, UM-3).....2 pcs.

**Note:** These are available on sales route.



## 6 Location of Controls

**A****B**

### A Amplifier

**②7 Standby/on switch (⊕/⊖)**

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.

**②8 Standby indicator**

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

**②9 ECO mode button (MODE)**

**③0 Fine tweeter control (FINE TWEETER CONTROL)**

**③1 Headphone jack (⊖)**

**③2 Input selector (INPUT SELECTOR)**

**③3 Volume control (VOLUME)**

**③4 Bass, demo button (BLFS, -DEMO)**

### B Remote control

Buttons ②7 and ③3 function in the same way as the controls on the main unit.

**③5 Sleep timer button (SLEEP)**

**③6 Numbered buttons**

**③7 Program button (PROGRAM)**

**③8 Random button (RANDOM)**

**③9 Display select button (DISPLAY)**

**④0 Input select buttons (CD, TAPE, EXT, TUNER)**

**④1 Basic operating buttons**

Function changes according to the source.

**④2 Muting button (MUTING)**

**④3 Play timer button (⊕ PLAY)**

**④4 Record timer button (⊖ REC)**

**④5 Cancel button (CANCEL)**

**④6 Repeat button (REPEAT)**

**④7 Scroll button (SCROLL)**

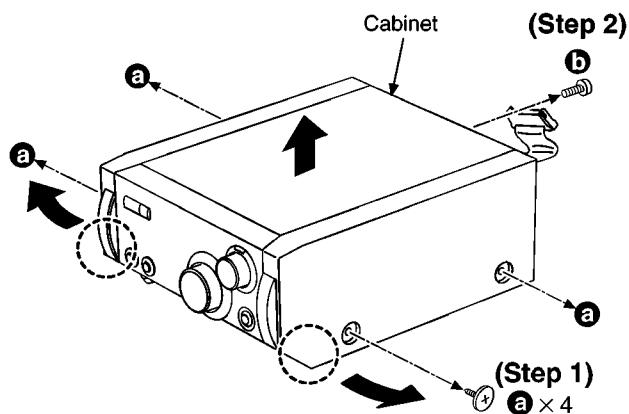
**④8 FM mode button (AUTO/MONO)**

**④9 Tuning buttons (TUNE ▲, TUNE ▼)**

## 7 Operation Checks and Component Replacement Procedures

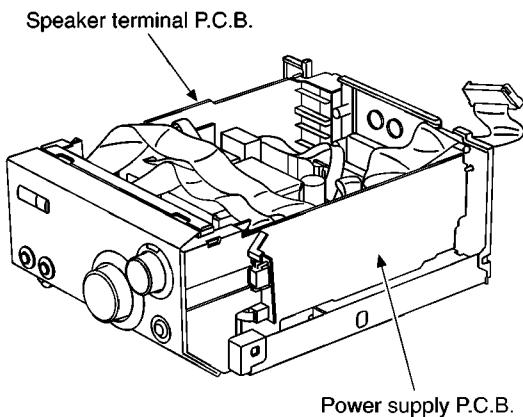
- This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
- For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

### 7.1. Checking for the speaker terminal P.C.B. and power supply P.C.B.



**(Step 3)**  
Spreading the both front tails indicated with (○) of cabinet a small amount, lift up and remove the cabinet in the direction of arrow.

- Check the speaker terminal P.C.B. and power supply P.C.B. as shown below.

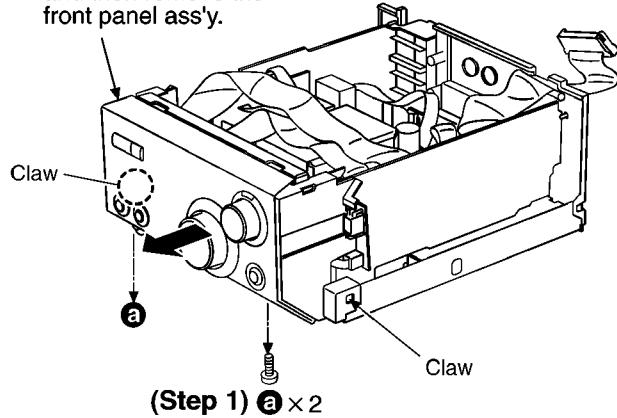


### 7.2. Checking for the operation P.C.B.

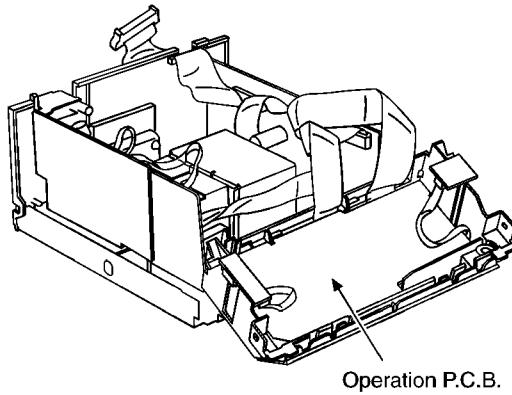
- Follow the (Step 1) - (Step 3) of item 7.1.

#### (Step 2)

Release the 2 claws, and then remove the front panel ass'y.

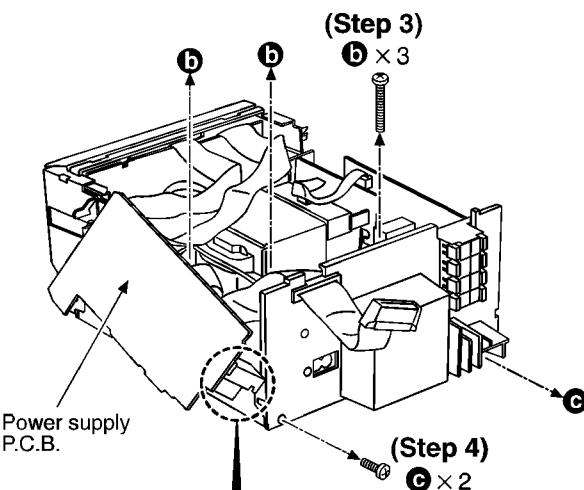
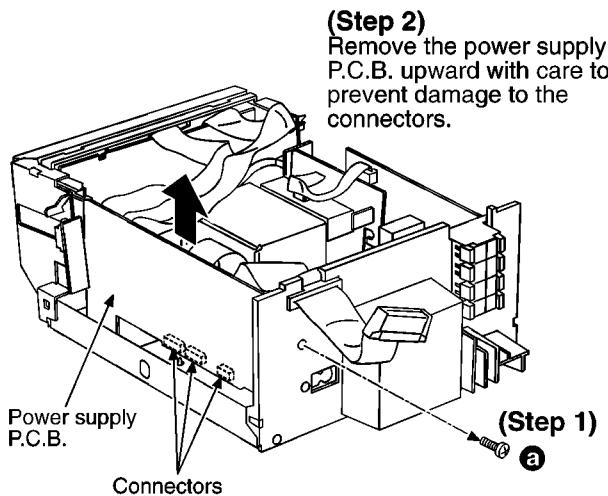


- Check the operation P.C.B. as shown below.

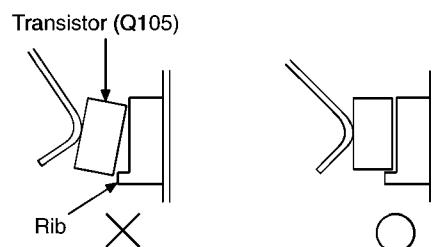


### 7.3. Checking for the main P.C.B.

- Follow the (Step 1) - (Step 3) of item 7.1.
- Follow the (Step 1), (Step 2) of item 7.2.



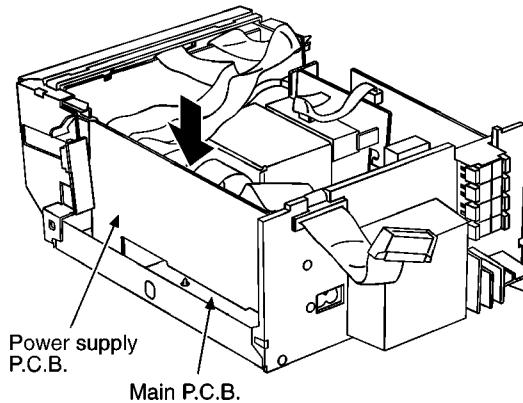
#### ■ Notice for installation of power supply P.C.B.



1. Use care that the transistor (Q105) is not located on the rib as shown above.
2. Apply the compound grease (No. RFKX0002 or equivalent material) on the back side of transistor (Q105).
3. Use care to prevent applying the grease on the lead wire or other parts.

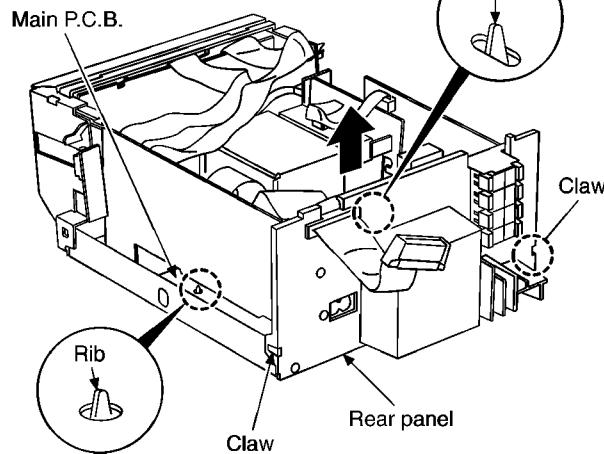
#### (Step 5)

Reinstall the power supply P.C.B. to the main P.C.B..

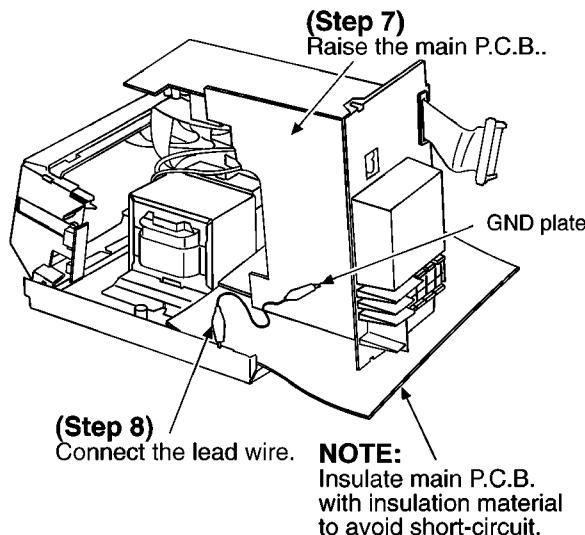


#### (Step 6)

Lift up the main P.C.B. a small amount to release 2 ribs. More, release the 2 claws with lifting the rear panel vertical.



- Check the main P.C.B. as shown below.

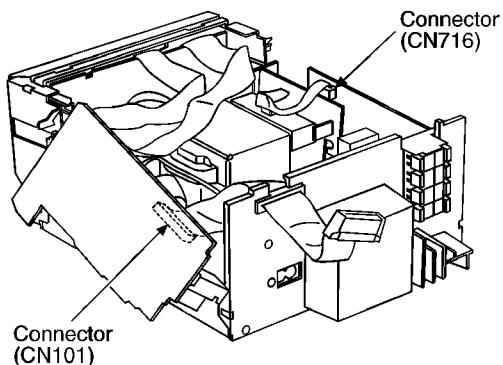


## 7.4. Replacement for the power IC

- Follow the **(Step 1) - (Step 3)** of item 7.1.
- Follow the **(Step 1) , (Step 2)** of item 7.2.
- Follow the **(Step 1) - (Step 4)** of item 7.3.

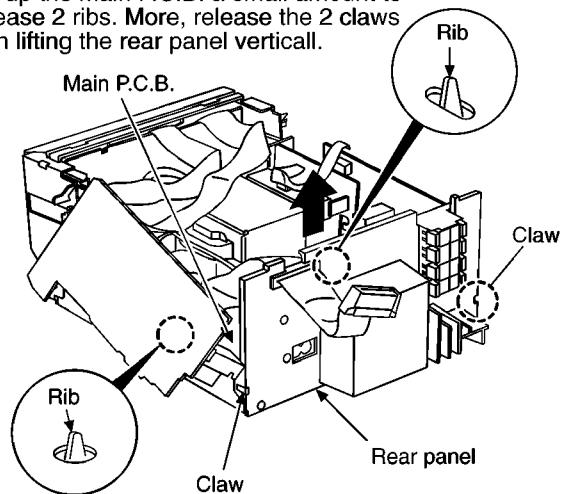
### (Step 1)

Remove the 2 connectors.



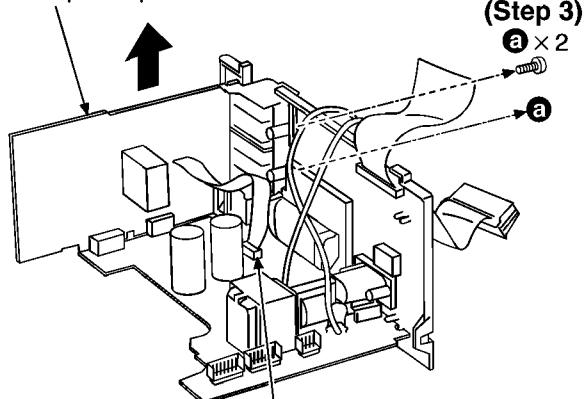
### (Step 2)

Lift up the main P.C.B. a small amount to release 2 ribs. More, release the 2 claws with lifting the rear panel vertical.



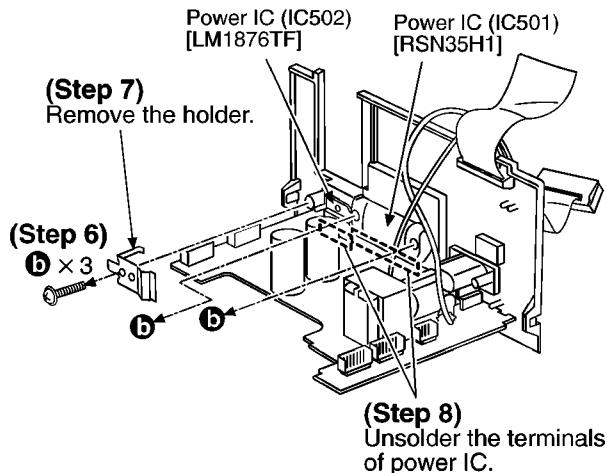
### (Step 5)

Lift up the speaker terminal P.C.B..



### (Step 4)

Remove the flat cable from connector (CP701).



### NOTE:

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

## 8 To Supply Power Source and Signal Check

To operate this unit SE-HD515 normally, it is necessary to connect to the unit ST-HD515. When operating the unit SE-HD515, be sure to connect to the unit ST-HD515 by connection cable.

1. Connect with the Tuner (ST-HD515). Refer to Fig. 8-1.
2. Connect the AC power supply cord to the Amplifier (SE-HD515). Refer to Fig. 8-1.
3. Connect the speakers to speaker terminal.

Refer to Fig. 8-1.

4. Turn on the power of the Amplifier (SE-HD515).
5. Press INPUT SELECTER to select the external source (EXT) of the Amplifier (SE-HD515).
6. Input a sound signal to external input terminal of the Tuner (ST-HD515), and confirm to be outputted from the speaker. (Both High and Low.)

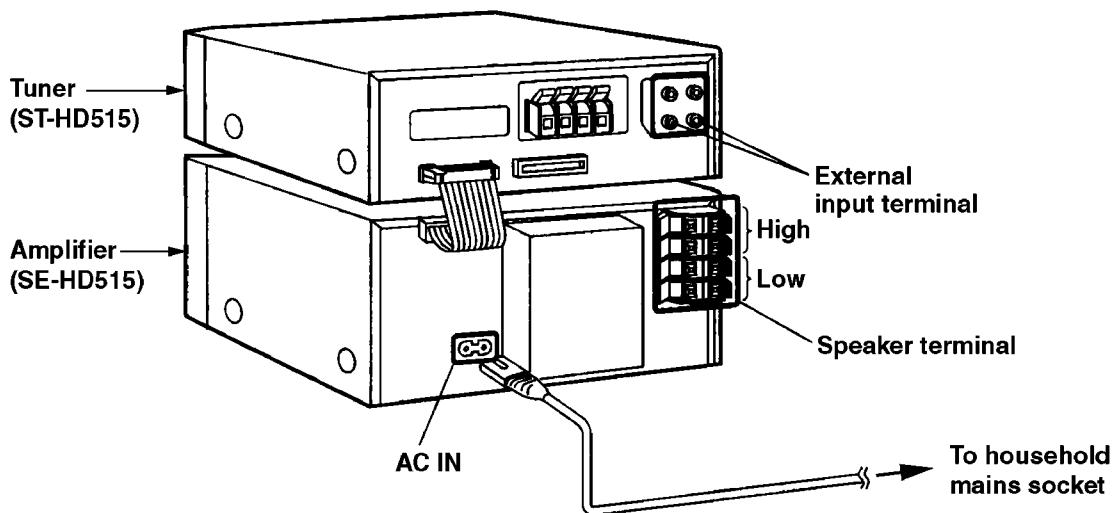


Fig. 8-1.

## 9 Schematic Diagram Notes

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

### Notes:

S301:	Power Standby/on switch (  /I)
S302:	ECO mode switch (MODE)
S303:	Input selector switch (INPUT SELECOR  )
S308:	Input selector switch (INPUT SELECTOR  )
S309:	Bass, demo switch (BLFS,  DEMO)
VR301:	Volume control VR (VOLUME)
VR401:	Fine tweeter control VR (FINE TWEETER CONTROL)

- 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  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 supply part number is described alone in the replacement part.

- 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.

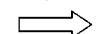
Put a conductive mat on the work table.

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

### For U.S.A.

**CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE 1.6 A 125 V FUSE.**



RISK OF FIRE-REPLACE FUSE AS MARKED.

### For Canada

#### FUSE CAUTION

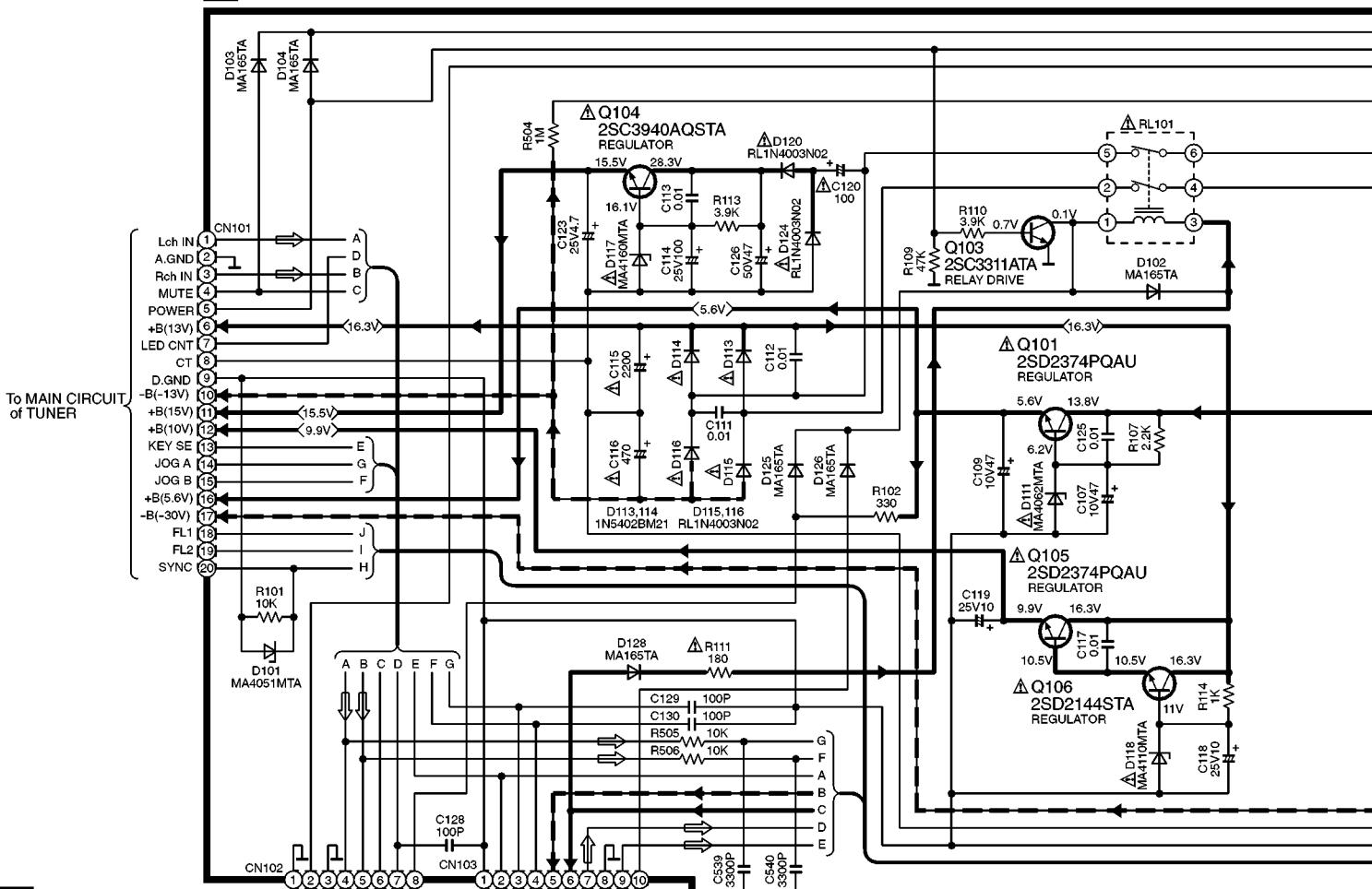
 This symbol located near the fuse indicates that the used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

 Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n'utiliser que des fusibles de même type. Ce dernier est indiqué là où le présent symbole est apposé.

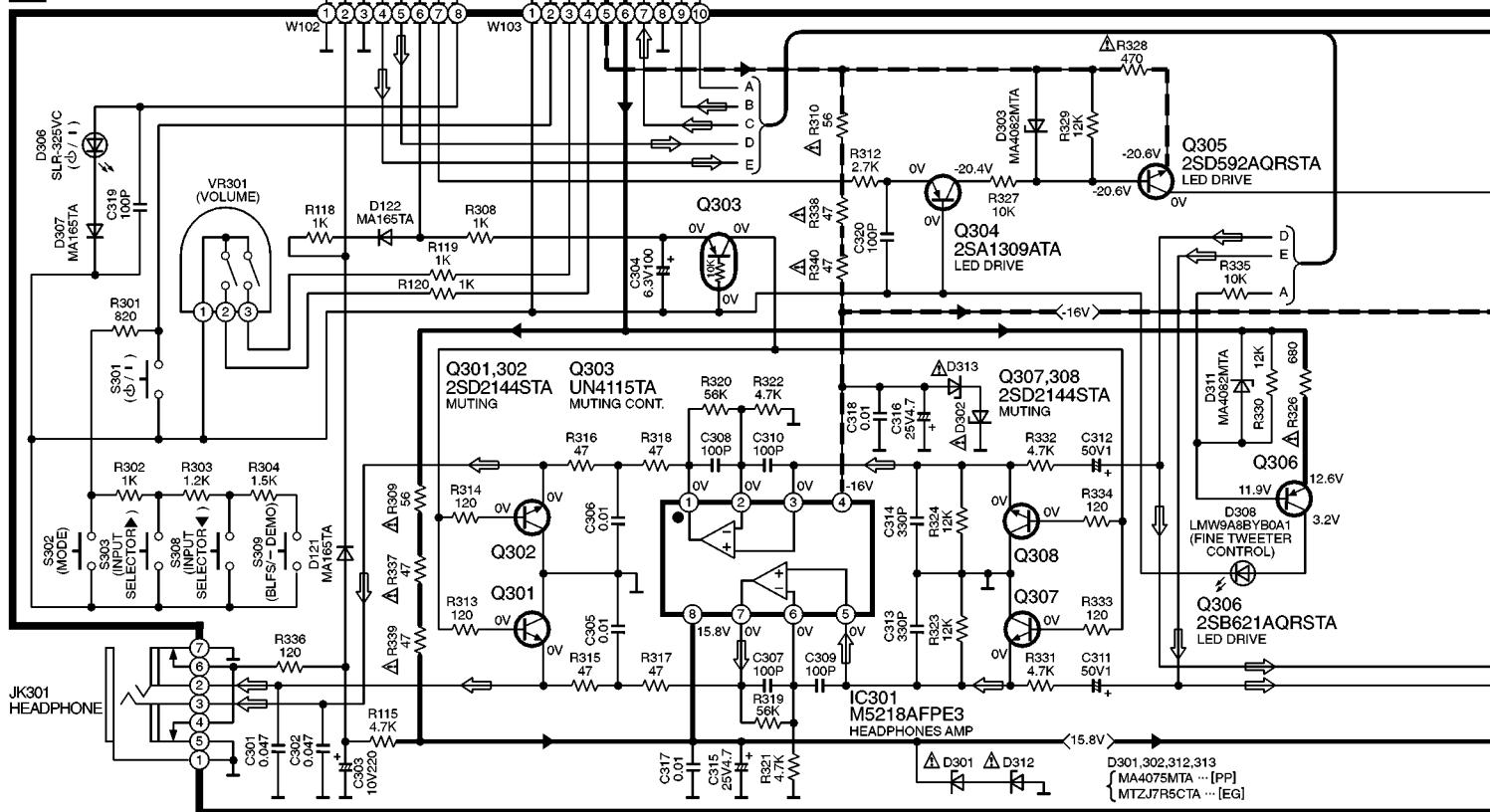
# 10 Schematic Diagram

## A POWER SUPPLY CIRCUIT

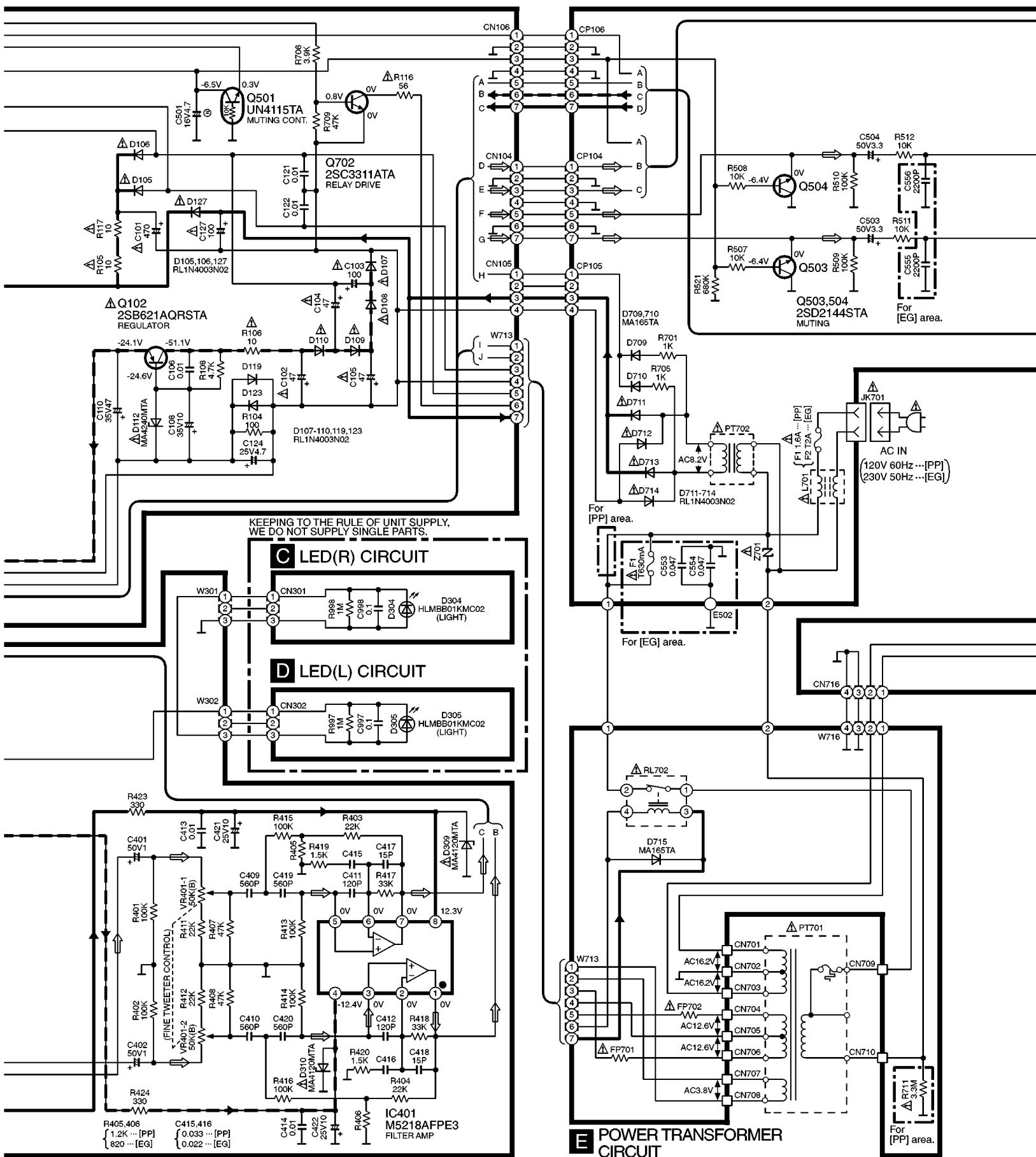
—:POSITIVE VOLTAGE LINE  
 - - :NEGATIVE VOLTAGE LINE     $\square$ :SOURCE SIGNAL LINE



## B OPERATION CIRCUIT

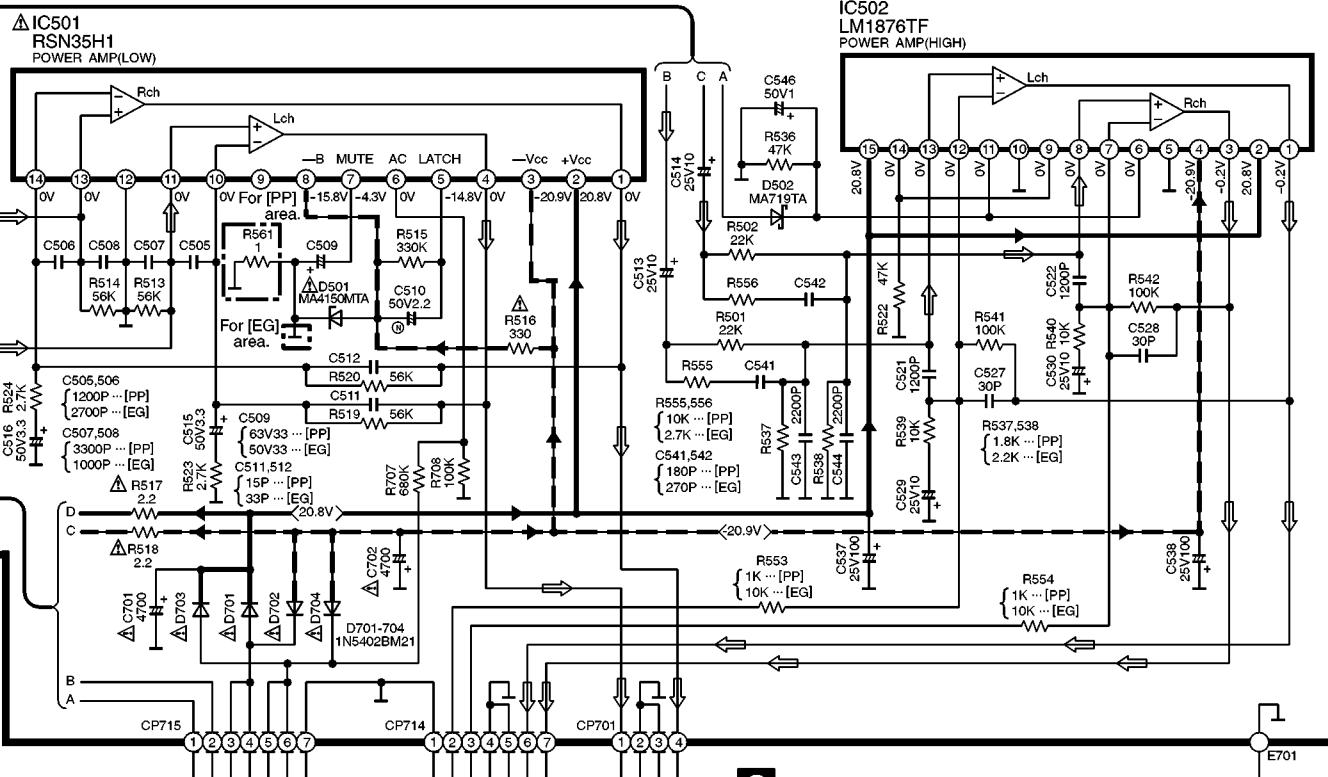
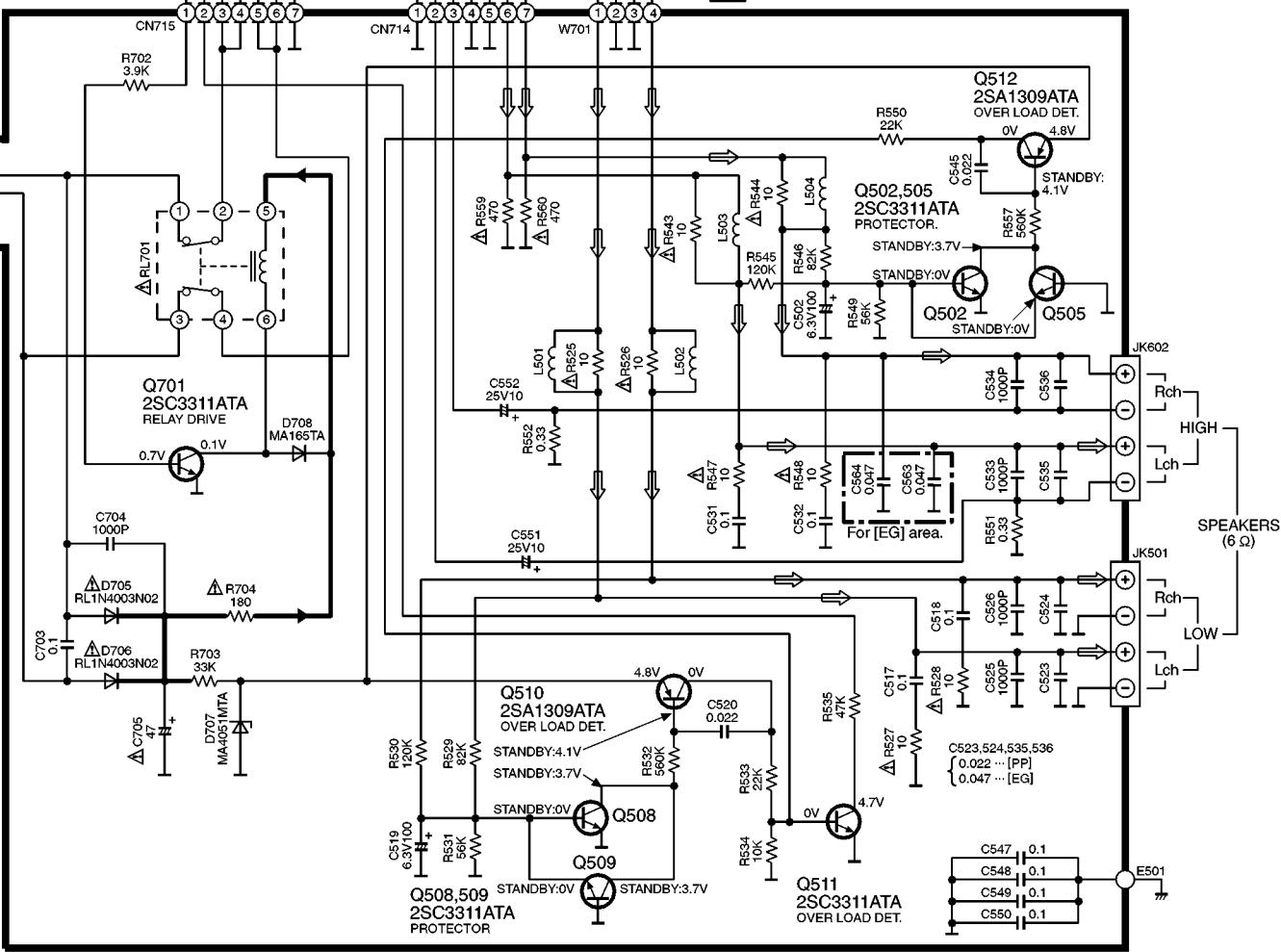


→ :POSITIVE VOLTAGE LINE  
 - - - :NEGATIVE VOLTAGE LINE    □ :SOURCE SIGNAL LINE

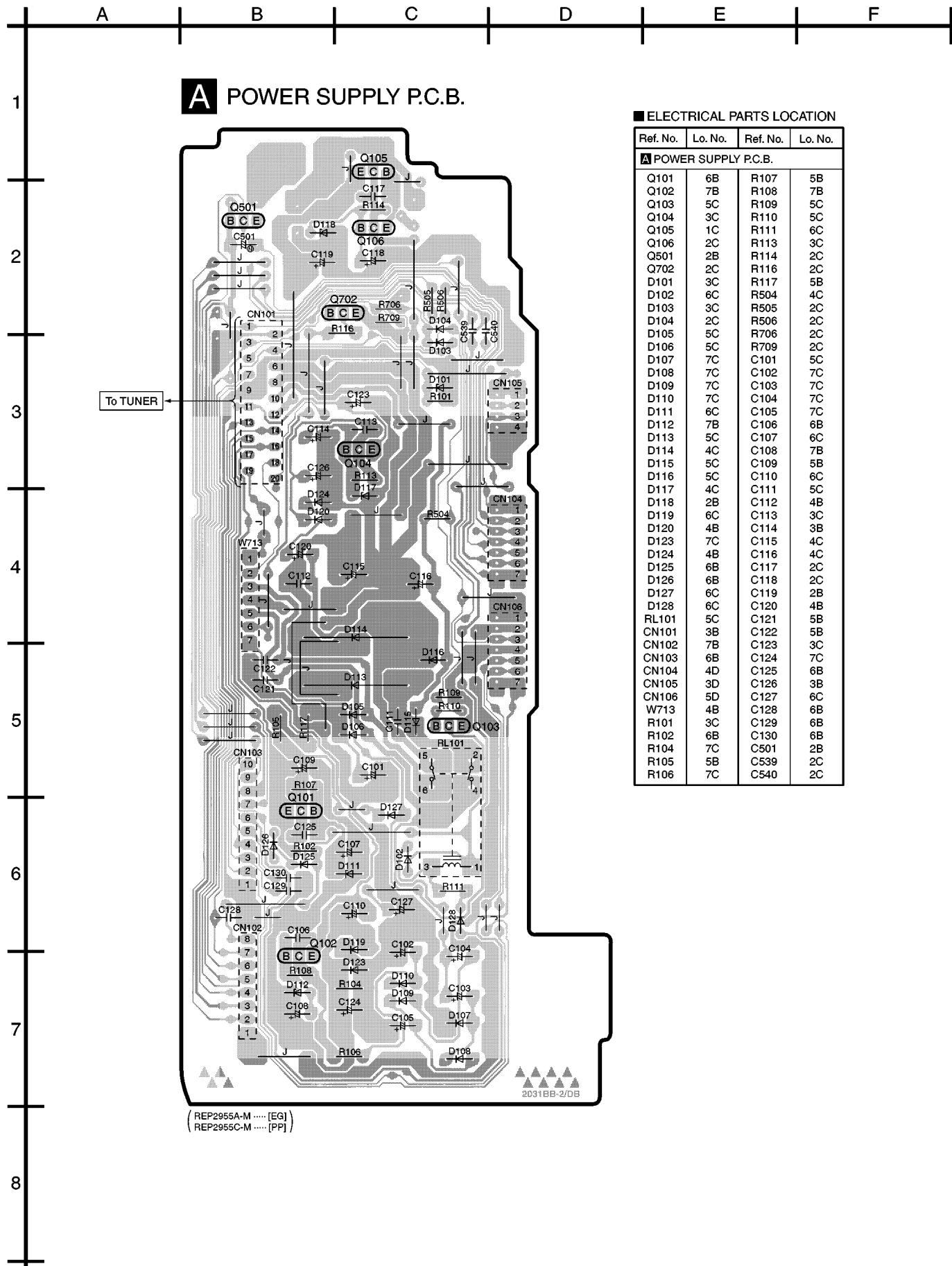


**F MAIN CIRCUIT**

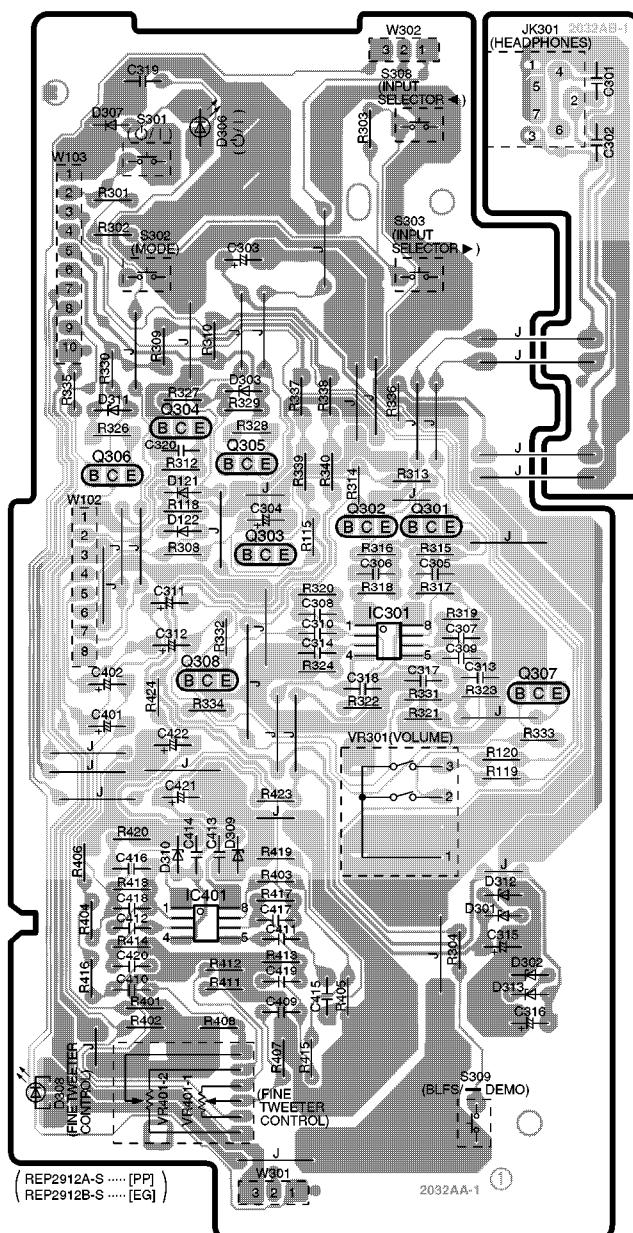
→ :POSITIVE VOLTAGE LINE    → - :NEGATIVE VOLTAGE LINE    ⇔ :SOURCE SIGNAL LINE

**G SPEAKER TERMINAL CIRCUIT**

# 11 Printed Circuit Board Diagram

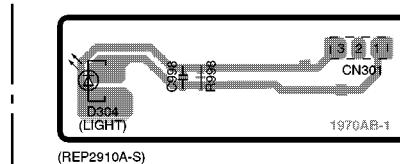
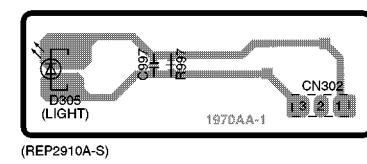


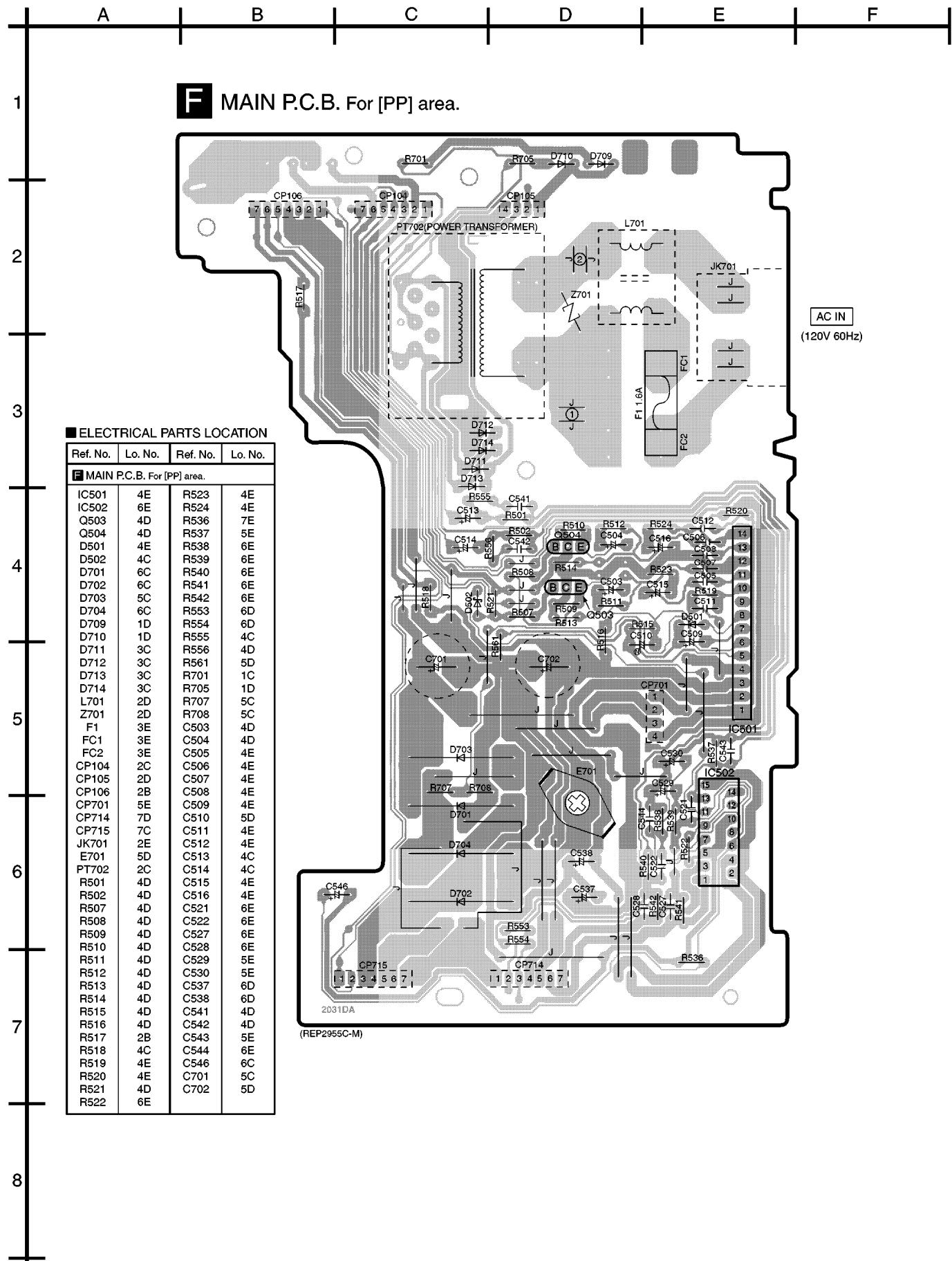
A B C D E F

**B OPERATION P.C.B.****ELECTRICAL PARTS LOCATION**

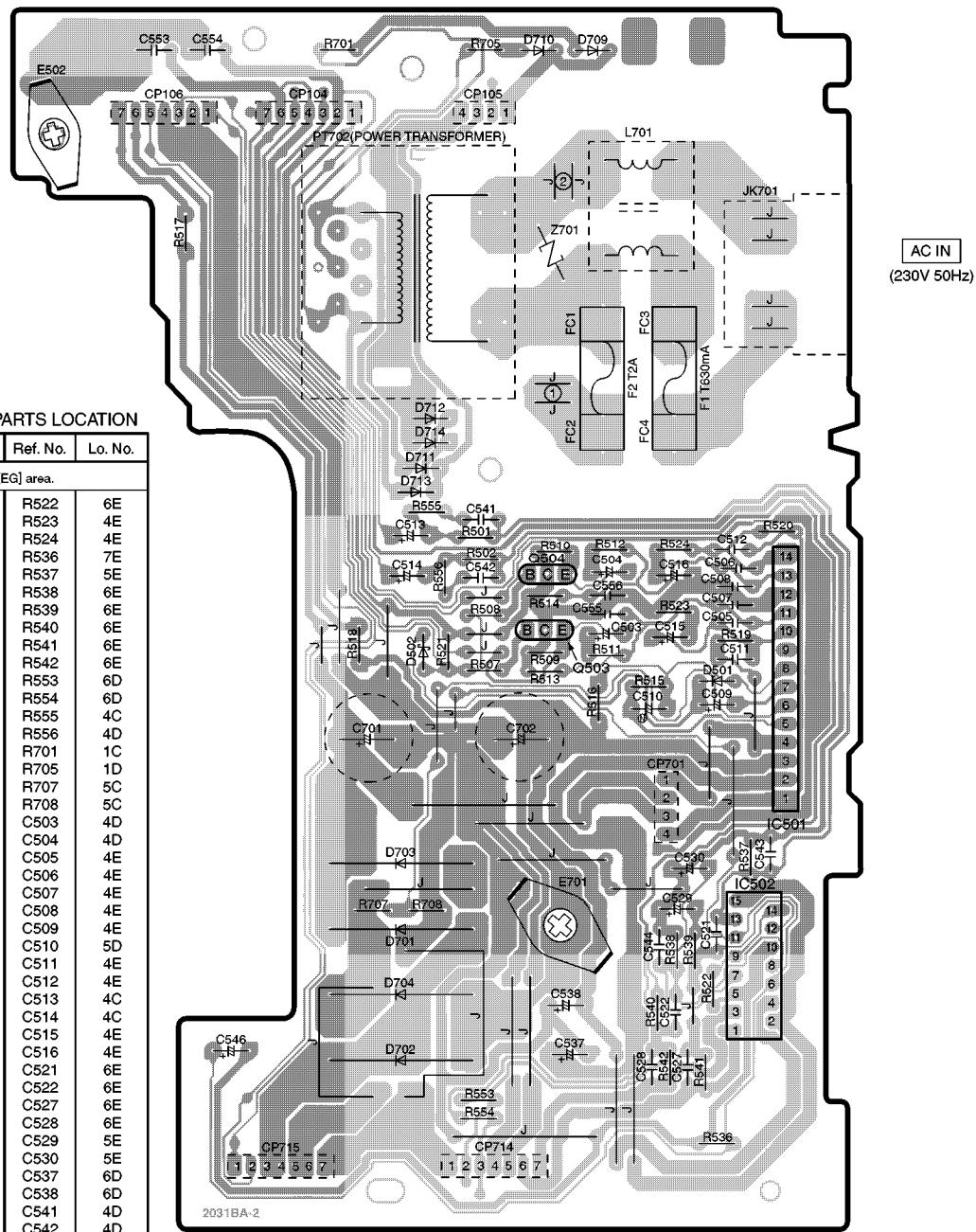
Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
<b>B OPERATION P.C.B.</b>					
IC301	4C	R309	3B	R417	5B
IC401	5B	R310	3B	R418	5A
Q301	3C	R312	3B	R419	5B
Q302	3B	R313	3C	R420	5A
Q303	4B	R314	3B	R423	5B
Q304	3B	R315	4C	R424	4B
Q305	3B	R316	4C	C301	1D
Q306	3A	R317	4C	C302	2D
Q307	4C	R318	4C	C303	2B
Q308	4B	R319	4C	C304	3B
D121	3B	R320	4B	C305	4C
D122	3B	R321	4C	C306	4C
D301	5C	R322	4B	C307	4C
D302	5C	R323	4C	C308	4B
D303	3B	R324	4B	C309	4C
D306	2B	R326	3A	C310	4B
D307	2A	R327	3B	C311	4B
D308	6A	R328	3B	C312	4B
D309	5B	R329	3B	C313	4C
D310	5B	R330	3A	C314	4B
D311	3A	R331	4C	C315	5C
D312	5C	R332	4B	C316	6C
D313	6C	R333	4C	C317	4C
VR301	5C	R334	4B	C318	4B
VR401	6B	R335	3A	C319	1A
S301	2A	R336	3C	C320	3B
S302	2A	R337	3B	C401	4A
S303	2C	R338	3B	C402	4A
S308	2C	R339	3B	C409	6B
S309	6C	R340	3B	C410	5A
W102	4A	R401	6A	C411	5B
W103	2A	R402	6A	C412	5A
W301	6B	R403	5B	C413	5B
W302	1C	R404	5A	C414	5B
JK301	1C	R405	6B	C415	6B
R115	3B	R406	5A	C416	5A
R118	3B	R407	6B	C417	5B
R119	5C	R408	6B	C418	5A
R120	4C	R411	5B	C419	5B
R301	2A	R412	5B	C420	5A
R302	2A	R413	5B	C421	5B
R303	2B	R414	5A	C422	4B
R304	5C	R415	6B		
R308	4B	R416	5A		
<b>C LED (R) P.C.B.</b>					
D304	8B	R998	8B		
CN301	8C	C998	8B		
<b>D LED (L) P.C.B.</b>					
D305	8D	R997	8E		
CN302	8E	C997	8E		

[Keeping to the rule of unit supply, we do not supply single parts.]

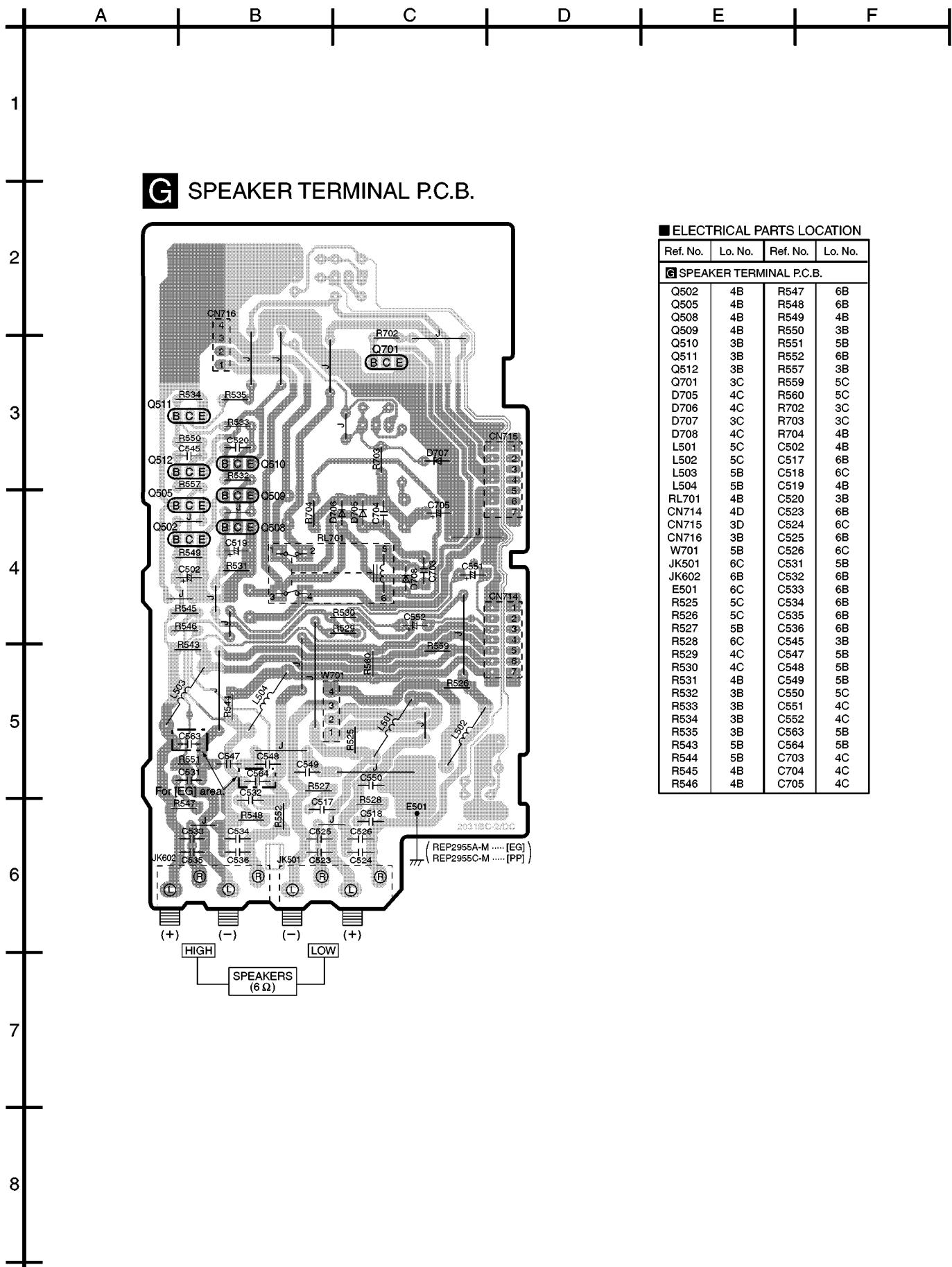
**C LED(R) P.C.B.****D LED(L) P.C.B.**



A B C D E F

**F MAIN P.C.B. For [EG] area.**

(REP2955A-M)

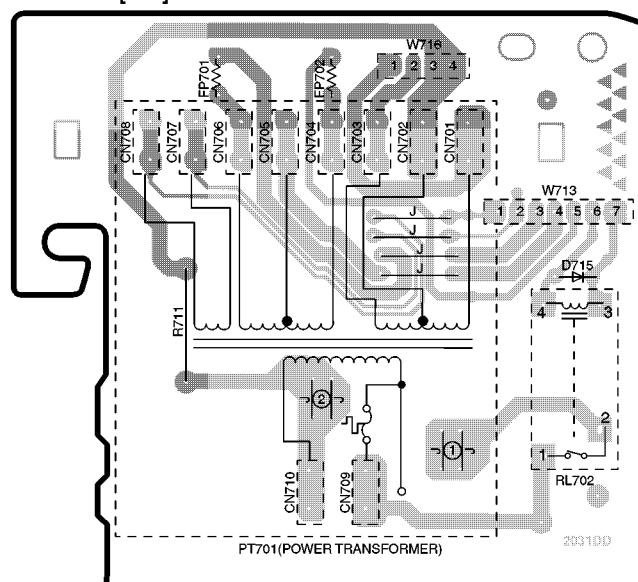


A B C D E F

1

**E POWER TRANSFORMER P.C.B.**

For [PP] area.

**ELECTRICAL PARTS LOCATION**

Ref. No.	Lo. No.	Ref. No.	Lo. No.
----------	---------	----------	---------

**POWER TRANSFORMER P.C.B.**  
For [PP] area.

D715	3D	CN705	2C
PT701	3C	CN706	2B
FP701	2B	CN707	2B
FP702	2C	CN708	2B
RL702	3D	CN709	4C
CN701	2C	CN710	4C
CN702	2C	W713	2D
CN703	2C	W716	2C
CN704	2C	R711	3B

**POWER TRANSFORMER P.C.B.**  
For [EG] area.

D715	6D	CN705	6C
PT701	6C	CN706	6B
FP701	5B	CN707	6B
FP702	5C	CN708	6B
RL702	7D	CN709	7C
CN701	6C	CN710	7C
CN702	6C	W713	6D
CN703	6C	W716	5C
CN704	6C		

2

3

4

5

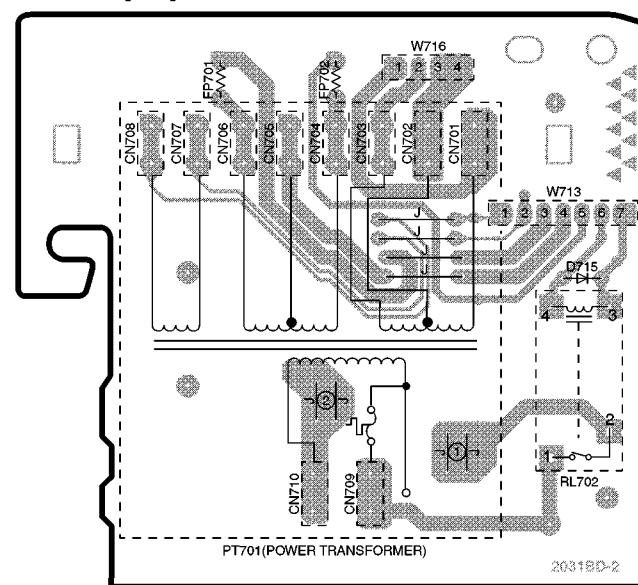
6

7

8

**E POWER TRANSFORMER P.C.B.**

For [EG] area.

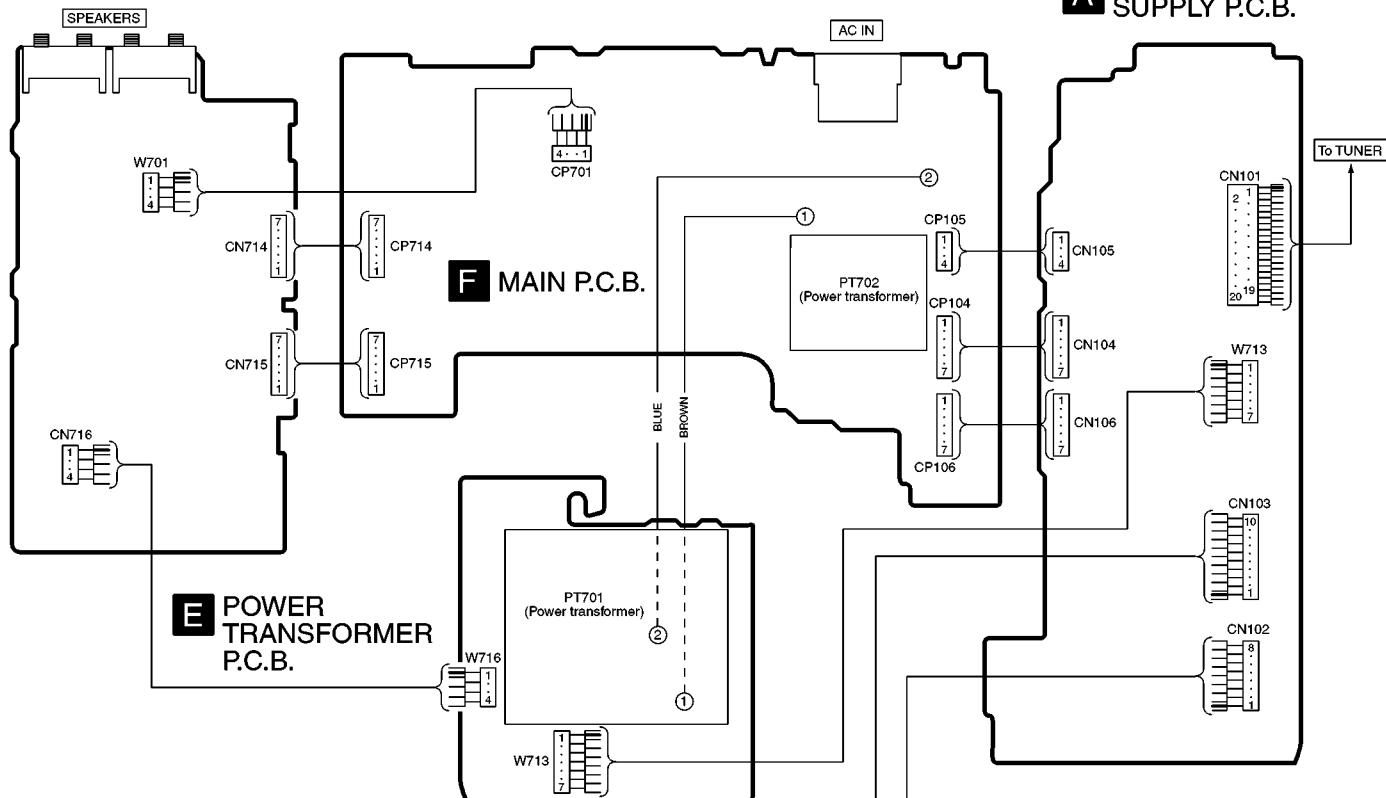


## 12 Type Illustration of ICs, Transistors and Diodes

M5218AFPE3 	RSN35H1 	LM1876TF 	2SA1309ATA 2SC3311ATA UN4115TA 	2SB621AQRSTA 2SD592AQRSTA 	2SC3940AQSTA 
2SD2374PQAU 	2SD2144STA 	MTZJ7R5CTA 	MA165TA 	 MA4051MTA MA4062MTA MA4082MTA MA4075MTA	
 MA4110MTA MA4120MTA MA4150MTA MA4160MTA MA4240MTA	MA719TA 	1N5402BM21 RL1N4003N02 	SLR-325VC 	LMW9A8BYB0A1 	

# 13 Wiring Connection Diagram

**G** SPEAKER TERMINAL P.C.B.



**A** POWER SUPPLY P.C.B.

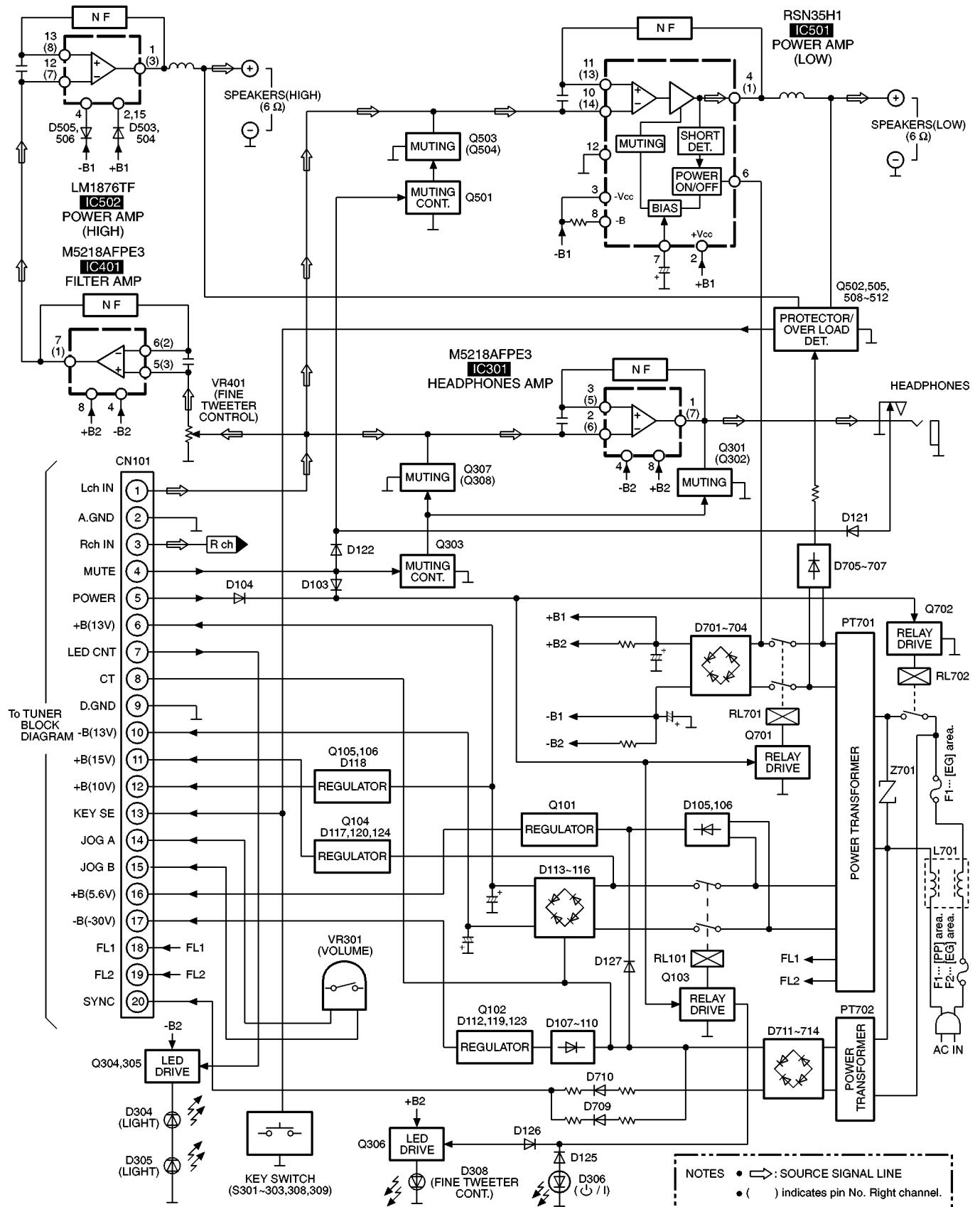
**E** POWER TRANSFORMER P.C.B.

**D** LED(L) P.C.B.

**B** OPERATION P.C.B.

**C** LED(R) P.C.B.

# 14 Block Diagram



# 15 Replacement Parts List

## Notes:

- Important safety notice:

Components identified by  $\Delta$  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 <IA> <IB> <IC> marks in Remarks indicate language of instruction manual.

<IA>: English, Canadian French

<IB>: German, French, Italian

<IC>: Netherlands, Danish

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

- The marking [RTL] indicates that Retention Time is Limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

- All parts are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	
2	RYQ0274-S	SIDE ORNAMENT (L)	1	
2-1	XTBS26+8J	SCREW	1	
3	RYQ0275-S	SIDE ORNAMENT (R)	1	
3-1	XTBS26+8J	SCREW	1	
4	XTBS3+10JFZ1	SCREW	1	
5	RKA0114-K	FOOT	4	
5-1	RKA0083-K	CUSHION	4	
6	XTB3+5JFZ	SCREW	4	
7	RGG0161H-S	FRONT PANEL	1	(EG)
7	RGG0161G-S	FRONT PANEL	1	(PP)
8	RGL0393-Q	PANEL LIGHT	1	
9	RGL0431-Q	INDICATOR	1	
10	RGP0699C-S	SUB PANEL	1	
11	RGU1716-S	BUTTON, INPUT	1	
12	RGW0277-1S	KNOB, VOLUME	1	
13	RGW0303-S	KNOB, CONTROL	1	
14	RHD26016	SCREW	1	
15	RHN90001	NUT	2	
16	XTBS26+8J	SCREW	3	
17	XTBS3+8JFZ1	SCREW	12	
18	XTB3+12FFZ	SCREW	1	
19	XTB3+20JFZ	SCREW	3	
20	XTB3+8JFZ	SCREW	3	
21	XTW3+15T	SCREW	3	
22	RKM0364B-2S1	CABINET	1	
23	REP2910A-S	LED UNIT	1	
24	REX0962	FLAT CABLE (20P)	1	
25	RMZ0339	ZNR COVER	1	(EG)
A1	RAK-HDA10WH	REMOTE CONT. TRANSMITTER	1	
A1-1	RKK0123-H	BATTERY COVER	1	
A2	REE0499	SPEAKER CORD	2	
A3	REE0853	SPEAKER CORD	2	
A4	SQX7147	WARRANTY CARD	1	(PP)
A5	RQCB0833	CASTOMER CARE PLAN CARD	1	(PP)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A6	RJA0019-X	AC POWER SUPPLY CORD	1	(EG) $\Delta$
A6	RJA0065-A	AC POWER SUPPLY CORD	1	(PP) $\Delta$
A7	RQA0178	WARRANTY CARD	1	(PP)
A8	RQA0117	WARRANTY CARD	1	(EG)
A8	RQA0149	WARRANTY CARD	1	(PP)
A9	RQCB0169	SERVICE CENTER LIST	1	(EG)
A10	RQT5420-Y	OPERATING INSTRUCTIONS	1	(PP) <IA>
A10	RQT5533-D	OPERATING INSTRUCTIONS	1	(EG) <IB>
A10	RQT5534-H	OPERATING INSTRUCTIONS	1	(EG) <IC>
A11	RSA0007	FM INDOOR ANTENNA	1	(EG)
A11	RSA0006-J	FM INDOOR ANTENNA	1	(PP)
A12	RSA0022-J	AM LOOP ANTENNA	1	
A13	RQX9467ZA	ENVELOPE	1	(PP)
C101	RCE1EM471BV	470U	1	$\Delta$
C102	ECA2AM470	47U	1	$\Delta$
C103	ECA1EAM101XB	100U	1	$\Delta$
C104, 05	ECA1HM470	47U	2	$\Delta$
C106	ECBT1H103KB5	50V 0.01U	1	
C107	RCE1AKA470BG	10V 47U	1	
C108	RCE1VKA100BG	35V 10U	1	
C109	RCE1AKA470BG	10V 47U	1	
C110	ECEA1VKS470	35V 47U	1	
C111, 12	ECKR1H103ZF5	50V 0.01U	2	
C113	ECBT1H103KB5	50V 0.01U	1	
C114	ECA1EAM101XB	25V 100U	1	
C115	ECA1EM222	2200U	1	$\Delta$
C116	RCE1EM471BV	470U	1	$\Delta$
C117	ECBT1H103KB5	50V 0.01U	1	
C118, 19	ECA1EAK100XB	25V 10U	2	
C120	ECA1EAM101XB	100U	1	$\Delta$
C121, 22	ECBT1H103KB5	50V 0.01U	2	
C123, 24	ECEA1EKS4R7	25V 4.7U	2	
C125	ECBT1H103KB5	50V 0.01U	1	
C126	ECA1HM470	50V 47U	1	
C127	ECEA1EKS101	22U	1	$\Delta$
C128-30	ECBT1H101KB5	50V 100P	3	
C301, 02	ECBT1H473ZF5	50V 0.047U	2	
C303	ECA1AM221B	10V 220U	1	
C304	ECEA0JKS101	6.3V 100U	1	
C305, 06	ECBT1E103ZF	25V 0.01U	2	
C307-10	ECBT1H101KB5	50V 100P	4	
C311	ECA1HAK010XI	50V 1U	1	(EG)
C311	ECEA1HKS010	50V 1U	1	(PP)
C312	ECA1HAK010XI	50V 1U	1	(EG)
C312	ECEA1HKS010	50V 1U	1	(PP)
C313, 14	ECBT1H331KB5	50V 330P	2	
C315, 16	ECEA1EKS4R7	25V 4.7U	2	
C317, 18	ECBT1E103ZF	25V 0.01U	2	
C319, 20	ECBT1H101KB5	50V 100P	2	
C401, 02	ECA1HAK010XI	50V 1U	2	
C409, 10	ECBT1H561KB5	50V 560P	2	
C411, 12	ECBT1H121KB5	50V 120P	2	
C413, 14	ECBT1E103ZF	25V 0.01U	2	
C415	ECQB1H223JF3	50V 0.022U	1	(EG)
C415	ECQV1H333JM3	50V 0.033U	1	(PP)
C416	ECQB1H223JF3	50V 0.022U	1	(EG)
C416	ECQV1H333JM3	50V 0.033U	1	(PP)
C417, 18	ECBT1H150JC5	50V 15P	2	
C419, 20	ECBT1H561KB5	50V 560P	2	
C421, 22	ECA1EAK100XB	25V 10U	2	
C501	ECEA1EKS4R7	16V 4.7U	1	
C502	ECEA0JKS101	6.3V 100U	1	
C503, 04	ECA1HAK3R3XB	50V 3.3U	2	
C505	ECBT1C122KR5	16V 1200P	1	(PP)
C505	ECBT1C272KR5	16V 2700P	1	(EG)
C506	ECBT1C122KR5	16V 1200P	1	(PP)
C506	ECBT1C272KR5	16V 2700P	1	(EG)
C507	ECBT1C332KR5	16V 3300P	1	(PP)

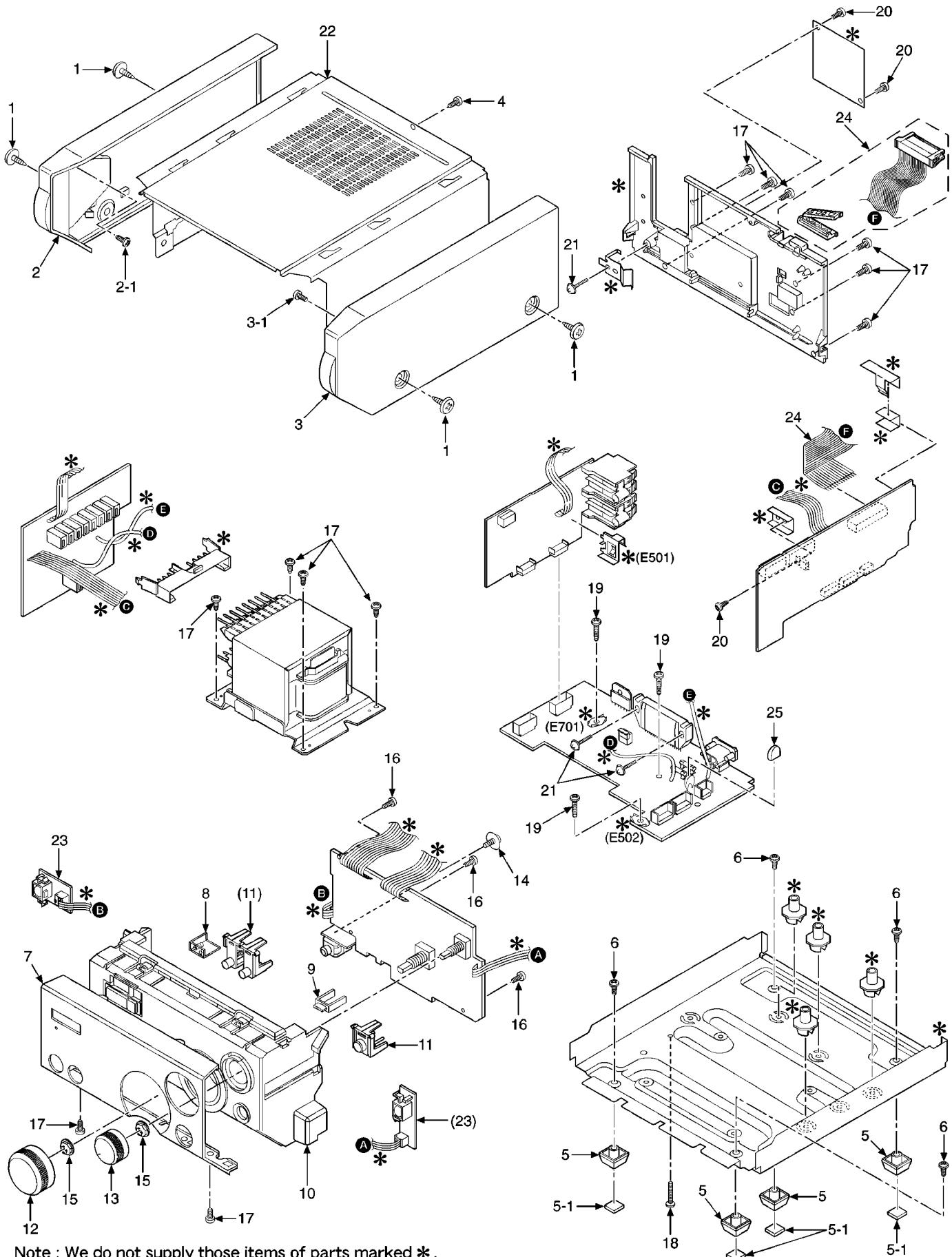
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C507	ECBT1H102KB	50V 1000P	1	(EG)
C508	ECBT1C332KR5	16V 3300P	1	(PP)
C508	ECBT1H102KB5	50V 1000P	1	(EG)
C509	ECA1JM330	63V 33U	1	(PP)
C509	ECEA1HKA330B	50V 33U	1	(EG)
C510	ECEA1HSN2R2	50V 2.2U	1	
C511	ECBT1H150J5	50V 15P	1	(PP)
C511	ECBT1H330J5	50V 33P	1	(EG)
C512	ECBT1H150J5	50V 15P	1	(PP)
C512	ECBT1H330J5	50V 33P	1	(EG)
C513,14	ECA1EAK100XB	25V 10U	2	
C515,16	ECA1HAK3R3XB	50V 3.3U	2	
C517,18	ECBT1H104ZF5	50V 0.1U	2	
C519	ECEA0JKS101	6.3V 100U	1	
C520	ECBT1E223ZF	25V 0.022U	1	
C521,22	ECBT1C122KR5	16V 1200P	2	
C523	ECBT1E223ZF	25V 0.022U	1	(PP)
C523	ECBT1H473ZF5	50V 0.047U	1	(EG)
C524	ECBT1E223ZF	25V 0.022U	1	(PP)
C524	ECBT1H473ZF5	50V 0.047U	1	(EG)
C525,26	ECBT1H102KB5	50V 1000P	2	
C527,28	ECBT1H300J5	50V 30P	2	
C529,30	ECA1EAK100XB	25V 10U	2	
C531,32	ECBT1H104ZF5	50V 0.1U	2	
C533,34	ECBT1H102KB5	50V 1000P	2	
C535	ECBT1E223ZF	25V 0.022U	1	(PP)
C535	ECBT1H473ZF5	50V 0.047U	1	(EG)
C536	ECBT1E223ZF	25V 0.022U	1	(PP)
C536	ECBT1H473ZF5	50V 0.047U	1	(EG)
C537,38	ECA1EAM101XB	25V 100U	2	
C539,40	ECBT1C332KR5	16V 3300P	2	
C541	ECBT1H181KB5	50V 180P	1	(PP)
C541	ECBT1H271KB5	50V 270P	1	(EG)
C542	ECBT1H181KB5	50V 180P	1	(PP)
C542	ECBT1H271KB5	50V 270P	1	(EG)
C543,44	ECBT1C222KR5	16V 2200P	2	
C545	ECBT1E223ZF	25V 0.022U	1	
C546	ECEA1HKS010	50V 1U	1	
C547-50	ECBT1H104ZF5	50V 0.1U	4	
C551,52	ECA1EAK100XB	25V 10U	2	
C553,54	ECBT1H473ZF5	50V 0.047U	2	(EG)
C555,56	ECBT1C222KR5	16V 2200P	2	(EG)
C563,64	ECBT1H473ZF5	50V 0.047U	2	(EG)
C701,02	ECA1EAM472XB	25V 4700U	2	
C703	ECQE1104KF3	100V 0.1U	1	
C704	ECKR2H102ZF5	500V 1000P	1	
C705	ECA1HM470	47U	1	△
CN101	RJS2A5520-1	CONNECTOR (20P)	1	
CN102	RJS8T6ZA	CONNECTOR (8P)	1	
CN103	RJS10T6ZA	CONNECTOR (10P)	1	
CN104	RJU057W007	CONNECTOR (7P)	1	
CN105	RJU057W004	CONNECTOR (4P)	1	
CN106	RJU057W007	CONNECTOR (7P)	1	
CN701-10	RJS1A1101T1	CONNECTOR (1P)	10	
CN714,15	RJU057W007	CONNECTOR (7P)	2	
CN716	RJS4T6ZA	CONNECTOR (4P)	1	
CP104	RJT057W007-1	CONNECTOR (7P)	1	
CP105	RJT057W004-1	CONNECTOR (4P)	1	
CP106	RJT057W007-1	CONNECTOR (7P)	1	
CP701	RJS1A6604T1	CONNECTOR (4P)	1	
CP714,15	RJT057W007-1	CONNECTOR (7P)	2	
D101	MA4051M	DIODE	1	
D102-04	MA165	DIODE	3	
D105-10	RL1N4003N02	DIODE	6	△
D111	MA4062M	DIODE	1	△
D112	MA4240H	DIODE	1	△
D113,14	1N5402BF	DIODE	2	△
D115,16	RL1N4003N02	DIODE	2	△
D117	MA4160M	DIODE	1	△
D118	MA4110M	DIODE	1	△
D119,20	RL1N4003N02	DIODE	2	△

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D121,22	MA165	DIODE	2	
D123,24	RL1N4003N02	DIODE	2	△
D125,26	MA165	DIODE	2	
D127	RL1N4003N02	DIODE	1	△
D128	MA165	DIODE	1	
D301	MA4075M	DIODE	1	(PP) △
D301	MTZJ7R5CTA	DIODE	1	(EG) △
D302	MA4075M	DIODE	1	(PP) △
D302	MTZJ7R5CTA	DIODE	1	(EG) △
D303	MA4082M	DIODE	1	
D306	SLR-325VC	LED	1	
D307	MA165	DIODE	1	
D308	LMW9A8BYB0A1	LED	1	
D309,10	MA4120M	DIODE	2	△
D311	MA4082M	DIODE	1	
D312	MA4075M	DIODE	1	(PP) △
D312	MTZJ7R5CTA	DIODE	1	(EG) △
D313	MA4075M	DIODE	1	(PP) △
D313	MTZJ7R5CTA	DIODE	1	(EG) △
D501	MA4150M	DIODE	1	△
D502	MA719TA	DIODE	1	
D701-04	1N5402BF	DIODE	4	△ ;
D705,06	RL1N4003N02	DIODE	2	△
D707	MA4051M	DIODE	1	
D708-10	MA165	DIODE	3	
D711-14	RL1N4003N02	DIODE	4	△
D715	MA165	DIODE	1	
F1	XBA1C16NBAU	FUSE, 1.6A	1	(PP) △
F1	XBA2C06TB0	FUSE, T630mA	1	(EG) △
F2	XBA2C20TB0	FUSE, T2A	1	(EG) △
FP701,02	RSFMB40KT-L	FUSE PROTECTOR	2	△
IC301	M5218AFPE3	IC	1	
IC401	M5218AFPE3	IC	1	
IC501	RSN35H1-P	IC	1	△
IC502	LM1876TF	IC	1	
JK301	RJJ37TN01-2C	JACK, HEADPHONES	1	
JK501	RJR0054E	JACK, SPEAKER	1	(EG)
JK501	RJR0054F	JACK, SPEAKER	1	(PP)
JK602	RJR0054H	JACK, SPEAKER	1	(EG)
JK602	RJR0054J	JACK, SPEAKER	1	(PP)
JK701	SJS9236	JACK, AC INLET	1	(EG) △
JK701	SJS16-1	JACK, AC INLET	1	(PP) △
L501-04	SLQY07G-40	COIL	4	
L701	RLQZ371	COIL	1	△
P1	RPG5084	PACKING CASE (SE)	1	
P1	RPG5085	PACKING CASE (RS)	1	
P1	RPG5086	PACKING CASE (ST, SL)	2	
P2	RPN1229	PAD (SE)	1	
P2	RPN1231	PAD (ST, SL)	2	
P2	RPN1233	PAD (RS)	1	
P3	SPP740-1	PROTECTION BAG	4	
P4	RPG4868	PACKING CASE (SYSTEM)	1	(PP)
P4	RPG5031	PACKING CASE (SYSTEM)	1	(EG)
P5	RPQ1101	SPACER	1	
P6	RPF0139-1	PROTECTION BAG (F.B.)	1	
PCB1	REP2955A-M	MAIN P.C.B.	1	(EG) [RTL]
PCB1	REP2955C-M	P.C.B. ASS-Y	1	(PP) [RTL]
PCB2	REP2910A-S	P.C.B. ASS-Y (Ref No. 23)	1	
PCB3	REP2912A-S	P.C.B. ASS-Y	1	(PP) [RTL]
PCB3	REP2912B-S	P.C.B. ASS-Y	1	(EG) [RTL]
PT701	RTP2M5C006	POWER TRANSFORMER	1	(PP) △
PT701	RTP2M5E014	POWER TRANSFORMER	1	(EG) △
PT702	RTP1H3C001	POWER TRANSFORMER (SUB)	1	(PP) △

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
PT702	RTP1I3E001	POWER TRANSFORMER(SUB)	1	(EG) △
Q101	2SD2374PQAU	TRANSISTOR	1	△
Q102	2SB621A-R	TRANSISTOR	1	△
Q103	2SC3311ATA	TRANSISTOR	1	
Q104	2SC3940AQSTA	TRANSISTOR	1	△
Q105	2SD2374PQAU	TRANSISTOR	1	△
Q106	2SC3327A	TRANSISTOR	1	△
Q301, 02	2SC3327A	TRANSISTOR	2	
Q303	UN4115	TRANSISTOR	1	
Q304	2SA1309ATA	TRANSISTOR	1	
Q305	2SD592AR	TRANSISTOR	1	
Q306	2SB621A-R	TRANSISTOR	1	
Q307, 08	2SC3327A	TRANSISTOR	2	
Q501	UN4115	TRANSISTOR	1	
Q502	2SC3311ATA	TRANSISTOR	1	
Q503, 04	2SC3327A	TRANSISTOR	2	
Q505	2SC3311ATA	TRANSISTOR	1	
Q506, 09	2SC3311ATA	TRANSISTOR	2	
Q510	2SA1309ATA	TRANSISTOR	1	
Q511	2SC3311ATA	TRANSISTOR	1	
Q512	2SA1309ATA	TRANSISTOR	1	
Q701, 02	2SC3311ATA	TRANSISTOR	2	
R101	ERDS2FJ103	1/4W 10K	1	
R102	ERDS2FJ331	1/4W 330	1	
R104	ERDS2FJ101	1/4W 100	1	
R105, 06	ERDS2FJ100	10	2	△
R107	ERDS2FJ222	1/4W 2.2K	1	
R108	ERDS2FJ472	1/4W 4.7K	1	
R109	ERDS2FJ473	1/4W 47K	1	
R110	ERDS2FJ392	1/4W 3.9K	1	
R111	ERDS1FJ181	180	1	△
R113	ERDS2FJ392	1/4W 3.9K	1	
R114	ERDS2FJ102	1/4W 1K	1	
R115	ERDS2FJ472	1/4W 4.7K	1	
R116	ERD25FVJ560T	56	1	(EG) △
R116	ERDS1FJ560	56	1	(PP) △
R117	ERD2FCG100	10	1	(EG) △
R117	ERDS2FJ100	10	1	(PP) △
R118-20	ERDS2FJ102	1/4W 1K	3	
R301	ERDS2FJ821	1/4W 820	1	
R302	ERDS2FJ102	1/4W 1K	1	
R303	ERDS2FJ122	1/4W 1.2K	1	
R304	ERDS2FJ152	1/4W 1.5K	1	
R308	ERDS2FJ102	1/4W 1K	1	
R309, 10	ERD25FVJ560T	56	2	△
R312	ERDS2FJ272	1/4W 2.7K	1	
R313, 14	ERDS2FJ121	1/4W 120	2	
R315-18	ERDS2FJ470	1/4W 47	4	
R319, 20	ERDS2FJ563	1/4W 56K	2	
R321, 22	ERDS2FJ472	1/4W 4.7K	2	
R323, 24	ERDS2FJ123	1/4W 12K	2	
R326	ERDS1FJ681	680	1	△
R327	ERDS2FJ103	1/4W 10K	1	
R328	ERDS1FJ471	470	1	△
R329, 30	ERDS2FJ123	1/4W 12K	2	
R331, 32	ERDS2FJ472	1/4W 4.7K	2	
R333, 34	ERDS2FJ121	1/4W 120	2	
R335	ERDS2FJ103	1/4W 10K	1	
R336	ERDS2FJ121	1/4W 120	1	
R337-40	ERDS2FJ470	47	4	△
R401, 02	ERDS2FJ104	1/4W 100K	2	
R403, 04	ERDS2FJ223	1/4W 22K	2	
R405	ERDS2FJ122	1/4W 1.2K	1	(PP)
R405	ERDS2FJ821	1/4W 820	1	(EG)
R406	ERDS2FJ122	1/4W 1.2K	1	(PP)
R406	ERDS2FJ821	1/4W 820	1	(EG)
R407, 08	ERDS2FJ473	1/4W 47K	2	
R411, 12	ERDS2FJ223	1/4W 22K	2	
R413-16	ERDS2FJ104	1/4W 100K	4	
R417, 18	ERDS2FJ333	1/4W 33K	2	
R419, 20	ERDS2FJ152	1/4W 1.5K	2	
R423, 24	ERDS2FJ331	1/4W 330	2	

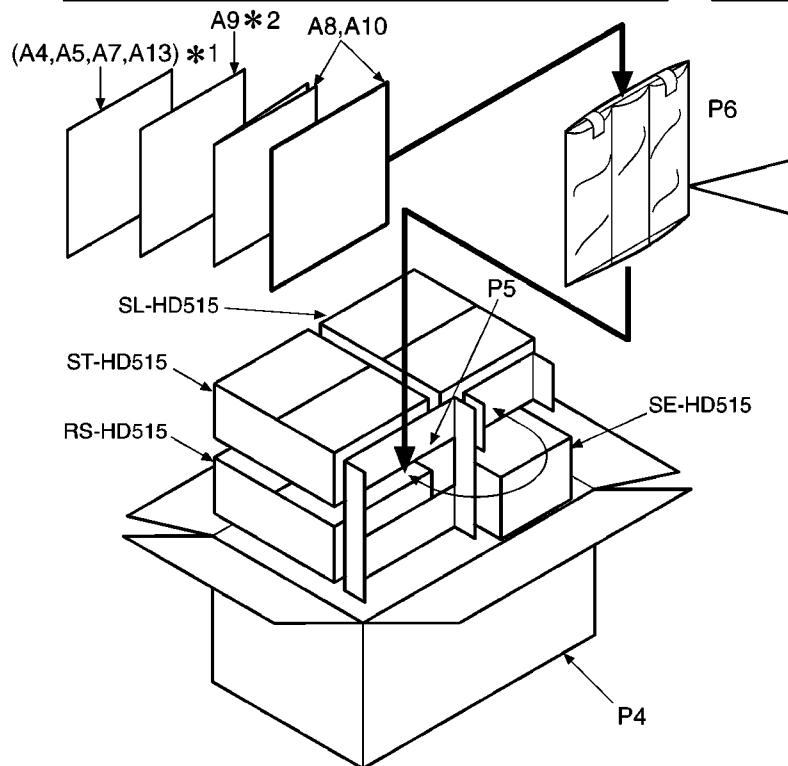
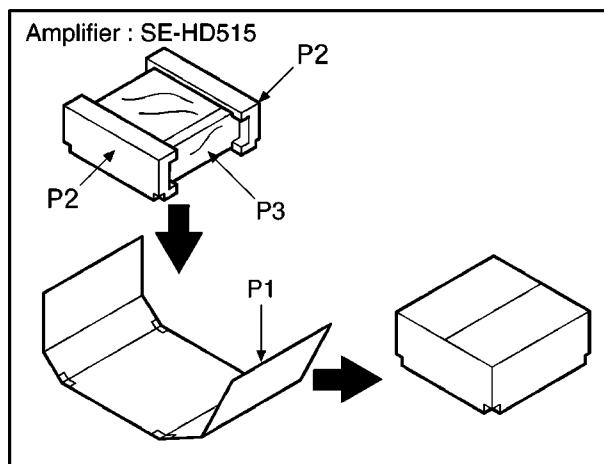
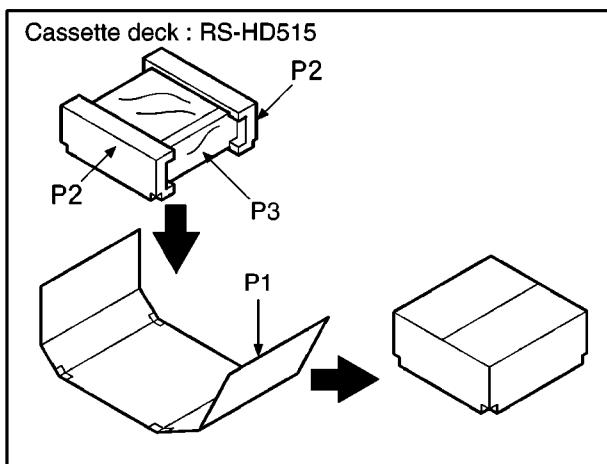
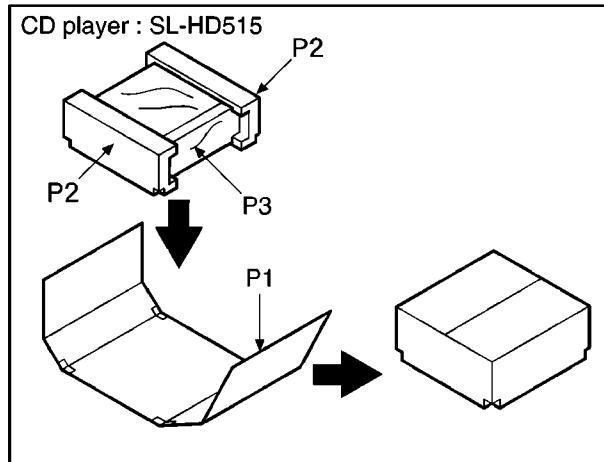
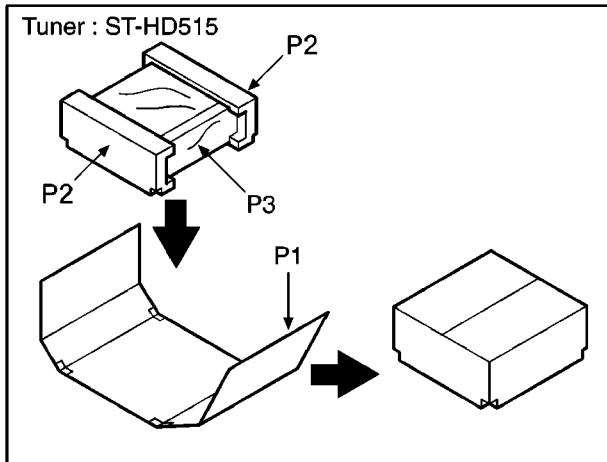
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R501, 02	ERDS2FJ223	1/4W 22K	2	
R504	ERDS2FJ105	1/4W 1M	1	
R505-08	ERDS2FJ103	1/4W 10K	4	
R509, 10	ERDS2FJ104	1/4W 100K	2	
R511, 12	ERDS2FJ103	1/4W 10K	2	
R513, 14	ERDS2FJ563	1/4W 56K	2	
R515	ERDS2FJ334	1/4W 330K	1	
R516	ERDS1FJ331	330	1	△
R517, 18	ERDS2FJ2R2	2.2	2	△
R519, 20	ERDS2FJ563	1/4W 56K	2	
R521	ERDS2FJ684	1/4W 680K	1	
R522	ERDS2FJ473	1/4W 47K	1	
R523, 24	ERDS2FJ272	1/4W 2.7K	2	
R525, 26	ERDS2FJ100	10	2	△
R527, 28	ERDS1FJ100	10	2	△
R529	ERDS2FJ823	1/4W 82K	1	
R530	ERDS2FJ124	1/4W 120K	1	
R531	ERDS2FJ563	1/4W 56K	1	
R532	ERDS2FJ564	1/4W 560K	1	
R533	ERDS2FJ223	1/4W 22K	1	
R534	ERDS2FJ103	1/4W 10K	1	
R535, 36	ERDS2FJ473	1/4W 47K	2	
R537	ERDS2FJ182	1/4W 1.8K	1	(PP)
R537	ERDS2FJ222	1/4W 2.2K	1	(EG)
R538	ERDS2FJ182	1/4W 1.8K	1	(PP)
R538	ERDS2FJ222	1/4W 2.2K	1	(EG)
R539, 40	ERDS2FJ103	1/4W 10K	2	
R541, 42	ERDS2FJ104	1/4W 100K	2	
R543, 44	ERDS2FJ100	10	2	△
R545	ERDS2FJ124	1/4W 120K	1	
R546	ERDS2FJ823	1/4W 82K	1	
R547, 48	ERDS1FJ100	10	2	△
R549	ERDS2FJ563	1/4W 56K	1	
R550	ERDS2FJ223	1/4W 22K	1	
R551, 52	ERX1JSR33	1W 0.33	2	
R553	ERDS2FJ102	1/4W 1K	1	(PP)
R553	ERDS2FJ103	1/4W 10K	1	(EG)
R554	ERDS2FJ102	1/4W 1K	1	(PP)
R554	ERDS2FJ103	1/4W 10K	1	(EG)
R555	ERDS2FJ272	1/4W 2.7K	1	(EG)
R555, 56	ERDS2FJ103	1/4W 10K	2	(PP)
R556	ERDS2FJ272	1/4W 2.7K	1	(EG)
R557	ERDS2FJ564	1/4W 560K	1	
R559, 60	ERDS1FJ471	470	2	△
R561	ERDS2TJ1R0T	1/4W 1	1	(PP)
R701	ERDS2FJ102	1/4W 1K	1	
R702	ERDS2FJ392	1/4W 3.9K	1	
R703	ERDS2FJ333	1/4W 33K	1	
R704	ERDS1FJ181	180	1	△
R705	ERDS2FJ102	1/4W 1K	1	
R706	ERDS2FJ392	1/4W 3.9K	1	
R707	ERDS2FJ684	1/4W 680K	1	
R708	ERDS2FJ104	1/4W 100K	1	
R709	ERDS2FJ473	1/4W 47K	1	
R711	ERC12UGK335D	1/2W 3.3M	1	(PP)
RL101	RSY0017M-0	RELAY	1	(EG) △
RL101	RSY0023M-0	RELAY	1	(PP) △
RL701	RSY0017M-0	RELAY	1	(EG) △
RL701	RSY0023M-0	RELAY	1	(PP) △
RL702	RSY0040M-0	RELAY	1	△
S301-03	EVQ21405R	SW, PUSH	3	
S308, 09	EVQ21405R	SW, PUSH	2	
VR301	EVQVBXFK124B	V.R., VOLUME	1	
VR401	EVJY91F04B54	V.R., FINE TWEETER CONT.	1	
Z701	ERZV10V511CS	COMPONENT COMBINATION	1	△

# 16 Cabinet Parts Location



Note : We do not supply those items of parts marked \* .

# 17 Packaging



\*1: For (PP) area only.

\*2: For (EG) area only.

